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**WHO'S
WHO
IN ECONOMICS**

FOURTH EDITION

**Edited by Mark Blaug and
Howard R. Vane**

WHO'S WHO IN ECONOMICS
FOURTH EDITION

Who's Who in Economics

Fourth Edition

Edited by

Mark Blaug

Professor Emeritus, University of London, UK;

Professor Emeritus, University of Buckingham, UK;

Visiting Professor, University of Amsterdam, The Netherlands;

and Visiting Professor, Erasmus University, Rotterdam, The Netherlands

and

Howard R. Vane

Professor of Economics, Liverpool John Moores University, UK

Edward Elgar

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Preface

This reference work has an established history that stretches back over two decades. It began life as *Who's Who in Economics: A Biographical Dictionary of Major Economists, 1700–1981* and was first published in 1983 by Wheatsheaf. The choice of this particular title for the book by the then-editors Mark Blaug and Paul Sturges begged two fundamental questions. First, what is an 'economist'? Second, what is a 'major economist'?

While there are many possible definitions of an economist the one chosen from the outset of the volume, after due consideration, is someone whose work is published in one of the hundreds of refereed journals of economics. It was recognised that this is unfair to the many dedicated teachers of economics who publish little or nothing, to business and government economists whose writings are rarely published, and to economists working for international agencies whose writings frequently remain anonymous. The choice of the publication criterion, however, was dictated by the prior choice of eminence in economics. The dictionary definition of 'eminence' is 'one who stands high as compared with others, especially in his/her own calling'. But who is to judge high standing as compared with others? Presumably, none other than members of the peer group, which is to say that eminent or major economists are those who receive prizes and honorary degrees, are nominated and elected to offices in professional associations of economists, and who are frequently cited in the writings of other economists. In fact, we may virtually reduce the concept of eminence to frequency of citations, because the number of times particular economists are footnoted in journal articles over a period of years has been shown to be highly correlated with the award of Nobel prizes, with election to offices in leading professional associations, and with differences in salaries earned (see for example, Quandt, 1976; Bordo and Landau, 1979; Grubel, 1979; Hamermesh et al., 1982).

There are good reasons why scholars cite the works of other scholars. Nothing is as fundamental to science as the notion that scientific knowledge is public and freely available to all: there is no such thing as an inalienable property right in new ideas. The practice of citing authorities is therefore an attempt to provide incentives to intellectual pioneers by giving public recognition to their priority claims. For that reason all scientific communities develop informal mechanisms for penalising individuals who, in effect, infringe the property rights of others by failing to acknowledge their influences and sources of inspiration. Nevertheless, this informal mechanism operates imperfectly, and citation practices are frequently abused: witness the typical doctoral dissertation with endless citations of the works of the candidate's supervisors, the common habit of advertising one's own works by self-citations however irrelevant to the theme in question, the tendency of members of a particular school to cite each other, and the widespread inclination to cite 'stars' in the profession to show that the author is knowledgeable. However, there is the opposite tendency to refer to really famous scholars by name without citing their works, lest a citation be construed as an insult to the intelligence of one's audience (Garfield, 1979).

Despite all these qualifications in equating scholarly 'eminence' with the frequency of citation counts, it is difficult to conceive of any other single objective indicator that is equally revealing of peer recognition of scientific achievement. In consequence, all living economists in this dictionary have been selected on the grounds that they are frequently cited by their colleagues.

Using citation counts for the 11-year period, 1970–80, from roughly 200 economics journals listed in the Social Sciences Citation Index (SSCI) as the main criterion for selecting the names of economists to be included, the first edition (Blaug and Sturges, 1983) contains biographical and bibliographical details of approximately 700 living and 400 dead economists. For the first edition the objective citation criterion for selection was supplemented by an informal count of citation frequencies in missing European and Asian journals and by adding a sprinkling of names of economists whose works are rarely cited but whose outstanding achievements in advising policy-makers in business and government are widely acknowledged. In the latter case these subjective additions led to a flood of objections along the lines that 'so-and-so should also have been included' and in subsequent editions the objective method of citation frequencies has been rigidly adhered to.

The second edition of the volume *Who's Who in Economics: A Biographical Dictionary of Major Economists*, edited by Mark Blaug, was published in 1986 by Wheatsheaf. Using citation counts from the SSCI for the 12-year period, 1972–83, the volume contains details on roughly 900 living and 400 dead economists. After a gap of some 13 years the third edition, this time with an abridged title of *Who's Who in Economics*, edited by Mark Blaug, was published by Edward Elgar in 1999. For the third edition the enumeration period of citation counts was moved forward to a 13-year period, 1984–96, and the volume contains biographical and bibliographical details on roughly 1100 living and over 550 dead economists. In the latter case the entries for the over 400 dead economists carried forward from the second edition were written by Mark Blaug on the basis of standard sources, while those of roughly the 100 economists whose appeared in the second edition but who died in the 13-year gap between publication of the second and third editions were written by the economists themselves before their death.

For this new edition of *Who's Who in Economics* we have introduced a number of changes. Apart from moving the period of citation counts forward to articles published in the 11-year period, 1990–2000 (previous editions of this dictionary used the method of citation frequencies over a given period irrespective of the year in which articles were published), the main change is to exclude anyone who died before 31 December 2001. The source of names selected for potential inclusion was obtained using *EconLit*, the American Economic Association's electronic database which provides bibliographic information on more than 600 economic journals (not to mention books, dissertations and abstracts of working papers in economics) going back to 1969. Once we had obtained authored frequencies of articles published between 1990 and 2000 using *EconLit*, having experimented with different weights based on the impact factor of different journals (Laband and Piette, 1994), a rank order of economists by citation frequencies for those authored articles was produced using the SSCI (Institute for Scientific Information-ISI-Web of Science). The rank order of economists by citation frequencies revealed a number of natural breaks, one of which occurred around the number 1200. Hence, we ended up with 1168 authors identified for inclusion, of which some 900 were new names

not found in the third edition of the book. The number 1168 is of course the result of an arbitrary cut-off point to allow the production of a manageable volume. Another change in this edition is to omit entries of dead economists for whom the third edition (Blaug, 1999) of this dictionary will have to be consulted. An electronic version of the third edition can be accessed via www.whoswhoineconomics.com.

As with earlier editions the authors of the entries for living economists are the economists themselves: each was asked to supply the relevant information, including a statement of their principal contributions to economics as *they* – and not *we* – conceive them. The following information was requested of them, selected under ten main headings.

1. Last name, all first names.
2. Year and place of birth (town/city, US state if applicable, and country).
3. Title of current post with start year, name and location of current employer.
4. Previous posts and employers with years.
5. Degrees received (in economics unless otherwise stated), university and year.
6. Main offices held, prizes won and honours received with years.
7. Editorial duties, if any, with years.
8. Principal field of interest, and up to two others, based on the classification listed in the American Economic Association's *Journal of Economic Literature*.
9. Chief publications (limited to a maximum of 20 publications in total) in chronological order of publication under the headings of books and articles. For books: title, publisher and year of publication. For articles: title, journal, volume number, month/season and year of publication.
10. Statement of principal contributions to economics (in no more than 300 words).

As anyone who has ever been involved in editorial work of this kind will attest, entrants provided a disparity of information. Entries were standardised by us and then returned to entrants for their approval. This volume contains 699 new or up-dated entries and 44 repeated entries from the third edition, giving a response rate to our repeated mailings of 64 per cent.

Other changes introduced in this edition entail: the opportunity for entrants to decide the balance between books and articles up to a combined maximum of 20 publications (in previous editions entrants' chief publications were limited to 10 books and 10 articles); the inclusion of 'non-respondents' both in the main body of the text and, as in the third edition Appendix 4, in Appendix 5 in the fourth edition; a change from the third edition in the presentation of Appendix 2 from 'Index of country of residence if not USA' to 'Index of country of residence' and Appendix 3 from 'Index of country of birth if not USA' to 'Index of country of birth with year of birth'; and the inclusion of a new Appendix 4, 'Index of affiliation, first degree and doctorate'. It is hoped that these changes to the appendices will lend itself more readily to analysis by interested parties. One of us made a heroic but foolhardy attempt in 1999 to estimate the total stock of living, publishing economists as 17 000, so that 6 per cent of that stock was identified for inclusion in the third edition of this dictionary (Blaug, 1999, p. xi). If so, the stock of living, publishing economists is now over 20 000, but by altering the dates covered we may have radically altered the proportion of economists selected, which makes the stock figure of 20 000 highly suspect. For those who relish

bibliometric analysis, particularly in respect of the Americanisation thesis, namely that global economics looks more and more every day like American economics, we note from Appendix 2 that the proportion of economists domiciled in the US has risen steadily throughout the 20 years of the four editions of this book (see Frey and Eichenberger, 1993; Eichenberger and Frey, 2000).

Producing this fourth edition has been a rewarding experience revealing the truly amazing scope and spread of interests among practising economists. It has also been a team effort. As editors our job of checking the final selection of economists and reviewing and editing the entries has only been made possible by the valiant efforts of a number of people involved in the project. In particular we would like to express our gratitude to: Tom Coupé who initially prepared the rank order of citation frequencies; Jo Bostock who dauntlessly contacted all the living economists, dealt with their and our queries, standardised the format of the entries and painstakingly inputted the text; Margaret Pugh who copy edited and proofread the text; and Dymphna Evans (Senior Commissioning Editor) and Julie Leppard (Head of Editorial and Production Services) who oversaw the production of the book from start to finish. Without their collective inputs this fourth edition would not have seen the light of day.

Mark Blaug and Howard R. Vane

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Abbreviations

General

AB	Bachelor of Arts (US)
Acad.	Academic, Academy
Admin.	Administration, Administrator
Adv.	Advanced
AFDC	Aid to Families with Dependent Children (US)
Ag.	Agency
Agric.	Agricultural, Agriculture
AHEAD	Asset and Health Dynamics Among the Oldest Old
AM	Master of Arts
Amer.	America, American
Anthrop.	Anthropology
Apl.	Applied, Applications
App.	Appendix
ARCH	AutoRegressive Conditional Heteroskedasticity
ARFIMA	AutoRegressive Fractionally Integrated Moving Average
ARIMA	AutoRegressive Integrated Moving Average
ARM	Adjustable Rate Mortgages
ARMA	AutoRegressive Moving Average
ARMAX	AutoRegressive Moving Average process with eXogenous variables
Assoc.	Association, Associate
Asst	Assistant
BA	Bachelor of Arts or British Academy
BAgrSc	Bachelor of Agricultural Science
BBA	Bachelor of Business Administration
BComm	Bachelor of Commerce
Bd	Board
BEc	Bachelor of Economics
BEE	Bachelor of Electrical Engineering
Behav.	Behaviour, Behavior, Behavioural, Behavioral
BGS	Bachelor of General Science
BLA	Bachelor of Liberal Arts
BLitt	Bachelor of Letters
BS	Bachelor of Science (US)
BSc	Bachelor of Science (UK)
BSEE	Bachelor of Science and Electrical Engineering
BSFS	Bachelor of Science in Foreign Service
BSS	Bachelor of Social Science
BTech	Bachelor of Technology
Bull.	Bulletin

Bus.	Business
CAPM	Capital Asset Pricing Model
CATV	Cable Television
CBD	Central Business District
CBE	Commander of the British Empire
CDR	Current Depth of the Recession
CEO	Chief Executive Officer
CES	Constant Elasticity of Substitution
CEX	Consumer Expenditure Survey
Chap.	Chapter
CIT	Credit Income Tax
<i>cl</i>	<i>Cum laude</i>
Co.	Company
Co-op.	Cooperative, Cooperation
Coll.	College
Comm.	Committee
Conf.	Conference
Cons.	Consultant
Contrib.	Contributor, Contribution, Contributing
Corp.	Corporation, Corporate
Corres.	Corresponding, Correspondent
CPI	Consumer Price Index
CPS	Current Population Survey
CTA	Commodity Trading Advisor
CUSUM	Cumulated Sums
D–F	Dickey–Fuller (test)
DBA	Doctor of Business Administration
DEA	Data Encryption Algorithm or Data Envelopment Analysis or Diplôme d’Études Approfondies
Dep.	Deputy
Dept	Department
DES	Diplôme d’études supérieures
Devlp.	Development
DGP	Data Generating Process
DHL	Doctor of Humane Letters
Dir.	Director
Disting.	Distinguished
Div.	Division
DL	Doctor of Laws
DPhil	Doctor of Philosophy
DrOec	Doctor of Economics
DSc	Doctor of Science
DU	Doctor of the University
EBIT	Earnings Before Interest and Taxes
ECM	Expectation-Conditional Maximization
Econ.	Economic, Economics, Economist
ECU	European Currency Unit

Ed.	Editor, Editorial
Edn	Edition
Educ.	Education
EITC	Earned Income Tax Credit
EM	Expectation-Maximization
Em.	Econometrics
EMS	European Monetary System
Eng.	Engineering
ERC	Equity, Reciprocity and Competition
ERM	Exchange Rate Mechanism
ESOP	Employee Stock Ownership Plan
ESSEC	Degree from École Supérieure des Sciences Économiques et Commerciales
Europ.	European
Exec.	Executive
Explor.	Explorations
FAQ	Frequently Asked Question
FCOJ	Frozen Concentrated Orange Juice
Fed.	Federal
Fell.	Fellow
FIGARCH	Fractionally Integrated Generalized AutoRegressive Conditional Heteroskedasticity
Fin.	Financial, Finance
FOB	Free on Board
FX	Foreign Exchange
GARCH	Generalized AutoRegressive Conditional Heteroskedasticity
GARP	Generalized Axiom of Revealed Preference
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GIS	Geographic Information System
GLS	Generalized Least Squares
GMM	Generalized Method of Moments
GNP	Gross National Product
Govt	Government
Grad.	Graduate
GUSTO IIb	Global Use of Strategies to open Occluded Coronary Arteries IIb Investigators
<i>hc</i>	<i>Honoris causa</i>
Hist.	History, Historical
Hon.	Honorary, Honorable, Honourable
Hons	Honours
HP	Hodrick–Prescott
HRS	Health and Retirement Study
HYE	Healthy Year Equivalents
ICP	International Comparison Project
IID	Independent Identically Distributed

Inc.	Incorporated
Incl.	Including
Ind.	Industry, Industrial
Info.	Information
Inst.	Institute, Institution, Institut
Instr.	Instructor
Intl	International
IPO	Initial Public Offering
IRA	Individual Retirement Account
ISLM	Investment, Savings, Liquidity Preference, Money Supply
J.	Journal
JD	Doctor of Laws (US)
Jr	Junior
Lab.	Laboratory
Labs	Laboratories
LBO	Leverage Buy Out
LDC	Less-Developed Country
Lect.	Lecturer
LIBOR	London Inter-Bank Offer Rate
LLC	Limited Liability Company
LLD	Doctor of Laws
LTCM	Long-term Capital Management
Ltd	Limited Company
MA	Master of Arts or Moving Average (where used in journal titles only)
MAgrSc	Master of Agricultural Science
MALD	Master of Arts in Law and Diplomacy
Math.	Mathematical, Mathematician
Maths	Mathematics
MBA	Master of Business Administration
<i>mcl</i>	<i>Magna cum laude</i>
MCMC	Markov Chain Monte Carlo
MComm	Master of Commerce
MEc	Master of Economics
Mem.	Member
Mgmt	Management
Min.	Ministry
ML	Maximum Likelihood
MM	Master of Management
MNC	Multinational Company
MP	Member of Parliament
MPIA	Masters in Public and International Affairs
MPP	Master of Public Policy
MRI	Magnetic Resonance Imaging
MS	Master of Science
MSIA	Masters in Industrial Administration

MSL	Master of Studies in Law
Mt	Mount
NAFTA	North American Free Trade Agreement
NAIRU	Non-Accelerating Inflation Rate of Unemployment
NASDAQ	National Association of Securities Dealers Automated Quotations system (US)
Natl	National
NBD	Negative Binomial Distribution
NCDS	National Child Development Survey
NCI	New Community Instrument
NDEA	National Defense Education Act
n.e.	No entry
NIE	Newly Industrialized Economy
NIT	Negative Income Tax
NLSY	National Longitudinal Survey of Youth
NRDA	National Resource Damage Assessment
OBE	Officer of the Order of the British Empire
OCS	Outer Continental Shelf
OJT	On-the-Job Training
OLG	Over-Lapping Generations
OLS	Ordinary Least Squares
OR	Operations Research
Org.	Organisation
PACAP	Pacific-Basin Capital Market
Pb	Paperback
PCB	Polychlorinated Biphenyl
PCS	Personal Communication Services
PhB	Bachelor of Philosophy
Philo.	Philosophy, Philosophical
PIGLOG	Price Independent Generalised Logarithmic
Plc	Public Limited Company
Pol.	Policy
Polit.	Political, Politique, Politics
Polytech.	Polytechnic, Polytechnique
Pop.	Population
PPE	Philosophy, Politics and Economics
PPP	Purchasing Power Parity
Pres.	President
Prof.	Professor
Pt	Part
Publ.	Published, Publishing
PX-EM	Parameter Expanded-Expectation Maximization
Q.	Quarterly, Quarter
QALYs	Quality Adjusted Life Years
QoS	Quality of Service
Quant.	Quantitative
R&D	Research and Development

RE	Rational Expectations
Reconstr.	Reconstruction
REIT	Real Estate Investment Trust
Repr.	Reprinted
Res.	Research
Rev.	Review, Reviewer
ROPA	Realizing Our Potential Awards
Rt Hon.	Right Honourable
SB	Bachelor of Science (US)
SBIR	Small Business Innovation Research
Sc.	Science, Sciences, Scientific
ScD	Doctor of Science
Sch.	School
<i>scl</i>	<i>Summa cum laude</i>
SDF	Stochastic Discount Factor
SEO	Secondary Equity Offering
SFAS	Statement of Financial Accounting Standard
SIR	Sampling/Importance Resampling
SJ	Society of Jesus
SLAPP	Strategic Lawsuit Against Public Participation
SM	Master of Science
SME	Small and Medium Enterprise
Soc.	Society
Sr	Senior
STAR	Smooth Transition AutoRegressive
Stat.	Statistical, Statistician
Stats	Statistics
Stud.	Studies
Suppl.	Supplement
TARSUR	Threshold AutoRegressive Stochastic Unit Root
TARUR	Threshold AutoRegressive Unit Root
Tech.	Technical, Technology
Telecomm.	Telecommunications
Temp.	Temporary
TIMA	Threshold Integrated Moving Average
TRA	Tax Reform Act
Trans.	Translation
UIP	Uncovered Interest Parity
Univ.	University
VAR	Vector AutoRegression
VARMA	Vector AutoRegressive Moving Average
VAT	Value Added Tax
Vis.	Visiting
Vol.	Volume
WIC	Special Supplemental Nutrition Program for Women, Infants and Children
WTP/WTA	Willingness to Pay/Willingness to Accept

Associations, Institutions, Publishers

A&U	Allen & Unwin
AA	American Agricultural Economics Association
AAA	American Accounting Association
AAAS	American Academy of Arts and Sciences
AAUP	American Association of University Professors
ACLS	American Council of Learned Societies
AEA	American Economic Association
AEI	American Enterprise Institute
AFA	American Finance Association
ANU	Australian National University
APFA	Asia-Pacific Finance Association
AREUEA	American Real Estate and Urban Economics Association
ASA	American Statistical Association
AT&T	American Telephones & Telegraph
BA	British Academy
BAAS	British Association for the Advancement of Science
BIT	Bureau International du Travail or ILO
CBO	Congressional Budget Office
CEA	Canadian Economic Association
CEMFI	Centro de Estudios Monetarios y Financieros
CEPR	Center/Centre for Economic Policy Research
CEPREMAP	Centre d'Études Prospectives d'Économie Mathématique Appliquée à la Planification, France
CESifo	Center for International Studies, Munich University and the Ifo Institute for Economic Research
CIR	Cox, Ingersoll & Ross
CIRANO	Centre Interuniversitaire de Recherche en ANalyse des Organisations
CNRS	Centre National de la Recherche Scientifique, Paris, France
CORE	Centre for Operations Research and Econometrics, Belgium
CPB	Central Planning Bureau
CREF	College Retirement Fund
CREST	Centre de Recherche en Économie et Statistique
CUP	Cambridge University Press
DAAD	(trans.) German–American Academic Council
DEFRA	Department of the Environment, Food and Rural Affairs (UK)
DELTA	Département et Laboratoire d'Économie Théorique et Appliquée
DETR	Department of the Environment, Transport and the Regions (UK)
DIW	Deutsches Institut für Wirtschaftsforschung (German Institute for Economic Research), Berlin

DRI	Data Resources Inc.
DTI	Department of Trade and Industry (UK)
EARIE	European Association for Research in Industrial Economics
EBRD	European Bank for Reconstruction and Development
EEA	Eastern Economic Association (US)
EEC	European Economic Community
EHA	Economic History Association (US)
EHS	Economic History Society (UK)
ELSE	Centre for Economic Learning and Social Evolution
Em Soc	Econometric Society
EMU	European Monetary Union
ENPC	École Nationale des Ponts et Chaussées
ENSAE	École Nationale de la Statistique et de l'Administration Économique
EPA	Environmental Protection Agency
ERN	Economics Research Network
ESRC	Economic and Social Research Council (UK)
ESSEC	École Supérieure des Sciences Économiques et Commerciales
ETH	Eidgenössische Technische Hochschule, Zurich
EU	European Union
FAO	Food and Agriculture Organization, UN
FCC	Federal Communications Commission
FDA	Food and Drug Administration (US)
FDIC	Federal Deposit Insurance Corporation
FHA	Federal Housing Association
FMA	Financial Management Association
FRB	Federal Reserve Bank (US)
FTC	Federal Trade Commission (US)
GNMA	Government National Mortgage Association
HEW	Department of Health, Education and Welfare (US)
HMO	Health Maintenance Organizations (US)
HMSO	Her Majesty's Stationery Office (UK)
HUP	Harvard University Press
IAB	Institut für Arbeitsmarkt und Berufsforschung (Institute for Employment Research)
IARIW	International Association for Research in Income and Wealth
IBE	Investors in Business
IBRD	International Bank for Reconstruction and Development
IEA	International Economic Association
IEEE	Institute of Electrical and Electronic Engineers (US)
IFS	Institute for Fiscal Studies (UK)
IIES	International Institute for European Studies (Stockholm)
IIPF	International Institute of Public Finance
ILO	International Labour Office

ILR Press	International Labor Relations Press
IMF	International Monetary Fund
INEA	Institute of Economic Affairs (UK)
INFORMS	Institute for Operations Research and the Management Sciences
INSEAD	European Institute of Business Administration (trans.)
INSEE	Institut National de la Statistique et des Études Économiques, France
IRRA	Industrial Relations Research Association (US)
IRS	Internal Revenue Service (US)
ISARA	Institut Supérieur d'Agriculture Rhône Alpes
JHUP	Johns Hopkins University Press
LSE	London School of Economics and Political Science (UK)
MEA	Midwest Economics Association (US)
MIT	Massachusetts Institute of Technology
MITI	Ministry of International Trade and Industry, Japan
MSC	Manpower Services Commission (UK)
NAACP	National Association for the Advancement of Colored People (US)
NAO	National Audit Office (UK)
NAS	National Academy of Sciences (US)
NATO	North Atlantic Treaty Organization
NBER	National Bureau of Economic Research (US)
NEA	National Economic Association
N-H	North-Holland Publishing Co., Amsterdam, The Netherlands
NICHHD	National Institute of Child Health and Human Development
NIESR	National Institute of Economic and Social Research (UK)
NIH	National Institutes of Health
NIMH	National Institute of Mental Health (US)
NLRB	National Labor Relations Board (US)
NOAA	National Oceanic and Atmospheric Administration (US)
NRC	National Research Council
NSF	National Science Foundation (US)
NTA	National Tax Association (US)
NTIS	National Technical Information Service
NUMMI	New United Motor Manufacturing Inc.
NYU	New York University
OECD	Organization for Economic Cooperation and Development (France: OCDE)
OEEC	Organization of European Economic Cooperation
OFT	Office of Fair Trading (UK)
OMB	Office of Management and Budget (US)
ONS	Office of National Statistics (UK)
OPEC	Organization of Petroleum-Exporting Countries
ORSA	Operations Research Society of America

OUP	Oxford University Press
PAA	Population Association of America
PUF	Presses Universitaires de France
REIT	Real Estate Investment Trust
RES	Royal Economic Society (UK)
RSA	Regional Science Association (US)
RSS	Royal Statistical Society (UK)
S&P	Standard & Poor's
SEA	Southern Economic Association (US)
SIAM	Society for Industrial and Applied Mathematics
SNF	(trans.) Centre for Research in Economics and Business Administration, Norway
SSHRCC	Social Science and Humanities Research Council of Canada
SSRC	Social Science Research Council, UK or USA
STICERD	Suntory and Toyota International Centres for Economics and Related Disciplines
SUNY	State University of New York
S-V	Springer-Verlag
TEC	Training and Enterprise Councils (UK)
TIAA	Teachers Insurance and Annuity Association (US)
TVA	Tennessee Valley Authority
UBC	University of British Columbia, Vancouver, Canada
UCLA	University of California, Los Angeles
UCP	University of Chicago Press
UN	United Nations
UNCTAD	UN Conference on Trade and Development
UNDP	UN Development Programme
UNESCO	UN Educational Scientific and Cultural Organisation
UNIDO	UN International Development Organisation
USAF	United States Air Force
USAID	US Agency for International Development
WEA	Western Economic Association (US)
WHO	World Health Organisation, UN
WTO	World Trade Organization
XLRI	Xavier Labor Relations Institute (India)
YUP	Yale University Press
ZEW	Zentrum für Europäische Wirtschaftsforschung (Centre for European Economic Research)
ZIF	Centre for Interdisciplinary Research, University of Bielefeld, Germany

Journals

<i>AER</i>	<i>American Economic Review</i>
<i>AJAE</i>	<i>American Journal of Agricultural Economics</i>
<i>BE-Js EAP</i>	<i>Berkeley Electronic Press' Journals of Economic Analy- sis and Policy</i>

<i>Bell JE</i>	<i>Bell Journal of Economics</i>
<i>BER</i>	<i>Bulletin of Economic Research</i>
<i>BJIR</i>	<i>British Journal of Industrial Relations</i>
<i>BNLQR</i>	<i>Banca Nazionale del Lavoro Quarterly Review</i>
<i>BOIS</i>	<i>Bulletin of the Oxford University Institute of Economics and Statistics</i>
<i>BPEA</i>	<i>Brookings Papers on Economic Activity</i>
<i>Camb JE</i>	<i>Cambridge Journal of Economics</i>
<i>CJ</i>	<i>Canadian Journal of Economics</i>
<i>C-RPP</i>	<i>Carnegie-Rochester Conference Series on Public Policy</i>
<i>CSSH</i>	<i>Comparative Studies in Society and History</i>
<i>DE</i>	<i>De Economist</i>
<i>Ec</i>	<i>Economica</i>
<i>Econom</i>	<i>The Economist</i>
<i>EDCC</i>	<i>Economic Development and Cultural Change</i>
<i>EEJ</i>	<i>Eastern Economics Journal</i>
<i>EHR</i>	<i>Economic History Review</i>
<i>EI</i>	<i>Economic Inquiry</i>
<i>EJ</i>	<i>Economic Journal</i>
<i>EJPE</i>	<i>European Journal of Political Economy</i>
<i>Em</i>	<i>Econometrica</i>
<i>ER</i>	<i>Economic Record</i>
<i>ESS</i>	<i>Encyclopaedia of the Social Sciences</i> , eds E.R.A. Seligman, A.J. Johnson (Macmillan, 1934–35, 15 vols)
<i>ET</i>	<i>Economic Theory</i>
<i>Europ ER</i>	<i>European Economic Review</i>
<i>HOPE</i>	<i>History of Political Economy</i>
<i>IER</i>	<i>International Economic Review</i>
<i>IESS</i>	<i>International Encyclopedia of the Social Sciences</i> , ed. D.L. Sills (Macmillan and Free Press, 1968, 18 vols)
<i>IJEB</i>	<i>International Journal of Economics and Business</i>
<i>IJIO</i>	<i>International Journal of Industrial Organisation</i>
<i>ILRR</i>	<i>Industrial and Labor Relations Review</i>
<i>Int Lab Rev</i>	<i>International Labour Review</i>
<i>ITPF</i>	<i>International Tax and Public Finance</i>
<i>JAE</i>	<i>Journal of Applied Econometrics</i>
<i>JASA</i>	<i>Journal of the American Statistical Association</i>
<i>J Bank Fin</i>	<i>Journal of Banking and Finance</i>
<i>JBES</i>	<i>Journal of Business and Economic Statistics</i>
<i>J Bus</i>	<i>Journal of Business</i>
<i>J Comp E</i>	<i>Journal of Comparative Economics</i>
<i>JDE</i>	<i>Journal of Development Economics</i>
<i>J Dev Stud</i>	<i>Journal of Development Studies</i>
<i>JEBO</i>	<i>Journal of Economic Behaviour and Organization</i>
<i>JEDC</i>	<i>Journal of Economic Dynamics and Control</i>
<i>JEEA</i>	<i>Journal of the European Economic Association</i>
<i>JEEM</i>	<i>Journal of Environmental Economics and Management</i>

<i>JEG</i>	<i>Journal of Economic Growth</i>
<i>JEH</i>	<i>Journal of Economic History</i>
<i>JEL</i>	<i>Journal of Economic Literature</i>
<i>J Em</i>	<i>Journal of Econometrics</i>
<i>JEMS</i>	<i>Journal of Economics and Management Strategy</i>
<i>JEP</i>	<i>Journal of Economic Perspectives</i>
<i>JET</i>	<i>Journal of Economic Theory</i>
<i>J Eur EH</i>	<i>Journal of European Economic History</i>
<i>J Farm E</i>	<i>Journal of Farm Economics</i>
<i>J Fin</i>	<i>Journal of Finance</i>
<i>J Fin E</i>	<i>Journal of Financial Economics</i>
<i>JFQA</i>	<i>Journal of Financial and Qualitative Analysis</i>
<i>JHE</i>	<i>Journal of Health Economics</i>
<i>JHET</i>	<i>Journal of the History of Economic Thought</i>
<i>JHR</i>	<i>Journal of Human Resources</i>
<i>JI Bus Stud</i>	<i>Journal of International Business Studies</i>
<i>JIFMA</i>	<i>Journal of International Financial Management and Accounting</i>
<i>JIMF</i>	<i>Journal of International Money and Finance</i>
<i>J Ind E</i>	<i>Journal of Industrial Economics</i>
<i>J Int E</i>	<i>Journal of International Economics</i>
<i>J Lab E</i>	<i>Journal of Labor Economics</i>
<i>J Law E</i>	<i>Journal of Law and Economics</i>
<i>JLEO</i>	<i>Journal of Law, Economics and Organization</i>
<i>J Math E</i>	<i>Journal of Mathematical Economics</i>
<i>JMCB</i>	<i>Journal of Money, Credit and Banking</i>
<i>JME</i>	<i>Journal of Monetary Economics</i>
<i>JOOP</i>	<i>Journal of Occupational and Organizational Psychology</i>
<i>JPAM</i>	<i>Journal of Policy Analysis and Management</i>
<i>JPE</i>	<i>Journal of Political Economy</i>
<i>J Post Keyn E</i>	<i>Journal of Post-Keynesian Economics</i>
<i>J Pub E</i>	<i>Journal of Public Economics</i>
<i>J Reg S</i>	<i>Journal of Regional Science</i>
<i>JRSS</i>	<i>Journal of the Royal Statistical Society</i>
<i>JRSS-A</i>	<i>Journal of the Royal Statistical Society – A Series</i>
<i>JRSS-B</i>	<i>Journal of the Royal Statistical Society – B Series</i>
<i>JRU</i>	<i>Journal of Risk and Uncertainty</i>
<i>J Transp EP</i>	<i>Journal of Transport Economics and Policy</i>
<i>JUE</i>	<i>Journal of Urban Economics</i>
<i>Kyk</i>	<i>Kyklos</i>
<i>MLR</i>	<i>Monthly Labor Review</i>
<i>MS</i>	<i>Manchester School of Economic and Social Studies</i>
<i>NAJE</i>	<i>Not a Journal of Economics</i>
<i>NPDE</i>	<i>New Palgrave Dictionary of Economics</i> , eds J. Eatwell, M. Milgate, P. Newman (Macmillan, 1987)
<i>NTJ</i>	<i>National Tax Journal</i>

<i>OBES</i>	<i>Oxford Bulletin of Economics and Statistics</i>
<i>OEP</i>	<i>Oxford Economic Papers</i>
<i>OREP</i>	<i>Oxford Review of Economic Policy</i>
<i>PDR</i>	<i>Pakistan Development Review</i>
<i>QJE</i>	<i>Quarterly Journal of Economics</i>
<i>QREB</i>	<i>Quarterly Review of Economics and Business</i>
<i>RandJE</i>	<i>Rand Journal of Economics</i>
<i>REP</i>	<i>Revue d'Économie Politique</i>
<i>REStat</i>	<i>Review of Economics and Statistics</i>
<i>REStud</i>	<i>Review of Economic Studies</i>
<i>RIW</i>	<i>Review of Income and Wealth</i>
<i>RSUE</i>	<i>Regional Science and Urban Economics</i>
<i>Scand JE</i>	<i>Scandinavian Journal of Economics</i>
<i>SEJ</i>	<i>Southern Economic Journal</i>
<i>SJPE</i>	<i>Scottish Journal of Political Economy</i>
<i>Swed JE</i>	<i>Swedish Journal of Economics</i>
<i>Urb Stud</i>	<i>Urban Studies</i>
<i>WA</i>	<i>Weltwirtschaftliches Archiv</i>
<i>WBER</i>	<i>World Bank Economic Review</i>
<i>WD</i>	<i>World Development</i>
<i>WEJ</i>	<i>Western Economic Journal</i>
<i>YEE</i>	<i>Yale Economic Essays</i>
<i>ZGS</i>	<i>Zeitschrift für die gesamte Staatswissenschaft</i>
<i>ZN</i>	<i>Zeitschrift für Nationalökonomie</i>

Geographic

AL	Alabama
AR	Arkansas
AZ	Arizona
BC	British Columbia, Canada
CA	California
CO	Colorado
CT	Connecticut
DC	District of Columbia
FL	Florida
GA	Georgia
HI	Hawaii
IA	Iowa
ID	Idaho
IL	Illinois
IN	Indiana
KS	Kansas
KY	Kentucky
LA	Louisiana
MA	Massachusetts
MD	Maryland
ME	Maine

MI	Michigan
MN	Minnesota
MO	Missouri
MS	Mississippi
MT	Montana
NC	North Carolina
ND	North Dakota
NE	Nebraska
NH	New Hampshire
NJ	New Jersey
NM	New Mexico
NSW	New South Wales (Australia)
NV	Nevada
NY	New York
OH	Ohio
OK	Oklahoma
OR	Oregon
PA	Pennsylvania
PRC	People's Republic of China
RI	Rhode Island
ROC	Republic of China
SC	South Carolina
SD	South Dakota
TN	Tennessee
TX	Texas
UT	Utah
VA	Virginia
VI	Virgin Islands
VT	Vermont
WA	Washington
WI	Wisconsin
WV	West Virginia
WY	Wyoming

A

ABEL, Andrew B.

Born 1952, Washington, DC, USA.

Current Posts Robert Morris Prof. Banking, Dept Fin., Wharton School, Univ. Pennsylvania, Philadelphia, PA, USA, 1989–; Prof. Econ., Univ. Pennsylvania, 1987–.

Past Posts Asst Prof. Econ., Univ. Chicago, 1978–80, Harvard Univ., 1980–83; John L. Loeb Assoc. Prof. Social Sc., Dept Econ., Harvard Univ., 1983–86; Vis. Prof., Dept Econ., Hebrew Univ., Jerusalem, 1985, Tel Aviv Univ., 1986–87; Amoco Foundation Term Prof. Fin., Ronald O. Perelman Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1986–88, 1988–89.

Degrees AB Princeton Univ., 1974; PhD MIT, 1978.

Editorial Duties Ed. Bds, *QJE*, 1983–85, *JME*, 1985–95, *JEDC*, 1987–94, *J. Fin. Intermediation*, 1989–95, *FRB New York Econ. Pol. Rev.*, 1994–; Assoc. Ed., *JMCB*, 1993–2002.

Principal Fields of Interest E2 Consumption, Saving, Production, Employment, and Investment; G1 General Financial Markets; H3 Fiscal Policies and Behavior of Economic Agents.

Publications *Book*: 1. *Macroeconomics* (with B.S. Bernanke), (Addison-Wesley, 1992, trans., Italian; 1995, 1998, 2001).

Articles: 1. ‘Dynamic effects of permanent and temporary tax policies in a q model of investment’, *JME*, 9, May 1982; 2. ‘Optimal investment under uncertainty’, *AER*, 73, March 1983; 3. ‘An intertemporal model of saving and investment’ (with O.J. Blanchard), *Em*, 51, May 1983; 4. ‘A stochastic model of investment, marginal q , and the market value of the firm’, *IER*, 26, June 1985; 5. ‘Precautionary saving and accidental bequests’, *AER*, 75, Sept. 1985; 6. ‘The expected present value of

profits and the cyclical variability of investment’ (with O.J. Blanchard), *Em*, 54, March 1986; 7. ‘Capital accumulation and uncertain lifetimes with adverse selection’, *Em*, 54, Sept. 1986; 8. ‘Operative gift and bequest motives’, *AER*, 77, Dec. 1987; 9. ‘Specification of the joy of giving: insights from altruism’ (with M. Warshawsky), *REStat*, 70, Feb. 1988; 10. ‘Stock prices under time-varying dividend risk: an exact solution in an infinite-horizon general equilibrium model’, *JME*, 22, Nov. 1988; 11. ‘Assessing dynamic efficiency: theory and evidence’ (with N.G. Mankiw, L.H. Summers, R.J. Zeckhauser), *REStud*, 56, Jan. 1989; 12. ‘Asset prices under habit formation and catching up with the Joneses’, *AER*, 80, May 1990; 13. ‘Exact solutions for expected rates of return under Markov regime switching: implications for the equity premium puzzle’, *JMCB*, 26, Aug. 1994; 14. ‘A unified model of investment under uncertainty’ (with J.C. Eberly), *AER*, 84, Dec. 1994; 15. ‘Options, the value of capital, and investment’ (with A. Dixit, J.C. Eberly, R.S. Pindyck), *QJE*, 111, Aug. 1996; 16. ‘Optimal investment with costly reversibility’ (with J.C. Eberly), *REStud*, 63, Aug. 1996; 17. ‘Risk premia and term premia in general equilibrium’, *JME*, 43, Feb. 1999; 18. ‘The effects of investing social security funds in the stock market when fixed costs prevent some households from holding stocks’, *AER*, 91, March 2001; 19. ‘Will bequests attenuate the predicted meltdown in stock prices when baby boomers retire?’, *REStat*, 83, Nov. 2001.

Principal Contributions The unifying aspect of the research is the analysis of intertemporal decisions by consumers and firms, and the implications of these decisions for saving, investment, and asset prices. The analysis of consumers’ decisions has examined the importance of longevity uncertainty for consumption and saving and the implications for annuity markets. The role of transfer motives, gen-

erated by altruism or other motives such as accidental bequests arising from premature death, and the implications for Ricardian equivalence are analysed. The implications of social security for private portfolios are analysed. The development and application of a criterion to test for dynamic efficiency in the presence of aggregate uncertainty found that none of the countries examined is dynamically inefficient. The analysis of firms has focused on the capital investment decision when the firm faces a variety of costs of adjusting the capital stock. The research developed an augmented adjustment cost function that incorporates partial or complete irreversibility of investment as well as fixed costs of investment, and develops a q -theoretic model of investment in this more general framework. Research on asset prices has examined the role of habit formation and catching-up-with-the-Joneses features of utility functions as potential explanations of the equity premium puzzle and has examined the impact of the baby boom on stock prices.

ABREU, Dilip n.e.

ACEMOGLU, Kameron Daron

Born 1967, Istanbul, Turkey.

Current Post Prof. Econ., MIT, Cambridge, MA, USA, 2000–.

Past Posts Lect. Econ., LSE, 1992–93; Asst Prof. Econ., Pentti Kouri Assoc. Prof. Econ., MIT, 1993–97, 1997–2000.

Degrees BA Univ. York, 1989; MSc (Math. Econ., Em.), PhD LSE, 1990, 1992.

Offices and Honours Robert McKenzie Prize, LSE, 1990, 1992; Best Paper publ. in *EJ*, 1994–95; Res. Assoc., CEPR, 1994–, NBER, 1997–; Res. Affiliate, Centre for Econ. Performance, LSE, 1994–.

Editorial Duties Ed. Bds, *QJE*, 1999–, *JEG*, 1999–; Ed., *REStat*, 2002–.

Principal Fields of Interest O1 Economic Development; O3 Technological Change; O4 Economic Growth and Aggregate Productivity.

Publications Articles: 1. ‘A micro-foundation for social increasing returns in human capital accumulation’, *QJE*, 111, Aug. 1996; 2. ‘Training and innovation in an imperfect labor market’, *REStud*, 64, July 1997; 3. ‘Was Prometheus unbound by chance? Risk, diversification and growth’ (with F. Zilibotti), *JPE*, 105, Aug. 1997; 4. ‘Why do firms train? Theory and evidence’ (with S. Pischke), *QJE*, 113, Feb. 1998; 5. ‘Why do new technologies complement skills? Directed technical change and wage inequality’, *QJE*, 113, Nov. 1998; 6. ‘The structure of wages and investment in general training’ (with S. Pischke), *JPE*, 107, June 1999; 7. ‘Efficient unemployment insurance’ (with R. Shimer), *JPE*, 107, Oct. 1999; 8. ‘Changes in unemployment and wage inequality: an alternative theory and some evidence’, *AER*, 89, Dec. 1999; 9. ‘How large are human capital externalities? Evidence from compulsory schooling laws’ (with J. Angrist), *NBER Macroecon. Annual*, 15, 2000; 10. ‘The choice between market failures and corruption’ (with T. Verdier), *AER*, 90, March 2000; 11. ‘Wage and technology dispersion’ (with R. Shimer), *REStud*, 67, Oct. 2000; 12. ‘Why did the West extend the franchise? Democracy, inequality and growth in historical perspective’ (with J. Robinson), *QJE*, 115, Nov. 2000; 13. ‘Productivity differences’ (with F. Zilibotti), *QJE*, 116, May 2001; 14. ‘A theory of political transitions’ (with J. Robinson), *AER*, 91, Sept. 2001; 15. ‘Consequences of employment protection? The case of the Americans With Disabilities Act’ (with J. Angrist), *JPE*, 109, Oct. 2001; 16. ‘The colonial origins of comparative development: an empirical inves-

tigation' (with S. Johnson, J. Robinson), *AER*, 91, Dec. 2001; 17. 'Technical change, inequality and labor market', *JEL*, 40, March 2002; 18. 'The world income distribution' (with J. Ventura), *QJE*, 117, May 2002; 19. 'Directed technical change', *RESstud*, 69, Nov. 2002; 20. 'Reversal of fortune: geography and institutions in the making of the modern world income distribution' (with S. Johnson, J. Robinson), *QJE*, 117, Nov. 2002.

Principal Contributions (1) The theory of 'directed technical change', whereby the profitability of various types of technologies determine their rates of innovations; a consequence of directed technical change is that there will be endogenous biased technical change towards factors that are becoming more abundant. (2) The theory of democratization and consolidation of democracies. (3) Various approaches for the question of why societies end up choosing inefficient policies and institutions, and the empirical documentation of the effect of these policies and institutions on long-run development. (4) Analysis of the effect of colonial institutions and policies on the institutional development in various parts of the world and the effect of these institutions on current economic performance. (5) The theory of training investments under market imperfections, where firms invest in the general skills of their employees because they can recoup the returns in the future thanks to market imperfections. (6) Various approaches to determining the quality distribution of jobs, especially on the link between labor market regulations and the quality distribution of jobs, and the relationship between inequality and the composition of jobs. (7) The theory of directed search, where rather than random search, the labor market is modeled such that employers post wages and workers decide to apply to some of the jobs that they sample.

ADAMOWICZ, Wiktor Lucian

Born 1959, Edmonton, Canada.

Current Posts Prof. and Canada Res. Chair Environmental Econ., Dept Rural Econ., Univ. Alberta, Edmonton, Alberta, Canada, 2001–.

Past Posts Vis. Prof., Dept Agric. Econ. and Food Marketing, Univ. Newcastle, England, 1993–94; Asst Prof., Prof., Dept Rural Econ., Univ. Alberta, 1983–95, 1995–2001; Gilbert White Fell., Resources for the Future, Washington, DC, 2001–02.

Degrees BSc (Agric.), MSc (Agric. Econ.) Univ. Alberta, 1981, 1983; PhD (Agric. and Apl. Econ.) Univ. Minnesota, 1988.

Offices and Honours Outstanding J. Article Award, *Canadian J. Agric. Econ.*, 1990; Meritorious Teaching Award, Natl Assoc. Colls and Teachers in Agric., 1996; Killam Annual Prof., Univ. Alberta, 1998–99; Sc. Dir., Sustainable Forest Mgmt Network of Centres of Excellence, 1998–.

Editorial Duties Ed., *Canadian J. Agric. Econ.*, 1989–92; Ed. Council, *JEEM*, 1995–96, 1999–2000, *J. Agric. and Resource Econ.*, 1998–2000; Ed. Bd, *J. Forest Econ.*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; C2 Econometric Methods: Single Equation Models.

Publications *Articles*: 1. 'Functional form and the statistical properties of welfare measures' (with J.J. Fletcher, T. Graham-Tomasi), *AJAE*, 71, May 1989; 2. 'Revealed preference evaluation of nonmarket benefit techniques' (with T. Graham-Tomasi), *JEEM*, 20, Jan. 1990; 3. 'Experiments on the difference between willingness to pay and willingness to accept' (with V. Bhardwaj, B. Macnab), *Land Econ.*, 69, Nov. 1993; 4. 'Participation, trip frequency and site choice: a multinomial-poisson hurdle model of recrea-

tion demand' (with S.T. Yen), *Canadian J. Agric. Econ.*, 42, March 1994; 5. 'Habit formation and variety seeking in a discrete choice model of recreation demand', *J. Agric. Resource Econ.*, 19, 1994; 6. 'Combining stated and revealed preference methods for valuing environmental amenities' (with J. Louviere, M. Williams), *JEEM*, 26, 1994; 7. 'The influence of choice set considerations in modelling the benefits from improved water quality' (with T. Peters, P. Boxall), *Water Resources Res.*, 31, 1995; 8. 'A nonparametric test of the traditional travel cost model' (with P.C. Boxall, T. Graham-Tomasi), *Canadian J. Agric. Econ.*, 44, 1996; 9. 'A comparison of stated preference approaches to the measurement of environmental values' (with P. Boxall, M. Williams, J. Swait, J. Louviere), *Ecological Econ.*, 18, 1996; 10. 'Perceptions versus objective measures of environmental quality in combined revealed and stated preference models of environmental valuation' (with J. Swait, P. Boxall, J. Louviere, M. Williams), *JEEM*, 32, 1997; 11. 'Stated preference approaches for measuring passive use values: choice experiments and contingent valuation' (with P. Boxall, M. Williams, J. Louviere), *AJAE*, 80, Feb. 1998; 12. 'Complements, substitutes, budget constraints and valuations: application of a multi-program environmental valuation method' (with A. Hailu, P. Boxall), *Environmental and Resource Econ.*, 16, 2000; 13. 'The incorporation of fire and price risk in regional forest resource accounts' (with M.K. Haener), *Ecological Econ.*, 33, 2000; 14. 'Modeling recreation site choice: do hypothetical choices reflect actual behavior?' (with M.K. Haener, P.C. Boxall), *AJAE*, 83, 2000; 15. 'The influence of task complexity on consumer choice: a latent class model of decision strategy switching' (with J. Swait), *J. Consumer Res.*, 28, 2001; 16. 'Choice environment, market

complexity and consumer behavior: a theoretical and empirical approach for incorporating decision complexity in models of consumer choice' (with J. Swait), *Org. Behav. and Human Decision Processes*, 86, 2001; 17. 'Environmental valuation case studies', in J.J. Louviere, D.A. Hensher, J. Swait (eds), *Stated Choice Methods: Analysis and Application* (CUP, 2001); 18. 'Context dependence and aggregation in disaggregate choice analysis' (with J. Swait, M. Hanemann, A. Diederich, J. Krosnick, D. Layton, W. Provencher, D. Schkade, R. Tourangeau), *Marketing Letters*, 13, 2002; 19. 'Understanding heterogeneous preferences in random utility models: the use of latent class analysis' (with P.C. Boxall), *Environmental and Resource Econ.*, 23, 2002; 20. 'Valuing undiscovered attributes: a combined revealed-stated preference analysis of North American aboriginal artifacts' (with P.C. Boxall, J. Englin), *JEEM*, forthcoming 2003.

Principal Contributions My research interests are in developing methods that integrate environmental goods and services into economic analysis and designing policies and institutions that help capture the importance of environmental services in economic decision-making. My main research areas include environmental benefits estimation, economic assessment of environmental changes, and consumer choice modeling. My research interests also include the incorporation of economic perspectives into sustainable forest management and the development and implementation of economic instruments for environmental protection. I have advanced the field of combining stated and revealed preference methods for environmental valuation and demand analysis. The foundation paper with Louviere and Williams in 1994 has led to numerous applications in environment valuation, consumer choice, marketing, and health economics/medicine. I have also helped

develop the area of stated choice methods as applied to environmental economics. With my colleagues I have also developed methods, commonly used today, for assessing the statistical properties of welfare measures. More recently, with Swait, I have been assessing the role of choice context and complexity in consumer demand. I have helped develop methods to integrate economic analysis into sustainable forest management. Interdisciplinary work in this area is illustrated by my role in the Sustainable Forest Management Network of Centres of Excellence as the Program Leader (from 1998) where I am responsible for the scientific program and development of this national, interdisciplinary, multi-sector, research network. I have also supervised over 40 graduate students in the area of environmental and natural resource economics.

ADAMS, Richard M.

Born 1945, Concord, CA, USA.

Current Post Prof. Agric. and Resource Econ., Oregon State Univ., Corvallis, OR, USA, 1983–.

Past Posts Agric. Econ., Univ. California, Davis, 1971–75; Asst and Assoc. Prof., Dept Agric. Econ., Univ. Wyoming, 1975–83.

Degrees BS, MS, PhD Univ. California, Davis, 1968, 1971, 1975.

Offices and Honours Res. Excellence Award, US EPA, 1987; Disting. Vice-Pres., Western Agric. Econ. Assoc., 1990–91; Ed. Citation for Excellence in Referring, *Water Resources Res.*, 1995; Outstanding J. Article, *J. Agric. and Resource Econ.*, 1996, *CJ*, 2001; Vice-Chancellor's Award for Excellence, Texas A&M Univ., 1998; Disting. Fell., AA, 2001.

Editorial Duties Assoc. Ed., *Water Resources Res.*, 1988–92; Ed., *AJAE*, 1992–94; Ed. Council, *JEEM*, 1996–98.

Principal Fields of Interest Q2 Renewable Resources and Conservation, Environmental Management; Q1 Agriculture.

Publications Articles: 1. 'An economic assessment of air pollution damages to selected annual crops in southern California' (with T. Crocker, N. Thanavibulchai), *JEEM*, 9, March 1982; 2. 'Economically relevant ecosystem response estimation and the value of information: acid deposition' (with T. Crocker), in T. Crocker (ed.), *Economic Perspectives on Acid Deposition Control* (Butterworth, 1984); 3. 'Using farmers' actions to measure crop loss due to air pollution' (with J. Mjelde, B. Dixon, P. Garcia), *J. Air Pollution Control Assoc.*, 34, April 1984; 4. 'Assessing the adequacy of natural science information: a Bayesian approach' (with T. Crocker, R. Katz), *REStat*, 66, Nov. 1984; 5. 'Assessing the benefits of alternative ozone standards on agriculture: the role of response information' (with B. McCarl), *JEEM*, 12, Sept. 1985; 6. 'The benefits of air pollution control: the case of ozone and US agriculture' (with S. Hamilton, B. McCarl), *AJAE*, 68, Nov. 1986; 7. 'Benefits of increased streamflow: the case of the John Day River steelhead fishery' (with N. Johnson), *Water Resources Res.*, 24, Nov. 1988; 8. 'Global climate change and US agriculture' (with C. Rosenzweig, J. Ritchie, R. Pearl, J. Glycer, B. McCarl, B. Curry, J. Jones), *Nature*, 345, May 1990; 9. 'The on-farm costs of reducing groundwater pollution' (with S. Johnson, G. Perry), *AJAE*, 73, Nov. 1991; 10. 'Materials damages' (with T. Crocker), in C. Kolstad, J. Braden (eds), *Measuring the Demand for Environmental Quality* (N-H, 1991); 11. 'An economic analysis of household recycling of solid wastes: the case of Portland, Oregon' (with S. Hong, H. Love), *JEEM*, 25, Sept. 1993; 12. 'Value of improved long range weather information' (with B. McCarl, A. Solow, K. Bryant, D. Legler, J. O'Brien), *Con-*

temporary Econ. Pol., 13, July 1995; 13. 'Welfare effects of fishery policies: Native American treaty rights and recreational salmon fishing' (with P.-C. Lin, R. Berrens), *J. Agric. and Resource Econ.*, 21, Dec. 1996; 14. 'The importance of site specific information in the design of policies to control pollution' (with R. Fleming), *JEEM*, 33, July 1997; 15. 'Agricultural and endangered species protection: an analysis of tradeoffs in the Klamath Basin, Oregon' (with S. Cho), *Water Resources Res.*, 34, Oct. 1998; 16. 'The value of El Niño forecasts in the management of salmon: a stochastic dynamic approach' (with C. Costello, S. Polasky), *AJAE*, 80, Nov. 1998; 17. 'On the search for the correct economic assessment method', *Climatic Change*, 41, April 1999; 18. 'Threshold effects and optimal targeting of conservation efforts: steelhead trout habitat enhancement in Oregon' (with J. Wu, W. Boggess), *AJAE*, 82, May 2000; 19. 'The economic effects of climate change on agriculture' (with B. McCarl, K. Segerson, C. Rozenzweig, K. Bryant, B. Dixon, R. Connor, R. Evenson, D. Ojima), in R. Mendelsohn, J. Neumann (eds), *Effects of Climate Change on the US Economy* (CUP, 2001); 20. 'Micro vs. macro acreage response models: does site-specific information matter?' (with J. Wu), *J. Agric. and Resource Econ.*, 27, July 2002.

Principal Contributions My research interests focus on the application of externality analysis to complex policy issues, including air quality, acid rain, water resources and global climate change. This research primarily addresses empirical problems at the interface between agriculture and the environment. My work in the early 1980s, with Thomas Crocker, on the agricultural impacts of air pollution, contributed substantially to applied policy analysis and influenced US EPA policy on air pollution control. For exam-

ple, our 1984 article, in *REStat* on the quantity of natural science data needed for valid economic policy assessment, had an impact on agency procedures. The EPA used these findings to set ozone standards in the Clean Air Act and recognized the contribution with the Award for Research Excellence in 1987. Ongoing research on the topic of water resources, particularly with reference to the value of in-stream flows, is directed at regional problems including endangered fish species. Findings are being used to make decisions concerning public investments in habitat restoration and water leases. Recent research on climate change (with B. McCarl) is frequently referenced in the popular press and has been presented in congressional testimony. I am also engaged in outreach activities and have served on numerous government and professional committees, including the US EPA, the California Air Resources Board, the Federal Republic of Germany, the US Congress, the National Academy of Science, the US Department of Energy, and the California Energy Commission, and other agencies to provide input on the economics of environmental change. I believe this type of applied research and outreach assists in bridging the gap between agricultural economics and other disciplines and enhances our profession's impact in solving major natural resource and environmental problems.

ADDISON, John T.

Born 1946, Dudley, Worcestershire, England.

Current Posts Hugh C. Lane Prof. Econ., Univ. South Carolina, Columbia, SC, USA, 1997–; Prof.-at-Large, Freie Univ. Bozen, Italy, 2002–.

Past Posts Econ. Advisor, Office Manpower Econ., 1971–72; Lect. Polit. Econ., Univ. Aberdeen, 1972–80; Assoc. Prof.,

Prof., Univ. South Carolina, 1981–83, 1983–95; Prof., Univ. Hull, England, 1996–97; Vis. Prof., Univ. Münster, 1990, 1991, 1992, 1993, Univ. Southampton, 1993, Univ. Potsdam, 1995, 1998, Inst. für Weltwirtschaft, Kiel, 1996, ZEW, Mannheim, 1998, IAB, Nürnberg 2001, 2002, Freie Univ. Bozen, 2001, 2002; John M. Olin Vis. Prof. Labor Econ. and Public Pol., Washington Univ., 1997.

Degrees BSc, MSc, PhD LSE, 1967, 1968, 1971.

Offices and Honours Univ. South Carolina Educ. Foundation Award for Res. in Social Sc., 1990; Univ. South Carolina Bus. Partnership Foundation Res. Fell., 1990–93; Bradley Resident Scholar, Heritage Foundation, 1992; Univ. South Carolina Bus. Partnership Foundation Disting. Res. Fell., 1993–2002; Darla Moore Sch. Bus. Disting. Faculty Researcher, Univ. South Carolina, 1998–99.

Editorial Duties Ed. Bds, *J. Labor Res.*, 1980–, *S-V Europ. and Transatlantic* series, 1998–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; P1 Capitalist Systems; I3 Welfare and Poverty.

Publications *Books*: 1. *The Market for Labor: An Analytical Treatment* (with W.S. Siebert), (Goodyear/Prentice-Hall, 1979); 2. *Trade Unions and Society: Some Lessons of the British Experience* (with J. Burton), (Fraser Inst., 1984); 3. *The Economic Analysis of Unions – New Approaches and Evidence* (with B.T. Hirsch), (A&U, 1986); 4. *Job Displacement: Consequences and Implications for Policy* (Wayne State Univ. Press, 1991); 5. *Labour Markets in Europe: Issues of Harmonization and Regulation* (with W.S. Siebert), (Dryden Press, 1997); 6. *Labor Markets and Social Security* (with P.J.J. Welfens), (S-V, 1998, 2nd edn 2003); 7. *International Handbook of Trade Unions* (with C. Schnabel), (Edward Elgar, 2003).

Articles: 1. ‘On the distributional shape of unemployment duration’ (with P. Portugal), *REStat*, 68, Aug. 1987; 2. ‘Union effects on productivity, profits, and growth: has the long run arrived?’ (with B.T. Hirsch), *J Lab E*, 7, Jan. 1989; 3. ‘Job displacement, relative wage changes, and duration of unemployment’ (with P. Portugal), *J Lab E*, 7, July 1989; 4. ‘Problems of sample construction in studies of the effects of unemployment insurance on unemployment duration’ (with P. Portugal), *ILRR*, 43, April 1990; 5. ‘The Worker Adjustment and Retraining Notification Act’ (with M.L. Blackburn), *JEP*, 47, July 1994; 6. ‘Recent developments in social policy in the new European Union’ (with W.S. Siebert), *ILRR*, 48, Oct. 1994; 7. ‘Short- and long-term unemployment: a parametric model with time-varying effects’ (with P. Portugal), *OBES*, 57, May 1995; 8. ‘Nondisclosure as a contractual remedy: explaining the advance notice puzzle’ (with J. Chilton), *J Lab E*, 15, Jan. 1997; 9. ‘Self-enforcing union contracts: efficient investment and employment’ (with J. Chilton), *J Bus*, 71, July 1998; 10. ‘Minimum wages and poverty’ (with M. Blackburn), *ILRR*, 52, April 1999; 11. ‘Worker participation and firm performance: evidence from Germany and Britain’ (with W.S. Siebert, J. Wagner, X.D. Wei), *BJIR*, 30, March 2000; 12. ‘Updating the determinants of firm performance: estimates from the Workplace Employee Relations Survey’ (with C. Belfield), *BJIR*, 39, Sept. 2001; 13. ‘Job search methods and outcomes’ (with P. Portugal), *OEP*, 54, July 2002.

Principal Contributions Early work focused on productivity bargaining, the theory of strikes, and methodological issues in economics. Research since 1980 has focused on the economic analysis of unions, job displacement, unemployment, and theoretical and applied work on government mandates (principally, advance

notice and European Union social policy). Current empirical research includes the effect of codetermination, unions, and employee involvement on firm performance using establishment data, and comparative work on unemployment duration and the employment consequences of job protection.

AGHION, Philippe

Born 1956, Paris, France.

Current Posts Prof. Econ., Univ. Coll. London, UK; Sr Econ., EBRD, London, UK, 1989–.

Past Posts Res. Officer, CNRS, France, 1989–91; Asst Prof., MIT, 1987–89.

Degree PhD Harvard Univ., 1987.

Offices and Honours Fell., Em Soc, 1994; Fell., CEPR.

Editorial Duties Managing Ed., *Econ. Transition*; Ed. Bds, *Em*, 1992–95, *REStud*, 1991–, *JEG*, *J Comp E*.

Principal Fields of Interest D0 Microeconomics: General; D8 Information and Uncertainty; D9 Intertemporal Choice and Growth.

Publications *Articles*: 1. ‘Contracts as a barrier entry’ (with P. Bolton), *AER*, 77, June 1987, repr. in O. Williamson (ed.), *Industrial Economics* (Edward Elgar, 1990); 2. ‘Optimal learning by experimentation’ (with P. Bolton, C. Harris, B. Jullien), *REStud*, 58, July 1991; 3. ‘A model of growth through creative destruction’ (with P. Howitt), *Em*, 60, March 1992; 4. ‘An incomplete contracts approach to financial contracting’ (with P. Bolton), *REStud*, 59, Aug. 1992; 5. ‘The economics of bankruptcy reform’ (with O. Hart, J. Moore), *J Law E*, 8, Oct. 1992; 6. ‘Growth and unemployment’ (with P. Howitt), *REStud*, 61, July 1994; 7. ‘The management of innovation’ (with J. Tirole), *QJE*, 108, Nov. 1994; 8. ‘On the speed of transition in Central Europe’ (with O.

Blanchard), *NBER Macroecon. Annual*, 1994; 9. ‘Formal and real authority in organisations’ (with J. Tirole), *JPE*, 105, Feb. 1997; 10. ‘A model of trickle-down growth and development’ (with P. Bolton), *REStud*, 64, June 1997.

Principal Contributions My main contributions so far have been: first, to the theory of industrial organisation where, together with Patrick Bolton, I have investigated the potential entry-deterrent effect of long-term contracts between suppliers and customers; second, to contract theory, where I have investigated some implications of contractual *incompleteness* for the internal organisation and the financial decisions of firms, emphasising the allocation of control rights as a major determination of both; third, to endogenous growth theory, where, mainly with Peter Howitt, I have attempted to formalise and systematise the old Schumpeterian ideas on growth, competition and business cycles. Whilst this modelling effort has put Schumpeter’s contribution back into mainstream economics, it has also opened up interesting avenues for future research on growth and its relationship to institutions, market structure, the organisation of firms and the distribution of income and opportunities across individuals in the economy.

AGRAWAL, Anup

Born 1958, Allahabad, India.

Current Posts Prof. and Powell Chair Fin., Culverhouse Coll. Bus., Univ. Alabama, Tuscaloosa, AL, USA, 1999–.

Past Posts Mgmt Cons., A.F. Ferguson & Co., Bombay, India, 1979–81; Asst Prof. Fin., Baruch Coll., City Univ. New York, 1986–89; Asst Prof. Fin., Assoc. Prof. Fin., Coll. Mgmt, North Carolina State Univ., 1989–92, 1992–98; Vis. Assoc. Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1994–95.

Degrees BCom (Hons) Univ. Bombay, 1977; MBA XLRI, 1979; PhD (Fin.) Univ. Pittsburgh, 1986.

Honours Outstanding Young Man Amer., 1996, 1998.

Editorial Duties Assoc. Ed., *Rev. Fin. Econ.*, 1999–, *Fin. India*, 1999–, *J. Corp. Fin.*, 2002–.

Principal Fields of Interest G3 Corporate Finance and Governance; G1 General Financial Markets; K2 Regulation and Business Law.

Publications *Articles*: 1. ‘Managerial incentives and corporate investment and financing decisions’ (with G.N. Mandelker), *J Fin*, 42, Sept. 1987; 2. ‘Large shareholders and the monitoring of managers: the case of anti-takeover charter amendments’ (with G.N. Mandelker), *JFQA*, 25, June 1990; 3. ‘Corporate capital structure, agency costs and ownership control: the case of all-equity firms’ (with N.J. Nagarajan), *J Fin*, 45, Sept. 1990; 4. ‘The post-merger performance of acquiring firms: a re-examination of an anomaly’ (with J.F. Jaffe, G.N. Mandelker), *J Fin*, 47, Sept. 1992; 5. ‘Anomalies or illusions? Evidence from stock markets in nineteen countries’ (with K. Tandon), *JIME*, 13, Feb. 1994; 6. ‘Executive careers and compensation surrounding takeover bids’ (with R.A. Walkling), *J Fin*, 49, July 1994; 7. ‘Does Section 16b deter insider trading by target managers?’ (with J.F. Jaffe), *J Fin E*, 39, Oct.–Nov. 1995; 8. ‘Firm performance and mechanisms to control agency problems between managers and shareholders’ (with C.R. Knoeber), *JFQA*, 31, Sept. 1996; 9. ‘Managerial compensation and the threat of takeover’ (with C.R. Knoeber), *J Fin E*, 47, Feb. 1998; 10. ‘Management turnover and governance changes following the revelation of fraud’ (with J.F. Jaffe, J.M. Karpoff), *J Law E*, 42, April 1999; 11. ‘Do some outside directors play a political role?’ (with C.R. Knoeber), *J Law E*, 44, April 2001;

12. ‘Do takeover targets under-perform? Evidence from operating and stock returns’ (with J.F. Jaffe), *JFQA*, 38, forthcoming 2003.

Principal Contributions Most of my work has related to corporate finance and governance, and the efficiency of security markets. G.N. Mandelker and I empirically find that managers with large stock and option ownership in their firms make investment and financing decisions that increase firm risk and financial leverage. We also find that anti-takeover charter amendments by firms where institutions and blockholders own large equity stakes are less harmful to stockholders. R.A. Walkling and I find that managers of takeover targets suffer severe career consequences following takeover bids for their firms. J.F. Jaffe and I find that the short swing rule seems to deter target managers from insider trading. C.R. Knoeber and I find that firms’ choices of various mechanisms to control agency problems between managers and stockholders appear to be inter-related. For the most part, there is no systematic relationship between firm performance and the use of control mechanisms that are chosen within firms. In another paper, we find that firms where lobbying the government is more important put more politicians and ex-government officials on their boards of directors, and firms for whom the government is an adversary put more lawyers on their boards. We also find that managers of firms that face a greater threat of takeover are paid more, unless they are protected by golden parachutes or employment contracts. J.F. Jaffe, J.M. Karpoff and I find that the revelation of a fraud against a company does not appear to result in greater than normal turnover of its top managers and directors. On the efficiency of security markets, J.F. Jaffe, G.N. Mandelker and I find that the stock of acquiring firms under-performs over a five-year period fol-

lowing an acquisition. K. Tandon and I examined seasonal anomalies in stock markets around the world.

AKERLOF, George Arthur

Born 1940, New Haven, CT, USA.

Current Post Prof., Univ. California, Berkeley, CA, USA, 1977–.

Past Posts Asst Prof., Assoc. Prof., Univ. California, Berkeley, 1960–70, 1970–71; Cassel Prof. with respect to Money and Banking, LSE, 1978–80; Sr Fell., Brookings Inst., 1994–99.

Degrees BA (Maths and Econ.) Yale Univ., 1962; PhD MIT, 1966.

Offices and Honours Exec. Comm., Vice Pres., AEA, 1988–91, 1995; Co-recipient, Prize in Econ. Sc. in Memory of Alfred Nobel, 2001.

Editorial Duties Assoc. Ed., *QJE*, 1983–.

Principal Fields of Interest D0 Microeconomics: General; E0 Macroeconomics and Monetary Economics: General; J0 Labor and Demographic Economics: General.

Publications *Book*: 1. *An Economic Theorist's Book of Tales* (CUP, 1984).

Articles: 1. 'The market for "lemons"', *QJE*, 84, Aug. 1970; 2. 'The economics of caste and the rat-race and other woeful tales', *QJE*, 90, Nov. 1976; 3. 'The economics of "tagging"', *AER*, 68, March 1978; 4. 'Irving Fisher on his head', *QJE*, 93, May 1979; 5. 'A theory of social customs, of which unemployment may be one consequence', *QJE*, 94, June 1980; 6. 'The economic consequences of cognitive dissonance' (with W. Dickens), *AER*, 72, June 1982; 7. 'Labor contracts as partial gift exchange', *QJE*, 97, Nov. 1982; 8. 'Loyalty filters', *AER*, 73, March 1983; 9. 'Can small deviations from rationality make significant differences to economic equilibria?' (with J. Yellen), *AER*, 75, Sept. 1985; 10.

'A near rational model of the business cycle with wage and price inertia' (with J. Yellen), *QJE*, 100, Sept. 1985; 11. 'The fair wage–effort hypothesis and unemployment' (with J. Yellen), *QJE*, May 1990; 12. 'East Germany in from the cold' (with A. Rose, J. Yellen, H. Hessenius), *BPEA*, 1, 1991; 13. 'Looting: the economic underworld of bankruptcy for profit' (with P. Romer), *BPEA*, 2, 1993; 14. 'An analysis of out-of-wedlock childbearing in the United States' (with J. Yellen), *QJE*, 111, May 1996; 15. 'The macroeconomics of low inflation' (with W. Dickens, G. Perry), *BPEA*, 1, 1996; 16. 'Social distance and social decisions' (Fisher–Schultz Lecture), *Em*, 65, Sept. 1997; 17. 'Economics and identity' (with R. Kranton), *QJE*, 115, Aug. 2000; 18. 'Behavioral economics and macroeconomic behavior', *AER*, 92, June 2002; 19. 'Identity and schooling: some lessons for the economics of education' (with R. Kranton), *JEL*, forthcoming.

Principal Contributions I have contributed to three areas of economics: basic micro theory, macroeconomic theory and behavioural economics.

ALBERT, James H. n.e.

ALESINA, Alberto

Born 1957, Broni, Italy.

Current Post Prof. Econ. and Govt, Harvard Univ., Cambridge, MA, USA, 1993–.

Past Posts Post-Doctoral Fell., Polit. Econ., Asst Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1986–88; Asst Prof. Econ., Paul Sack Assoc. Prof. Polit. Econ., Harvard Univ., 1988–90, 1990–93.

Degrees Laurea, Univ. Bocconi, 1981; PhD Harvard Univ., 1986.

Offices and Honours Olin Fellowship,

1989–90; Sloan Res. Fellowship, 1989–91; Fellowship, Center for Adv. Stud. in Behav. Sc.

Editorial Duties Co-Ed., *Econ. and Polit.*, 1991–94, *QJE*, 1998–; Assoc. Ed., *EJPE*, 1991–94, *QJE*, 1992–98, *JEG*, 1994–, *Europ ER*, 1995–, *WA*, 1995–.

Principal Fields of Interest E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook; H6 National Budget, Deficit, and Debt; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Books*: 1. *Partisan Politics, Divided Government and the Economy* (with H. Rosenthal), (CUP, 1995); 2. *Political Cycles and the Macroeconomy* (with N. Roubini), (MIT Press, 1997); 3. *The Size of Nations* (with E. Spolaore), (MIT Press, 2003).

Articles: 1. ‘Macroeconomic policy in a two-party system as a repeated game’, *QJE*, 102, Aug. 1987; 2. ‘Voting on the budget deficit’ (with G. Tabellini), *AER*, 80, March 1990; 3. ‘A positive theory of fiscal deficits and government debt’ (with G. Tabellini), *RESstud*, 57, July 1990; 4. ‘Why are stabilisations delayed?’ (with A. Drazen), *AER*, 81, Dec. 1991; 5. ‘Central bank independence and macroeconomic performance: some comparative evidence’ (with L. Summers), *JMCB*, 25, May 1993; 6. ‘Distributive politics and economic growth’ (with D. Rodrik), *QJE*, 109, May 1994; 7. ‘A theory of divided government’ (with H. Rosenthal), *Em*, 25, Nov. 1996; 8. ‘On the number and size of nations’ (with E. Spolaore), *QJE*, 112, Nov. 1997; 9. ‘The welfare state and competitiveness’ (with R. Perotti), *AER*, 87, Dec. 1997; 10. ‘Public goods and ethnic divisions’ (with R. Baqir, W. Easterly), *QJE*, 114, 1999; 11. ‘Participation in heterogeneous communities’ (with E. La Ferrara), *QJE*, 115, Aug. 2000; 12. ‘Economic integration and political disintegration’ (with E. Spolaore, R. Wacziarg),

AER, 90, Dec. 2000; 13. ‘Why doesn’t the US have a European style welfare state?’ (with E. Glaeser, B. Sacerdote), *BPEA*, 2001; 14. ‘Currency unions’ (with R. Barro), *QJE*, 117, May 2002; 15. ‘Fiscal policy profits and investment’ (with S. Ardagna, R. Perotti, F. Schiantarelli), *AER*, 92, June 2002; 16. ‘Who trusts others?’ (with E. La Ferrara), *J Pub E*, 56, Sept. 2002; 17. ‘Optimal currency areas’ (with R. Barro, S. Tenreyro), *NBER Macroecon. Annual*, 2002.

Principal Contributions With my work I have bridged economics and politics. In particular, I have worked on the relationship between choices and effects of macroeconomics, institutions and voting behavior. My theoretical and empirical work ranges from voting theory to monetary theory and policy to public finance. Topics include political business cycles, the effects of economic conditions on voting behavior, the effects of Central Bank independence, executive–legislative interaction in policy formation, the politics of budget deficits and fiscal adjustments, the politics and economics of welfare state reforms, the effects on the budget balance and composition of alternative budget institutions, stabilization of high inflation, the interaction of political institutions and long-term growth, the two-way relationship between income distribution and growth, the politics and economics of European economic integration, and, recently, politico-economic models of country formation, country break-up and secessions. In this context I have also worked on constitutional issues involving the process of European integration. I am also interested in social problems, welfare policies, income inequality and social capital. In my work I try to strike a balance between formal analytical modeling, formal statistical testing and a policy perspective.

ALLEN, Douglas Ward

Born 1960, New Westminster, BC, Canada.

Current Post Burnaby Mountain Endowed Univ. Prof., Simon Fraser Univ., Burnaby, BC, Canada, 2000–.

Past Posts Asst Prof., Carleton Univ., 1988–90; Asst Prof., Assoc. Prof., Prof., Simon Fraser Univ., 1990–93, 1993–99, 1999–2000.

Degrees BA (Econ. and Bus. Admin., Hons), MA Simon Fraser Univ., 1983, 1984; PhD Univ. Washington, 1988.

Honours WEA Paper Prize, 1983; Henry Buechel Teaching Award, 1988; Dean's Silver Medal, 2000.

Principal Fields of Interest K0 Law and Economics: General; N0 Economic History: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Book*: 1. *The Nature of the Farm: Contracts, Risk and Organization in Agriculture* (with D. Lueck), (MIT Press, 2002).

Articles: 1. 'An inquiry into the state's role in marriage', *JEB0*, 13, 1990; 2. 'Homesteading and property rights: or "how the West was really won"', *J Law E*, 34, April 1991; 3. 'What are transaction costs?', *Res. Law and Econ.*, 14, Fall 1991; 4. 'What does she see in him: the effect of sharing on the choice of spouse', *EI*, 30, Jan. 1992; 5. 'The back-forty on a handshake: specific assets, reputation, and the structure of farmland contracts' (with D. Lueck), *JLEO*, 8, April 1992; 6. 'Marriage and divorce: comment', *AER*, 82, June 1992; 7. 'Contract choice in modern agriculture: cash rent vs. cropshare' (with D. Lueck), *J Law E*, 35, Oct. 1992; 8. 'Welfare and the family: the Canadian experience', *J Lab E*, 11, Jan. 1993; 9. 'Transaction costs and the design of cropshare contracts' (with D. Lueck), *RandJE*, 24, Spring 1993; 10. 'Pot-bellies and cattle breeds as revealing signals', *EI*, July

1993; 11. 'Risk preferences and the economics of contracts' (with D. Lueck), *AER Papers and Proceedings*, May 1995; 12. 'Order in the Church: a property rights approach', *J. Econ. Behav.*, July 1995; 13. 'Compatible incentives and the purchase of military commissions', *J. Legal Stud.*, Jan. 1998; 14. 'Sex, property rights and divorce' (with M. Brinig), *Europ. J. Law and Econ.*, 5, June 1998; 15. 'The nature of the farm' (with D. Lueck), *J Law E*, 41, Oct. 1998; 16. 'The role of risk in contract choice' (with D. Lueck), *JLEO*, 15, Oct. 1999; 17. 'These boots are made for walking: why most divorce filers are women' (with M. Brinig), *Amer. Law and Econ. Rev.*, 2, Spring 2000; 18. 'The British Navy rules: monitoring and incompatible incentives in the age of fighting sail', *Explor. in Econ. Hist.*, 39, 2002; 19. 'The rhino's horn: incomplete property rights and the optimal value of an asset', *J. Legal Stud.*, forthcoming.

Principal Contributions Almost all of my work has attempted to put empirical content to the theoretical argument made in my 1991 paper on transaction costs. In short, I believe that all economic institutions are designed to maximize wealth net of transactions costs. I have applied this theory to the organization of marriage, agricultural contracts, military history, homesteading laws, and the organization of churches.

ALLEN, Franklin

Born 1956, Amersham, Buckinghamshire, UK.

Current Post Nippon Life Prof. Fin. and Prof. Econ., Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 1994–.

Past Posts Asst Prof. Fin., Assoc. Prof. Fin., Assoc. Prof. Fin. Econ., Prof. Fin. and Econ., Wharton Sch., Univ. Pennsyl-

vania, 1980–86, 1986–87, 1987–90, 1990–94; Vice-Dean and Dir., Wharton Doctoral Programs, Univ. Pennsylvania, 1990–93.

Degrees BA (Econ. and Computing Stud., 1st Class Hons) Univ. East Anglia, 1977; MPhil, DPhil Nuffield Coll., Oxford Univ., 1979, 1980.

Offices and Honours Pres., Soc. Fin. Stud., 1997–99, Western Fin. Assoc., 1998–99, AFA, 2000; Co-Dir., Wharton Fin. Insts Center, 2000–.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1989–92, *J. Fin. Intermediation*, 1989–92, 1996–, *Fin. Mgmt*, 1991–; Co-Ed., *JEMS*, 1991–93; Ed., *J. Fin. Intermediation*, 1992–93; Exec. Ed., *Rev. Fin. Stud.*, 1993–96; Advisory Ed., *J. Fin. Markets*, 1997–, *J. Fin. Services Res.*, 2000–, *Multinatl Fin. J.*, 2001–.

Principal Field of Interest G0 Financial Economics: General.

Publications *Books*: 1. *Financial Innovation and Risk Sharing* (with D. Gale), (MIT Press, 1994); 2. *Comparing Financial Systems* (with D. Gale), (MIT Press, 2000).

Articles: 1. ‘Credit rationing and payment incentives’, *REStud*, 50, 1983; 2. ‘Reputation and product quality’, *RandJE*, 15, Autumn 1984; 3. ‘Repeated principal–agent relationships with lending and borrowing’, *Econ. Letters*, 17, 1985; 4. ‘Optimal security design’ (with D. Gale), *Rev. Fin. Stud.*, 1, 1988; 5. ‘Signalling by underpricing in the IPO market’ (with G. Faulhaber), *J Fin E*, 23, 1989; 6. ‘The market for information and the origin of financial intermediation’, *J. Fin. Intermediation*, 1, 1990; 7. ‘Arbitrage, short sales and financial innovation’ (with D. Gale), *Em*, 59, 1991; 8. ‘Stock price manipulation’ (with D. Gale), *Rev. Fin. Stud.*, 5, 1992; 9. ‘Churning bubbles’ (with G. Gorton), *REStud*, 60, 1993; 10. ‘Finite bubbles with short sale constraints and asymmetric information’ (with S.M.

Postlewaite), *JET*, 61, 1993; 11. ‘Limited market participation and volatility of asset prices’ (with D. Gale), *AER*, 84, 1994; 12. ‘Financial markets, intermediaries, and intertemporal smoothing’ (with D. Gale), *JPE*, 105, 1997; 13. ‘Optimal financial crises’ (with D. Gale), *J Fin*, 53, 1998; 14. ‘Using genetic algorithms to find technical trading rules’ (with R. Karjalainen), *J Fin E*, 51, 1999; 15. ‘Bubbles and crises’ (with D. Gale), *EJ*, 110, 2000; 16. ‘Financial contagion’ (with D. Gale), *JPE*, 108, 2000; 17. ‘What do financial intermediaries do?’ (with A.M. Santomero), *J Bank Fin*, 25, 2001; 18. ‘Do financial institutions matter?’, *J Fin*, 56, 2001.

Principal Contributions Over the years I have tried to understand phenomena that are difficult to understand in terms of standard neoclassical economics. The explanations have been based on rational maximizing behavior and usually involving introducing frictions such as asymmetric information and transaction costs. Such phenomena include credit rationing, sharecropping, reputation, financial innovation, IPO underpricing, the market for information, stock price manipulation, asset price bubbles, asset price volatility, differences in financial systems, technical analysis of stock prices, financial crises and contagion and the role of banks and other intermediaries.

ALLENBY, Greg M. n.e.

ALM, James Robert

Born 1950, Hammond, IN, USA.

Current Posts Prof. Econ. and Chair, Dept Econ., Andrew Young Sch. Pol. Stud., Georgia State Univ., Atlanta, GA, USA, 1999–.

Past Posts Instr. Econ., Robert Morris Coll., 1974–76; Prof. Econ. and Sr Res.

Assoc., Metropolitan Stud. Program, Maxwell Sch., Syracuse Univ., 1980–83; Prof. Econ., Univ. Colorado, Boulder, 1983–99.

Degrees BA (Chemistry and Econ.) Earlham Coll., Richmond, 1972; MA Univ. Chicago, 1974; PhD Univ. Wisconsin-Madison, 1980.

Offices and Honours Phi Beta Kappa, Earlham Coll., 1972; Claude L. Stinneford Award Outstanding Performance in Econ., Earlham Coll., 1972; Univ. Fell., Univ. Wisconsin-Madison, 1979–80; Richard T. Ely Outstanding Dissertation Award, Univ. Wisconsin-Madison; Finalist, Irving Fisher Monograph Award Contest, 1980, Tax Inst. Amer. Doctoral Dissertation Awards Program, 1980; Stanford Calderwood Teaching Excellence Award, Dept Econ., Univ. Colorado, 1990, 1996.

Editorial Duties Ed. Bds, *NTJ*, 1992–98, *Public Fin. Rev.*, 1995–; Advisory Bd, NTA, 1999–2002; Assoc. Ed., *Public Fin. Rev.*, 2001–, *Rev. Econ. Household*, 2001–, *EI*, 2001–.

Principal Fields of Interest H0 Public Economics: General; H3 Fiscal Policies and Behavior of Economic Agents; H7 State and Local Government; Intergovernmental Relations.

Publications *Articles*: 1. ‘The welfare cost of the underground economy’, *EI*, 24, April 1985; 2. ‘Compliance costs and the tax avoidance – tax evasion decision’, *Public Fin. Q.*, 16, Jan. 1988; 3. ‘Uncertain tax policies, individual behavior, and welfare’, *AER*, 78, March 1988; 4. ‘Amazing grace: tax amnesties and compliance’ (with M. McKee, W. Beck), *NTJ*, 43, March 1990; 5. ‘Fertility and the personal exemption: implicit pronatalist policy in the United States’ (with L.A. Whittington, H.E. Peters), *AER*, 80, June 1990; 6. ‘Tax structure and tax compliance’ (with R. Bahl, M.N. Murray), *REStat*, 72, Nov. 1990; 7. ‘Tax base erosion in developing countries’ (with R. Bahl, M.N. Murray),

EDCC, 39, July 1991; 8. ‘Why do people pay taxes?’ (with G.H. McClelland, W.D. Schulze), *J Pub E*, 48, June 1992; 9. ‘Institutional uncertainty and taxpayer compliance’ (with B.R. Jackson, M. McKee), *AER*, 82, Sept. 1992; 10. ‘Tax compliance with endogenous audit selection rules’ (with M.B. Cronshaw, M. McKee), *Kyk*, 46, 1993; 11. ‘Audit selection and income tax underreporting in the tax compliance game’ (with R. Bahl, M.N. Murray), *JDE*, 42, Oct. 1993; 12. ‘Fiscal exchange, collective decision institutions, and tax compliance’ (with B.R. Jackson, M. McKee), *JEBO*, 22, Dec. 1993; 13. ‘Fiscal pressure, tax competition, and the introduction of state lotteries’ (with M. McKee, M. Skidmore), *NTJ*, 46, Dec. 1993; 14. ‘Shocks and valuation in the rental housing market’ (with J.R. Follain), *JUE*, 36, Sept. 1994; 15. ‘Taxation, imperfect competition, and discontinuities’ (with S.G. Thorpe), *ITPF*, 2, Nov. 1995; 16. ‘The rise and fall and rise ... of the marriage tax’ (with L.A. Whittington), *NTJ*, 49, Dec. 1996; 17. ‘Til death or taxes do us part: the effect of income taxation on divorce’ (with L.A. Whittington), *JHR*, 32, Spring 1997; 18. ‘Income taxes and the timing of marital decisions’ (with L.A. Whittington), *J Pub E*, 64, May 1997; 19. ‘Changing the social norm of tax compliance by voting’ (with G.H. McClelland, W.D. Schulze), *Kyk*, 52, 1999; 20. ‘For love or money: economic incentives and the marriage decision’ (with L.A. Whittington), *Ec*, 6, 1999.

Principal Contributions Most of my work has examined the many ways in which individuals respond to taxation, the welfare effects of these responses, and the subsequent effects on government revenues and the distribution of income. Specific areas that I have focused upon include housing, social security, and, especially, tax compliance and the income tax treatment of the family. With several

colleagues, I have examined the numerous factors that affect an individual's tax compliance decision. Important and novel aspects of this work include the application of experimental economics methods to the study of tax compliance and the examination of tax compliance in developing and transition economies. With Leslie Whittington, I have quantified the magnitude of the 'marriage penalty/marriage subsidy', or the positive/negative change in income tax liability that occurs with marriage; I have also estimated the responses of individuals to this change in taxation, in their decisions to marry, to divorce, or to cohabit, as well as in the timing of these decisions. In other work, I have examined the factors that determine why governments enact fiscal policies (e.g., tax and expenditure limitations, state lotteries), as well as the effects of the enactment of institutional reforms (e.g., the line item veto, intergovernmental transfers). I have also worked extensively on fiscal and decentralization reforms overseas, including projects in Bangladesh, China, Egypt, Grenada, Hungary, Indonesia, Jamaica, Nigeria, the Philippines, the Russian Federation, Turkey and Uganda.

ALSTON, Julian Mark

Born 1953, Dromana, Victoria, Australia.

Current Post Prof., Dept Agric. and Resource Econ., Univ. California, Davis, CA, USA, 1994–.

Past Posts Agric. Econ., Chief Econ., Dept Agric., Victoria, Australia, 1975–85, 1986–88; Asst Prof., Assoc. Prof., Univ. California, Davis, 1988–93; Van Vliet Prof., Univ. Saskatchewan, 1993–94.

Degrees BAgSc Univ. Melbourne, 1975; MAgrSc (Agric. Econ.) La Trobe

Univ., 1979; PhD North Carolina State Univ., 1984.

Offices and Honours Award for MS thesis, Australian Agric. and Resource Econ. Soc., 1979; Gamma Sigma Delta, 1984; Phi Kappa Phi, 1984; Bus. Manager, Pres., Australian Agric. and Resource Econ. Soc., 1985–87, 2001; Hon. Mentions, Quality of Communication, AA, 1986, 1996; Outstanding Article Award, *AJAE*, 1987; Best Article Award, *Australian J. Agric. Econ.*, 1990; Outstanding Publ. Res. Agric. Econ. Award, Western Agric. Econ. Assoc., 1991, 1995, 2001, 2002; Council Mem., Western Agric. Econ. Assoc., 1992–95; Best Article Award, *Rev. Marketing and Agric. Econ.*, 1993; Fell., AA, 2000; Outstanding Alumnus, Dept Agric. and Resource Econ., North Carolina State Univ., 2000; Disting. Pol. Contrib., AA, 2001.

Editorial Duties Assoc. Ed., *AJAE*, 1990–96; Ed. Bds, *Australian J. Agric. and Resource Econ.*, 1996–, *Agribusiness: An Intl J.*, 1998–.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; Q1 Agriculture.

Publications *Books*: 1. *Science Under Scarcity: Principles and Practice for Agricultural Research Evaluation and Priority Setting* (with G. Norton, P. Pardey), (Cornell Univ. Press, 1995); 2. *Making Science Pay: Economics of Agricultural R&D Policy* (with P. Pardey), (Amer. Enterprise Inst. Public Pol., 1996); 3. *Paying for Agricultural Productivity* (ed. with P. Pardey, V. Smith), (JHUP, 1999).

Articles: 1. 'Supply response in the Australian orange growing industry' (with J. Freebairn, J. Quilkey), *AJAE*, 24, Dec. 1980; 2. 'An analysis of growth of US farmland prices: 1963–1982', *AJAE*, 68, Feb. 1986; 3. 'Accounting for changes in tastes' (with J. Chalfant), *JPE*, 96, April 1988; 4. 'Market distortions and the benefits from research' (with G. Edwards, J. Freebairn), *AJAE*, 70, May 1988; 5. 'Some

neglected social costs of government spending in farm programs' (with B. Hurd), *AJAE*, 72, Feb. 1990; 6. 'Whither Armington trade models' (with C. Carter, R. Green, D. Pick), *AJAE*, 72, Aug. 1990; 7. 'Rationalizing agricultural export subsidies' (with C. Carter, V. Smith), *AJAE*, 75, Nov. 1993; 8. 'A dual approach to evaluating research benefits in the presence of trade distortions' (with W. Martin), *AJAE*, 76, Feb. 1994; 9. 'Estimating elasticities with the linear approximate almost ideal demand system: some Monte Carlo results' (with K. Foster, R. Green), *REStat*, 76, May 1994; 10. 'Economic impacts of California's one variety cotton law' (with J. Constantine, V. Smith), *JPE*, 102, Oct. 1994; 11. 'Reversal of fortune: immiserizing technological change in agriculture' (with W. Martin), *AJAE*, 77, May 1995; 12. 'Producer surplus without apology: evaluating investments in R&D' (with W. Martin), *ER*, 73, June 1997; 13. 'Endogenous policy and supply management in a post-GATT world' (with J. Spriggs), *CJ*, 31, Feb. 1998; 14. 'Least-cost, cheap-food policies' (with V. Smith, A. Acquaye, S. Hosseini), *Agric. Econ.*, 20, 1999; 15. 'Research returns redux: a meta-analysis of agricultural R&D evaluations' (with M. Marra, P. Pardey, T.J. Wyatt), *Australian J. Agric. Resource Econ.*, 44, June 2000; 16. 'Beggart-hy-neighbor advertising: theory and application to generic commodity promotion programs' (with J. Freebairn, J. James), *AJAE*, 83, Nov. 2001; 17. 'The effects of the US plant variety protection act on wheat genetic improvement' (with R. Venner), *Res. Pol.*, 31, 2002.

Principal Contributions My research on the economics of agriculture has been generally motivated by an interest in understanding the implications of government policies for economic efficiency and for the functional distribution of income in the agricultural sector. My earlier work

emphasized commodity policies, such as domestic farm programs and border policies, an area of continuing interest. My main contributions related to modeling and measuring impacts of these policies were in showing the distributional implications of particular policies, through factor markets, and the importance of accurately representing the instruments of policies and the characteristics of the markets to which they apply. My interest in policy also led to some more-fundamental work on measuring the nature of supply and demand for agricultural products. For instance, an interest in the economics of industry investments in commodity promotion led to contributions to the econometric analysis of demand for agricultural products, which illustrated the role of functional form and other specification choices as conditioning factors in hypothesis tests and elasticity estimates – specifically, giving rise to false evidence of structural change in demand and overestimates of demand response to advertising. Much of my more recent work has emphasized the economics of agricultural science and technology policy, including some conceptual contributions, on how to model and measure the size and distribution of benefits from agricultural R&D, especially in the context of market distortions, as well as various empirical and methodological contributions related to the measurement of agricultural productivity and rates of return to agricultural R&D. I have been working on the general 'attribution problem' of defining and measuring comparable streams of benefits and costs of agricultural R&D, taking account of international price and technology spillovers in distorted market settings, and measuring the distribution of research benefits, and this is an area of continuing interest.

ALTONJI, Joseph G.

Born 1953, New York, NY, USA.

Current Post Thomas DeWitt Cuyler Prof. Econ., Yale Univ., New Haven, CT, USA, 2002–.

Past Posts Res. Assoc., Charles River Assoc., Cambridge, MA, 1975–76; Lect., Asst Prof. Econ., Columbia Univ., 1980–81, 1981–86; Faculty Res. Fell., Res. Assoc., NBER, 1981–92, 1992–; Vis. Asst Prof. Econ., Princeton Univ., 1984–85; Vis. Res. Assoc., Ind. Relations Section, Princeton Univ., 1984–85; Sr Res. Assoc., Natl Center Educ. and Employment, Teachers Coll., Columbia Univ., 1985–90; Assoc. Prof. Econ., Prof. Econ., Northwestern Univ., 1986–90, 1990–2002; Faculty Fell., Acting Dir., Inst. Pol. Res., Northwestern Univ., 1986–, 1997–98.

Degrees BA (Econ., *cl* with departmental hons), MA Yale Univ., 1975, 1975; PhD Princeton Univ., 1981.

Offices and Honours Harry Johnson Prize, CEA, 1991; Bd Overseers, Panel Study Income Dynamics, Univ. Michigan, 1991–96; Advisory Council, Dept Econ., Princeton Univ., 1994–; Fell., Em Soc, 1997–; Comm. Natl Stats, NAS/NRC, 1998–; Tech. Rev. Comm., Natl Longitudinal Surveys Program, Bureau of Labor Stats, 1999–; Panel on Methods for Assessing Discrimination, NAS/NRC, 2001–.

Editorial Duties Ed. Bds, *AER*, 1991–94, *Labour Econ.*, 1992–96, 2001–; Co-Ed., *JHR*, 1991–97; Assoc. Ed., *Ec*, 2001–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; E2 Consumption, Saving, Production, Employment, and Investment; D1 Household Behavior.

Publications Articles: 1. ‘Wage movements and the labor market equilibrium hypothesis’ (with O. Ashenfelter), *Ec*, 47, Aug. 1980; 2. ‘The intertemporal substitution model of labor market fluctuations: an empirical analysis’, *REStud*, 59, 1982,

repr. in C.A. Greenhalgh, P.R.G. Layard, A.J. Oswald (eds), *The Causes of Unemployment* (OUP, 1983); 3. ‘Intertemporal substitution in labor supply: evidence from micro data’, *JPE*, 94, Dec. 1984, repr. in O. Ashenfelter, K. Hallock (eds), *Labor Economics*, Vol. I (Edward Elgar, 1995); 4. ‘Testing the response of consumption to changes in income using (noisy) panel data’ (with A. Siow), *QJE*, 102, May 1987; 5. ‘Do wages rise with job seniority?’ (with R. Shakotko), *REStud*, 54, July 1987, repr. in O. Ashenfelter, K. Hallock (eds), *Labor Economics*, Vol. III (Edward Elgar, 1995); 6. ‘Labor supply preferences, hours constraints, and hours–wage trade-offs’ (with C. Paxson), *J Lab E*, 6, April 1988; 7. ‘Variation in employment growth in Canada: the role of external, national, regional and industrial factors’ (with J. Ham), *J Lab E*, 8, Jan. 1990; 8. ‘Relationships among the family incomes and labor market outcomes of relatives’ (with T. Dunn), *Res. Labor Econ.*, 12, 1991; 9. ‘The effects of immigration on the labor market outcomes of less-skilled natives’ (with D. Card), in J. Abowd, R. Freeman (eds), *Immigration, Trade, and the Labor Market* (UCP, 1991); 10. ‘Is the extended family altruistically linked? Direct tests using micro data’ (with F. Hayashi, L. Kotlikoff), *AER*, 82, Dec. 1992; 11. ‘The demand for and return to education when education outcomes are uncertain’, *J Lab E*, 12, Jan. 1993; 12. ‘The effects of high school curriculum on education and labor market outcomes’, *JHR*, 30, Summer 1995; 13. ‘Risk sharing between and within families’ (with F. Hayashi, L. Kotlikoff), *Ec*, 64, March 1996; 14. ‘Small sample bias in GMM estimation of covariance structures’ (with L. Segal), *JBES*, 14, July 1996; 15. ‘Parental altruism and *inter vivos* transfers: theory and evidence’ (with F. Hayashi, L. Kotlikoff), *JPE*, 6, Dec. 1997; 16. ‘The effects of labor market experience, job seniority and mobility

on wage growth' (with N. Williams), *Res. Labor Econ.*, 17, 1998; 17. 'Race and gender in the labor market' (with R. Blank), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3C (Elsevier Sc., 1999); 18. 'Is there nominal wage rigidity? Evidence from panel data' (with P. Devereux), *Res. Labor Econ.*, 19, 2000; 19. 'An intergenerational model of wages, hours, and earnings' (with T. Dunn), *JHR*, 35, Spring 2000; 20. 'Employer learning and statistical discrimination' (with C.R. Pierret), *QJE*, 116, Feb. 2001.

Principal Contributions I have worked on a number of topics. The first concerns the nature of labor market fluctuations. My early work examines the role of intertemporal substitution in labor supply in business cycles. I have also examined the contribution of sector-specific shocks to employment to aggregate fluctuations. The second area concerns intertemporal models of consumption and labor supply. One paper estimates the intertemporal substitution elasticity of labor supply. Another develops and implements simple tests of the permanent income hypothesis and the Keynesian consumption function that are valid in the presence of measurement error in survey data. Third, I have studied the prevalence of hours constraints and the link between hours constraints and job mobility. Fourth, I have worked extensively on the determinants of wage rates, including the return to labor market experience and job seniority, the effects of the quality and quantity of education on wages, intergenerational links in economic success, the return to education when educational outcomes are uncertain, and the role of employer learning and statistical discrimination in wage dynamics. Fifth, I have studied income redistribution and risk sharing within the extended family. My current research is on paid and unpaid leave from work, nominal

wage rigidity, private schools, black–white differences in wealth holding, intergenerational transfers, and econometric methods.

AMIHUD, Yakov

Born 1947, Tel Aviv, Israel.

Current Post Ira Rennert Prof. Entrepreneurial Fin., Stern Sch. Bus., NYU, NY, USA, 2000–.

Past Posts Lect., Sr Lect., Assoc. Prof., Faculty Mgmt, Tel Aviv Univ., 1975–90; Prof. Fin. and Res. Prof. Fin., Stern Sch. Bus., NYU, 1990–2000.

Degrees BA Hebrew Univ., Jerusalem, 1969; MSc (Bus. Admin.), PhD (Bus. Admin.) NYU, 1973, 1975.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets; G2 Financial Institutions and Services.

Publications *Articles*: 1. 'Dealership market: market making with inventory' (with H. Mendelson), *J Fin E*, 8, 1980; 2. 'Price level uncertainty, indexation and the level of employment', *SEJ*, 47, Jan. 1981; 3. 'Risk reduction as a managerial motive for conglomerate mergers' (with B. Lev), *Bell JE*, 12, 1981; 4. 'The output–inflation relationship: an inventory-adjustment approach' (with H. Mendelson), *JME*, 9, 1982; 5. 'Relative price dispersion and economic shocks: an inventory adjustment approach' (with H. Mendelson), *JMCB*, 14, 1982; 6. 'Price smoothing and inventory' (with H. Mendelson), *REStud*, 50, 1983; 7. 'Asset pricing and the bid–ask spread' (with H. Mendelson), *J Fin E*, 17, 1986; 8. 'Trading mechanisms and stock returns: an empirical investigation' (with H. Mendelson), *J Fin*, 42, 1987; 9. 'Liquidity and asset prices: financial management implications' (with H. Mendelson), *Fin. Mgmt*, 17, 1988; 10. 'Liquidity, volatility, and exchange automation' (with H. Mendelson), *J. Account-*

ing, *Auditing and Fin.*, 3, 1988; 11. 'Liquidity, maturity and the yields on US Treasury securities' (with H. Mendelson), *J Fin*, 46, 1991; 12. 'How (not) to integrate the European capital markets' (with H. Mendelson), in A. Giovannini, C. Mayer (eds), *European Financial Integration* (CUP, 1991); 13. 'Volatility, efficiency and trading: evidence from the Japanese stock market' (with H. Mendelson), *J Fin*, 46, 1991; 14. 'Exchange rates and the valuation of equity shares', in Y. Amihud, R. Levich (eds), *Exchange Rates and Corporate Performance* (Irwin, 1994); 15. 'Unexpected inflation and stock return revisited: evidence from Israel', *JMCB*, 28, 1996; 16. 'A new approach to the regulation of trading across securities markets' (with H. Mendelson), *NYU Law Rev.*, 71, 1996; 17. 'Market microstructure and securities values: evidence from the Tel Aviv Stock Exchange' (with H. Mendelson, B. Lauterbach), *J Fin E*, 45, 1997; 18. 'A new governance structure for corporate bonds' (with K. Garbade, M. Kahan), *Stanford Law Rev.*, 51, 1999; 19. 'Illiquidity and stock returns', *J. Fin. Markets*, 5, 2002; 20. 'Allocations, cascades and adverse selection in IPOs: evidence from the Tel Aviv Stock Exchange' (with S. Hauser, A. Kirsh), *J Fin E*, forthcoming.

Principal Contributions My major work is on the effect of securities markets microstructure on asset pricing. In my articles with Haim Mendelson we show that expected returns are an increasing function of asset illiquidity since investors demand to be compensated for their higher cost of illiquidity. This extends the theory that suggests that expected return is an increasing function of risk. We also show that in a dealership market, securities prices are partly affected by the inventory policy of market makers, and that return volatility and autocorrelation both depend on the trading mechanism by which the securities are traded. We show the prob-

lems that are created by multi-market trading and propose regulatory solutions. My recent work shows that changes in stock market liquidity over time affect stock expected return. The expected excess return on equities, usually considered a risk premium, is an increasing function of the market's expected illiquidity, while realized return is negatively related to the contemporaneous market's unexpected illiquidity. This effect is greater for small stocks that are more sensitive to market liquidity. My work with B. Lev and others shows that ownership concentration in companies affects corporate finance decisions because of agency problems. In particular it affects the propensity of companies to take on risk and their choice of investment financing (debt or equity). My work on industrial organization (with Mendelson) studies its effects on companies' pricing and production decisions, showing that price smoothing is a result of companies' market power. This has implications for macroeconomics, since it gives rise to a positive price-production relationship ('Phillips curve') in industries that produce goods that can be inventoried. I have also made contributions in areas in corporate finance such as dividend policy, initial public offerings, governance structure in corporate bonds, and the effect of exchange rate changes on stock prices.

ANAND, Sudhir n.e.

ANDERSEN, Torben Gustav

Born 1957, Vilhelmina, Sweden.

Current Posts Nathan S. and Mary P. Sharp Disting. Prof. Fin., Dept Fin., Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 2000–; Res. Assoc., NBER, Cambridge, MA, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof., Dept Fin., Kellogg Sch. Mgmt, Northwestern Univ., 1991–97, 1997–2000.

Degrees MS (Econ. and Maths), (Cand Scient Oecon) Univ. Aarhus, 1985; PhD Yale Univ., 1992.

Offices and Honours Fulbright Fellowship, 1986; Alfred P. Sloan Dissertation Fellowship, 1989; NATO Sc. Fellowship, 1990; Merrill-Lynch Res. Fellowship, 1993, 1995; Inst. Quant. Res. Fin. (Q-Group) Fellowship, 1996.

Editorial Duties Assoc. Ed., *Mgmt Sc.*, 1997–2000, *JBES*, 1998–, *J. Empirical Fin.*, 1998–2001, *J Fin*, 2000–, *J. Fin. Em.*, 2001–, *Rev. Fin. Stud.*, 2002–, *ET*, 2002–.

Principal Fields of Interest G1 General Financial Markets; C2 Econometric Methods: Single Equation Models; F3 International Finance.

Publications *Articles*: 1. ‘Stochastic autoregressive volatility: a framework for volatility modeling’, *Math. Fin.*, 4, 1994; 2. ‘Return volatility and trading volume: an information flow interpretation of stochastic volatility’, *J Fin*, 51, 1996; 3. ‘GMM estimation of a stochastic volatility model: a Monte Carlo study’ (with B.E. Sørensen), *JBES*, 14, 1996; 4. ‘Intraday periodicity and volatility persistence in financial markets’ (with T. Bollerslev), *J. Empirical Fin.*, 4, 1997; 5. ‘Estimating continuous time stochastic volatility models of the short term interest rate’ (with J. Lund), *J Em*, 77, 1997; 6. ‘Heterogeneous information arrivals and return volatility dynamics: uncovering the long run in high frequency returns’ (with T. Bollerslev), *J Fin*, 52, 1997; 7. ‘DM-dollar volatility: intraday activity patterns, macroeconomic announcements, and longer run dependencies’ (with T. Bollerslev), *J Fin*, 53, 1998; 8. ‘Towards a unified framework for high and low frequency return volatility modeling’ (with T. Bollerslev), *Statistica Neerlandica*, 52, 1998; 9. ‘Answering the

skeptics: yes, standard volatility models do provide accurate forecasts’ (with T. Bollerslev), *IER*, 39, 1998; 10. ‘Efficient method of moments estimation of a stochastic volatility model: a Monte Carlo study’ (with H.-J. Chung, B.E. Sørensen), *J Em*, 91, 1999; 11. ‘Forecasting financial market volatility: sampling frequency *vis-à-vis* forecast horizon’ (with T. Bollerslev, S. Lange), *J. Empirical Fin.*, 6, 1999; 12. ‘Some reflections on analysis of high frequency data’, *JBES*, 18, 2000; 13. ‘Intraday and interday volatility in the Japanese stock market’ (with T. Bollerslev, J. Cai), *J. Intl Fin. Markets, Insts and Money*, 10, 2000; 14. ‘Exchange rate returns standardized by realized volatility are (nearly) Gaussian’ (with T. Bollerslev, F.X. Diebold, P. Labys), *Multinatl Fin. J.*, 4, 2000; 15. ‘Variance-ratio statistics and high-frequency data’ (with T. Bollerslev, A. Das), *J Fin*, 56, 2001; 16. ‘The distribution of exchange rate volatility’ (with T. Bollerslev, F.X. Diebold, P. Labys), *JASA*, 96, 2001; 17. ‘The distribution of stock return volatility’ (with T. Bollerslev, F.X. Diebold, H. Ebens), *J Fin E*, 61, 2001; 18. ‘An empirical investigation of continuous-time models for equity returns’ (with L. Benzoni, J. Lund), *J Fin*, 57, 2002; 19. ‘Micro effects of macro announcements: real-time price discovery in foreign exchange’ (with T. Bollerslev, F.X. Diebold, C. Vega), *AER*, 93, 2003; 20. ‘Modeling and forecasting realized volatility’ (with T. Bollerslev, F.X. Diebold, P. Labys), *Em*, 71, 2003.

Principal Contributions My work focuses on understanding, modelling and forecasting fluctuations in financial market prices. I emphasize economic interpretations, practical applications and development of associated econometric methodology. My first two papers represent return volatility as a latent information variable associated with another market activity variable: trading volume. It thus categorizes return variability as genu-

ine stochastic volatility rather than as an ARCH process. Subsequent papers explore GMM and Efficient Method of Moments (EMM) estimation of stochastic volatility models – showing that the latter approach allows for estimation of complex, empirically relevant continuous-time models. The EMM approach is arguably the most versatile technique for estimation of such models, rendering formal testing feasible across a broad variety of alternative models for interest rates and equity returns with relevance for term structure and derivatives pricing applications. A later theme is the use of intradaily (high-frequency) data to estimate daily and lower-frequency volatility. Systematic intraday patterns (diurnal effects) and news announcements are very important in the high-frequency return data. The additional information in high-frequency data is critical in identifying long-memory features in return volatility and distinguishing this explanation from alternative accounts of such features in the data. The main innovation of my later work is the introduction of nonparametric volatility measures – realized volatility – from aggregated products of intradaily returns. Such measures improve radically on the signal-to-noise ratio in daily squared returns, both theoretically and empirically. As a consequence, they are ideal as explanatory variables (realized volatility) in out-of-sample comparison of competing forecasts. Direct time-series modelling of these observable volatility proxies holds great promise for improved volatility forecasting and high-dimensional (conditional) return covariance matrix modelling. Economically significant improvements to portfolio selection, volatility and conditional return distribution forecasting have been documented, but the exploration of realized volatility remains in its infancy.

ANDERSON, Eugene W. n.e.

ANDERSON, Simon Peter

Born 1958, Epsom, England.

Current Posts Commonwealth Prof. Econ., Univ. Virginia, Charlottesville, VA, USA, 2003–; Bd Mem., EARIE, 1997–.

Past Posts ‘Maître de conférences invité’, Centre OR and Em., Univ. Catholique Louvain, Belgium, 1986; Premier Asst, Centre d’Écon. Math. et Économetrie, Univ. Libre de Bruxelles, Belgium, 1986–87; Asst Prof., Prof. Econ., Univ. Virginia, 1987–98, 1998–2003; Vis. Prof., Charles Univ., Prague, Czechoslovakia, 1992, Melbourne Bus. Sch., 2003.

Degrees BSc Southampton Univ., 1979; MA, PhD Queen’s Univ., Canada, 1982, 1985.

Editorial Duties Assoc. Ed., *J Reg S*, 1993–, *RSUE*, 1994–; Managing Ed., *IJIO*, 1996–.

Principal Fields of Interest L1 Market Structure, Firm Strategy, and Market Performance; R3 Production Analysis and Firm Location; D4 Market Structure and Pricing.

Publications Book: 1. *Discrete Choice Theory of Product Differentiation* (with A. de Palma, J.-F. Thisse), (MIT, 1992).

Articles: 1. ‘Equilibrium existence in the circle model of product differentiation’, in G. Norman (ed.), *Spatial Pricing and Differentiated Markets, London Papers in Regional Sc. 16* (Pion, 1986); 2. ‘A representative consumer theory of the logit model’ (with A. de Palma, J.-F. Thisse), *IER*, 29, 1988; 3. ‘Spatial price discrimination with heterogeneous products’ (with A. de Palma), *REStud*, 55, 1988; 4. ‘Demand for differentiated products, discrete choice models and the characteristics approach’ (with A. de Palma, J.-F. Thisse), *REStud*, 56, 1989, repr. in *The Economics of Product Differentiation*,

Vol. I (Edward Elgar, 1994); 5. 'Cournot competition yields spatial agglomeration' (with D.J. Neven), *IER*, 32, 1991; 6. 'Multiproduct firms; a nested logit approach' (with A. de Palma), *J Ind E*, 40, 1992, repr. in J.-F. Thisse, G. Norman (eds), *The Economics of Product Differentiation*, Vol. II (Edward Elgar, 1994); 7. 'Strategic investment and timing of entry' (with M.P. Engers), *IER*, 35, 1994; 8. 'Oligopolistic competition and the optimal provision of products' (with A. de Palma, Y. Nesterov), *Em*, 63, 1995; 9. 'Location, location, location' (with J. Goeree, R. Ramer), *JET*, 77, 1997; 10. 'Rent seeking with bounded rationality: an analysis of the all-pay auction' (with J. Goeree, C. Holt), *JPE*, 106, 1998; 11. 'Pricing, product diversity and search costs: a Bertrand–Chamberlin–Diamond model' (with R. Renault), *RandJE*, 30, 1999; 12. 'Information and firm pricing: negative externalities from improved information' (with R. Renault), *IER*, 41, 2000; 13. 'From local to global competition' (with A. de Palma), *Europ ER*, 44, 2000; 14. 'Efficiency of indirect taxes under imperfect competition' (with A. de Palma, B. Kreider), *J Pub E*, 81, 2001; 15. 'Product diversity in asymmetric oligopoly: is the quality of consumer goods too low?' (with A. de Palma), *J Ind E*, 49, 2001; 16. 'Minimum-effort coordination games: stochastic potential and logit equilibrium' (with J. Goeree, C. Holt), *Games and Econ. Behav.*, 34, 2001; 17. 'Pre-emptive entry in differentiated product markets' (with M.P. Engers), *ET*, 17, 2001; 18. 'Nontariff barriers and trade liberalization' (with N. Schmitt), *EI*, 41, 2003; 19. 'Efficiency and surplus bounds in Cournot competition' (with R. Renault), *JET*, forthcoming.

Principal Contributions My thesis analysed models of competition via location in characteristics or geographical spaces. Emphasis was on equilibrium existence, extensions to different game

forms, and alternative specifications. I then started work (especially with Andre de Palma and Jacques Thisse) on the foundations of discrete choice models and their application to modelling oligopoly with product differentiation. We showed the relation between representative consumer models, characteristics models, and the discrete choice approach, and showed how the CES representative consumer can be viewed as a discrete choice model. The book *Discrete Choice Theory of Product Differentiation* sums up developments in the field up to 1992. I have worked on several extensions since then, notably that there is excessive entry in oligopoly when the preference density is sufficiently regular. Recent research includes work on multiproduct firms, consumer search and firm pricing (revisiting the Diamond paradox and looking at the effects of consumer information on prices), pre-emptive entry, anti-dumping laws in international trade, and tax incidence and efficiency in differentiated products oligopoly. A major project concerned the effects of bounded rational behaviour on economic equilibria; in particular, explaining anomalous data from economic experiments and providing richer predictions than standard Nash equilibrium analysis. Current research includes work on price dispersion, surplus bounds in oligopoly, and the economics of creative industries. A major research area addresses the economics of advertising; first, how advertising finances the media, and second, firms' choice of advertising content.

ANDREONI, James Raymond

Born 1959, Beloit, WI, USA.

Current Post Prof. Econ., Univ. Wisconsin-Madison, Madison, WI, USA, 1996–.

Past Posts Asst Prof., Assoc. Prof.,

Univ. Wisconsin-Madison, 1986–91, 1992–96.

Degrees BS Univ. Minnesota, 1981; PhD Univ. Michigan, 1986.

Offices and Honours Alfred P. Sloan Res. Fell., 1992–94.

Editorial Duties Bd Eds, *Experimental Econ.*, 1997–, *Econ. Bull.*, 2001–, *BE-Js EAP*, 2001–; Assoc. Ed., *J Pub E*, 1998–, *AER*, 1999–, *J. Public Econ. Theory*, 2001–.

Principal Fields of Interest H0 Public Economics: General; D0 Microeconomics: General; K4 Legal Procedure, the Legal System, and Illegal Behavior.

Publications *Articles*: 1. ‘Privately provided public goods in a large economy: the limits of altruism’, *J Pub E*, 35, Feb. 1988; 2. ‘Why free ride? Strategies and learning in public goods experiments’, *J Pub E*, 37, Dec. 1988; 3. ‘Giving with impure altruism: applications to charity and Ricardian equivalence’, *JPE*, 97, Dec. 1989; 4. ‘Impure altruism and donations to public goods: a theory of warm-glow giving’, *EJ*, 100, June 1990; 5. ‘The desirability of a permanent tax amnesty’, *J Pub E*, 45, July 1991; 6. ‘Reasonable doubt and the optimal magnitude of fines: should the penalty fit the crime?’, *RandJE*, 22, Autumn 1991; 7. ‘IRS as loan shark: tax compliance with borrowing constraints’, *J Pub E*, 49, Oct. 1992; 8. ‘Rational cooperation in the finitely repeated prisoner’s dilemma: experimental evidence’ (with J.H. Miller), *EJ*, 103, May 1993; 9. ‘An experimental test of the public goods crowding-out hypothesis’, *AER*, 83, Dec. 1993; 10. ‘Warm-glow versus cold-prickle: the effects of positive and negative framing on cooperation in experiments’, *QJE*, 110, Feb. 1995; 11. ‘Auctions with adaptive artificial agents’ (with J.H. Miller), *Games and Econ. Behav.*, 10, 1995; 12. ‘Cooperation in public goods experiments: kindness or confusion?’, *AER*, 85, Sept. 1995; 13. ‘Do

government subsidies increase the private supply of public goods?’ (with T.C. Bergstrom), *Public Choice*, 88, 1996; 14. ‘Tax compliance’ (with B. Erard, J. Feinstein), *JEL*, 36, June 1998; 15. ‘Toward a theory of charitable fund-raising’, *JPE*, 106, Dec. 1998; 16. ‘Which is the fair sex? Gender differences in altruism’ (with L. Vesterlund), *QJE*, 116, Feb. 2001; 17. ‘The simple analytics of the environmental Kuznets curve’ (with A. Levinson), *J Pub E*, 80, May 2001; 18. ‘Giving according to GARP: an experimental test of the consistency of preferences for altruism’ (with J.H. Miller), *Em*, 70, March 2002; 19. ‘What produces fairness? Some experimental evidence’ (with P. Brown, L. Vesterlund), *Games and Econ. Behav.*, 40, July 2002; 20. ‘Charitable giving by married couples: who decides and why does it matter?’ (with E. Brown, I. Rischall), *JHR*, 38, 2003.

Principal Contributions My main contributions have been to the study of charitable giving and altruism. Why do people give to charity? I have explored the question of motives for giving theoretically, with survey data on charitable giving, and with experimental data. My theoretical work shows that treating charity as a pure public good alone, referred to as ‘pure altruism’, cannot explain the level of giving observed in the data. Rather, people must contribute for other impurely altruistic reasons, such as to experience the ‘warm-glow’ of giving. My experimental work has confirmed this. Using laboratory studies I make the point that people are not purely selfish and that much of the non-selfish behaviour can be explained with a simple neoclassical model of individual social-welfare functions. That is, fairness and altruism can fit a rational choice framework. Later work has turned to understanding the institutions that raise money for public goods, and which take advantage of these non-selfish preferences

to help overcome free riding. This has led to theoretical, econometric and experimental studies of fund-raising. The notion is to breathe life into our economic models of charitable organizations, and to treat them as strategic players in the competition for donations and government grants. My theoretical research shows that common fund-raising strategies, such as leadership giving, are consistent with simple economic assumptions. We also confirm empirically that fund-raising activities by charities respond strategically to their changing environments, and we confirm experimentally that individuals respond to standard fund-raising techniques. This lays the foundation for future work to merge the models of individuals and organizations to learn how private institutions provide public goods.

ANDREWS, Donald W.K. n.e.

ANGRIST, Joshua D.

Born 1960, Columbus, OH, USA.

Current Posts Res. Assoc., NBER, 1994–; Prof., Econ. Dept, MIT, Cambridge, MA, USA, 1998–.

Past Posts Asst Prof., Econ. Dept, Harvard Univ., 1989–91; Faculty Res. Fell., NBER, 1989–94; Sr Lect. Econ., Assoc. Prof., Econ. Dept, Hebrew Univ., 1991–95, 1995–96; Vis. Assoc. Prof., Assoc. Prof., Econ. Dept, MIT, 1994–95, 1996–98.

Degrees BA (Highest Hons) Oberlin Coll., 1982; MA, PhD Princeton Univ., 1987, 1989.

Offices and Honours Phi Beta Kappa; Alfred P. Sloan Doctoral Dissertation Fellowship, 1988–89; Dir., Res. Program in Human Resources, Falk Inst., 1991–94; Res. Fell., CEPR, 1992–95, Inst. Stud. Labour, Bonn, 2000; Working Group on

Israeli–Palestinian Labor Market Relations, Israel Fin. Min., 1994; Vis. Scholar, Fed. Reserve Bd, 1995, Central Bank Colombia, 1999, Univ. Coll. London, 1999, Europ. Univ. Inst., Florence, 2001, Math. Econ. Forum, Wake Forest Univ., 2002; Fell., Em Soc, 1998; Vis. Scholar and Instr., Univ. Pompeu Fabra, 2002; Hooker Disting. Vis. Prof., McMaster Univ., 2002; Bd Dirs, Falk Inst., Hebrew Univ., 2002–; Sargan Lecture, RES, 2003.

Editorial Duties Assoc. Ed., *JBES*, 1992–2001; Advisory Ed., *Econ. Letters*, 1993–2000; Ed. Bds, *Em*, 1994–97, *AER*, 2001–02; Co-Ed., *J Lab E*, 2002–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; C1 Econometric and Statistical Methods: General; I2 Education.

Publications Articles: 1. ‘The economic returns to schooling in the West Bank and Gaza Strip’, *AER*, 85, Dec. 1995; 2. ‘Short-run demand for Palestinian Labor’, *J Lab E*, 15, July 1996; 3. ‘The effect of a change in language of instruction on the returns to schooling in Morocco’ (with V. Lavy), *J Lab E*, 54, Jan. 1997; 4. ‘Conditional independence in sample selection models’, *Econ. Letters*, 54, Feb. 1997; 5. ‘Estimating the labor market impact of voluntary military service using social security data on military applicants’, *Em*, 88, March 1998; 6. ‘Children and their parents’ labor supply: evidence from exogenous variation in family size’, *AER*, 88, June 1998; 7. ‘Empirical strategies in labor economics’ (with A. Krueger), chap. 23 in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. III (N-H, 1999); 8. ‘Schooling and labor market consequences of the 1970 state abortion reforms’ (with B. Evans), in S. Polachek (ed.), *Research in Labor Economics* (JAI Press, 1999); 9. ‘Jackknife instrumental variables estimation’ (with G. Imbens, A. Krueger), *JAE*, 14, Jan.–Feb. 1999; 10. ‘Using Maimonides’ Rule to estimate the effect of

class size on student achievement' (with V. Lavy), *QJE*, 114, May 1999, repr. in R. Hanushek (ed.), *The Economics of Schooling and School Quality* (Edward Elgar, 2002); 11. 'Nonparametric demand analysis with an application to the demand for fish' (with K. Graddy, G. Imbens), *REStud*, 67, July 2000; 12. 'Effects of work-related absences on families: evidence from the Gulf War' (with J. Johnson), *ILRR*, 54, Oct. 2000; 13. 'How large are the social returns to education? Evidence from compulsory attendance laws' (with D. Acemoglu), *NBER Macroecon. Annual*, 15, 2000; 14. 'Does teacher training affect pupil learning? Evidence from matched comparisons in Jerusalem public schools' (with V. Lavy), *J Lab E*, 19, April 2001; 15. 'Consequences of employment protection? The case of the Americans With Disabilities Act' (with D. Acemoglu), *JPE*, 109, Oct. 2001; 16. 'Instrumental variables and the search for identification: from supply and demand to natural experiments' (with A. Krueger), *JEP*, 15, Fall 2001; 17. 'Instrumental variables estimates of the effect of subsidized training on the quantiles of trainee earnings' (with A. Abadie, G. Imbens), *Em*, 70, Jan. 2002; 18. 'How do sex ratios affect marriage and labor markets? Evidence from America's second generation', *QJE*, 117, Aug. 2002; 19. 'New evidence on classroom computers and pupil learning' (with V. Lavy), *EJ*, 112, Oct. 2002; 20. 'Vouchers for private schooling in Colombia: evidence from a randomized natural experiment' (with E. Bettinger, E. Bloom, E. King, M. Kremer), *AER*, 92, Dec. 2002.

Principal Contributions My principal contributions are in the area of empirical labor economics, especially human capital, the economics of the family, and education. I have also made contributions to the development of econometric and statistical methods for program and policy evaluation.

ANSELIN, Luc n.e.

AOKI, Masahiko

Born 1938, Nagoya, Japan.

Current Posts Prof. Econ., Stanford Univ., Stanford, CA, USA, 1984–; Pres., Res. Inst. Econ., Trade and Ind., Tokyo, Japan, 2001–.

Past Posts Asst Prof., Stanford Univ., 1967–68; Asst Prof., Harvard Univ., 1968–71; Assoc. Prof., Prof., Kyoto Univ., 1969–91.

Degrees BS, MA Univ. Tokyo, 1962, 1964; PhD Univ. Minnesota, 1967.

Offices and Honours Fell., Em Soc, 1981; Council, Em Soc, 1987–93; Japan Acad. Prize, 1990; Hiromi Arisawa Memorial Award, 1990; Iglesias Prize, 1991; Foreign Mem., Swedish Royal Acad. Eng. Sc., 1993; Pres., Japanese Econ. Assoc., 1995; Schumpeter Prize, 1998.

Editorial Duties Assoc. Ed., *J Pub E*, 1972–82, *IJIO*, 1982–90, *Ind. and Corp. Change*, 1991–2000; Ed., *J. Japanese Intl Econ.*, 1987–97.

Principal Fields of Interest P5 Comparative Economic Systems; G3 Corporate Finance and Governance; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *The Cooperative Game Theory of the Firm* (OUP, 1984, trans., Japanese, 1984); 2. *Economic Analysis of the Japanese Firm* (ed.), (NH, 1984); 3. *Information, Incentives, and Bargaining in the Japanese Economy* (CUP, 1988; trans., Spanish, 1990, French, 1991, Italian, 1991, Japanese, 1991, Chinese, 1994, Russian, 1995); 4. *The Japanese Firm: Its Competitive Sources* (ed. with R. Dore), (OUP, 1994; trans., Japanese); 5. *The Japanese Main Bank System and its Relevancy for Developing and Transforming Economies* (ed. with H. Patrick), (OUP, 1994; trans., Japanese, Chinese); 6. *Corporate Governance in*

Transitional Economies: Insider Control and Roles of Banks (ed.), (World Bank, 1994; trans., Chinese, Vietnamese, Russian); 7. *Information, Corporate Governance, and Institutional Diversity: Japan, US, and Transitional Economies in Comparative Perspective* (original Japanese 1995, OUP, 2000); 8. *The Role of Government in East Asian Economic Development: Comparative Institutional Analysis* (ed. with H. Kim, M. Okuno-Fujiwara), (OUP, 1997; trans., Chinese, Japanese); 9. *Communities and Markets in Economic Development* (ed. with Y. Hayami), (OUP, 2001); 10. *Toward A Comparative Institutional Analysis* (MIT Press, 2001; trans., Japanese, 2001, Chinese, 2001, French, 2003).

Articles: 1. 'Marshallian external economies and optimal tax-subsidy structure', *Em*, 39, Jan. 1971; 2. 'An investment planning process for an economy with increasing returns', *REStud*, 38, July 1971; 3. 'Two planning processes for an economy with production externalities', *IER*, 12, Oct. 1971; 4. 'A model of the firm as a stockholder-employee cooperative game', *AER*, 70, Sept. 1980; 5. 'Equilibrium growth of the hierarchical firm: shareholder-employee cooperative game approach', *AER*, 72, Dec. 1982; 6. 'Horizontal vs. vertical information structure of the firm', *AER*, 76, Dec. 1986; 7. 'Towards an economic model of the Japanese firm', *JEL*, 28, March 1990; 8. 'The contingent governance of teams: analysis of institutional complementarity', *IER*, 35, Aug. 1994; 9. 'Towards a comparative institutional analysis: motivations and some tentative theorizing', *Japanese Econ. Rev.*, 47, March 1996; 10. 'Information, incentives and option value in Silicon Valley model', *J Comp E*, 30, Dec. 2002.

Principal Contributions Most of my work has related to comparative institutional and organizational analysis. My recent book (10) provides a comprehensive

game-theoretic framework for institutional analysis and synthesizes my previous work. It conceptualizes institutions as 'shared beliefs in ways how the game is being played' and analyzes such issues as: how institutions in economy, polity, and social exchanges are interrelated, why they are diverse across history and economies, and how they change. It illustrates analysis with diverse examples, some of which are drawn from my previous work on comparative corporate governance (books 1, 5, 6 and articles 7, 10) and comparative organizations (articles 6, 10). I have also introduced information and game theoretic tools for analyzing Japanese and other East Asian economic institutions in comparative perspective (books 2, 3, 4, 5, 7 and article 7). My early work (articles 2, 3) deals with organizational design to achieve an optimal outcome in the presence of externalities and increasing returns with more information requirements than prices. This information-systemic approach later evolved into analyzing various organizational modes such as hierarchies, information-sharing (articles 6, 7) and the Silicon Valley model (article 10).

ARELLANO, Manuel

Born 1957, Elda, Spain.

Current Post Prof. Econ., CEMFI, Madrid, Spain, 1991-.

Past Posts Res. Lect., Univ. Oxford, 1985-89; Res. Fell., Nuffield Coll., Oxford, 1986-89; Lect., LSE, 1989-92; Vis Prof. Econ., Univ. Cambridge, 2000, Univ. Pompeu Fabra, Barcelona, 2000.

Degrees Licenciado, Univ. Barcelona, 1979; MSc, PhD LSE, 1982, 1985.

Offices and Honours Intl Res. Assoc., IFS, London, 1997-; Dir., *REStud* Ltd, 1998-; Res. Fell., CEPR, 1999-; Em Program Chair, Em Soc Europ. Meeting,

2001; Pres., Spanish Econ. Assoc., 2003; Fell., Em Soc, 2002–.

Editorial Duties Co-Ed., *OBES*, 1988–89; Asst Ed., Ed., *REStud*, 1991–93, 1994–98.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; J0 Labor and Demographic Economics: General; J6 Mobility, Unemployment, and Vacancies.

Publications *Book*: 1. *Panel Data Econometrics, Advanced Texts in Econometrics* series (OUP, 2003).

Articles: 1. ‘On the efficient estimation of simultaneous equations with covariance restrictions’, *J Em*, 42, Oct. 1989; 2. ‘An efficient GLS estimator of triangular models with covariance restrictions’, *J Em*, 42, Oct. 1989; 3. ‘Testing for autocorrelation in dynamic random effects models’, *REStud*, 57, Jan. 1990; 4. ‘Imhof approximations to econometric estimators’ (with J.D. Sargan), *REStud*, 57, Oct. 1990; 5. ‘Labour supply and hours constraints’ (with C. Meghir), in J.-P. Florens, M. Ivaldi, J.-J. Laffont, F. Laisney (eds), *Microeconometrics: Surveys and Applications*, chap. 9 (Blackwell, 1990); 6. ‘Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations’ (with S. Bond), *REStud*, 58, April 1991; 7. ‘Female labour supply and on-the-job search: an empirical model estimated using complementary data sets’ (with C. Meghir), *REStud*, 59, July 1992; 8. ‘On the testing of correlated effects with panel data’, *J Em*, 59, Sept. 1993; 9. ‘Another look at the instrumental-variable estimation of error-components models’ (with O. Bover), *J Em*, 68, July 1995; 10. ‘Estimating dynamic limited dependent variable models from panel data’ (with O. Bover), *Investigaciones Económicas*, 21, May 1997; 11. ‘Symmetrically normalized instrumental-variable estimation using panel data’ (with C. Alonso-Borrego), *JBES*, 17,

Jan. 1999; 12. ‘Autoregressive models with sample selectivity for panel data’ (with O. Bover, J.M. Labeaga), in C. Hsiao, K. Lahiri, L.-F. Lee, H. Pesaran (eds), *Analysis of Panels and Limited Dependent Variable Models*, chap. 2 (CUP, 1999); 13. ‘Panel data models: some recent developments’ (with B. Honoré), in J. Heckman, E. Leamer (eds), *Handbook of Econometrics*, Vol. 5, chap. 53 (N-H, 2001); 14. ‘Unemployment duration, benefit duration, and the business cycle’ (with O. Bover, S. Bentolila), *EJ*, 112, April 2002; 15. ‘Learning about migration decisions from the migrants’ (with O. Bover), *J. Pop. Econ.*, 15, May 2002; 16. ‘Sargan’s instrumental variable estimation and GMM’, *JBES*, 20, Oct. 2002; 17. ‘The distribution of earnings in Spain during the 1980s: the effects of skill, unemployment, and union power’ (with O. Bover, S. Bentolila), in D. Cohen, T. Piketty, G. Saint-Paul (eds), *The New Economics of Rising Inequalities*, chap. 1 (OUP, 2002); 18. ‘The time-series and cross-section asymptotics of dynamic panel data estimators’, *Em*, 71, 2003; 19. ‘Binary panel data models with predetermined variables’, *J Em*, forthcoming 2003.

Principal Contributions I am interested in the econometric analysis of the behaviour of households and firms. I am concerned, in particular, with the problem of distinguishing empirically between dynamic responses and unobserved heterogeneity in panel data models. In various articles (some of them with S. Bond, O. Bover, J. Labeaga, R. Carrasco), I have developed methods of inference that address this problem in various situations of interest in microeconometrics; including linear, discrete choice, and sample selection models. I am also interested in the sampling properties of estimation methods in this context, and by extension in other cross-sectional or time-series instrumental-variable models. J.D. Sargan and

I have developed Imhof approximations for the distributions of various estimators. C. Alonso-Borrego and I proposed symmetrically normalized estimators for dynamic panel data models. J. Alvarez and I obtained the asymptotic properties of dynamic panel data estimators when both the time-series and the cross-sectional dimensions tend to infinity. My other field of interest is empirical labour economics. I am specially interested in female labour force participation, unemployment, earnings dynamics, and in econometric methodology that is relevant to these issues. C. Meghir and I have considered methods for combining the information in labour force and family expenditure surveys, which we then used to estimate female labour supply elasticities for the UK. In other articles with Meghir, Bover, and Bover and Labeaga I estimated female labour supply elasticities or participation responses in various settings using data from the UK, Spain, and the US. O. Bover, S. Bentolila and I measured business-cycle and unemployment benefit effects on the exit rates from unemployment using Spanish duration data. In other work with the same co-authors, I studied changes in the Spanish conditional earnings distributions during the 1980s using a large Social Security panel subject to top censoring.

ARMSTRONG, J. Scott

Born 1937, Philadelphia, PA, USA.

Current Post Prof. Marketing, Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 1968–.

Past Posts Vis. Prof., Stockholm Sch. Econ., 1974–75, IMEDE, Lausanne, Switzerland, 1981, Chulalongkorn Univ., Bangkok, 1984, Univ. Canterbury, New Zealand, 1985, IDEA, Buenos Aires, 1988.

Degrees BA, BS Lehigh Univ., 1959,

1960; MS (Ind. Admin.) Carnegie-Mellon Univ., 1965; PhD (Mgmt) MIT, 1968.

Offices and Honours Pres., Intl Inst. Forecasters, 1982–83, 1986–88; Hon. Fell., Intl Inst. Forecasters, 1996; Disting. Scholar 2000, Soc. Marketing Advances.

Editorial Duties Founder and Ed., *J. Forecasting, Intl J. Forecasting*, 1981–85, 1985–90.

Principal Field of Interest M0 Business Administration and Business Economics; Marketing; Accounting; General.

Publications *Books*: 1. *Long-Range Forecasting: From Crystal Ball to Computer* (Wiley-Intersc., 1978, 2nd edn 1985); 2. *Principles of Forecasting: A Handbook for Researchers and Practitioners* (Kluwer Acad., 2001).

Articles: 1. 'Social irresponsibility in management', *J. Bus. Res.*, 5, 1977; 2. 'Estimating non-response bias in mail surveys' (with T. Overton), *J. Marketing Res.*, 14, 1977; 3. 'Forecasting with econometric methods: folklore vs. fact', with commentary, *J Bus*, 51, 1978; 4. 'Unintelligible management research and academic prestige', *Interfaces*, 10, April 1980; 5. 'The value of formal planning for strategic decisions: review of empirical research', *Strategic Mgmt J.*, 3, 1982; 6. 'Prediction of consumer behavior by experts and novices', *J. Consumer Res.*, 18, 1991; 7. 'Rule-based forecasting: development and validation of an expert systems approach to combining time series extrapolations' (with F. Collopy), *Mgmt Sc.*, 38, 1992; 8. 'Error measures for generalizing about forecasting methods: empirical comparisons' (with F. Collopy), with commentary, *Intl J. Forecasting*, 8, 1992; 9. 'Causal forces: structuring knowledge for time series extrapolation' (with F. Collopy), *J. Forecasting*, 12, 1993; 10. 'Escalation bias: does it extend to marketing?' (with N. Coviello, B. Safranek), *J. Acad. Marketing Sc.*, 21, 1993; 11. 'Principles involving marketing policies:

an empirical assessment' (with R. Schultz), *Marketing Letters*, 4, 1993; 12. 'Effects of portfolio planning methods on decision making: empirical results' (with R. Brodie), *Intl J. Res. Marketing*, 11, 1994; 13. 'Business school prestige: research versus teaching', with commentary (with T. Sperry), *Interfaces*, 24, March/April 1994; 14. 'Replications and extensions in marketing: rarely published but quite contrary' (with R. Hubbard), *Intl J. Res. Marketing*, 11, 1994; 15. 'Competitor orientation: effects of objectives and information on managerial decisions and profitability' (with F. Collopy), *J. Marketing Res.*, 33, 1996; 16. 'Management science: what does it have to do with management or science?', *Marketing Bull.*, 9, May 1998; 17. 'Hypotheses in marketing science: literature review and publication audit' (with R. Brodie, A. Parsons), *Marketing Letters*, 12, 2001; 18. 'Identification of asymmetric prediction intervals through causal forces' (with F. Collopy), *J. Forecasting*, 20, 2001.

Principal Contributions Major findings as follows. Developed 'rule-based forecasting': empirical testing showed that it improved the accuracy of extrapolation forecasts. Founded 'casual forces': they can improve the selection and weighting of extrapolation methods. Tested simulated interactions (role playing). Showed that prediction intervals for annual economic data should be asymmetric. Combining forecasts reduces forecast error in virtually all situations, with an average reduction of 13 per cent. Intentions data can produce substantial improvements in the forecast accuracy even when actual sales data exist. Founded the Seer-Sucker Theory: high expertise in forecasting has little relationship to accuracy in forecasting change. Found that econometric methods are more accurate than other methods for long-range forecasts. Showed that simple extrapolation methods are as accurate as more complex

methods. Company earnings forecasts are more accurate than those by analysts. Trend factors in extrapolation models should be damped. The mean square error is inappropriate for comparing forecasting methods. Competitor-oriented objectives are detrimental to profits. Extrapolation across waves can be used to correct for non-response bias in mail surveys. Use of a portfolio matrix leads to less-profitable decisions. Monetary incentives always increase response rates of mail surveys. Business-reply postage is not cost-effective for mail surveys. Extensions of marketing studies typically fail to reproduce the original findings. Escalation bias does not generalize to marketing decisions. The method of multiple hypotheses is underutilized in management science. Less intelligible writing increases the perceived prestige of academicians. The stakeholder role, in combination with social accounting, reduces the likelihood of socially irresponsible decisions by top management. Formal planning improves the performance of firms. Found that business school prestige rests upon research, not teaching. Founder of forecastingprinciples.com, a website designed to include all useful knowledge about forecasting.

ARNOTT, Richard James

Born 1949, London, England.

Current Post Prof., Dept Econ., Boston Coll., Chestnut Hill, MA, USA, 1988–.

Past Posts Res. Assoc., Joint Center for Urban Stud., MIT/Harvard, 1969; Res. Asst, Univ. Toronto, 1970–71; Instr., Yale Univ., 1973; Lect., Wesleyan Univ., 1974; Asst Prof., Assoc. Prof., Prof., Queen's Univ., 1975–78, 1978–81, 1981–88; Vis., Nuffield Coll., Oxford Univ., 1977; Vis., CEPREMAP, Paris, 1980; Vis. Fell., Princeton Univ., 1981; Special Advisor, Dept Fin., Govt Canada, 1987–88; Vis.

Prof., Stanford Univ., 1990, Univ. Melbourne, 1991; Vis. Fell., Univ. Canterbury, 1997.

Degrees SB MIT, 1969; MA Univ. Toronto, 1971; PhD Yale Univ., 1975.

Offices and Honours Secretary-Treasurer, CEA, 1981–84; Harry Johnson Prize, 1983; Res. Assoc. NBER, 1991–; Res. Fell., CESifo, 1991–; Fell., Homer Hoyt Inst., 2001–.

Editorial Duties Ed. Bds, *JUE*, 1979–83, *RSUE*, 1980–, *J Reg S*, 1981–90, *J Pub E*, 1982–99, *J. Real Estate Fin. Econ.*, 1987–94, *J. Housing Econ.*, 1990–, *Real Estate Econ.*, 1992–94, *Lusk Rev.*, 1995–, *J. Public Econ. Theory*, 1998–, *Assurances*, 1997–; Ed., *Urban Regional Econ.*, *Pure Apl. Econ.*, *Advances in Urban Regional Econ.*, *J. Econ. Geography*, 1999–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; H0 Public Economics: General; D8 Information and Uncertainty.

Publications *Book*: 1. *Rent Control and Options for Decontrol in Ontario* (with N. Johnson), (Ontario Econ. Council, Univ. Toronto Press, 1981).

Articles: 1. ‘The transition of land to urban use’ (with F. Lewis), *JPE*, 87, 1979; 2. ‘Unpriced transport congestion’, *JET*, 21, 1979; 3. ‘Aggregate land rents, expenditure on public goods, and optimal city size’ (with J. Stiglitz), *QJE*, 93, 1979; 4. ‘Housing quality, maintenance, and rehabilitation’ (with R. Davidson, D. Pines), *REStud*, 50, 1983; 5. ‘Moral hazard and optimal commodity taxation’ (with J. Stiglitz), *J Pub E*, 29, 1986; 6. ‘Peer group effects and educational attainment’ (with J. Rowse), *J Pub E*, 32, 1987; 7. ‘The basic analytics of moral hazard’ (with J. Stiglitz), *Scand JE*, 90, 1988; 8. ‘Housing vacancies, thin markets, and idiosyncratic tastes’, *J. Real Estate Fin. Econ.*, 2, 1989; 9. ‘Dynamic housing market equilibrium with taste heterogeneity, idiosyncratic perfect foresight and stock conversions’ (with

A. Anas), *J. Housing Econ.*, 1, 1991; 10. ‘A structural model of peak-period congestion: a traffic bottleneck with elastic demand’ (with A. de Palma, R. Lindsey), *AER*, 83, 1993; 11. ‘Time for revisionism on rent control?’, *JEP*, 9, 1995; 12. ‘Urban spatial structure’ (with A. Anas, K. Small), *JEL*, 34, 1998.

Principal Contributions My general interest has been in the application of microeconomic theory to issues in public policy. My specific interest has been urban economics. I have tended to work on overlapping long-term projects with long-term co-authors, gradually extending models in the direction of realism. My thesis research (under Joseph Stiglitz’s direction) dealt with the monocentric city model, especially the optimal city. From 1975–80, in both theoretical and simulation work (with James MacKinnon), I investigated elaborations of the model such as traffic congestion and durable housing. From 1980–85, I embarked on two new topics – moral hazard (with Joseph Stiglitz) and (following James Sweeney) housing markets with durable, quality-differentiated housing (with Ralph Braid, Russell Davidson and David Pines). From 1985–90, my theoretical work focused on elaborating William Vickrey’s model of rush-hour traffic congestion (with Andre de Palma and Robin Lindsey), and on the applied side, Alex Anas and I teamed up to develop practical housing market simulation models. During the early 1990s, I worked on the theory of congestible facilities with Marvin Kraus, and on imperfectly competitive models of the housing market based on idiosyncratic matching (with Paul Anglin and Masahiro Igarashi). Since then I have been examining property taxation and extending earlier work to treat such topics as the microfoundations of residential real estate cycles, parking policy, and transportation and land use in dispersed cities.

ARNOULD, Eric J. n.e.

ARTHUR, W. Brian

Born 1945, Belfast, Northern Ireland.

Current Post Citibank Prof., Santa Fe Inst., NM, USA, 1994–.

Past Posts Assoc., Pop. Council, New York, 1974–77; Res. Scholar, Intl Inst. Apl. Systems Analysis, Laxenberg, 1977–83; Dean and Virginia Morrison Prof. Pop. Stud. and Econ., Stanford Univ., 1983–96; Dir., Econ. Res. Program, Santa Fe Inst., 1988–89, 1994, 1995.

Degrees BSc (Electrical Eng.) Queen's Univ., Belfast, 1966; MA (OR) Univ. Lancaster, 1967; MA (Maths) Univ. Michigan, 1969; MA, PhD (OR) Univ. California, Berkeley, 1973, 1973.

Offices and Honours Guggenheim Memorial Fellowship, 1987–88; Joseph A. Schumpeter Prize in Econ., Intl Schumpeter Soc., 1990; Fell., Em Soc, 1994; Dr Econ. Sc. (Hon.), Natl Univ. Ireland, 2000.

Editorial Duties Assoc. Ed., *J. Evolutionary Econ.*, 1990–, *Structural Change and Econ. Dynamics*, 1991–, *Complexity*, 1994–, *Macroecon. Dynamics*, 1995–2000.

Principal Fields of Interest A1 General Economics; O3 Technological Change; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Books*: 1. *Increasing Returns and Path Dependence in the Economy* (Univ. Michigan Press, 1994); 2. *The Economy as an Evolving Complex System II* (ed. with S. Durlauf, D. Lane), (Addison-Wesley, 1997).

Articles: 1. 'Competing technologies, increasing returns and lock-in by historical events', *EJ*, 99, 1989; 2. 'Positive feedbacks in the economy', *Sc. Amer.*, 262, Feb. 1990; 3. 'Bounded rationality and inductive behavior (the El Farol problem)', *AER*, 84, 1994; 4. 'Increasing returns and the new world of business', *Harvard Bus.*

Rev., July–Aug. 1996; 5. 'Asset pricing under endogenous expectations in an artificial stock market' (with J.H. Holland, B. LeBaron, R. Palmer, P. Taylor), *Econ. Notes*, 26, 1997; 6. 'Beyond rational expectations: indeterminacy in economic and financial markets', in J.N. Drobak, J.V. Nye (eds), *Frontiers of the New Institutional Economics* (Acad. Press, 1997).

Principal Contributions Developed the modern approach to economic allocation under increasing returns; in particular developed a framework for analyzing the dynamics of lock-in to one of many possible equilibria under the influence of small, random events. Recent research: the economy and technology; formulating economic theory for how human agents 'cognize' problems, and how they operate under indeterminacy; the evolution of technology.

ASHENFELTER, Orley Clark

Born 1942, San Francisco, CA, USA.

Current Posts Dir., Ind. Relations Section, Princeton Univ. and Joseph Douglas Green 1895 Prof. Econ., Princeton Univ., Princeton, NJ, USA, 1995–.

Past Posts Dir., Office Evaluation, US Dept Labor, 1972–73; Lect., Asst Prof., Assoc. Prof. Econ., Princeton Univ., 1968–72; Meeker Vis. Prof., Univ. Bristol, 1980–81; Meyer Vis. Res. Prof., NYU School Law, 1990; Dir., Ind. Relations Section, Princeton Univ., 1971–95.

Degrees BA Claremont Men's Coll., CA, 1964; PhD Princeton Univ., 1970.

Offices and Honours Guggenheim Foundation Fell., 1976–77; Fell., Ragnar Frisch Prize, Em Soc, 1977, 1983; Advisory Panel, AEA; Panel of Stats, Natl Commission Employment and Unemployment Stats, 1977–81; Advisory Bd, Inst. Labor and Mgmt Relations, Rutgers Univ., 1979–; Exec. Comm., Conf. Res. in In-

come and Wealth, NBER, 1982; Fell., AAAS, 1993; Bd Trustees, Centre Adv. Study Behav. Sc., 1994–; Bd Dirs, Amer. Law and Econ. Assoc., 1994–.

Editorial Duties Ed. Bd, *J Lab E*, 1983–; Ed., *AER*, 1985–, *Ricerche Economiche*, 1992–, *Labor Econ.*, 1992–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; J4 Particular Labor Markets; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications *Book*: 1. *The Collected Essays of Orley C. Ashenfelter*, Vols I–III (ed. with K. Hallock), (Edward Elgar, 1997).

Articles: 1. ‘Estimates of the economic return to schooling from a new sample of twins’ (with A. Krueger), *AER*, Dec. 1994; 2. ‘Predicting the quality of an unborn grange’ (with R. Byron), *ER*, 71, March 1995; 3. ‘Politics and the judiciary: the influence of judicial background on case outcomes’ (with T. Eisenberg, S. Schwab), *J. Legal Stud.*, 24, June 1995; 4. ‘Wine vintage quality and the weather: Bordeaux’ (with D. Ashmore, R. LaLonde), *Chance*, Fall 1995; 5. ‘The economics of training’ (with R. LaLonde), in D. Lewin, D. Mirchell, M. Zaidi (eds), *The Human Resource Management Handbook* (JAI Press, 1997); 6. ‘Estimates of the returns to schooling from sibling data: fathers, sons, brothers’ (with D.J. Zimmerman), *REStat*, 79, Feb. 1997; 7. ‘Contract form and procurement costs: the impact of compulsory multiple contractor law in construction’ (with D. Ashmore, R. Filer), *RandJE*, 28, 1997; 8. ‘One thousand papers in labor economics: a selected bibliography’ (with K. Hallock), in *Labor Market Discrimination, Labor Mobility, and Compensating Wage Differentials: Labor Economics*, Vol. IV (Edward Elgar, 1998); 9. ‘Schooling, intelligence and income in America: cracks in the Bell Curve’, in K. Arrow, S. Durlauf, S. Bowles (eds), *Meri-*

ocracy and Inequality (Princeton Univ. Press, 1999); 10. ‘Income, schooling and ability: evidence from a new sample of identical twins’ (with C. Rouse), *QJE*, 113, Feb. 1999.

Principal Contributions Most of my research is designed to set out methods for, and the results of, empirical tests of economic models of aspects of the labour market. Some of the tests have even been successful!

ATKINSON, Scott E.

Born 1944, El Paso, TX, USA.

Current Post Prof. Econ., Univ. Georgia, Athens, GA, USA, 1986–.

Past Posts Instr. Econ. and Hist., Colorado Acad., 1968–69; Environmental Econ., EPA, 1972–73; Sr. Econ., Dept Energy, 1973–79; Adjunct Prof. Econ., VA Polytech. Inst. and State Univ., 1979–81; Sr Econ., Amer. Petroleum Inst., 1979–81; Assoc. Prof. Econ., Prof. Econ., Adjunct Prof. Stats, Univ. Wyoming, 1981–86; Dir., Inst. Pol. Res., Univ. Wyoming, 1984–86.

Degrees BA (Amer. Hist. and Literature) Williams Coll., 1966; MA and Secondary Sch. Teaching Certificate, North Colorado Univ., 1969; PhD Univ. Colorado, 1972.

Offices and Honours Special Achievement Award for Outstanding Res., Fed. Energy Admin., 1975; Outstanding Hons Teaching Award, Univ. Georgia, 1989; Beta Gamma Sigma Hon. Soc., Univ. Georgia, 1989–; Kamerschen/Hampton Award, Outstanding Res. Econ., Terry Coll. Bus. Disting. Res. Award, Selig Res., Fellowship, Univ. Georgia, 1990, 1992, 1990–92.

Editorial Duties Mem., Ed. Council, Assoc. Ed., *JEEM*, 1990–92, 1993–95.

Principal Fields of Interest C3 Econometric Methods: Multiple/Simultaneous

Equation Models; L5 Regulation and Industrial Policy; Q2 Renewable Resources and Conservation; Environmental Management.

Publications Articles: 1. 'A cost-effectiveness analysis of alternative air-quality control strategies' (with D.H. Lewis), *JEEM*, 1, 1974; 2. 'Interfuel substitution in steam-electric power generation' (with R. Halvorsen), *JPE*, 84, 1976; 3. 'Responsiveness to time-of-day electricity pricing: first empirical results', *J Em*, 9, 1979; 4. 'A test of relative and absolute price efficiency in regulated utilities' (with R. Halvorsen), *REStat*, 62, 1980; 5. 'Marketable permits and acid rain externalities', *CJ*, 16, 1983; 6. 'Parametric efficiency tests, economies of scale, and input demand in US electric power generation' (with R. Halvorsen), *IER*, 25, 1984; 7. 'A new hedonic technique for estimating attribute demand: an application to the demand for automobile fuel efficiency' (with R. Halvorsen), *REStat*, 66, 1984; 8. 'Measuring the multilateral allocation of rents: Wyoming low-sulfur coal' (with J. Kerkvliet), *RandJE*, 17, 1986; 9. 'Flexible modelling of time-to-failure in risky careers' (with J. Tschirhart), *REStat*, 68, 1986; 10. 'The relative efficiency of public and private utilities in a regulated environment: the case of US electric utilities' (with R. Halvorsen), *J Pub E*, 29, 1986; 11. 'Revenue sharing as an incentive in an agency problem: an example from the National Football League' (with J. Tschirhart, L. Stanley), *RandJE*, 19, 1988; 12. 'Dual measures of monopoly and monopsony power: an application to regulated electric utilities' (with J. Kerkvliet), *REStat*, 71, 1989; 13. 'Market failure in incentive-based regulation: the case of emissions trading' (with T. Tietenberg), *JEEM*, 21, 1991; 14. 'The bias of bootstrapped versus conventional standard errors in the general linear and sur models' (with P. Wilson), *ET*, 8, 1992;

15. 'Measuring technical efficiency with panel data: a dual approach' (with C. Cornwell), *J Em*, 59, 1993; 16. 'Parametric measurement of technical and allocative inefficiency with panel data' (with C. Cornwell), *IER*, 35, 1994; 17. 'Estimation of output and input technical efficiency using a flexible functional form and panel data' (with C. Cornwell), *IER*, 35, 1994; 18. 'Parametric tests for static and dynamic equilibrium' (with R. Halvorsen), *J Em*, 85, 1998; 19. 'Measuring productivity growth, technical efficiency, allocative efficiency, and returns to scale using distance functions' (with D. Primont), *J Em*, 108, 2002; 20. 'Measuring and decomposing productivity change: stochastic distance function estimation vs. DEA' (with O. Honerkamp, C. Cornwell), *JBES*, 21, 2003.

Principal Contributions My research has concentrated on three main areas of economics: environmental, regulatory and industrial organization, and econometric methods and applications. In the first, I have investigated two principal topics. Bayesian methods were used to access the importance of priors on posterior estimates in health-effects and hedonic property value regressions, where pollution is an explanatory variable. The cost-effectiveness of various systems for trading the rights to degrade air quality was examined using mathematical programming techniques which incorporated air quality diffusion models. My initial study was among the first to examine the relative costs of emission and ambient permit systems relative to the current system. Another case study examined the incentive for utilities to engage in long-range acid deposition when local ambient permits are traded. More recently, the sequential and bilateral nature of permit trading was shown to capture only a portion of the potential gains from trade simulated by a mathematical program. Research in regu-

lation and industrial organization has concentrated on methodologies for measuring rent allocation, allocative inefficiency, and technical inefficiency using flexible functional forms for cost, profit, and more recently, distance functions. Expressing actual costs or profits as a function of shadow prices allows calculation of allocative inefficiency. Given panel data, input and firm-specific measures can be obtained. Technical inefficiency is jointly calculated as an input or output distance measure. These techniques have been demonstrated using airline, utility, and railroad data. In addition, rates of technical progress and growth in total factor productivity are derived from these distance measures. Recent extensions are the use of Bayesian techniques including Gibbs sampling. Other econometric contributions include simulation of small-sample properties of systems estimators, development of hedonic methods, and theoretical work establishing the small-sample bias of the bootstrap estimator in seemingly unrelated regressions and when forming confidence intervals for efficiency scores.

ATKINSON, Sir Tony

Born 1944, Caerleon, Monmouth, Wales.

Current Post Warden, Nuffield Coll., Oxford, UK, 1994–.

Past Posts Fell., St John's Coll., Cambridge, 1967–71; Prof. Econ., Univ. Essex, 1971–76; Vis. Prof., MIT, 1973; Prof. Polit. Econ., Univ. Coll. London, 1976–79; UK Royal Commission Distribution Income and Wealth, 1978–79; Prof. Econ., LSE, London, 1980–92; Prof. Polit. Econ., Univ. Cambridge, 1992–94.

Degrees BA, MA Univ. Cambridge, 1966, 1969.

Offices and Honours Fell., Exec.

Comm., Pres., 1988, Em Soc, 1974, 1982–; Chairman, Econ. Comm., UK–SSRC, 1978–80; Pres., UK Assoc. Polytech. Teachers Econ., 1982–; Fell., BA, 1984–; Mem., Academia Europa, 1988–; Pres., Europ. Econ. Assoc., 1989; Pres., IEA, 1989–92; Pres., RES, 1995–98; Pres., Section F, BAAS, 1997.

Editorial Duties Ed., *J Pub E*, 1971–97; Assoc. Ed., *JET*, 1971–79; Ed. Bd, *REStud*, 1968–74.

Principal Fields of Interest G0 Financial Economics: General; I0 Health, Education, and Welfare: General; A1 General Economics.

Publications Books: 1. *Poverty in Britain and the Reform of Social Security* (CUP, 1969); 2. *Unequal Shares* (Allen Lane Penguin, 1972); 3. *Economics of Inequality* (OUP, 1975, 1983); 4. *Lectures on Public Economics* (with J.E. Stiglitz), (McGraw-Hill, 1980); 5. *Parents and Children* (with A.K. Maynard, C.C. Trinder), (Heinemann, 1983); 6. *Economic Transformation in Eastern Europe and the Distribution of Income* (with J. Micklewright), (CUP, 1992); 7. *Public Economics in Action* (OUP, 1995); 8. *Poverty in Europe* (Blackwell, 1998); 9. *Economic Consequences of Rolling Back the Welfare State* (MIT, 1999); 10. *Social Indicators: The EU and Social Inclusion* (with B. Cantillon, E. Marlier, B. Nolan), (OUP, 2002).

Articles: 1. 'On the measurement of inequality', *JET*, 2, Sept. 1970; 2. 'The structure of indirect taxation and economic efficiency' (with J.E. Stiglitz), *J Pub E*, 2, Feb. 1972; 3. 'On the switch from direct to indirect taxation' (with N.H. Stern, J. Gomulka), *J Pub E*, 14, Oct. 1980; 4. 'On the measurement of poverty', *Em*, 55, 1987; 5. 'Public economics and the economic public', *Europ ER*, 34, May 1990; 6. 'Unemployment compensation and labour market transitions' (with J. Micklewright), *JEL*, 29, Dec. 1991; 7.

'The welfare state and economic performance', *NTJ*, 48, 1995; 8. 'Bringing income distribution in from the cold', *EJ*, 107, Sept. 1997; 9. 'The transatlantic consensus on rising income inequality', *World Econ.*, 24, April 2001; 10. 'Promise and pitfalls in the use of "secondary data sets": income inequality in OECD countries as a case study' (with A. Brandolini), *JEL*, 39, June 2001.

Principal Contributions Measurement of inequality and the relationship between social values and statistical measures. Explanation of income inequality with particular reference to intergenerational transmission of advantage and disadvantage. Role of social security and income maintenance. Modern public economics and the development of criteria for the design of taxation and public expenditure policy in a world of complexity, multiple objectives and second-best constraints. European Union social policy and social indicators.

ATTANASIO, Orazio Pietro

Born 1959, Naples, Italy.

Current Posts Prof. Econ., Univ. Coll. London, UK, 1995–; Res. Assoc., IFS, London, UK, 1995–.

Past Posts Res. Asst, Prometeia, Associazione per le Previsioni Economiche, Bologna, 1982–83, Intl Centre for Econ. and Related Disciplines, LSE, 1984–85; Res. Asst, Res. Officer, Centre for Labour Econ., LSE, 1985–87, 1987–88; Asst Prof. Econ., Stanford Univ., 1988–94; Organizer, NBER Summer Inst. Workshop, 1992–; Assoc. Prof. Econ., Univ. Bologna, 1993–95; Vis. Prof., Univ. Padua, 1997, PUC-Rio de Janeiro, 1997, Univ. Naples, 1998, Univ. Los Andes, Bogotá, Colombia, 1999, 2000, Dept Econ., Univ. Chicago, 2001; Cons., Inter-Amer. Devlp. Bank, Latin Amer., 1997–

98; Advisory Bd, MECOVI, World Bank/Inter-Amer. Devlp. Bank, Latin Amer., 1998; Vis. Scholar, IMF, 1998, 1999, 2000; Dir., Centre Evaluation of Devlp. Pols, IFS and Univ. Coll. London, 2002, welfare program, World Bank and Inter-Amer. Devlp. Bank, Colombia, 2002; Advisor, Mexican Govt, 2002.

Degrees Laurea (*scl*) Univ. Bologna, 1982; MSc, PhD LSE, 1984, 1988.

Offices and Honours Scholarship, Cassa di Risparmio di Calabria e Lucania, Italy, 1984, 1985; Sayers prize for best thesis in Monetary Econ. and Econ. Hist., Univ. London, 1988; Award for best paper in *EJ* in 1988–89, RES, 1990; Faculty Res. Fell., Res. Assoc., NBER, 1992–2001, 2002–; Hoover Natl Fell., 1993–94; Res. Assoc., Prometeia, Bologna, 1999; Council Mem., Europ. Econ. Assoc., 2000; Fell., Em Soc, 2001; Res. Fell., IFS, 2000, CEPR, 2001.

Editorial Duties Asst Ed., *REStud*, 1995–97; Assoc. Ed., *Ricerche Economiche: An Intl J.*, 1996–; Ed. Bd, *Europ ER*, 1997–2000; Managing Ed., *REStud*, 1998–.

Principal Fields of Interest D1 Household Behavior; O2 Development Planning and Policy; G0 Financial Economics: General.

Publications Articles: 1. 'Personal saving in the US', in J. Poterba (ed.), *International Comparisons of Household Saving* (CUP, 1994); 2. 'The intertemporal allocation of consumption', *C-RPP*, suppl., repr. in *JME*, 36, 1995; 3. 'Is consumption growth consistent with intertemporal optimization? Evidence from the consumer expenditure survey' (with G. Weber), NBER Working Paper, Stanford 1992, repr. in *JPE*, 103, Dec. 1995; 4. 'Consumption over the life cycle and over the business cycle' (with M. Browning), *AER*, 85, Dec. 1995; 5. 'Relative wage movements and the distribution of consumption' (with S.J. Davis), *JPE*, 104,

Dec. 1996; 6. 'A cohort analysis of saving behavior by US households', *JHR*, 33, Summer 1998; 7. 'Humps and bumps in lifetime consumption' (with J. Banks, C. Meghir, G. Weber), NBER Working Paper 5350, repr. in *JBES*, 17, 1999; 8. 'Differential mortality and wealth accumulation' (with H. Hoynes), *JHR*, 35, 2000; 9. 'Consumption smoothing in island economies: can public insurance reduce welfare?' (with V. Rios-Rull), *Europ. ER*, 44, 2000; 10. 'Consumption', in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 2000); 11. 'Saving, investment and growth: a macroeconomic analysis with a panel of countries' (with L. Picci, A. Scorcu), *REStat*, 82, May 2000; 12. 'Consumer durables and inertial behavior: estimation and aggregation of S_s rules for automobiles', *REStud*, 67, Oct. 2000; 13. 'Intertemporal choice and the cross section variation of marginal utility' (with T. Jappelli), *REStat*, 83, 2001; 14. 'Consumption smoothing and extended families' (with V. Rios-Rull), in M. Dewatripoint, L. Hansen (eds), *Advances in Economic Theory – The World Congress of the Econometric Society, Seattle 2000* ((Em Soc Monographs, CUP, 2002); 15. 'From earnings equality to consumption inequality' (with G. Berloffia, R. Blundell, I. Preston), *EJ*, 112, March 2002; 16. 'The demand for money, financial innovation and the welfare cost of inflation: an analysis with households' data' (with L. Guiso, T. Jappelli), *JPE*, 110, April 2002; 17. 'The effect of individual retirement accounts on household consumption and national saving' (with T. Deleire), *EJ*, 112, July 2002; 18. 'Assets holding and consumption volatility' (with J. Banks, S. Tanner), *JPE*, 110, Aug. 2002; 19. 'From earnings inequality to consumption tests of income pooling in household decisions' (with V. Lechene), *Rev. Econ. Dynamics*, forthcoming; 20. 'Household saving behavior and pension

policies in the US' (with M. Paiella), in A. Borsch-Supan (ed.), *International Comparison of Household Savings Behaviour: A Study of Life-Cycle Savings in Seven Countries* (Acad. Press, forthcoming).

Principal Contributions n.e.

AUDRETSCH, David Bruce

Born 1954, Detroit, MI, USA.

Current Posts Prof. Public Affairs and Ameritech Chair Econ. Devlp., Dir., Inst. Devlp Strategies and Dir., Center West Europ. Stud., Indiana Univ., Bloomington, IN, USA, 1998–; Res. Fell., CEPR, London, 1992–; Res. Prof., ZEW, Mannheim, Germany, 2002–.

Past Posts Asst Prof. Econ., Middlebury Coll., 1980–85; Res. Prof. and Acting Dir., Wissenschaftszentrum Berlin für Sozialforschung, 1985–98; Tinbergen Res. Fell., Tinbergen Inst., Rotterdam, 1994.

Degrees BA (*mcl*) Drew Univ., 1976; MS, PhD Univ. Wisconsin, 1979, 1980.

Offices and Honours Sc. Council, Acad. Council, Amer. Inst. Contemporary German Stud., Johns Hopkins Univ., 1996–; Vice-Pres., Intl Joseph S. Schumpeter Soc., 1998–2000; Sc. Council, ZEW, 1999–, Huamburgisches Welt-Wirtschafts-Archiv (HWWA), (Hamburg Inst. Intl Econ.), 1999–; Intl Award for Entrepreneurship and Small Bus. Res., Swedish Foundation for Small Bus. Res., 2001; Intl Council, Swedish Foundation for Small Bus. Res., 2001–.

Editorial Duties Ed., *Small Bus. Econ.*, 1989–, Springer *Amer. and Europ. Econ. and Polit. Stud.* series, 2001–, *Intl J. Entrepreneurship Educ.*, 2002–, *Kluwer Entrepreneurship Res.* series, 2002–, *Intl Handbook of Entrepreneurship*, 2002–; Assoc. Ed., *IJIO*, 1994–, *Intl J. Biotech.*, 1998–, *Intl J. Tech. Transfer and Com-*

mercization, 2000–, *Regional Sc.*, 2001–.

Principal Fields of Interest O3 Technological Change; L1 Market Structure, Firm Strategy, and Market Performance; L4 Antitrust Policy; L5 Regulation and Industrial Policy.

Publications *Books*: 1. *The Multinational Corporation in the 1980s* (with C. Kindleberger), (MIT Press, 1983); 2. *The Market and the State: Government Policy towards Business in Europe, Japan and the US* (NYU Press, 1989); 3. *Innovation and Small Firms* (with Z. Acs), (MIT Press, 1990); 4. *Small Firms and Entrepreneurship: An East–West Perspective* (with Z. Acs), (CUP, 1993); 5. *Innovation and Industry Evolution* (MIT Press, 1995); 6. *Innovation, Industry Evolution and Employment* (with R. Thurik), (CUP, 1999).

Articles: 1. ‘Innovation, market share and firm size’ (with Z. Acs), *REStat*, 69, Nov. 1987; 2. ‘R&D rivalry, industrial policy, and US–Japanese trade’ (with H. Yamawaki), *REStat*, 70, Aug. 1988; 3. ‘Innovation in large and small firms: an empirical analysis’ (with Z. Acs), *AER*, 78, Sept. 1988; 4. ‘Import share under international oligopoly with differentiated products: Japanese imports in US manufacturing’ (with H. Yamawaki), *REStat*, 70, Nov. 1988; 5. ‘Small-firm entry in US manufacturing’ (with Z. Acs), *Em*, 56, May 1989; 6. ‘New-firm survival and the technological regime’, *REStat*, 73, Aug. 1991; 7. ‘Real effects of university research’ (with Z. Acs, M. Feldman), *AER*, 82, March 1992; 8. ‘R&D spillovers and recipient firm size’ (with Z. Acs, M. Feldman), *REStat*, 82, March 1994; 9. ‘New-firm survival: new results using a hazard function’ (with T. Mahmood), *REStat*, 77, March 1995; 10. ‘Company–scientist locational links: the case of biotechnology’, *AER*, 86, June 1996; 11. ‘R&D spillovers and the geography of in-

novation and production’ (with M. Feldman), *AER*, 86, June 1996; 12. ‘Innovation in cities: science-based diversity, specialization and localized monopoly’ (with M. Feldman), *Europ ER*, 43, 1999; 13. ‘Does entry size matter? The impact of the life cycle and technology on firm survival?’ (with R. Agarwal), *J Ind E*, 49, March 2001; 14. ‘Competition policy in dynamic markets’ (with W. Baumol, A. Burke), *IJIO*, 19, April 2001.

Principal Contributions The major focus of my work has been on the links between entrepreneurship, government policy, innovation, economic development and global competitiveness. While my dissertation and early research was on public policy, and in particular antitrust and competition policies, I noticed that the role of small firms and entrepreneurship was virtually ignored in economics. Thus, in the 1980s, working at a research institute in Berlin, I embarked on a large-scale research project devoted to the economics of small business, innovation and entrepreneurship. An important finding was that small firms are an engine of innovative activity. The early studies had a basis in industrial organization and focused on identifying, both empirically and theoretically the actual role played by small firms in the economy. My research expanded from focusing on the innovative activity of small firms to patterns of entry, survival, growth, and industry turbulence, and why these patterns vary systematically across industries. Gradually this gave rise to a more evolutionary view of markets and industries, which culminated in the publication of *Innovation and Industry Evolution* in 1995. This research on entrepreneurship led me to focus more on the impacts of an economy shifting more towards knowledge-based activity. An important implication that began shaping my research in the mid-1990s was the importance of geography and spatial rela-

tionships, and in particular spatial clusters, networks and agglomerations in the generation of new knowledge and in the entrepreneurial process. My most recent research has moved towards linking entrepreneurship to economic growth at both the regional and national levels.

AUERBACH, Alan Jeffrey

Born 1951, New York, NY, USA.

Current Post Robert D. Burch Prof. Econ. and Law, Univ. California, Berkeley, CA, USA, 1994–.

Past Post Prof. Econ. and Law, Univ. Pennsylvania, 1983–94.

Degrees BA (Econ. and Maths) Yale Univ., 1974; PhD Harvard Univ., 1978.

Offices and Honours David A. Wells Prize, Harvard, 1978–79; Sloan Res. Fellowship, 1982–84; Fell., Em Soc, 1986; AAAS, 1999; Exec. Comm., Vice-Pres., AEA, 1992–94, 1999.

Editorial Duties Ed., Co-Ed., *JEP*, 1994–95, 1995–96.

Principal Fields of Interest H3 Fiscal Policies and Behavior of Economic Agents; H6 National Budget, Deficit, and Debt; E2 Consumption, Saving, Production, Employment, and Investment.

Publications *Books*: 1. *The Taxation of Capital Income* (HUP, 1983); 2. *Handbook of Public Economics* (ed. with M. Feldstein), (N-H, Vol. 1, 1985, Vol. 2, 1987, Vol. 3, 2002, Vol. 4, 2002); 3. *Dynamic Fiscal Policy* (with L. Kotlikoff), (CUP, 1987); 4. *Mergers and Acquisitions* (ed.), (UCP, 1988); 5. *Corporate Takeovers: Causes and Consequences* (ed.), (UCP, 1988); 6. *Macroeconomics: An Integrated Approach* (with L. Kotlikoff), (South-Western Publ., 1995, 2nd edn MIT Press, 1998); 7. *Fiscal Policy: Lessons from Academic Research* (ed.), (MIT Press, 1997); 8. *Generational Accounting Around the World* (ed. with L. Kotlikoff,

W. Liebfriz), (UCP, 1999); 9. *Demographic Change and Fiscal Policy* (ed. with R. Lee), (CUP, 2001).

Articles: 1. 'Wealth maximization and the cost of capital', *QJE*, 93, Aug. 1979; 2. 'Taxation, portfolio choice and debt-equity ratios: a general equilibrium model' (with M. King), *QJE*, 97, Nov. 1983; 3. 'Corporate taxation in the US', *BPEA*, 1983; 4. 'The dynamic effects of tax law asymmetries', *REStud*, 53, April 1986; 5. 'Tax reform and adjustment costs: the impact on investment and market value', *IER*, 30, Nov. 1989; 6. 'Retrospective capital gains taxation', *AER*, 81, March 1991; 7. 'Tax policy and business fixed investment in the United States' (with K. Hassett), *J Pub E*, 47, March 1992; 8. 'Generational accounting: a new approach to understanding the effects of fiscal policy on saving' (with J. Gokhale, L. Kotlikoff), *Scand JE*, 94, 1992; 9. 'The US fiscal problem: where we are, how we got here, and where we're going', in S. Fischer, J. Rotemberg (eds), *NBER Macroecon. Annual*, 1994; 10. 'The economic effects of the tax reform act of 1986' (with J. Slemrod), *JEL*, 35, June 1997; 11. 'Simulating fundamental tax reform in the United States' (with D. Altig *et al.*), *AER*, 94, June 2001.

Principal Contributions Development of dynamic fiscal policy analysis, theoretical and empirical work regarding the real and financial behavior of firms in response to taxation.

AUSTEN-SMITH, David n.e.

AUSUBEL, Lawrence Marc

Born 1959, New York City, NY, USA.

Current Post Prof. Econ., Dept Econ., Univ. Maryland, MD, USA, 1992–.

Past Posts Asst Prof. Managerial Econ., Kellogg Grad. Sch. Mgmt, Northwestern

Univ., 1984–92; Vis. Asst Prof. Econ., NYU, 1990.

Degrees AB (Math, *mcl*) Princeton Univ., 1980; MS (Math), PhD Stanford Univ., 1982, 1984; MLS (Law) Stanford Law Sch., 1984.

Offices and Honours Phi Beta Kappa, 1980; Sigma Xi, 1980; Program Comm., North Amer. Summer Meeting, Em Soc, 1990, 2002; Program Chair, North Amer. Summer Meeting, Em Soc, 2001.

Principal Fields of Interest L0 Industrial Organization: General; D4 Market Structure and Pricing; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. ‘Reputation in bargaining and durable goods monopoly’ (with R. Deneckere), *Em*, 57, May 1989; 2. ‘A direct mechanism characterization of sequential bargaining with one-sided incomplete information’ (with R. Deneckere), *JET*, 48, June 1989; 3. ‘Partially-revealing rational expectations equilibrium in a competitive economy’, *JET*, 50, Feb. 1990; 4. ‘Insider trading in a rational expectations economy’ *AER*, 80, Dec. 1990; 5. ‘The failure of competition in the credit card market’, *AER*, 81, March 1991; 6. ‘Bargaining and the right to remain silent’ (with R. Deneckere), *Em*, 60, May 1992; 7. ‘Durable goods monopoly with incomplete information’ (with R. Deneckere), *REStud*, 59, Oct. 1992; 8. ‘A generalized theorem of the maximum’ (with R. Deneckere), *ET*, 3, Jan. 1993; 9. ‘Efficient sequential bargaining’ (with R. Deneckere), *REStud*, 60, April 1993; 10. ‘Demand reduction and inefficiency in multi-unit auctions’ (with P. Cramton), Univ. Maryland Working Paper, July 1996; 11. ‘Credit card defaults, credit card profits, and bankruptcy’, *Amer. Bankruptcy Law J.*, 71, Spring 1997; 12. ‘An efficient ascending-bid auction for multiple objects’, Univ. Maryland Working Paper, June 1997; 13. ‘Synergies in wireless telephony: evidence from the broadband

PCS auctions’ (with P. Cramton, P. McAfee, J. McMillan), *JEMS*, 6, Fall 1997; 14. ‘Computer implemented methods and apparatus for auctions’, *US Patent No. 5,905,975*, May 1999; 15. ‘Computer implemented methods and apparatus for auctions’, *US Patent No. 6,021,398*, Feb. 2000; 16. ‘System and method for an efficient dynamic auction for multiple objects’, *US Patent Number 6,026,383*, Feb. 2000; 17. ‘An efficient dynamic auction for heterogeneous commodities’, Univ. Maryland Working Paper, July 2000; 18. ‘Implications of auction theory for new issues markets’, *Brookings–Wharton Papers on Fin. Services*, 5, 2002; 19. ‘Bargaining with incomplete information’ (with P. Cramton, R. Deneckere), in R. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. III, chap. 50 (Elsevier, 2002); 20. ‘Ascending auctions with package bidding’ (with P. Milgrom), *Frontiers of Theoretical Econ.*, 1, 2002.

Principal Contributions Most of my work has related to industrial organization, game theory and microeconomic theory. My dissertation, *Partially-Revealing Equilibria*, and two of my early papers developed classes of economic models which exhibit partially-revealing rational expectations equilibria and applied the models in an analysis of insider trading. A second line of work, joint with R. Deneckere, studied the problem of sequential bargaining under incomplete information and the closely-related problem of durable goods monopoly. For the most interesting distributional assumptions, the ‘Coase Conjecture’ requires an assumption of stationary equilibrium. Without any stationarity assumption, we proved that a folk theorem holds, and there exist equilibria qualitatively close to that of classic monopoly. A third line of work has studied the theory of multi-unit auctions. My contributions include the development of an efficient ascending auction

for homogeneous goods – now often referred to in the literature as the ‘Ausubel auction’ – and an extension to heterogeneous commodities. Joint work with P. Cramton has shown that demand reduction is endemic to and causes inefficiencies in standard uniform-price auctions. Joint work with P. Milgrom has yielded a theory of ascending auctions with package bidding and the development of an ‘ascending proxy auction’, as well as parallels with matching theory. A fourth line of work has empirically examined the credit card market and, later, personal bankruptcies. Despite the presence of 4,000 firms issuing credit cards in the US, interest rates have been exceptionally sticky and profitability has been extraordinarily high. Anomalies continue in the credit card market to the present day.

AYRES, Ian

Born 1959, Kansas City, MI, USA.

Current Post William Townsend Prof. Law, Yale Law Sch., New Haven, CT, USA, 1994–.

Past Posts Olin Summer Res. Fell., Yale Law Sch. Program in Law, Econ., and Public Pol., 1986; Clerk to Hon. James K. Logan, Tenth Circuit Court of Appeals, 1986–87; Asst Prof., Assoc. Prof., Sch. Law, Northwestern Univ., 1987–91, 1990–91; Scholar in Residence, Sonnenschein Nath and Rosenthal, 1990; Guest Scholar, Brookings Inst., 1990, 1991; Vis. Prof., Sch. Law, Univ. Virginia, 1990, 1991, Yale Law Sch., 1991, Sch. Law, Univ. Illinois, 1997–98; Prof., Stanford Law Sch., 1992–94; Lect., Moscow State Inst. Intl Relations (MGIMO-Cardozo Law Inst.), 1992, Sch. Law, Univ. Iowa, 1993, Sch. Law, Univ. Illinois, 1994, 1995, Faculty Law, Univ. Toronto, 1995.

Degrees BA Yale Univ., 1981; JD Yale Law Sch., 1986; PhD MIT, 1998.

Honour Phi Beta Kappa, 1980.

Editorial Duties Articles Ed., *Yale Law J.*, 1986; Assoc. Ed., *Law and Social Inquiry*, 1990; Bd Eds, *Supreme Court Econ. Rev.*, 1993–; Ed., *JLEO*, 2001–.

Principal Fields of Interest D6 Welfare Economics; D4 Market Structure and Pricing; C4 Econometric and Statistical Methods: Special Topics.

Publications *Book*: 1. *Pervasive Prejudice? Non-Traditional Evidence of Race and Gender Discrimination* (UCP, 2002).

Articles: 1. ‘Filling gaps in incomplete contracts: an economic theory of default rules’ (with R. Gertner), *Yale Law J.*, 99, 1989; 2. ‘Fair driving: gender and race discrimination in retail car negotiations’, *Harvard Law Rev.*, 104, 1991; 3. ‘Strategic contractual inefficiency and the optimal choice of legal rules’ (with R. Gertner), *Yale Law J.*, 101, 1992; 4. ‘Mutual and unilateral mistake in contract law’ (with E. Rasmusen), *J. Legal Stud.*, 22, 1993; 5. ‘Relational investing and agency theory’ (with P. Cramton), *Cardozo Law Rev.*, 15, 1994; 6. ‘A market test for race discrimination in bail setting’ (with J. Waldfogel), *Stanford Law Rev.*, 46, 1994; 7. ‘Race and gender discrimination in negotiation for the purchase of a new car’ (with P. Siegelman), *AER*, 84, 1995; 8. ‘Solomonic bargaining: dividing a legal entitlement to facilitate Coasean trade’ (with E. Talley), *Yale Law J.*, 104, 1995; 9. ‘Pursuing deficit reduction through diversity: how affirmative action at the FCC increased auction competition’ (with P. Cramton), *Stanford Law Rev.*, 48, 1996; 10. ‘Common knowledge as a barrier to negotiation’ (with B. Nalebuff), *UCLA Law Rev.*, 44, 1997; 11. ‘Measuring the positive externalities from unobservable victim precaution: an empirical analysis of lojack’ (with S.D. Levitt), *QJE*, 113, 1998; 12. ‘The donation booth: mandating donor anonymity to disrupt the market for political influence’ (with J. Bulow),

Stanford Law Rev., 50, 1998; 13. 'Non-discretionary concealed weapons laws: a case study of statistics, standards of profit and public policy' (with J.J. Donohue, III), *Amer. Law and Econ. Rev.*, 436, 1999; 14. 'Majoritarian v. minoritarian defaults' (with R. Gertner), *Stanford Law Rev.*, 51, 1999; 15. 'Limiting patentees' market power without reducing innovation incentives: the perverse benefits of uncertainty and non-injunctive remedies' (with P. Klemperer), *Michigan Law Rev.*, 97, 1999.

Principal Contributions n.e.

AZARIADIS, Costas

Born 1943, Athens, Greece.

Current Post Prof. Econ., UCLA, Los Angeles, CA, USA, 1992–.

Past Posts Asst Prof., Brown Univ., 1973–77; Assoc. Prof., Prof., Univ. Pennsylvania, 1977–81, 1981–93; Vis. Fell., Hebrew Univ., 1977, 1995; Vis. Assoc. Prof., Princeton Univ., 1980; Vis. Prof., Univ. Montreal, 1981, 1982, 1983, École des Hautes Études Sc. Sociales, Paris, 1983, 1988, Inst. Matematica Pura e Aplicada, Rio de Janeiro, 1985, Univ. Nova Lisboa, 1989, UCLA, 1991, Univ. Autònoma Barcelona, 1994, LSE, 1997, 1998, Athens Univ. Bus. and Econ., 1998–99, Univ. Vienna, 2003.

Degrees Diploma (Eng.) Natl Tech.

Univ., Athens, 1969; MSIA, PhD Carnegie-Mellon Univ., 1971, 1975.

Editorial Duties Assoc. Ed., *QJE*, 1985–87, *JEG*, 1996–.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications *Book*: 1. *Intertemporal Macroeconomics* (Blackwell, 1993).

Articles: 1. 'Implicit contracts and underemployment equilibria', *JPE*, 83, Dec. 1975; 2. 'Self-fulfilling prophecies', *JET*, 25, Dec. 1981; 3. 'Employment with asymmetric information', *QJE*, 98, suppl. 1983; 4. 'Sunspots and cycles' (with R. Guesnerie), *REStud*, 53, Oct. 1986; 5. 'Threshold externalities in economic development' (with A. Drazen), *QJE*, 105, May 1990; 6. 'Financial intermediation and regime switching in business cycles' (with B. Smith), *AER*, 88, 1998; 7. 'Trend-reverting fluctuations in the life-cycle model' (with J. Bullard, L. Ohanian), *JET*, forthcoming; 8. 'Endogenous debt constraints in lifecycle economies (with L. Lambertini), *REStud*, forthcoming 2003.

Principal Contributions Implicit contracts; multiple equilibrium; poverty traps; dynamics of lifecycle models; general equilibrium implications of credit market frictions.

AZZAM, Azzeddine M. n.e.

B

BABCOCK, Bruce B. n.e.

BACKUS, David K. n.e.

BAGOZZI, Richard Paul

Born 1946, Detroit, MI, USA.

Current Post Prof. Mgmt, Jones Grad. Sch. Mgmt and Prof. Psychology, Rice Univ., Houston, TX, USA, 1999–.

Past Posts Asst Prof., Univ. California, Berkeley, 1976–79; Assoc. Prof., MIT, 1979–83; Assoc. Prof., Stanford Univ., 1983–86; Prof., Univ. Michigan, 1986–2001.

Degrees BEE (Electrical Eng.) Kettering Univ., 1970; MS (Electrical Eng.) Univ. Colorado, 1969; MBA Wayne State Univ., 1972; PhD Northwestern Univ., 1976.

Offices and Honours Campus-wide Teaching Award, Univ. California, Berkeley, 1978; Sr Fulbright Res., Univ. Saarlands, Germany, 1981–82; Converse Award, Amer. Marketing Assoc., 1992; Fell., Assoc. Consumer Res., 1993; Soc. Fells, Univ. Michigan, 1993–97; Marketing Educ. Award, Acad. Marketing Sc., 1994; Disting. Educ. Award, Amer. Marketing Assoc., 1995; Disting. Hon. Ufficiale, Republic of Italy, 1998; Hon. Dr (Econ.) Univ. Lausanne, 2001.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; I1 Health; M0 Business Administration and Business Economics; Marketing; Accounting: General.

Publications *Books*: 1. *Causal Models in Marketing* (Wiley, 1980); 2. *The Social Psychology of Consumer Behavior* (with J. Priester, Z. Canli-Gurhan), (Open Univ. Press, 2002).

Articles: 1. Attitudes, intentions, and behavior', *J. Personality Social Psychology*, 41, Oct. 1981; 2. 'Representing and testing organizational theories: a holistic construal', *Admin. Sc. Q.*, 27, Sept. 1982; 3. 'Trying to consume', *J. Consumer Res.*, 17, 1990; 4. 'Assessing construct validity in organizational research', *Admin. Sc. Q.*, 36, 1991; 5. 'The self-regulation of attitudes, intentions, and behavior', *Social Psychology Q.*, 55, 1992; 6. 'Assessing construct validity in personality research: applications to measures of self-esteem', *J. Res. Personality*, 27, 1993; 7. 'A general approach for representing multi-faceted personality constructs: application to state self-esteem', *Structural Equation Modelling*, 1, 1994; 8. 'Goal-directed emotions', *Cognition and Emotion*, 12, 1998; 9. 'A general approach to construct validation in organizational psychology: application to the measurement of work values', *Organizational Res. Methods*, 1, 1998; 10. 'Representation of measurement error in marketing variables: review of approaches and extension to three facet designs', *J. Econ.*, 89, 1999; 11. 'The role of culture and gender in the relationship between positive and negative affect', *Cognition and Emotion*, 13, 1999; 12. 'On the nature and direction of relationships between constructs and measures', *Psychological Measurement*, 5, 2000; 13. 'Self-categorization and commitment as distinct aspects of social identity in the organization: conceptualization, measurement, and relation to antecedents and consequences', *British J. Social Psychology*, 39, 2000; 14. 'On the concept of intentional social action in consumer behavior', *J. Consumer Res.*, 27, 2000; 15. 'The poverty of economic explanations of consumption and an action theory alternative', *Managerial and Decision Econ.*, 21, 2000; 16. 'The role of desires and anticipatory emotions in goal-directed behaviors: a model of goal-directed behavior', *Brit-*

ish *J. Social Psychology*, 40, 2001; 17. 'Multiple routes for social influence: the role of compliance, internalization, and social identity', *Social Psychology Q.*, 65, 2002; 18. 'Culture moderates the self-regulation of shame and its effects on performance: the case of salespersons in the Netherlands and the Philippines', *J. Apl. Psychology*, April 2003.

Principal Contributions My research crosses both methodological and substantive topics and is often multidisciplinary. Four distinct areas of emphasis are the following: (1) Structural equation modeling and its relationship to (a) the concept of construct validity, (b) the representation of unobservables and their relationship to observables, and (c) philosophy of science criteria. (2) The theory of mind and the theory of action in psychology and the social and management sciences. Here I have introduced or developed such ideas as 'we intentions', 'self-regulation', 'trying', 'desires', 'social identity', 'volition', 'goal setting', and 'goal striving' in decision making. 3. Emotions and their relationship to (a) cultural differences in decision making, (b) goal-directed behavior and 'prefactual' processes, and (c) self-conscious and social processes. (4) Applications of the above to marketing, organization behavior, pharmacy administration, health psychology, consumer behavior, salesforce behavior, communication, and ethnicity.

BAGWELL, Kyle W. n.e.

BAHMANI-OSKOOEE, Mohsen

Born 1951, Osku, Azarbaijan, Iran.

Current Posts Wilmeth Prof. Econ. and Dir., Center Res. Intl Econ., Univ. Wisconsin-Milwaukee, Milwaukee, WI, USA, 2001–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Univ. Wisconsin-Milwaukee, 1981–86, 1986–92, 1992–2001; Chair, Dept Econ., Univ. Wisconsin-Milwaukee, 1992–98.

Degrees BA Natl Univ. Iran, 1975; MA, PhD Michigan State Univ., 1979, 1981.

Honours AMOCO Foundation Teaching Excellence Award, 1985; UWM Foundation Res. Award, 1995.

Editorial Duties Ed. Bds, *Middle East Bus. and Econ. Rev.*, 1994–, *Rev. Intl Econ.*, 1995–, *J. Econ. Devlp.*, 1996–, *Global Bus. and Econ. Rev.*, 1999–, *J. Econ. and Fin.*, 2000–, *Intl Bus. and Econ. Rev.*, 2002–; Assoc. Ed., *Apl. Econ.*, 2002–, *Apl. Econ. Letters*, 2002–.

Principal Fields of Interest F3 International Finance; F1 Trade; E1 General Aggregative Models.

Publications *Articles*: 1. 'Demand for international reserves: survey of recent empirical studies', *Apl. Econ.*, 17, April 1985; 2. 'Transaction costs and interest parity theorem' (with S. Das), *JPE*, 93, Aug. 1985; 3. 'Devaluation and the J-curve: some evidence from LDCs', *REStat*, 67, Aug. 1985; 4. 'Determinants of international trade flows: case of developing countries', *JDE*, 20, Jan.–Feb. 1986; 5. 'On the exchange rate elasticity of the demand for international reserves: some evidence from industrial countries' (with F. Nirromand), *WA*, 124, 1988; 6. 'Exchange rate flexibility and the speed of adjustment', *Kyk*, 41, 1988; 7. 'Oil price shock and stability of the demand for international reserves', *J. Macroecon.*, 10, Fall 1988; 8. 'Effects of exchange rate variability on inflation variability', *WD*, 19, June 1991; 9. 'Is there a long-run relation between the trade balance and the real effective exchange rate of LDCs?', *Econ. Letters*, 36, Aug. 1991; 10. 'On the effects of US federal deficits on its trade flows', *J Post Keyn E*, 14, Fall 1991; 11. 'Exports, growth and causality in LDCs:

a re-examination' (with H. Mohtadi, G. Shabsigh), *JDE*, 36, Oct. 1991; 12. 'Time series approach to test the productivity bias hypothesis in purchasing power parity', *Kyk*, 45, 1992; 13. 'Macroeconomic determinants of Australia's current account, 1977–1986: a re-examination', *WA*, 129, 1993; 14. 'Budget deficits and the value of the dollar: an application of cointegration and error-correction modelling' (with S. Payesteh), *J. Macroecon.*, 15, Fall 1993; 15. 'A re-examination of the Balassa's productivity bias hypothesis' (with F. Niroomand), *EDCC*, 45, Oct. 1996; 16. 'The black market exchange rate and demand for money in Iran', *J. Macroecon.*, 18, Winter 1996; 17. 'The purchasing power parity and the Russian ruble' (with M. Barry), *Comparative Econ. Stud.*, 39, Spring 1997; 18. 'Bilateral J-curve between US and her trading partners' (with T.J. Brooks), *WA*, 135, 1999; 19. 'Panel data and productivity bias hypothesis' (with A. Nasir), *EDCC*, 49, Jan. 2001; 20. 'Corruption, law and order, bureaucracy and real exchange rate' (with A. Nasir), *EDCC*, 50, July 2002.

Principal Contributions I have contributed in five major areas. (1) Many studies have tried to identify factors that determine a country's desire to hold international reserves. After reviewing the literature twice (in 1985 and 2002), I have identified the price of gold, a measure of exchange rate flexibility and the exchange rate itself to be other factors. (2) I have estimated import and export demand elasticities for more than 40 countries using different estimation techniques. The literature argues that in the short run, the trade balance deteriorates after devaluation and improvements come after some time, i.e., the J-curve phenomenon. I have introduced a method of testing the J-curve phenomenon using different econometric techniques. (3) Studies that have tried to test the hypothesis that a more productive

country should experience a real appreciation in its currency, have used cross-sectional data and provided mixed results. I have expanded the literature in this area on two fronts. First, by using time-series data and modern econometric techniques, I have provided support for the hypothesis. Second, I have identified institutional factors such as law and order, corruption, etc. as other determinants of the real exchange rate. (4) In order to determine what happens to the international competitiveness of a country, we must construct a real effective exchange rate for each country. The IMF constructs such rates only for a sample of developed countries. I have constructed quarterly real and nominal effective exchange rates for more than 20 developing countries. (5) After analysing the developments of the black markets for foreign exchange, I have looked at the impact of black market rates on domestic inflation, domestic output, the demand for money, the trade balance income distribution, etc., using data from Iran.

BAILLIE, Richard T.

Born 1948, London, UK.

Current Post A.J. Pasant Prof. Econ. and Fin., Michigan State Univ., East Lansing, MI, USA, 1999–.

Past Posts Econ. Stat., Central Stats Office, London, UK, 1971–76; Lect., Univ. Aston, 1977–81; Lect., Univ. Birmingham, 1981–85; Vis. Res. Fell., ANU, 1981; Vis. Assoc. Prof., Univ. Toronto, 1985; Vis. Prof., Univ. California, San Diego, 1986, Center for Econ. Res., Tilburg Univ., The Netherlands, 1991, Univ. Southern California, 1994; Assoc. Prof., Prof., Michigan State Univ., 1986–88, 1988–99; Prof., Georgetown Univ., 1993.

Degrees BSc Middlesex Univ., 1970; MSc Univ. Kent, 1972; PhD LSE, 1978.

Offices and Honours Cons., FRB,

Cleveland, 1993–94, 1997–; Vis. Scholar, FRB, St. Louis, 1994; Program Chair, Bus. and Econ. Stats Section, ASA, 1994–96; Fell., *J Em*, 1997–, ASA, 2001–; Part-time Prof., Queen Mary Univ., London, 1999–.

Editorial Duties Assoc. Ed., *Intl J. Forecasting*, 1983–, *Em. Rev.*, 1992–95, *Rev. Quant. Fin. and Accounting*, 1992–; Co-Ed., *J. Empirical Fin.*, 1992–, Special issues, *J Em*, 1995, *JIMF*, 1996.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; F3 International Finance; G1 General Financial Markets.

Publications *Book*: 1. *The Foreign Exchange Market: Theory and Econometric Evidence* (with P.C. McMahon), (CUP, 1989).

Articles: 1. ‘The asymptotic mean squared error of multistep prediction from the regression model with autoregressive errors’, *JASA*, 79, March 1979; 2. ‘Predictions from ARMAX Models’, *J Em*, 12, 1980; 3. ‘Predictions from the dynamic simultaneous equation model with vector autoregressive errors’, *Em*, 49, Sept. 1981; 4. ‘Testing rational expectations and efficiency in the foreign exchange market’ (with R.E. Lippens, P.C. McMahon), *Em*, 51, May 1983; 5. ‘Inference in dynamic models containing “surprise” variables’, *J Em*, 35, May 1987; 6. ‘Econometric tests of rationality and market efficiency’, *Em. Rev.*, 8, 1989; 7. ‘Commodity prices and aggregate inflation: would a commodity price rule be worthwhile?’, *C-RPP*, 31, Autumn 1989; 8. ‘Common stochastic trends in a system of exchange rates’ (with T. Bollerslev), *J Fin*, 44, 1989; 9. ‘Stock returns and volatility’ (with R.P. DeGennaro), *JFQA*, 25, 1990; 10. ‘Intra day and inter market volatility in foreign exchange rates’ (with T. Bollerslev), *REStud*, 58, May 1991; 11. ‘Bivariate GARCH estimation of the optimal commodity futures hedge’ (with R.J. Myers), *JAE*, 6, 1991; 12. ‘The search

for equilibrium relationships in international finance: the case of the monetary model’ (with R.A. Pecchenino), *JIMF*, 10, 1991; 13. ‘Prediction in dynamic models with time dependent conditional variances’ (with T. Bollerslev), *J Em*, 52, April/May 1992; 14. ‘Analysing inflation by the fractionally integrated ARFIMA–GARCH model’ (with C.-F. Chung, M.A. Tieslau), *JAE*, 11, 1996; 15. ‘Long memory processes and fractional integration in econometrics’, *J Em*, 73, July 1996; 16. ‘Fractionally integrated generalized autoregressive conditional heteroskedasticity’ (with T. Bollerslev, H.-O. Mikkelsen), *J Em*, 74, Sept. 1996; 17. ‘Central Bank intervention and risk in the forward premium’ (with W.P. Osterberg), *J Int E*, 43, Nov. 1997; 18. ‘The forward premium anomaly is not as bad as you think’ (with T. Bollerslev), *JIMF*, 19, Sept. 2000; 19. ‘Estimation of GARCH models from the autocorrelations of the squares of a process’ (with H. Chung), *J. Time Series Analysis*, 22, Nov. 2001.

Principal Contributions Throughout my career I have had a continuing interest in theoretical and applied time-series econometrics. My research has been approximately equally divided between econometrics and financial markets; particularly international finance. My initial research publications were in the theory of prediction from dynamic econometric models, including post-sample stability testing, evaluation of forecast confidence intervals and the properties of estimated impulse response weights. I subsequently extended these results to situations with GARCH volatility processes. In my applied econometric work, I have been forcibly impressed by the incredible and subtle forms of non-linearity that are present in economic and financial time series. Hence I worked on ARCH volatility processes, and then on the development and application of long-memory processes and

fractional integration, which appears to be of great relevance to many asset-pricing situations. In particular I was involved in developing the long-memory ARCH volatility model, known as FIGARCH. In terms of work in international finance, I have worked extensively on aspects of the forward premium anomaly, and in the 1980s, used VAR analysis to show that the widely held assumptions of rational expectations and risk neutrality were inappropriate. Subsequently, I worked on modelling risk premiums and on various econometric explanations for the apparent excess returns over uncovered interest parity. I have estimated several models for time-dependent risk premiums and have concluded that this does not fully explain the anomaly. I have also written on the motivation and effects of central bank intervention in currency markets. My research has demonstrated how intervention can increase market volatility and lead to excess returns over uncovered interest rate parity. However, the research implies scepticism that intervention can effectively influence the levels of nominal exchange rates. I have also published work on models of exchange rate determination and on problems concerning commodity pricing.

BAKER, George Pierce

Born 1957, Boston, MA, USA.

Current Post Herman C. Krannert Prof. Bus. Admin., Harvard Univ., Cambridge, MA, USA, 2002–.

Past Posts Prof. Bus. Admin., Harvard Univ., 1986–2002; Vis. Assoc. Prof., Univ. Chicago, 1994.

Degrees AB, MBA, PhD (Bus. Econ.), Harvard Univ., 1979, 1984, 1986.

Offices and Honours Apgar Award for Innovation in Teaching, 1998; Unit Head, Negotiations, Orgs and Markets Unit,

Harvard Bus. Sch., 1998–; Co-Chair, Harvard Bus. Sch. Doctoral Programs, 1999–.

Editorial Duties Assoc. Ed., *J Fin E*, 1990–99.

Principal Fields of Interest M5 Personnel Economics; D2 Production and Organizations; J3 Wages, Compensation, and Labor Costs.

Publications Book: 1. *The New Financial Capitalists: Kohlberg, Kravis, Roberts and the Creation of Corporate Value* (with G.D. Smith), (CUP, 1998).

Articles: 1. 'Compensation and incentives: practice vs. theory' (with M. Jensen, K. Murphy), *J Fin*, 43, July 1988; 2. 'Organizational changes and value creation in leveraged buyouts: the case of O.M. Scott and Sons Company' (with K.H. Wruck), *J Fin E*, 25, 1989; 3. 'Pay for performance: causes and consequences', *J. Apl. Corp. Fin.*, 3, Fall 1990; 4. 'Incentive contracts and performance measurement', *JPE*, 100, 1992; 5. 'Beatrice: a study in the creation and destruction of value', *J Fin*, 47, July 1992; 6. 'Hierarchies and compensation: a case study' (with M. Gibbs, B. Holmström), *Europ ER*, 37, 1993; 7. 'Subjective performance measures in optimal incentive contracts' (with R. Gibbons, K. Murphy), *QJE*, 109, Nov. 1994; 8. 'The internal economics of the firm: evidence from personnel data' (with M. Gibbs, B. Holmström), *QJE*, 109, Nov. 1994; 9. 'The wage policy of a firm' (with M. Gibbs, B. Holmström), *QJE*, 109, Nov. 1994; 10. 'Internal labor markets: too many theories, too few facts' (with B. Holmström), *AER*, 85, May 1995; 11. 'Incentives and cooperation: the joint effects of task and reward interdependence on group performance' (with R. Wageman), *J. Org. Behav.*, 18, March 1997; 12. 'Informal authority in organizations' (with R. Gibbons, K.J. Murphy), *JLEO*, 15, 1999; 13. 'Bringing the market inside the firm?' (with R. Gibbons, K.J. Murphy),

AER, 91, May 2001; 14. 'Empirical strategies in contract economics: information and the boundary of the firm' (with T. Hubbard), *AER*, 91, May 2001; 15. 'Relational contracts and the theory of the firm' (with R. Gibbons, K.J. Murphy), *QJE*, 117, Feb. 2002; 16. 'Distortion and risk in optimal incentive contracts', *JHR*, 37, Fall 2002; 17. 'Survivorship and the economic grim reaper' (with R. Kennedy), *JLEO*, 18, 2002; 18. 'CEO incentives and firm size' (with B. Hall), *J Lab E*, forthcoming; 19. 'Make versus buy in trucking: asset ownership, job design and information' (with T. Hubbard), *AER*, forthcoming.

Principal Contributions My work has examined organizational economics and incentives. My early work, on leveraged buyouts, focussed on how the dramatic organizational changes (in governance and incentives) brought about by these financial transactions changed the performance and conduct of the target firms. Subsequently, I collected and analyzed (with Michael Gibbs and Bengt Holmström) an extensive dataset detailing the internal labor market of a single large firm. I have also worked on the problem of performance measurement in incentive contracting: how organizations design contracts to minimize inefficient distortion and risk bearing. My more recent work has been concerned with the theory of the firm. In work with Robert Gibbons and Kevin Murphy, we have emphasized the role of relational contracting, and explored its role in determining the boundaries of firms. I have also conducted an empirical examination of the boundaries of the firm, in a series of papers with Thomas Hubbard on the US trucking industry.

BAKER, Regina M. n.e.

BAKER, William Michael Douglas

Born 1959, Toronto, Canada.

Current Post Assoc. Prof. Econ., Univ. Toronto, Toronto, Canada, 1990–.

Past Post Assoc. Prof. Econ., Univ. California, Davis, 1998–99.

Degrees BComm Univ. Toronto, 1982; MA York Univ., 1984; PhD Univ. Michigan, 1990.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0 Health, Education, and Welfare: General; H3 Fiscal Policies and Behavior of Economic Agents.

Publications Articles: 1. 'Unemployment duration: compositional effects and cyclical variability', *AER*, 82, March 1992; 2. 'The performance of immigrants in the Canadian labor market' (with D. Benjamin), *J Lab E*, 12, July 1994; 3. 'The receipt of transfer payments by immigrants to Canada' (with D. Benjamin), *JHR*, 30, Fall 1995; 4. 'Growth rate heterogeneity and the covariance structure of life cycle earnings', *J Lab E*, 15, April 1997; 5. 'The role of the family in immigrants' labor market activity: an evaluation of alternative explanations' (with D. Benjamin), *AER*, 87, Sept. 1997; 6. 'Employment spells and unemployment insurance eligibility requirements' (with S.A. Rea), *REStat*, 80, Feb. 1998; 7. 'How do retirement tests affect the labor supply of older men?' (with D. Benjamin), *J Pub E*, 71, Jan. 1999; 8. 'The highs and lows of the minimum wage effect: a time series–cross section study of the Canadian law' (with D. Benjamin, S. Stanger), *J Lab E*, 17, April 1999; 9. 'Duration dependence and non-parametric heterogeneity: a Monte Carlo study' (with A. Melino), *J Em*, 96, June 2000; 10. 'Earnings dynamics and inequality among Canadian men, 1976–1992: evidence from longitudinal income tax records' (with G. Solon), *J Lab E*, 21, April 2003.

Principal Contributions Empirical analysis of the labour market outcomes of immigrants and of earnings dynamics, the impacts of labour market interventions; the economics of aging.

BALKE, Nathan S. n.e.

BALL, Laurence M. n.e.

BANERJEE, Abhijit Vinayak

Born 1961, Bombay, India.

Current Post Prof. Econ., Dept Econ., MIT, Cambridge, MA, USA, 1996–.

Past Posts Asst Prof. Econ., Princeton Univ., 1988–92; Vis. Asst Prof. Econ., Harvard Univ., 1991; Asst Prof. Econ., Harvard Univ., 1992–93; Pentti J.K. Kouri Career Devlp. Assoc. Prof. Econ., Assoc. Prof. Econ., MIT, 1993–94, 1994–96.

Degrees BSc Univ. Calcutta, 1981; MA Jawaharlal Univ., 1983; PhD Harvard Univ., 1988.

Offices and Honours Jr Fell., Inst. Pol. Reform, 1993; IRIS (Inst. Reform and the Informal Sector) Scholar, 1993; Alfred P. Sloan Res. Fell., 1994–96; NSF Fellowship, 1995–98, 1998–2000; Fell., Em Soc, 1996–; Mahalanobis Memorial Medal, 2000; Guggenheim Fell., 2000; Malcolm Adeshesiah Award, 2001.

Editorial Duties Assoc. Ed., *QJE*, 1993–95; Ed. Bd, *Rev. Devlp. Stud.*, 1996–; Foreign Ed., *REStud*, 1998–.

Principal Fields of Interest O1 Economic Development; D8 Information and Uncertainty; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. ‘Envy’, in D. Banerjee, B. Dutta (eds), *Economic Theory and Policy: Essays in Honour of Dipak Banerjee* (OUP, 1990); 2. ‘Risk-bearing and the theory of income distri-

bution’ (with A. Newman), *REStud*, 58, March 1991; 3. ‘A simple model of herd behavior’, *QJE*, 107, 1992; 4. ‘The economics of rumours’, *REStud*, 60, 1993; 5. ‘Occupational choice and the process of development’ (with A. Newman), *JPE*, 101, April 1993, repr. in D. Mookherjee, D. Ray (eds), *Readings in the Theory of Economic Development* (OUP, 2001); 6. ‘Poverty, incentives, and development’ (with A. Newman), *AER Papers and Proceedings*, 84, 1994; 7. ‘Thy neighbor’s keeper: the design of a credit cooperative with theory and a test’ (with T. Besley, T. Guinnane), *QJE*, 109, 1994; 8. ‘Evolutionary selection and rational behavior’, in A. Kirman, M. Salmon (eds), *Learning and Rationality in Economics* (Blackwell, 1995); 9. ‘A Walrasian theory of money and barter’ (with E. Maskin), *QJE*, 111, 1996; 10. ‘Can anything be done about corruption?’, in M. Quibria, J.-M. Dowling (eds), *Current Issues in Economic Development: An Asian Perspective (1996); Proceedings of the Third Asian Development Bank Annual Conference* (OUP for Asian Devlp. Bank, 1996); 11. ‘A theory of misgovernance’, *QJE*, 112, 1997; 12. ‘Information, the dual economy and development’ (with A. Newman), *REStud*, 65, 1998; 13. ‘Dualism and macro-economic stability’ (with P. Aghion, T. Piketty), *QJE*, 114, 1999; 14. ‘Reputation effects and the limits of contracting: a study of the Indian software industry’ (with E. Duflo), *QJE*, 115, 2000; 15. ‘The two poverties’, *Nordic JPE*, 26, 2000; 16. ‘Prospects and strategies for land reforms’, in B. Pleskovic, J. Stiglitz (eds), *Annual World Bank Conference on Development Economics 1999* (World Bank, 2000); 17. ‘Inequality, control rights and rent-seeking: sugar cooperatives in Maharashtra’ (with D. Mookherjee, K. Munshi, D. Ray), *JPE*, 109, Feb. 2001; 18. ‘A simple model of voice’ (with R. Somanathan), *QJE*, 116,

2001; 19. 'Empowerment and efficiency: the economics of a tenancy reform' (with P. Gertler, M. Ghatak), *JPE*, 110, 2002.

Principal Contributions While I have written papers in many areas of economics, there are four main areas where I believe my work has had a significant impact. The first is the study of imperfect credit markets: my early theoretical work with Newman on the relation between imperfect credit markets, income distribution and growth were among the very first papers that emphasized the profound implications of capital market imperfections for the theory of income distribution of growth. My later work with Aghion and Piketty and with Aghion and Philippe Bacchetta, provided a simple and accessible framework for studying the implications of imperfect capital markets for short-run macro policy. In recent work (including joint work with Duflo and Munshi), I have attempted to document that the credit market imperfections are in fact empirically important enough to be taken seriously. The second area is the study of the processes by which people influence each other's choices. My papers on 'Rumours' and 'Herd behavior' were among the first papers of what has now become a very large literature. A third area where my work has been influential is in thinking about corruption. My paper on 'Misgovernance' was an attempt to argue that a significant part of corruption is a result of rules that we have set up for good reasons. My chapter, 'Can anything be done about corruption?', traces some of the practical implications of this point of view. Finally, my recent work on the relationship between historical inequities (particularly in the ownership of land) and current economic performance has attracted attention. In particular, my work with Gertler and Ghatak, on the productivity benefits from the redistribution of

ownership rights in land, is perhaps the only relatively clear-cut evidence we have on this subject.

BANERJEE, Anindya

Born 1961, Calcutta, India.

Current Posts Prof. Econ., Dept Econ., Europ. Univ. Inst., San Domenico di Fiesole, Italy, 2000–; Barnett Fell. and Tutor Econ., Wadham Coll., and Univ. Lect. Econ. Stats and Em., Oxford Univ., UK, 1990–.

Past Posts Jr Res. Fell., Jesus Coll., Oxford Univ., 1986–88; Asst Prof., Dept Econ., Univ. Florida, 1988–90; Vis. Scholar, John F. Kennedy Sch. Govt, Harvard Univ., 1989; Vis. Assoc. Prof., Queen's Univ., Canada, 1994; Jean Monnet Fell., Europ. Univ. Inst., Fiesole, 1998; Erskine Fell., Univ. Canterbury, New Zealand, 1999.

Degrees BSc (1st Class Hons) LSE, 1983; MPhil, DPhil Nuffield Coll., Oxford Univ., 1985, 1987.

Honour Gonner, Ponsonby and Stern Prize, 1983.

Editorial Duties Assoc. Ed., *OBES*, 1990–; Ed. Bd, *OEP*, 1995–98; Managing Ed., *OEP*, 1998–.

Principal Fields of Interest C3 Econometric Methods: Multiple/Simultaneous Equation Models; C5 Econometric Modeling.

Publications *Books*: 1. *Co-Integration, Error-Correction and the Econometric Analysis of Non-Stationary Data* (with J. Dolado, J.W. Galbraith, D.F. Hendry), (OUP, 1993); 2. *The Econometrics of Economic Policy* (ed. with D.F. Hendry), (Blackwell, 1997).

Articles: 1. 'Exploring equilibrium relationships in econometrics through static models: some Monte Carlo evidence' (with D. Hendry, J. Dolado, G. Smith), *OBES*, 48, 1986; 2. 'Tests of the life cy-

cle-permanent income hypothesis in the presence of random walks' (with J. Dolado), *OEP*, 40, 1987; 3. 'Efficiency in hierarchies: implementing first-best solution by sequential actions' (with A.W. Beggs), *RandJE*, 20, 1989; 4. 'Recursive and sequential tests of the unit root and trend break hypothesis: theory and international evidence' (with R.L. Lumsdaine, J.H. Stock), *JBES*, 10, 1992; 5. 'Dynamic specification and testing for unit roots and co-integration', in K.D. Hoover (ed.), *Macroeconometrics: Developments, Tensions and Prospects* (Kluwer, 1992); 6. 'Error-correction mechanism tests for cointegration in a single-equation framework' (with J. Dolado, R. Mestre), *J. Time Series Analysis*, 19, 1998; 7. 'Panel data unit roots and cointegration: an overview', *OBES*, 61, 1999; 8. 'An I(2) analysis of inflation and the markup' (with L. Cockerell, B. Russell), *JAЕ*, 16, 2001; 9. 'The relationship between the markup and inflation in the G7 economies and Australia' (with B. Russell), *REStat*, 83, 2001.

Principal Contributions I have worked on the theory and practice of integrated time series with particular reference to their implications for estimation, inference and forecasting. In my papers I have dealt with the issue of biases in the estimates of the cointegrating parameter, and worked on tests for cointegration in time series and panels, on structural breaks and forecasting with integrated series. More recently, in several papers, I have looked at the implications for economic modelling of series, such as inflation, being integrated of order one, and the estimation of polynomially cointegrated relationships.

BARBER, Brad M. n.e.

BARBERA, Salvador n.e.

BARBIER, Edward Burr

Born 1957, Washington, DC, USA.

Current Post John S. Bugas Prof. Econ., Dept Econ. and Fin., Univ. Wyoming, Laramie, WY, USA, 2000–.

Past Posts Econ., Intl Inst for Environment and Devlp. (IIED), London, 1986–88; Assoc. Dir., London Environmental Econ. Centre, London, 1988–90; Dir., London Environmental Econ. Centre, IIED, and Univ. Coll. London, 1990–93; Sr Lect., Dept Environmental Econ. and Environmental Mgmt, Univ. York, UK, 1992–95; Reader, Environment Dept, Univ. York, UK, 1995–2000.

Degrees BA (Econ. and Polit. Sc., *cl*) Yale Coll., Yale Univ., 1979; MSc LSE, 1980; PhD Birkbeck Coll., Univ. London, 1986.

Offices and Honours Hon. Res. Fell., Econ. Dept, Univ. Coll. London, 1991–94; Invited Lect., Annual Lecture on Natural Resource Conservation and Mgmt in Africa, UN Univ. and Inst. Natural Resources in Africa, Accra, Ghana, 1998; Keynote Speaker, Conf. Australian Econs, 2002; Joseph Fischer Lecture in Econ., Adelaide Univ., 2002.

Editorial Duties Ed. Bds, *Biodiversity Letters* (Blackwell), 1993–96, *Conservation Ecology* (Ecological Soc. Amer.), 1996–, *Contemporary Econ. Pol.*, 2001–; Ed. Bd, Assoc. Ed., *Environment and Development Economics* (CUP), 1995–; Ed. Council, *JEEM*, 2001–.

Principal Fields of Interest O1 Economic Development; Q0 Agricultural and Natural Resource Economics: General; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Economics, Natural Resource Scarcity and Development: Conventional and Alternative Views* (Earthscan Publ., 1989); 2. *Blueprint for a Green Economy* (with D.W. Pearce, A. Markandya), (Earthscan Publ., 1989); 3.

Sustainable Development: Environmental Economics in the Third World (with D.W. Pearce, A. Markandya), (Edward Elgar, 1990); 4. *Paradise Lost? The Ecological Economics of Biodiversity* (with J.C. Burgess, C. Folke), (Earthscan Publ., 1994); 5. *Economic Valuation of Wetlands: A Guide for Policymakers* (with M. Acreman, D. Knowler), (Ramsar Convention Bureau, 1997); 6. *The Economics of Environment and Development: Selected Essays* (Edward Elgar, 1998); 7. *The Economics of Land Degradation and Rural Poverty Linkages in Africa*, UN Univ./Inst. Natural Resources in Africa Annual Lectures on Natural Resource Conservation and Mgmt in Africa, 1998 (UN Univ. Press, 1999); 8. *Blueprint for a Sustainable Economy* (with D.W. Pearce), (Earthscan, 2000).

Articles: 1. 'The farm-level economics of soil conservation: the uplands of Java', *Land Econ.*, 66, 1990; 2. 'The conditions for achieving environmentally sustainable development' (with A. Markandya), *Europ ER*, 34, 1990; 3. 'Trade, tropical deforestation and policy interventions' (with M. Rauscher), *Environmental and Resource Econ.*, 4, 1994; 4. 'The economic determinants of land degradation in developing countries', *Philo. Transactions Royal Soc.*, Series B 352, 1997; 5. 'Economic analysis of tropical forest land use options' (with J.C. Burgess), *Land Econ.*, 73, 1997; 6. 'Endogenous growth and natural resource scarcity', *Environmental and Resource Econ.*, 14, 1999; 7. 'Biodiversity, trade and international agreements', *J. Econ. Stud.*, 27, 2000; 8. 'Special issue on the economics of tropical deforestation and land use' (with J.C. Burgess), *Land Econ.*, 77, May 2001; 9. 'Valuing mangrove conservation in southern Thailand' (with S. Sathirathai), *Contemporary Econ. Pol.*, 19, 2001; 10. 'The economics of tropical deforestation' (with J.C. Burgess), *J. Econ. Surveys*, 15, 2001; 11. 'Institutional constraints and de-

forestation: an application to Mexico', *EI*, 40, 2001; 12. 'Using domestic water analysis to value groundwater recharge in the Hadejia-Jama'are floodplain, northern Nigeria' (with G. Acharya), *AJAE*, 84, 2002.

Principal Contributions Most of my research has focussed on the interface between environmental and resource economics and economic development. My initial work for my PhD thesis, published as *Economics, Natural Resource Scarcity and Development: Conventional and Alternative Views*, expressed the need for economists to collaborate with scientists from other fields, notably ecology, to analyze complex environment and development problems. Since then, my applied work in this area has focussed on land degradation, wildlife management, trade and the environment, watershed management and water allocation, biological invasions, coastal and wetland use, tropical deforestation, and biodiversity loss. I am also known for my work in developing methods for valuing ecosystem functions and services, such as the role of coastal wetlands in supporting offshore fisheries, watershed protection and groundwater recharge. Early in my career, with David Pearce and Anil Markandya, I made several contributions to the economics of sustainable development, long before this field became popular with economists. My current interests focus more generally on understanding the role of natural resources in economic growth and development, particularly in resource-dependent low- and middle-income countries.

BARCLAY, Michael J. n.e.

BARDHAN, Pranab Kumar

Born 1939, Calcutta, India.

Current Post Prof. Econ., Univ. California, Berkeley, CA, USA, 1977–.

Past Posts Lect. Econ., Asst Prof., Calcutta Univ., 1961–62, 1962–66; Asst Prof. Econ., Assoc. Prof. Econ., MIT, 1966–69; Prof., Indian Stat. Inst., New Delhi, 1969–73; Prof., Delhi Sch. Econ., 1973–76.

Degrees BA Presidency Coll., Calcutta 1958; MA Calcutta Univ., 1960; PhD Univ. Cambridge, 1966.

Offices and Honours Stevenson Prize, Univ. Cambridge, 1964; Indian Univ Grants Commission Natl Lect., 1975; Guggenheim Foundation Fell., 1981–82; US SSRC Fell., 1982–83; Co-Dir., MacArthur Foundation Network on Inequality and Econ. Performance.

Editorial Duties Ed., *JDE*; Ed. Bds, *Indian Econ. Rev.*, 1973–78, *AER*, 1978–81; Co-Ed., *Sankhya*; Assoc. Ed., *IER*, 1971–85, *JEP*, 1989–94.

Principal Fields of Interest F1 Trade; O4 Economic Growth and Aggregate Productivity; Q1 Agriculture.

Publications *Books*: 1. *Economic Growth, Development and Foreign Trade: A Study in Pure Theory* (Wiley, 1970); 2. *Poverty and Income Distribution in India* (ed. with T.N. Srinivasan), (Stat. Publ. Soc., 1974); 3. *Agrarian Relations in West Bengal* (with A. Rudra), (Somaiya, 1983); 4. *Land, Labour and Rural Poverty Essays in Development Economics* (Columbia Univ. Press, 1984); 5. *The Political Economy of Development in India* (Blackwell, 1984); 6. *The Economic Theory of Agrarian Institutions* (ed.), (Clarendon Press, 1989); 7. *Conversations Between Economists and Anthropologists* (ed.), (OUP, 1989); 8. *Market Socialism: The Current Debate* (co-ed.), (OUP, 1993); 9. *The Role of Governance in Economic Development* (OECD Devlp. Center, 1997); 10. *Development Microeconomics* (with C. Udry), (OUP, 1999).

Articles: 1. 'Equilibrium growth in the international economy', *QJE*, 79, Aug. 1965; 2. 'International trade theory in a

vintage capital model', *Em*, 34, Oct. 1966; 3. 'Equilibrium growth with economic obsolescence of machines', *QJE*, 83, May 1969; 4. 'On optimum subsidy to a learning industry: an aspect of the theory of infant industry protection', *Int ER*, 12, Feb. 1971; 5. 'Wages and unemployment in a poor agrarian economy', *JPE*, 87, June 1979; 6. 'Interlocking factor markets and agrarian development', *OEP*, 32, March 1980; 7. Corruption and development, *JEL*, 35, Sept. 1997; 8. 'Relative capture of national and local governments' (with D. Mookherjee), *AER*, 90, May 2000; 9. 'Inequality and conservation on the local commons', *EJ*, 112, July 2000; 10. 'Decentralization and governance in development', *JEP*, 16, 2003.

Principal Contributions My early work mostly involved formal models of economic growth and international trade. Since then my interests have branched out into the area of economic development, particularly agrarian institutions, implicit contracts in land, labour and credit transactions, and the interrelationship between the state and social and economic structures, and in general governance and political economy issues in development.

BARRETT, Scott Alexander

Born 1957, Boston, MA, USA.

Current Posts Prof. Environmental Econ. and Intl Polit. Econ. and Dir. Energy, Environment, Sc. and Tech. Program, Paul H. Nitze Sch. Adv. Intl Stud., Johns Hopkins Univ., Washington, DC, USA, 1999–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., London Bus. Sch., 1988–93, 1993–99.

Degrees BS (*scl*) Univ. Massachusetts, 1979; MA UBC, 1983; PhD LSE, 1989.

Honours Resources for Future Dissertations

tation Prize, 1990; Erik Kempe Prize, 1996.

Editorial Duties Assoc. Ed., *Environment and Devlp. Econ.*, 1995–2001.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; H4 Publicly Provided Goods.

Publications *Book*: 1. *Environment and Statecraft* (OUP, 2003).

Articles: 1. ‘The problem of global environmental protection’, *OREP*, 6, 1990; 2. ‘Optimal soil conservation and the reform of agricultural pricing policies’, *JDE*, 36, 1991; 3. ‘Economic growth and environmental preservation’, *JEEM*, 23, 1992; 4. ‘The biodiversity supergame’, *Environmental and Resource Econ.*, 4, 1994; 5. ‘Strategic environmental policy and international trade’, *J Pub E*, 54, 1994; 6. ‘Self-enforcing international environmental agreements’, *OEP*, 46, 1994; 7. ‘The strategy of trade sanctions in international environmental agreements’, *Resource and Energy Econ.*, 19, 1997; 8. ‘On the theory and diplomacy of environmental treaty-making’, *Environmental and Resource Econ.*, 11, 1998; 9. ‘Political economy of the Kyoto Protocol’, *OREP*, 14, 1998; 10. ‘A theory of full international cooperation’, *J. Theoretical Polit.*, 11, 1999; 11. ‘Freedom, growth, and the environment’ (with K. Graddy), *Environment and Devlp. Econ.*, 5, 2000; 12. ‘International cooperation for sale’, *Europ ER*, 45, 2001; 13. ‘Consensus treaties’, *J. Inst. and Theoretical Econ.*, 158, 2002.

Principal Contributions Much of my research has been on the supply of international public goods and on international cooperation more generally. My first book develops a theory of treaty design, applied to environmental problems. The emphasis of the book is on how a treaty can strategically manipulate the incentives states have to participate in the treaty and to comply with it. I have also written on

trade and environment, growth and environment, and on environmental policy in developing countries. A central concern of all this work has been with institutional failures – on the reasons why institutions fail, and on how they can be improved to help the environment and human well-being. My new research is on international cooperation in the control of infectious diseases.

BARRO, Robert J.

Born 1944, New York City, NY, USA.

Current Post Robert C. Waggoner Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1987–.

Past Posts Asst Prof. Econ., Brown Univ., 1968–72; Assoc. Prof., Prof. Econ., Univ. Chicago, 1973–75, 1982–84; Prof. Econ., Univ. Rochester, 1975–82, 1984–87; Res. Assoc., NBER, 1978–.

Degrees BS (Physics) California Inst. Tech., 1965; PhD Harvard Univ., 1970.

Offices and Honours Fell., Hoover Inst., Stanford Univ., 1977–78, 1990–, Em Soc, 1980–; Guggenheim Fellowship, 1982–83; Frank Paish Lect., RES, 1985; Horowitz Lect., Israel, 1988; Exec. Comm., AEA, 1987–89; Fell., AAAS, 1988–; Houblon–Norman Fell., Bank of England, 1994–95; Lionel Robbins Lect., LSE, 1995.

Editorial Duties Ed., *JPE*, 1973–75; Ed. Bd, *AER*, 1976–79; NSF Rev. Panel, 1976–78; Assoc. Ed., *JME*, 1976–80, 1984–, *JEG*, 1994–; Contrib. Ed., *Wall Street J.*, 1991–.

Principal Fields of Interest O4 Economic Growth and Aggregate Productivity; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Money, Employment and Inflation* (with H. Grossman), (CUP, 1976); 2. *The Impact of Social Security on Private Savings* (AEI, 1978); 3.

Money, Expectations, and Business Cycles (Acad. Press, 1981); 4. *Macroeconomics* (Wiley, 1984, 1987, 1990, 1993; trans., German, Spanish, Japanese, French, Italian); 5. *Modern Business Cycle Theory* (ed.), (HUP, Blackwell, 1989); 6. *Macroeconomic Policy* (HUP, 1990); 7. *European Macroeconomics* (with V. Grilli), (Macmillan, 1994); 8. *Canadian Macroeconomics* (with R.F. Lucas), (Irwin, 1994); 9. *Economic Growth* (with X. Sala-i-Martin), (McGraw-Hill, 1995).

Articles: 1. 'A general disequilibrium model of income and employment' (with H. Grossman), *AER*, 61, March 1971; 2. 'Are government bonds net wealth?', *JPE*, 82, Nov.–Dec. 1974; 3. 'Rational expectations and the role of monetary policy', *JME*, 2, Jan. 1976; 4. 'Unanticipated money growth and unemployment in the United States', *AER*, 67, March 1977; 5. 'Unanticipated money, output, and the price level in the United States', *JPE*, Aug. 1978; 6. 'On the determination of the public debt', *JPE*, 87, pt 1, Oct. 1979; 7. 'Rules, discretion, and reputation in a model of monetary policy' (with D. Gordon), *JME*, July 1983; 8. 'A positive theory of monetary policy in a natural rate model' (with D. Gordon), *JPE*, 91, Aug. 1983; 9. 'Economic growth in a cross section of countries', *QJE*, May 1991; 10. 'Convergence' (with X. Sala-i-Martin), *JPE*, April 1992.

Principal Contributions Ricardian-equivalence and tax-smoothing results on public debt; monetary theories with incomplete information and rational expectations; unanticipated money as an empirical determinant of business fluctuations; the Keynesian model as a general disequilibrium system; application of rules, discretion, and reputation to monetary policy; theories of economic growth, convergence, and fertility choice; empirical determinants of growth and convergence across countries and regions.

BASU, Kaushik

Born 1952, Calcutta, India.

Current Posts Carl Marks Prof., Dept Econ., and Dir., Program on Comparative Econ. Devlp., Cornell Univ., Ithaca, NY, USA, 1996–, 2000–.

Past Posts Reader Econ., Prof. Econ., Delhi Sch. Econ., 1978–85, 1985–94; Vis. Assoc. Prof., CORE, Louvain-la-Neuve, Belgium, 1981–82; Vis. Prof., Centre d'Écon. Mathématique et d'Économetrie, Brussels, 1981–82, Dept Econ., Princeton Univ., 1989–91, Kennedy Sch., Harvard Univ., 2000, Dept Econ., MIT, 2001–02; Mem., Inst. Adv. Study, Princeton, 1985–86; Disting. Visitor, LSE, 1993.

Degrees BA (Hons) St. Stephen's Coll., Delhi Univ., 1972; MSc, PhD LSE, 1974, 1976.

Offices and Honours Mahalanobis Memorial Medal for contribs to econ., 1989; Fell., Em Soc, 1991–; CORE Fell., 1981–82; Founder (1992), First Exec. Dir. (1992–96), Centre Devlp. Econ., Delhi Sch. Econ., Delhi; Council Mem., Em Soc, 1991–96; Council Mem., Soc. Social Choice and Welfare.

Editorial Duties Ed., *Social Choice and Welfare*; Assoc. Ed., *BER*, *JEP*, *JDE*, *WBER*, *Japanese Econ. Rev.*; Advisor, *J Pub E*, to 1997; Series Ed., *Themes in Economics* series, OUP, *Fundamentals of Pure and Apl. Econ.*, Routledge.

Principal Fields of Interest D0 Microeconomics: General; O1 Economic Development; C7 Game Theory and Bargaining Theory.

Publications Books: 1. *Revealed Preference of Government* (CUP, 1980); 2. *The Less Developed Economy: A Critique of Contemporary Theory* (Blackwell, 1984, Indian edn, OUP, 1985; trans., Japanese, Seibundo Press, 1987); 3. *Lectures in Industrial Organization Theory* (Blackwell, 1993); 4. *Of People, of Places: Sketches from an Economist's Notebook* (OUP,

1994); 5. *Analytical Development Economics: The Less Developed Economy Revisited* (MIT Press, 1997); 6. *Prelude to Political Economy: A Study of the Social and Political Foundations of Economics* (OUP, 2000).

Articles: 1. 'Cardinal utility, utilitarianism and a class of invariance axioms in welfare analysis', *J Math E*, 12, 1983; 2. 'The right to give up rights', *Ec*, 51, 1984; 3. 'Poverty measurement: a decomposition of the normalization axiom', *Em*, 53, 1985; 4. 'One kind of power', *OEP*, 38, 1986; 5. 'The growth and decay of custom: the role of the new institutional economics in economic history' (with E. Jones, E. Schlicht), *Explor. in Econ. Hist.*, 24, 1987; 6. 'Monopoly, quality uncertainty and "status goods"', *IJIO*, 7, 1987; 7. 'Technological stagnation, tenurial laws and adverse selection', *AER*, 79, March 1989; 8. 'On the existence of a rationality definition for extensive games', *Intl J. Game Theory*, 19, 1990; 9. 'Group rationality, utilitarianism and Escher's Waterfall', *Games and Econ. Behav.*, 7, 1994; 10. 'On measuring literacy' (with J. Foster), *EJ*, 108, 1998; 11. 'The economics of child labor' (with P.H. Van), *AER*, 88, June 1998; 12. 'Child labor: cause, consequence, and cure, with remarks on international labor standards', *JEL*, 37, Sept. 1999; 13. 'Compacts, conventions and codes: initiatives for higher international labor standards', *Cornell Intl Law J.*, 34, 2001; 14. 'Agregating infinite utility streams with inter-generational equity' (with T. Mitra), *Em*, forthcoming.

Principal Contributions My doctoral work was on social choice theory and welfare economics; I was also interested in moral philosophy, and have on occasions tried to contribute to the field. Having returned to India in the late 1970s, I became interested in the economics of development by a somewhat unusual route. Questions arose in my mind not just from

what I had read in journals but from snatches of conversation overheard in buses, chats with street vendors and occasional visits to villages. This 'method of the anthropologist' I have cherished and tried to consciously nurture subsequently. My book, *The Less Developed Economy*, was well received and encouraged me to pursue several sub-fields within development, such as land tenure and sharecropping, and international credit and finance. While writing on these topics I was unwittingly beginning to develop and use methods, which are germane to industrial organization (IO) theory, and soon I found myself reading extensively in the field of IO. This led to active research in industrial economics and I have, over the years, published papers on collusion, entry-deterrence in oligopoly and product durability. From more or less the start of my academic career, I had an interest in game theory and in particular the problem of rationality and knowledge. This led me to the construction of some paradoxes and impossibility theorems concerning rational behavior in strategic environments. In the 1980s I worked briefly on social norms and political power, inspired by the then-unpublished essay on power by Vaclav Havel. That brief flirtation led to my recent work in political economy and critique of economic theory. Since the late 1990s I have been working on the problem of child labor and international labor standards

BASU, Susanto n.e.

BATTALIO, Raymond Charles

Born 1938, Chicago, IL, USA.

Current Posts Mary Tucker Currie Prof. Liberal Arts and Texas Eng. Experimental Station Sr Fell., Dept Econ., Texas

A&M Univ., College Station, TX, USA, 1989–.

Past Posts Asst Prof., Assoc. Prof., Texas A&M Univ., 1969–75, 1975–81.

Degrees BS Univ. California, Berkeley, 1966; MS, PhD Purdue Univ., 1968, 1970.

Offices and Honours Best Article Award, *WEJ*, 1973; Pres., Econ. Sc. Assoc., 1989–90.

Principal Fields of Interest C9 Design of Experiments; C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty.

Publications *Book*: 1. *Economic Choice Theory: An Experimental Analysis of Animal Behavior* (with J.H. Kagel, L. Green), (CUP, 1995).

Articles: 1. ‘Experimental studies of consumer demand behavior using laboratory animals’ (with J.H. Kagel, H. Rachlin, L. Green, R.L. Basmann, W.R. Klemm), *EI*, 13, March 1975; 2. ‘Commodity choice behavior with pigeons as subjects’ (with J.H. Kagel, H. Rachlin, L. Green), *JPE*, 89, Feb. 1981; 3. ‘Demand curves for animal consumers’ (with J.H. Kagel, H. Rachlin, L. Green), *QJE*, 96, Feb. 1981; 4. ‘Income–leisure tradeoffs of animal workers’ (with L. Green, J.H. Kagel), *AER*, 71, Sept. 1981; 5. ‘Maximization theory in behavior psychology’ (with H. Rachlin, J.H. Kagel, L. Green), *Behav. and Brain Sc.*, 4, Sept. 1981; 6. ‘Animals’ choices over uncertain outcomes: some initial experimental results’ (with J.H. Kagel, D.N. MacDonald), *AER*, 75, Sept. 1985; 7. ‘Tacit coordination games, strategic uncertainty, and coordination failure’ (with J.B. Van Huyck, R.O. Beil), *AER*, 80, March 1990; 8. ‘Testing between alternative models of choice under uncertainty: some initial results’ (with J.H. Kagel, K. Jiranyakul), *JRU*, 3, March 1990; 9. ‘Tests of “fanning out” of indifference curves: results from animal and human experiments’ (with J.H. Kagel, D. MacDonald), *AER*, 80, Sept. 1990; 10. ‘Strategic un-

certainty, equilibrium selection and coordination failure in average opinion games’ (with J.B. Van Huyck, R.O. Beil), *QJE*, 106, Aug. 1991; 11. ‘History’s role in coordinating decentralized allocation decisions: laboratory evidence on repeated binary allocation games’ (with D. Meyer, J.B. Van Huyck, T.R. Saving), *JPE*, 100, April 1992; 12. ‘Credible assignments in coordination games’ (with J.B. Van Huyck, A.B. Gillette), *Games and Econ. Behav.*, 4, Oct. 1992; 13. ‘Tests of rational expectations in a stark setting’ (with G.P. Dwyer, A.W. Williams, T.I. Mason), *EJ*, 103, May 1993; 14. ‘Asset markets as an equilibrium selection mechanism: coordination failure, game form auctions, and forward induction’ (with J.B. Van Huyck, R. Beil), *Games and Econ. Behav.*, 5, 1993; 15. ‘Selection dynamics, asymptotic stability, and adaptive behavior’ (with J.B. Van Huyck, J. Cook), *JPE*, 102, Oct. 1994; 16. ‘On the origin of convention: evidence from symmetric bargaining games’ (with J.B. Van Huyck, S. Mathur, A. Ortmann, P. Van Huyck), *Intl J. Game Theory*, 24, 1995; 17. ‘On the origin of convention: evidence from coordination games’ (with J.B. Van Huyck, F.W. Rankin), *EJ*, 107, May 1997; 18. ‘Strategic similarity and emergent conventions: evidence from similar stag hunt games’ (with F. Rankin, J.B. Van Huyck), *Games and Econ. Behav.*, 32, Aug. 2000; 19. ‘Optimization incentives and coordination failure in laboratory stag hunt games’ (with L. Samuelson, J.B. Van Huyck), *Em*, 69, May 2001.

Principal Contributions My early work using experimental methods in economics focussed on individual choice behavior. In a series of experiments with John H. Kagel, we used laboratory animals and human subjects to provide a rigorous test of the Slutsky–Hicks theory of individual choice behavior. The same subject populations were also used to ex-

amine individual choice under uncertainty. This research provided support for the abstract Slutsky–Hicks theory in modeling both animal and human behavior. My later work, done in collaboration with John Van Huyck, involves a series of experiments designed to look at equilibrium selection and coordination in laboratory markets. This work has shown that coordination failures can result in large losses in efficiency. We have shown that, in some cases, institutions can be used to improve the efficiency of these markets.

BAUER, Paul William

Born 1959, Coshocton, OH, USA.

Current Post Econ. Advisor, FRB, Cleveland, Cleveland, OH, USA, 1986–.

Past Post Vis. Asst Prof., Southern Methodist Univ., 1985–86.

Degrees BA Texas Christian Univ., 1981; PhD Univ. North Carolina, 1985.

Offices and Honours Lurcy Fellowship, Univ. North Carolina, 1984–85.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; D2 Production and Organizations.

Publications *Articles*: 1. ‘Recent developments in the econometric estimation of frontiers’, *J Em*, 46, 1990; 2. ‘Decomposing TFP growth in the presence of cost inefficiency, nonconstant returns to scale, and technological progress’, *J. Productivity Analysis*, 1, 1990; 3. ‘Exports and regional economic restructuring’ (with R. Eberts), *Regional Sc. Perspectives*, 20, 1990; 4. ‘The efficiency of the federal reserve in providing check processing services’ (with D. Hancock), *J Bank Fin*, 17, 1993; 5. ‘Inefficiency and productivity growth in banking: a comparison of stochastic econometric and thick frontier methods’ (with A. Berger, D. Humphrey), in H.O. Fried, C.A. Knox-Lovell, S.S.

Schmidt (eds), *The Measurement of Productive Efficiency: Techniques and Applications* (OUP, 1993); 6. ‘Scale economies, cost efficiencies and technological change in federal reserve payments processing’ (with G. Ferrier), *JMCB*, 28, 1996; 7. ‘Consistency conditions for regulatory analysis of financial institutions: a comparison of frontier efficiency methods’ (with A. Berger, G. Ferrier, D. Humphrey), *J. Econ. and Bus.*, 50, 1998; 8. ‘US domestic air passenger service: a taxonomy of route networks, hub locations, and competition’ (with N. Bania, T. Zlatoper), *Logistics and Transportation Rev.*, 34, 1998; 9. ‘The effect of pricing on demand and revenue in federal reserve payment processing’ (with J. Stavins), *J. Fin. Services Res.*, 16, 1999; 10. ‘Scale economies, scope economies, and technical change in federal reserve payment processing’ (with R. Adams, R. Sickles), *JMCB*, forthcoming 2003.

Principal Contributions Most of my work has involved using cost functions to estimate scale economies, cost efficiency, and technical change. I have developed some new techniques for estimating cost frontiers that allow for both allocative and technical inefficiency and other techniques for exploring the sources of performance differences across firms. Much of this work has been done using data on the production of payment services. By examining Federal Reserve Banks’ costs of providing payment services, insight has also been gained into not just the production technology of private payments providers, but also into the service sector in general.

BAUMOL, William Jack

Born 1922, New York City, NY, USA.

Current Posts Prof. Econ., NYU, New York, NY, USA, 1991–; Sr Res. Econ.,

Princeton Univ., Princeton, NJ, USA, 1992–.

Past Posts Prof. Econ., Princeton Univ., 1949–92; Dir., C.V. Starr Center Apl. Econ., NYU, 1983–2000.

Degrees BSS City Coll., New York, 1942; PhD Univ. London, 1949.

Offices and Honours Fell., Em Soc, 1953; Trustee, Rider Coll., 1960–70; Chairman, Past Vice Pres., Comm. Econ. Status of the Profession, AAUP, 1962–70, 1968–70; Hon. LLD, Rider Coll., 1965; Past Chairman and Mem., Econ. Pol. Council, State NJ, 1967–75; Joseph Douglas Green 1895 Prof. Econ., Princeton Univ., 1968; Hon. Fell., LSE, 1970; Mem., AAAS, 1971, Amer. Philo. Soc., 1977, NAS, 1987, Accademia Nazionale Dei Lincei, Rome, 2001; Hon. Doctorate, Stockholm Sch. Econ., 1971, Univ. Basel, 1973; Hon. DHL, Knox Coll., 1973; John R. Commons Award, Omicron Delta Epsilon, 1975; Townsend Harris Medal, Alumni Assoc., City Coll., New York, 1975; Past Pres., EEA, 1978–79, Assoc. Environmental and Resource Econ., 1979, AEA, 1981, Atlantic Econ. Soc., 1985; Disting. Fell., AEA, 1982; Disting. Mem., Econ. Assoc. Puerto Rico, 1984; Assoc. Amer. Publishers' Award for Best Book in Bus., Mgmt and Econ., *Superfairness: Applications and Theory*, 1986; Frank E. Seidman Disting. Award in Polit. Econ., 1987; Assoc. Amer. Publishers' Annual Awards for Excellence in Publ., Hon. Mention Social Sc., *Productivity and American Leadership: The Long View*, 1989; First Sr Scholar in Arts and Sc. Award, NYU, 1992; Assoc. Environmental and Resource Econ. Award for Publication of Enduring Quality, *The Theory of Environmental Policy*, 1993; Hon. Degree, Univ. Limburg, 1996; Hon. Professorship, Univ. Belgrano, 1996; Henry H. Villard Res. Award, Natl Council Econ. Educ. and Natl Assoc. Econ. Educators, 1997; Docteur (*hc*), Univ. Sc. et Tech-

nologies de Lille, 1997, Univ. Paris, Sorbonne, 2001; DPhil (*hc*), Hebrew Univ. Jerusalem, 1999; DHL (*hc*), Princeton Univ., 1999; Intl Award for Entrepreneurship and Small Bus. Res., Swedish Foundation for Small Bus. Res and Swedish Bus. Devlp. Ag., 2003.

Editorial Duties At various times on ed. and/or advisory bds: *AER*, *Kyk*, *JEL*, *J. Cultural Econ.*, *JEP*, *Mgmt Sc.*, *Econ. Notes* (Italy), *J. Econ. Educ.*, *Impresa e Concorrenza* (Italy), *Theory and Hist. Econ. and Social Insts and Structures* (USSR), *Feminist Econ.*, *Japan and the World Econ.*, *Supreme Court Econ. Rev.*, *Economia: Revista Quadrimestral* (Portugal).

Principal Fields of Interest O4 Economic Growth and Aggregate Productivity; L0 Industrial Organization: General; D6 Welfare Economics.

Publications *Books*: 1. *Business Behavior, Value and Growth* (Harcourt, Brace & World, rev. edn 1966); 2. *Performing Arts: The Economic Dilemma* (with W.G. Bowen), (Twentieth Century Fund, 1966); 3. *Economic Dynamics* (Macmillan, 3rd edn 1970); 4. *Economic Theory and Operations Analysis* (Prentice-Hall, 4th edn 1977); 5. *Contestable Markets and the Theory of Industry Structure* (with R.D. Willig, J.C. Panzar), (Harcourt Brace Jovanovich, 1982); 6. *Productivity and American Leadership: The Long View* (with S.A.B. Blackman, E.N. Wolff), (MIT Press, 1989); 7. *Welfare Economics and the Theory of the State* (Gregg Revivals and Ashgate, 1993); 8. *Baumol's Cost Disease: The Arts and Other Victims* (ed. R. Towse), (Edward Elgar, 1997); 9. *Global Trade and Conflicting National Interests* (with R.E. Gomory), (MIT Press, 2000); 10. *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism* (Princeton Univ. Press, 2002); 11. *Economics: Principles and Policy* (with A.S. Blinder), (Southwestern Coll. Publ./

Thompson Learning, 9th edn 2002); 12. *Downsizing in America: Reality, Causes and Consequences* (with A.S. Blinder, E.N. Wolff), (Russell Sage, 2003).

Articles: 1. 'Contestable markets: an uprising in the theory of industry structure', *AER*, 72, March 1982; 2. 'Use of antitrust to subvert competition' (with J.A. Ordover), *J Law E*, 28, May 1985; 3. 'Unbalanced growth revisited: asymptotic stagnancy and new evidence' (with S.A.B. Blackman, E.N. Wolff), *AER*, 75, Sept. 1985; 4. 'Social wants and dismal science: the curious case of the climbing costs of health and teaching', *Proceedings Amer. Philo. Soc.*, 137, 1993; 5. 'Inefficient and locally stable trade equilibria under scale economies: comparative advantage revisited' (with R.E. Gomory), *Kyk*, 49, 1996; 6. 'Predation and the logic of the average variable cost test', *J Law E*, 39, April 1996; 7. 'Having your cake: how to preserve universal-service cross subsidies while facilitating competitive entry', *Yale J. Regulation*, 16, Winter 1999; 8. 'Toward microeconomics of innovation: growth engine hallmark of market economies', *Atlantic Econ. J.*, 30, March 2002.

Principal Contributions My most cited contributions span five fields: alternative objectives of the firm, the cost-disease, contestable markets, convergence of productivity of industrial economies and the free-market innovation machine. I have also helped Ralph Gomory in a substantial contribution to international trade theory. Older observation shows that firms pursue goals more complex than just profit maximization. I have showed that the behavioral consequences of alternative objectives such as maximization of sales can be analyzed mathematically in the same way as profit maximization, yielding results about firms' behavior. The cost-disease analysis shows that many services including health care, education and live performing arts are, to a degree,

handicrafts. It is therefore more difficult to increase their labor productivity than in manufacturing. So the cost of such services must rise persistently faster than the average for the economy – the rate of inflation causing severe policy problems. Contestable market analysis extends the perfect competition model to markets with large firms and scale economies, into which entry is costless. The entry threat forces firms to behave competitively and efficiently. This theoretically ideal behavior provides realistic guidelines for regulation and antitrust, unlike perfect competition. The old hypothesis that industrial economies tend to converge toward similar per capita incomes was first tested empirically by me and I also provided the testing methods. The leading industrial economies were shown to be converging, but much of the rest of the world is falling further behind. My most recent book analyzes why the capitalist economies have outperformed growth and innovation of any other type of economy. The key is the symbiotic role of independent inventors and corporate R&D. Because in high-tech industries innovation can be life or death for the firm, they are forced to turn out constantly improved products and processes and to license access to the innovations created by others.

BAXTER, Marianne n.e.

BAYE, Michael Roy

Born 1958, Dallas, TX, USA.

Current Post Bert Elwert Prof. Bus. Econ. and Public Pol., Kelley Bus. Sch. (KBS), Indiana Univ., Bloomington, IN, USA, 1997–.

Past Posts Asst Prof. Econ., Univ. Kentucky, 1983–85; Asst Prof. Econ., Assoc. Prof. Econ., Texas A&M Univ., 1985–91;

Assoc. Prof. Econ., Prof. Econ., Pennsylvania State Univ., 1991–97; Interim Head, Dept Econ., Pennsylvania State Univ., 1994–95.

Degrees BS Texas A&M Univ., 1980; MS, PhD Purdue Univ., 1981, 1983.

Offices and Honours Alfred Chalk Award, 1980; David Ross Fellowship, 1982–83; Fulbright Award, 1985–86; Fell., CentER for Econ. Res., 1990–; KBS Teaching Excellence Award, 1997–98, 1998–99, 1999–2000; KBS Outstanding Researcher, 1999–2000.

Editorial Duties Ed., *Advances in Apl. Microecon.*, 1995–; Ed. Bds, *J. Econ. and Governance*, 1999–, *Lecture Notes Econ. and Math. Systems*, 1999–2002, *J. Public Pol. and Marketing*, 2001–.

Principal Fields of Interest D0 Microeconomics: General; D4 Market Structure and Pricing; L0 Industrial Organization: General.

Publications *Books*: 1. *Consumer Behavior, Cost-of-Living Measures, and the Income Tax* (with D. Black), (S-V, 1986); 2. *Managerial Economics and Business Strategy* (McGraw-Hill, 1994, 1997, 2000, 2003; trans., Russian, 1999, Korean, 2002); 3. *Money, Banking and Financial Markets: An Economic Approach* (with D. Jansen), (Houghton-Mifflin, 1995, Indian edn 1996).

Articles: 1. ‘Price dispersion and functional price indices’, *Em*, 53, Jan. 1985; 2. ‘A note on price stability and consumers’ welfare’, *Em*, 53, Jan. 1985; 3. ‘Information, multiprice search, and cost-of-living index theory’ (with P. Anglin), *JPE*, 95, Dec. 1987; 4. ‘The microeconomic foundations of measuring bracket creep and other tax changes’ (with D. Black), *EI*, 25, July 1988; 5. ‘Choosing sides in matching games: Nash equilibrium and comparative statics’ (with T. Cosimano), *Ec*, 57, Aug. 1990; 6. ‘Income taxation, labor supply, and the theory of income-based cost-of-living indices’ (with D.

Black), *Europ ER*, 36, Jan. 1992; 7. ‘It takes two-to-tango: equilibria in a model of sales’ (with D. Kovenock, C. de Vries), *Games and Econ. Behav.*, 4, Oct. 1992; 8. ‘Rigging the lobbying process: an application of the all-pay auction’ (with D. Kovenock, C. de Vries), *AER*, 86, March 1993; 9. ‘Characterizations of the existence of equilibria in games with discontinuous and nonquasiconcave payoffs’ (with G. Tian, J. Zhou), *REStud*, 60, Oct. 1993; 10. ‘How to sell a pickup truck: beat-or-pay advertisements as facilitating devices’ (with D. Kovenock), *IJIO*, 12, March 1994; 11. ‘The solution to the Tullock rent-seeking game when $R > 2$: mixed-strategy equilibria and mean dissipation rates’ (with D. Kovenock, C. de Vries), *Public Choice*, 81, Dec. 1994; 12. ‘Divisionalization, franchising, and divestiture incentives in oligopoly’ (with K. Crocker, J. Ju), *AER*, 86, March 1996; 13. ‘The all-pay auction with complete information’ (with D. Kovenock, C. de Vries), *ET*, 8, Aug. 1996; 14. ‘The incidence of overdissipation in rent-seeking contests’ (with D. Kovenock, C. de Vries), *Public Choice*, 99, June 1999; 15. ‘Strategic behavior in contests: comment’ (with O. Shin), *AER*, 89, June 1999; 16. ‘Information gatekeepers on the internet and the competitiveness of homogeneous product markets’ (with J. Morgan), *AER*, 91, June 2001; 17. ‘Winner-take-all price competition’ (with J. Morgan), *ET*, 19, Feb. 2002.

Principal Contributions My research primarily focusses on pricing strategies and their impact on consumer welfare and firm profits. My early papers showed how to properly construct indices of prices when different firms charge different prices for the same product and consumers have imperfect information about firms’ prices. In subsequent research with P. Anglin, we extended these results to retail environments where consumers optimally search for more favorable prices.

My book and papers with D. Black showed that, by appropriately modifying price indices, cost-of-living measures and real wage indices to account for a progressive income tax, one could quantify the impact of 'bracket creep' on consumer welfare. This research contributed to the policy debate of the 1980s by documenting the 'cost' of various proposals to delay or repeal the indexation of the US federal income tax code. My more recent collaborative work utilizes tools from game theory and industrial organization to analyze the existence (and efficiency) of equilibrium strategies in mergers, auctions, and contests. Much of this research concerns pricing strategies in oligopoly environments where consumers view the products sold by different firms as close substitutes. This research applies to both conventional and online markets. Among other things, it shows that optimal pricing strategies by firms and information 'gatekeepers' can lead to equilibrium price dispersion when firms have identical costs, shoppers are well-informed, and firms' products are perceived to be identical. Many of these pricing strategies are discussed in my managerial economics textbook, and are taught to business students around the world.

BAYOUMI, Tamim Andrew

Born 1959, Winchester, England.

Current Post Div. Chief, Res. Dept, IMF, Washington, DC, USA, 2000–.

Past Posts Previous posts include Dep. Div. Chief on Japan, IMF, 1998–2000.

Degrees BSc Cambridge Univ., 1981; PhD Stanford Univ., 1988.

Offices and Honours Mem., CEPR, 1995–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F3 International Finance; F4

Macroeconomic Aspects of International Trade and Finance.

Publications *Book*: 1. *Post Bubble Blues: How Japan Responded to the Asset Price Collapse* (ed. with C. Collins), (IMF, 2000).

Articles: 1. 'Saving investment correlations', *IMF Staff Papers*, 37, June 1990; 2. 'Domestic saving and international capital flows' (with A. Rose), *Europ ER*, 37, Aug. 1993; 3. 'Financial deregulation and household saving', *EJ*, 103, Nov. 1993; 4. 'Shocking aspects of European monetary unification' (with B. Eichengreen), in F. Giozazzi, F. Torres (eds), *The Transition to Economic and Monetary Union in Europe* (CUP, 1993); 5. 'Monetary and exchange arrangements for NAFTA' (with B. Eichengreen), *JDE*, 43, Feb. 1994; 6. 'Macroeconomic adjustment under Bretton Woods and the post-Bretton Woods float' (with B. Eichengreen), *EJ*, 104, July 1994; 7. 'A formal model of optimum currency areas', *IMF Staff Papers*, 41, Dec. 1994; 8. 'Do credit markets discipline sovereign borrowers? Evidence from the United States' (with M. Goldstein, G. Wolglom), *JMCB*, 27, Jan. 1995; 9. 'Fiscal flows in the United States and Canada: lessons for monetary union in Europe' (with P. Masson), *Europ ER*, 39, Feb. 1995; 10. 'Restraining yourself: fiscal rules and stabilization' (with B. Eichengreen), *IMF Staff Papers*, 42, March 1995; 11. 'Taxation and inflation: a new explanation for current account imbalances' (with J. Gagnon), *JME*, 38, Oct. 1996; 12. 'The stability of the gold standard and evolution of the international monetary system' (with B. Eichengreen), in T. Bayoumi, B. Eichengreen, M.P. Taylor (eds), *Modern Perspectives on the Gold Standard* (CUP, 1996); 13. 'Ever closer to heaven? An optimum currency area index for European countries' (with B. Eichengreen), *Europ ER*, 41, April 1997; 14. 'Is regionalism simply a diversion' (with B. Eichengreen), in T. Ito, A.O. Krueger (eds),

Regionalism vs. Multilateralism (CUP, 1997); 15. 'Liability-creating versus non-liability creating fiscal stabilisation policies: Ricardian equivalence, fiscal stabilisation and EMU' (with P. Masson), *EJ*, 108, July 1998; 16. 'Exchange rate volatility and intervention: implications of the theory of optimum currency areas' (with B. Eichengreen), *J Int E*, 45, Aug. 1998; 17. 'RandD spillovers and global growth' (with D. Coe, E. Melpman), *J Int E*, 47, April 1999; 18. 'The morning after: explaining the slowdown in Japanese growth in the 1990s', *J Int E*, 53, April 2001.

Principal Contributions My work has been focused on concern macroeconomics and international finance. Much of this was involved with the economics of optimum currency areas and, in particular, European monetary union. My efforts in this area have included developing a model of optimum currency areas, tests of the suitability of a single currency based on the theory of optimum currency areas, and exploring the implications of a single currency across a range of nations for the effectiveness of fiscal policies. This work also led to other research on the impact of fiscal rules on budgetary performance and the degree to which capital markets discipline fiscal profligacy. Other work has concerned measuring the extent of international capital mobility using the behaviour of real variables such as saving, investment, and consumption. In particular, I have been interested in comparing behaviour across countries with that within countries, so as to provide a meaningful metric with which to compare the international data. As an offshoot of this work, I have also taken an interest in historical parallels with the current period of high international capital mobility and with empirical evidence on the evolution of the international monetary system. Finally, I have also written quite extensively on the Japanese economy and, in particular, the

impact of the bursting of the asset bubble in the early 1990s and the effectiveness of monetary policy at zero interest rates.

BEAN, Charles Richard

Born 1953, Basildon, Essex, UK.

Current Posts Chief Econ. and Exec. Dir., Bank of England, London, UK, 2000–.

Past Posts Econ. Adviser, HM Treasury, 1975–79, 1981–82; Prof. Econ., LSE, 1982–2000; Vis. Prof., Stanford Univ., 1990.

Degrees BA Univ. Cambridge, 1975; PhD MIT, 1981.

Offices and Honours Chairman, Acad. Panel, HM Treasury, 1991–2000; Special Adviser, HM Treasury, 1992–2000; Exec. Comm. and Council, RES, 1993–98; Council, Europ. Econ. Assoc., 1995–2000; Governing Bd, NIESR, 1995–; Mgmt Comm., IFS, 1995–; Special Adviser, Treasury Select Comm., House of Commons, 1997–2000.

Editorial Duties Asst Ed., *Econ. Pol.*, 1985–86; Managing Ed., *REStud*, 1986–90; Ed. Bd, *REStud*, 1984–96 (Chairman, 1992–96), *Moneda e Credito*, 1987–, *JAE*, 1991–, *DE*, 1993–, *Ec*, 1995–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F4 Macroeconomic Aspects of International Trade and Finance; J6 Mobility, Unemployment, and Vacancies.

Publications *Books*: 1. *The Rise in Unemployment* (ed. with R. Layard, S. Nickell), (Blackwell, 1987); 2. *Europe's Unemployment Problem* (ed. with J. Drèze), (MIT Press, 1990).

Articles: 1. 'An econometric model of manufacturing investment in the UK', *EJ*, 91, March 1981; 2. 'Targeting nominal income: an appraisal', *EJ*, 93, Dec. 1983; 3. 'Optimal wage-bargains', *Ec*, 51, May 1984; 4. 'A little bit more evidence on the

natural rate hypothesis from the UK, *Europ ER*, 25, Aug. 1984; 5. 'The terms of trade, labour supply and the current account', *EJ* (suppl.), 96, March 1986; 6. 'The estimation of "surprise models" and the "surprise" consumption function', *REStud*, 58, Aug. 1986; 7. 'The rise in unemployment: a multi-country study' (with R. Layard, S. Nickell), *Ec* (suppl.), 54, Aug. 1986; 8. 'Capacity constraints and persistent unemployment', *Econ. Pol.*, 8, April 1989; 9. 'Ten years of Mrs T' (with J. Symons), *NBER Macroecon. Annual*, 4, 1989; 10. 'Endogenous growth and the procyclical behaviour of productivity', *Europ ER* (suppl.), 34, May 1990; 11. 'European unemployment: lessons from a multi-country econometric study' (with J. Drèze), *Scand JE*, 92, June 1990; 12. 'Economic and monetary union in Europe', *JEP*, 6, Fall 1992; 13. 'Unemployment, consumption and growth', *Europ ER*, 37, May 1993; 14. 'European unemployment: a survey', *JEL*, 32, June 1994; 15. 'The new UK monetary arrangements: a view from the literature', *EJ*, 108, Nov. 1998; 16. 'The interaction of aggregate demand policies and labour market reform', *Swedish Econ. Pol. Rev.*, 5, Nov. 1998; 17. 'Monetary policy under EMU', *OREP*, 14, Nov. 1998.

Principal Contributions Early work included an analysis of the operating properties of nominal income targets, and on the econometric estimation of rational expectations models containing 'surprises'. Subsequent work centred on the causes of high European unemployment, concentrating in particular on the sources of persistence. Recent work includes contributions to the literature on European monetary union and inflation targets.

BEAUDRY, Paul

Born 1960, Montreal, Canada.

Current Post Prof., UBC, Vancouver, Canada, 1996–.

Past Posts Asst Prof., Univ. Montreal, 1988–90; Asst Prof., Boston Univ., 1990–94; Assoc. Prof., UBC, 1994–96.

Degrees BA Laval Univ., 1983; MA UBC, 1984; PhD Princeton Univ., 1989.

Offices and Honours Petro-Canada Young Innovator, 1997–2000; Canada Res. Chair, 2001–.

Editorial Duties Ed. Bd, *CJ*, 1998–.

Principal Fields of Interest D0 Microeconomics: General; E0 Macroeconomics and Monetary Economics: General; J0 Labor and Demographic Economics: General.

Publications Articles: 1. 'The effects of implicit contracts on the behavior of wages over the business cycle' (with J. DiNardo), *JPE*, 99, Aug. 1991; 2. 'Do recessions permanently change output' (with G. Koop), *JME*, 31, June 1993; 3. 'Signalling and renegotiation in contractual relationships' (with M. Poitevin) *Em*, 61, July 1993; 4. 'Entry wages signalling future wages: a foundation to turnover models of unemployment', *CJ*, 27, Nov. 1994; 5. 'Why an informed principal may leave rents to an agent', *IER*, 35, Nov. 1994; 6. 'The commitment value of contracts under dynamic renegotiation' (with M. Poitevin), *RandJE*, 79, Winter 1994; 7. 'Contract renegotiation: a simple framework and implications for organization theory' (with M. Poitevin), *CJ*, 28, May 1995; 8. 'Competitive screening when clients can recontract' (with M. Poitevin), *REStud*, 62, July 1995; 9. 'Is the behavior of hours worked consistent with implicit contract theory?' (with J. DiNardo), *QJE*, 110, Aug. 1995; 10. 'Monetary policy and the real exchange rate in a price setting model of monopolistic competition' (with M. Devereux), *C-RPP*, 43, Dec. 1995; 11.

‘Alternative specifications for consumption and the estimation of the intertemporal elasticity of substitution’ (with E. van Wincoop), *Em*, 63, Aug. 1996; 12. ‘What do interest rates reveal about the functioning of real business cycles’ (with A. Guay), *JEDC*, 20, Dec. 1997; 13. ‘Estimating the effects of monetary shocks: a comparison of different approaches’ (with M. Saito), *JME*, 42, Oct. 1998; 14. ‘What is happening in the youth labour market?’ (with T. Lemieux, D. Parent), *Canadian Public Pol.*, 12, Jan. 2000; 15. ‘When is it harmful to allow partial cooperation?’ (with P. Cahuc, H. Kempf), *Swed JE*, 102, March 2000; 16. ‘Cohort patterns in Canadian earnings: assessing the role of skill premia in inequality trends’ (with D. Green), *CJ*, 33, Nov. 2000; 17. ‘Monetary instability, the predictability of prices and the allocation of investment: an empirical investigation using UK panel data’ (with M. Caglan, F. Schiantarelli), *AER*, 91, June 2001; 18. ‘The cost of business cycles and the value of stabilization policy’ (with C. Pages), *Europ ER*, 45, Aug. 2001; 19. ‘France during the Great Depression’ (with F. Portier), *Rev. Econ. Dynamics*, 5, Jan. 2002.

Principal Contributions n.e.

BEBCHUK, Lucian Arye

Born 1955, Wroclav, Poland.

Current Post William J. Friedman and Alicia Townsend Friedman Prof. Law, Econ., and Fin., Harvard Law Sch., Cambridge, MA, USA, 1998–.

Past Posts Asst Prof., Prof. Law, Prof. Law, Econ., and Fin., Harvard Law Sch., 1986–88, 1988–94, 1994–98.

Degrees BA (Maths and Econ.) Univ. Haifa, 1977; LLB Sch. Law, Univ. Tel Aviv, 1979; LLM (Master Law), SJD (Doctorate in Law), Harvard Law Sch., 1980, 1984; MA, PhD Harvard Univ., 1992, 1993.

Offices and Honours Fell., Soc. Fell., Harvard Univ., 1983–85.

Principal Fields of Interest G3 Corporate Finance and Governance; K0 Law and Economics: General; K2 Regulation and Business Law.

Publications n.e.

Principal Contributions n.e.

BECK, Nathaniel Lawrence

Born 1947, New York City, NY, USA.

Current Post Prof., Polit. Sc., Univ. California, San Diego, CA, USA, 1979–.

Past Post Asst Prof., Dept Polit. Sc., Washington State Univ., 1973–78.

Degrees BA (Maths and Polit. Sc.) Univ. Rochester, 1967; PhD (Polit. Sc.) Yale Univ., 1977.

Honours Gosnell Prize (for best paper in polit. methodology), 1997, 1999.

Editorial Duties Ed. Bds, *Amer. J. Polit. Sc.*, 1989–92, *Amer. Polit. Sc. Rev.*, 1995–2001, *World Polit.*, 2000–; Ed., *Polit. Analysis*, 1997–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; E5 Monetary Policy, Central Banking, and the Supply of Money; P1 Capitalist Systems.

Publications *Articles*: 1. ‘Parties, administrations and macroeconomic outcomes’, *Amer. Polit. Sc. Rev.*, 76, March 1982; 2. ‘Presidential influence on the Federal Reserve in the 1970s’, *Amer. J. Polit. Sc.*, 26, Aug. 1982; 3. ‘Domestic political sources of American monetary policy: 1955–1982’, *J. Polit.*, 46, Aug. 1984; 4. ‘Elections and the Fed: is there a political monetary cycle?’, *Amer. J. Polit. Sc.*, 31, Feb. 1987; 5. ‘Estimating dynamic models using Kalman filtering’, *Polit. Analysis*, 1, 1989; 6. ‘Comparing dynamic specifications: the case of presidential approval’, *Polit. Analysis*, 3, 1991; 7. ‘Is there an electoral cycle in money? If so,

is it caused by the Fed?', *Contemporary Polit. Issues*, 9, April 1991; 8. 'The methodology of cointegration', *Polit. Analysis*, 4, 1992; 9. 'What to do (and not to do) with time-series-cross-section data' (with J.N. Katz), *Amer. Polit. Sc. Rev.*, 89, Sept. 1995; 10. 'Nuisance vs. substance: specifying and estimating time-series-cross-section models' (with J.N. Katz), *Polit. Analysis*, 6, 1996; 11. 'Beyond linearity by default: generalized additive models' (with S. Jackman), *Amer. J. Polit. Sc.*, 42, Apr. 1998; 12. 'Taking time seriously: time-series-cross-section analysis with a binary dependent variable' (with J.N. Katz, R. Tucker), *Amer. J. Polit. Sc.*, 42, Oct. 1998; 13. 'Improving quantitative studies of international conflict: a conjecture' (with G.M. King, L. Zeng), *Amer. Polit. Sc. Rev.*, 94, March 2000; 14. 'Throwing out the baby with the bathwater: a comment on Green, Yoon and Kim' (with J.N. Katz), *Intl Org.*, 55, Spring 2001; 15. 'Time-series cross-section data', *Statistica Neerlandica*, 55, Jul. 2001.

Principal Contributions My work has been about the application of econometric methods to issues in the study of political economy. The most important work has been on the analysis of time-series-cross-sectional data, developing new methods for the analysis of such data and showing that some commonly used methods have very poor statistical properties. The methods have been applied to comparative work on the political determinants of economic performance in the advanced industrial democracies and the political economy of monetary policy in the US. Recent work has focussed on time-series-cross-sectional models with a binary dependent variable, and the analysis of such data using methods based in event history analysis. The methods developed have been applied to the study of international conflict.

BECKER, Gary Stanley

Born 1930, Pottsville, PA, USA.

Current Posts Univ. Prof. Econ. and Sociology, Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1983–; Sr Fell., Hoover Inst., 1990–.

Past Posts Asst Prof. Econ., Ford Foundation Vis. Prof. Econ., Prof. Econ., Univ. Chicago, 1954–57, 1969–70, 1970–83; Asst Prof., Assoc. Prof., Prof. Econ., Arthur Lehman Prof. Econ., Columbia Univ., 1957–69.

Degrees BA Princeton Univ., 1951; MA, PhD Univ. Chicago, 1953, 1955.

Offices and Honours Pres., Pontifical Acad. Sc.; W.S. Woytinsky Award, Univ. Michigan, 1964; Founding Mem., Vice-Pres., Nat. Acad. Educ., 1965–67; John Bates Clark Medal, 1967; Professional Achievement Award, Univ. Chicago Alumni Assoc., 1968; Fell., ASA, 1965–, Em Soc, 1967–, AAAS, 1972–; Vice-Pres., Pres., AEA, 1974, 1987; Mem., NAS, 1975–; Exec. Bd, Mont Pelerin Soc., 1985–96; Hon. Degrees, Hebrew Univ., Jerusalem, 1985, Knox Coll., Galesburg, IL, 1985, Univ. Illinois at Chicago, 1988, SUNY, Stonybrook, 1990, Princeton Univ., 1991, Univ. Palermo, 1993, Columbia Univ., 1993, Warsaw School Econ., 1995, Univ. Econ., Prague, 1995, Univ. Miami, 1995, Univ. Rochester, 1995, Hofstra Univ., 1997, Univ. Aix-Marseilles, 1999; Nobel Prize, 1992; Natl Medal of Sc. Award, 2000.

Principal Fields of Interest I2 Education; D1 Household Behavior.

Publications *Books*: 1. *The Economics of Discrimination* (UCP, 1957, 1971); 2. *Human Capital* (Columbia Univ. Press, 1964, 1975, 1993); 3. *Economic Theory* (A.A Knopf, 1971); 4. *The Economic Approach to Human Behavior* (UCP, 1976); 5. *A Treatise on the Family* (HUP, 1981, 1991); 6. *Accounting for Tastes* (HUP, 1996); 7. *The Economics of Life* (with G.

Nashat), (McGraw-Hill, 1996); 8. *Social Economics* (with K. Murphy), (HUP, 2000).

Articles: 1. 'George Joseph Stigler', *J. des Économistes et des Études Humaines*, 3, March 1992; 2. 'The division of labor, coordination costs, and knowledge' (with K. Murphy), *QJE*, 107, Nov. 1992; 3. 'Rational addiction and the effect of price on consumption' (with M. Grossman, K. Murphy), in G. Loewenstein, J. Elster (eds), *Choice over Time* (Russell Sage Foundation, 1992); 4. 'Government, human capital, and economic growth', Pres. Address to Mont Pelerin Soc., Vancouver General Meeting, Sept. 1992, *Ind. Free China*, 79, June 1993; 5. 'Nobel Lecture: The economic way of looking at behavior', *JPE*, 101, June 1993; 6. 'Cross-cultural differences in family and sexual life: an economic analysis' (with R. Posner), *Rationality and Soc.*, 5, Oct. 1993; 7. 'George Joseph Stigler: January 17, 1911–December 1, 1991', *JPE*, 101, Oct. 1993; 8. 'A simple theory of advertising as a good or bad' (with K.M. Murphy), *QJE*, 108, Nov. 1993; 9. 'An empirical analysis of cigarette addiction' (with M. Grossman, K.M. Murphy, *AER*, 84, June 1994; 10. 'The endogenous determination of time preference' (with C.B. Mulligan), *QJE*, 112, Aug. 1997; 11. 'Old-age longevity and mortality-contingent claims' (with T.J. Philipson), *JPE*, 106, June 1998; 12. 'Population and economic growth' (with E.L. Glaeser, K.M. Murphy), *AER*, 89, May 1999.

Principal Contributions The first to provide a neoclassical analysis of discrimination in labour markets. Among the first to develop the implications of human capital theory. After analysing the allocation of time of economic agents, generalised the argument into the so-called 'new economics of the family', providing a standard explanation of such phenomena as marriage, divorce, the decision to have

children, the decision to educate children, etc.

BECKER, William Edward

Born 1945, Racine, WI, USA.

Current Posts Prof. Econ., Indiana Univ., Bloomington, IN, USA, 1979–; Adjunct Prof. Intl Bus., Univ. South Australia, Adelaide, Australia, 1996–.

Past Posts Assoc. Prof. and Dir., Center Econ. Educ., Univ. Minnesota, 1973–79; Pew Summer Vis. Fell., Princeton Univ., 1987, 1988; Prof. Public Affairs, Univ. Minnesota, 1988–89.

Degrees BA (Maths) Univ. St. Thomas, 1967; MA Univ. Wisconsin, 1970; PhD Univ. Pittsburgh, 1973.

Offices and Honours Secretary, Treasurer, Minnesota Econ. Assoc., 1973–78; Exec. Dir., Minnesota Council on Econ. Educ., 1973–79; Exec. Comm., Natl Council Econ. Educ., 1976–79; Henry H. Villard Res. Award, 1987; Vice-Pres., MEA, 1999.

Editorial Duties Assoc. Ed., Exec. Ed., *J. Econ. Educ.*, 1981–89, 1989–; Ed. Bd, *Econ. Educ. Rev.*, 1989–; Ed., *Econ. Res. Network Educator*, 2002–.

Principal Fields of Interest A2 Teaching of Economics; C1 Econometric and Statistical Methods: General; I2 Education.

Publications *Books:* 1. *Business and Economics Statistics with Computer Applications* (with D. Harnett), (Addison-Wesley, 1987); 2. *Econometric Modeling in Economic Education Research* (with W. Walstad), (Kluwer, 1987); 3. *The Economics of American Higher Education* (with D. Lewis), (Kluwer, 1992); 4. *American Higher Education and Economic Growth* (with D. Lewis), (Kluwer, 1993); 5. *Statistics for Business and Economics* (South-Western, 1995); 6. *Assessing Educational Practices: The Contribution of*

Economics (with W. Baumol), (MIT Press, 1995); 7. *Statistics for Business and Economics Using Microsoft Excel 97* (SRB, 1997); 8. *Teaching Economics to Undergraduates: Alternatives to Chalk and Talk* (with M. Watts), (Edward Elgar, 1999); 9. *Incentive-Based Budgeting Systems in Public Universities* (with D. Priest, D. Hossler, E. St John), (Edward Elgar, 2002).

Articles: 1. 'The university professor as a utility maximizer and producer of learning, research, and income', *JHR*, 10, Winter 1975; 2. 'Professorial behavior given a stochastic reward structure', *AER*, 69, Dec. 1979; 3. 'The educational process and student achievement given uncertainty in measurement', *AER*, 72, March 1982; 4. 'The probabilities of life and work force status in the calculation of expected earnings' (with G. Alter), *J. Risk and Insurance*, 54, June 1987; 5. 'Data loss from pretest to posttest as a sample selection problem' (with W. Walstad), *REStat*, 72, Feb. 1990; 6. 'The learning effect of assessment and evaluation in high school' (with S. Rosen), *Econ. Educ. Rev.*, 11, June 1992; 7. 'The measurement and cost of removing unexplained gender differences in faculty salaries' (with R. Toutkoushian), *Econ. Educ. Rev.*, 14, Sept. 1995; 8. 'Teaching economics to undergraduates', *JEL*, 35, Sept. 1997; 9. 'The relationship between multiple choice and essay response questions in assessing economics understanding' (with C. Johnston), *ER*, 75, Dec. 1999; 10. 'Student performance, attrition, and class size given missing student data' (with J. Powers), *Econ. Educ. Rev.*, 20, Aug. 2001; 11. 'Teaching statistics and econometrics to undergraduates' (with W. Greene), *JEP*, 15, Fall 2001.

Principal Contributions My scholarship is devoted to issues in education. Within the economics of education, it tends to be aimed at specifying and estimating alternative models of faculty be-

haviour and the assessment of personnel policies in higher education. It is also aimed at quantifying student outcomes and student response to incentives. In economics education, my work deals primarily with alternative ways to teach quantitative material in economics. It also addresses the content, teaching methods and ways in which undergraduate courses are taught and evaluated. For example, in a series of articles in the *American Economic Review* (May 2001, 1999, 1996), Michael Watts and I provide ongoing survey information on the state of teaching economics at the tertiary level.

BEHRMAN, Jere Richard

Born 1940, Indianapolis, IN, USA.

Current Posts William P. Kenan Jr Prof. Econ., Univ. Pennsylvania, Philadelphia, PA, USA, 1983–; Dir., Pop. Stud. Center, Univ. Pennsylvania, 1998–2004; Faculty Fell., Center Advanced Study India, Univ. Pennsylvania, 1993–.

Past Posts Asst Prof., Assoc. Prof., Prof., Chair Econ., Univ. Pennsylvania, 1965–68, 1969–71, 1971–83, 1973–79; Res. Cons., World Bank, 1966–69, 1972–73, 1977–78, 1980–2003, Inter-Amer. Devlp. Bank, 1980–82, 1992–93, 1997–2002, UN, 1982, UN Univ./World Inst. Devlp. Econ. Res. (WIDER), 1987–88, Boston Inst. Devlp. Econ. (BIDE), Devlp. Alternatives Inc. (DAI), Indonesian Min. Planning (BAPPENAS), 1987–88, Rockefeller Foundation Intl Rice Res. Inst. (IRRI), 1987–88, Thai Devlp. Res. Inst., Harvard Inst. Intl Devlp. (HIID), 1987–91, Federacion Nacional de Cafeteros de Colombia, 1988–89, Pew Charitable Trusts, 1988–90, ILO, 1988–90, 1992–93, 1997–98, Intl Devlp. Res. Center/Canada, 1989, Mellon Foundation Williams Coll. Project, 1989–97, Intl Food Pol. Res. Inst., 1989–98, FAO, 1990, Futures Group, 1990–91, Mellon Founda-

tion, 1990–91, Asian Devlp. Bank, 1990–91, 1994–96, 1998–2002, HIID, 1991, USAID, 1991, Asian/Amer. Free Labor Inst., 1991, Dept Higher Educ., NJ, 1991, HIID Unidad de Analisis Politica Economica/Grupo Social Boliviana, 1992–94, UN Pop. Funds, 1993, Pop. Div., UN, 1994–95, US Dept Educ., 1994–95, Intl Sc. and Tech. Inst., 1995, UNDP, 1995, Abt Assoc., 1995–96, Overseas Devlp. Council, 1995–96, Oxford Pol. Mgmt Ltd, South African Regional Inst. Pol. Stud. (SARIPS), Commonwealth Regional Health Community Secretariat East and South Africa (CRHCS-ECSA), Zimbabwe, 1996, Brookings Inst., 1998; Res. Assoc. Cons., MIT-Ford Foundation, Office Natl Econ. Planning, Chile, 1968–71; Vis. Seminar Co-ordinator, Univ. Catolica Santiago, Chile, 1969; Res. Assoc., NBER, 1969–79, Center Latin Amer. Devlp. Stud., Boston Univ., 1978–79; Res. Investigator Cons., Wharton Econometric Forecasting Assoc. Inc., Philadelphia, PA, 1970–71, 1977–81, Brookings Project, Guatemala, 1973–76, UNDP Project Panama, 1975–76, Guatemala, 1976–78; Vis. Lect., Princeton Univ., 1973; Cons., HIID, Central Bank Nicaragua, 1975–76, Nicaragua, 1976–77, Natl Council Apl. Econ. Res., India, 1980, Min. Fin. and Devlp. Planning, Botswana, 1982, Hong Kong Res. Grants Council, 1996, 1998, Govt Tanzania, 1997, Program Pol. Mgmt, Colombia Univ., 1997, Min. Educ., Colombia, 1997–98; Co-Investigator, Ford–Rockefeller–USAID Project, Nicaragua, 1977–81; Acad. Vis. Econ., LSE, London, 1979–81; Vis. Scientist, India, 1980–87; Co-Dir., Center for Analysis of Devlp. Econ., Univ. Pennsylvania, 1982–95; Assoc. Dir., J.H. Lauder Inst. Mgmt and Intl Stud., Univ. Pennsylvania, 1983–87; Acting Dir., Pop. Stud. Center, Univ. Pennsylvania, 1992–93; UN Intl Expert, UNIDO, 1994–95; Act. Chair, Grad. Group Econ., Univ. Pennsylvania, 1995–96; Advisory Comm., SPIA/IFPRI,

2000–02; Steering Comm. and North Amer. Chair, Inter-Amer. Devlp. Bank, Social Pol. Monitoring Network, 2002–; Mem., Comm. Global Devlp. Advisory Comm., 2002–, SODESOL (Mexican Min. Welfare), Sc. Advisory Comm., 2002–.

Degrees BA (Physics) Williams Coll., MA, USA, 1962; PhD MIT, 1966.

Offices and Honours Natl Merit Scholarship, 1958, 1962; Carnegie Fellowship, 1961; Phi Beta Kappa, 1961; NSF Fellowship, 1962–63; Danforth Foundation Fellowship, 1962–63; Tyng Foundation Fellowship, 1962–64; MIT Dissertation Fellowship, 1964–65; AAEA Award Merit, Outstanding Res. Agric., 1967; Ford Foundation Fell., 1971–72; Econ. Hon. Fell., Univ. Wisconsin-Madison, 1976–77; Guggenheim Foundation Fell., 1979–80; Fell., Em Soc, 1980–; Compton Fell., 1980–81; UNCTAD Expert, 1984; Fulbright 40th Anniversary Disting. Fell., 1987; US Comm. on Scholarly Communication with PRC (CSCPRC) Vis. Scholar Exchange Program Award (NAS Council Learned Socs and SSRC), 1988; NAS Expert 1990; Bernhard Disting. Vis. Prof., Williams Coll., 1991; Disting. Vis. Lect., Univ. Belgrano, Argentina, 1994; Bd Trustees, Amer. Comm. on Asian Econ. Stud., 1997–.

Editorial Duties Book Rev. Ed., Co-Ed., Ed. Bd, *JDE*, 1982–85, 1982–95, 1985–95; Ed. Bds, *Demography*, 1984–87, *J. Apl. Em.*, 1985–88, *Intl J. Devlp. Planning Literature*, 1985–, *Malaysian J. Econ. Stud.*, 1988–, *Econ. Educ. Rev.*, 1999–; Ed., *Intl Org.*, 1986–88; Intl Bd Eds, *PDR*, 1987–, *Asian Devlp. Rev.*, 2002–; Ed. Advisory Bd, *Educ. Econ.*, 1991–; Advisory Panel, *Asia-Pacific J. Rural Devlp.*, 1991–; Exec. Ed., *J. Asian Econ.*, 1996–; Sc. Rev. Bd, *Demographic Res.*, 2002–.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth: General; J0 Labor

and Demographic Economics: General; 10 Health, Education, and Welfare: General.

Publications Books: 1. *Supply Response in Underdeveloped Agriculture: A Case Study of Four Major Annual Crops in Thailand 1937–63* (N-H, 1968); 2. *Foreign Trade Regimes and Economic Development: Chile* (Columbia Univ. Press for NBER, 1976); 3. *Macroeconomic Policy in a Developing Country: The Chilean Experience* (N-H, 1977); 4. *Development, the International Economic Order and International Commodity Agreements* (Addison-Wesley, 1978); 5. *Socioeconomic Success: A Study of the Effects of Genetic Endowments, Family Environment and Schooling* (with Z. Hrubec, P. Taubman, T.J. Wales), (N-H, 1980); 6. *Human Resource Led Development?* (ARTEP/ILO, 1990); 7. *Handbook of Development Economics*, Vols 3A and 3B (ed. with T.N. Srinivasan), (N-H, 1995); 8. *From Parent to Child: Intrahousehold Allocations and Intergenerational Relations in the United States* (with R.A. Pollak, P. Taubman), (UCP, 1995); 9. *Human Resources in Latin America and the Caribbean* (JHUP, 1996); 10. *The Social Benefits of Education* (ed. with N. Stacey), (Univ. Michigan Press, 1997).

Articles: 1. 'Parental preferences and provision for progeny' (with R.A. Pollak, P. Taubman), *JPE*, 90, Feb. 1982; 2. 'The quality of schooling: quantity alone is misleading' (with N. Birdsall), *AER*, 73, Dec. 1983; 3. 'The distribution of public services: an exploration of local governmental preferences' (with S.G. Craig), *AER*, 77, March 1987; 4. 'Will developing country nutrition improve with income? A case study for rural south India' (with A.B. Deolalikar), *JPE*, 95, June 1987; 5. 'Family resources, family size, and access to financing for college education' (with R.A. Pollak, P. Taubman), *JPE*, 97, April 1989; 6. 'Endowments and the allocation of schooling in the family and in the mar-

riage market: the twins experiment' (with M.R. Rosenzweig, P. Taubman), *JPE*, 102, Dec. 1994; 7. 'Women's schooling, home teaching, and economic growth' (with A. Foster, M. Rosenzweig, P. Vashishtha), *JPE*, 107, Aug. 1999; 8. 'Child health and school enrollment: a longitudinal analysis' (with H. Alderman, V. Lavy, R. Menon), *JHR*, 36, Winter 2001; 9. 'Does increasing women's schooling raise the schooling of the next generation?' (with M. Rosenzweig), *AER*, 92, March 2002; 10. 'Social networks and changes in contraceptive use over time: evidence from a longitudinal study in rural Kenya' (with H.-P. Kohler, S. Watkins), *Demography*, 39, Nov. 2002.

Principal Contributions Primary research interests in applied micro dimensions of economic development. Secondary research interests in human capital, household behaviour, intergenerational mobility and inequality in the US. Early work on: (i) market responsiveness in developing agriculture; (ii) limited flexibility and policy options in Latin America in response to fiscal, macro and foreign sector policies; (iii) advantages of trade liberalization in developing countries; and (iv) little negative impact of commodity market instabilities on developing economies. Extensive study of family background using US adult twins suggested that standard estimates of schooling returns are biased upwards substantially and that genetic variance is important. Studies on women in Latin America suggested that schooling impacts had been misunderstood due to a failure to control for family background and that integration of marriage with the labour market changes insights regarding investment and migration. Development and estimation of new intrahousehold models that suggested (i) strong parental inequality aversion, so parents do not follow pure investment strategy, (ii) parents favour girls in the US

though not in India, and (ii) US inter-generational mobility is limited. Studies of returns to schooling suggest that they are overstated in standard estimates by the failure to control for school quality and other biases. Recent studies of the impact of women's schooling on children's schooling with control for inter-generational-correlated endowments and assortative mating find that a significantly positive association in cross-sectional data becomes negative due to induced greater labour force participation with such controls in the US, but still has a positive significant impact if labour markets do not reward more schooling for women as in rural India. Recent studies have also illuminated the roles of social networks in the dissemination of innovations – with results that indicate (i) failure to consider networks as choices is misleading, (ii) social networks have significant effects in innovation dissemination and (iii) social networks primarily provide information, not reinforce norms.

BEIL, Jr, Richard Oliver

Born 1955, Fort Worth, TX, USA.

Current Post Assoc. Prof. Econ., Auburn Univ., Auburn, AL, USA, 1988–.

Past Post Vis. Lect., Texas A&M Univ., 1987–88.

Degrees BBA (Mgmt) Texas Tech. Univ., 1977; MA North Texas State Univ., 1982; PhD Texas A&M Univ., 1988.

Offices and Honours Disting. Grad. Asst Teaching Award (presented by Assoc. Former Students, Grad. Coll. Texas A&M Univ.), 1985–86; Outstanding Faculty Mem., Coll. Bus., presented by Auburn Student Govt Assoc., 1995–96; Outstanding Teaching Award, Dept Econ., presented by Coll. Bus., Auburn Univ., 1996–97; William and Kay McCartney Teaching Excellence Award, presented by Coll.

Bus., Auburn Univ., 1996–97; Auburn Univ. Panhellenic Council Outstanding Prof. Award, 1997; Auburn Univ. Mortar Board's Favorite Prof., 1997–98; Honoree Lambda Chi Hons Banquet, 1998; Honoree Auburn Athletic Depts Acad. Top Tiger Banquet 1998; Outstanding Faculty Mem., Coll. Bus., presented by Auburn Student Govt Assoc., 1998–99; Outstanding Prof., presented by Auburn Univ. Panhellenic Council, Winter Q. 1999; Outstanding Faculty Teacher, Dept Econ., presented by Dept Econ., Coll. Bus., 2000–01; Omicron Kappa Delta Favorite Faculty, Auburn Univ. Faculty Senate, Auburn Univ. Faculty Senate Rules Comm., 2002.

Editorial Duties Special Issues Ed., *J. Psychology Marketing*, 1996.

Principal Fields of Interest A2 Teaching of Economics; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications Articles: 1. 'Tacit coordination games, strategic uncertainty, and coordination failure' (with J. Van Huyck, R. Battalio), *AER*, 80, March 1990; 2. 'Strategic uncertainty, equilibrium selection principles, and coordination failure' (with J. Van Huyck, R. Battalio), *QJE*, 106, Aug. 1991; 3. 'Asset markets as an equilibrium selection mechanism: coordination failure, game form auctions, and tacit communication' (with J. Van Huyck, R. Battalio), *Games and Econ. Behav.*, 5, 1993; 4. 'Competition and the price of municipal cable television services: an empirical study' (with P. Dazzio, R. Ekelund, J. Jackson), *J. Regulatory Econ.*, 6, 1993; 5. 'Do people rely on the self-interested maximization of others? An experimental test' (with R. Beard), *Mgmt Sc.*, 40, 1994; 6. 'Pricing strategy under monopoly conditions: an experiment for the classroom' (with R. Nelson), *J. Agric. Apl. Econ.*, 26, 1994; 7. 'When self-interest is self defeating: the public

goods experiment as a teaching tool' (with R. Nelson), *J. Agric. Apl. Econ.*, 26, 1994; 8. 'A classroom experiment on oligopolies' (with R. Nelson), *J. Agric. Apl. Econ.*, 27, 1995; 9. 'Entry and product quality under price regulation' (with D. Kaserman, J. Ford), *Rev. Ind. Org.*, 10, 1995; 10. 'Controlled laboratory experimentation in economic research: an introduction for the marketing practitioner', *J. Psychology and Marketing*, 13, 1996; 11. 'The American Economic Association dues structure' (with D. Laband), *JEP*, 10, 1996; 12. 'The American Political Association dues structure' (with D. Laband), *Polit. Sc. and Polit.*, 30, 1997; 13. 'The American Sociological Association dues structure' (with D. Laband), *Amer. Sociologist*, 29, Spring 1998; 14. 'The economics of prohibition-related crime: contests with externalities' (with M. Thornton), *Advances in Microecon.*, 7, 1998; 15. 'Reliance and non-reliance on self-interested behavior of others: an experimental test' (with Y. Mataga, R. Beard), *J. Univ. Marketing and Distribution Sc.; Memorial Issue of 10th Anniversary* (in Japanese), 1999; 16. 'Are economists more selfish than other "Social" Scientists?' (with D. Laband), *Public Choice*, 100, 1999; 17. 'An economic theory of prohibition-related crime' (with M. Thornton), *Perspectiva Econômica*, 35, 2000; 18. 'Cultural determinants of economic success: reliant behavior in the US and Japan' (with R. Beard, Y. Mataga), *EI*, 39, 2001.

Principal Contributions My work has mostly dealt with incentives that either encourage people to coordinate their actions or keep people from being able to coordinate their actions. This work most often uses the tools of experimental economics to demonstrate that people often react differently from how much of the economics profession would have predicted. These results include coordination failure, lack of reliance on others' ration-

ality, and showing that increasing the number of consensual prohibitions (i.e., prohibitions against alcohol, drugs, prostitution, etc.) increases the amount of non-consensual crime (i.e., theft, murder, graffiti, etc.).

BEKAERT, Geert

Born 1964, Zottegem, Belgium.

Current Posts Leon G. Coopperman Prof. Fin. and Econ., Columbia Bus. Sch., New York, NY, USA, 1999–; Fin. Econ., Fin. Engines, Palo Alto, CA, USA, 1997–; Res. Assoc., NBER Asset Pricing Program, 1999–; Sc. Council, Tilburg Univ., Tilburg, The Netherlands, 2001–; Intl Res. Fell., Kiel Inst. World Econ., Kiel, Germany, 2002–.

Past Posts Staff Mem., Econ. Res. Dept, Kredietbank, Belgium, 1986–87; Asst Prof. Fin., Assoc. Prof. Fin., Tenured Assoc. Prof. Fin., Stanford Univ., Grad. Sch. Bus., 1992–96, 1996–98, 1998–2000.

Degrees Hon. Licentie State Univ. Ghent, 1986; PhD Northwestern Univ., 1992.

Offices and Honours Hon Fell., Belgian Amer. Educ. Foundation, 1987–88; Alfred P. Sloan Doctoral Dissertation Fell., 1991–92; Zellner Award for most outstanding doctoral thesis in Bus. and Econ. Stats, 1994; Acad. Competition, Intl Investment Forum, 2000; New York Stock Exchange Best Paper in Equities Award (with C. Harvey, R. Lumsdaine), Annual Western Fin. Meetings, 2000; First Prize (with A. Ang), Acad. Paper Competition, Chicago Quant. Alliance, 2001; Best Paper Award (with C. Harvey, C. Lundblad), Europ. Fin. Assoc. Meetings, 2001; First Prize, Crowell Memorial Prize Paper Competition, PanAgora Asset Mgmt, 2002; First prize for article presented at Inst. Quant. Investment Res. meeting, Berlin, 2002.

Editorial Duties Assoc. Ed., *J. Empirical Fin.*, 1993–97, *Rev. Fin. Stud.*, 1996–2000, *Emerging Markets Q.*, 1997–2001, *Pacific-Basin Fin. J.*, 1997–, *JFQA*, 1998–; Ed., *J. Empirical Fin.*, 1998–.

Principal Fields of Interest F3 International Finance; C1 Econometric and Statistical Methods: General; G1 General Financial Markets.

Publications *Articles*: 1. ‘Caloric consumption in industrializing Belgium’, *JEH*, 51, Sept. 1991; 2. ‘Characterizing predictable components in excess returns on equity and foreign exchange markets’ (with R.J. Hodrick), *J Fin*, 47, June 1992; 3. ‘On biases in the measurement of foreign exchange risk premiums’ (with R.J. Hodrick), *JIMF*, 12, April 1993; 4. ‘Exchange rate volatility and deviations from unbiasedness in a cash-in-advance model’, *J Int E*, 36, 1994; 5. ‘Market integration and investment barriers in emerging equity markets’, *WBER*, 9, 1995; 6. ‘Time-varying world integration’ (with C.R. Harvey), *J Fin*, 50, June 1995; 7. ‘The time-variation of expected returns and volatility in foreign exchange markets’, *JBES*, 13, Oct. 1995; 8. ‘Diversification, integration and emerging market closed-end funds’ (with M. Urias), *J Fin*, 51, July 1996; 9. ‘The time-variation of risk and return in foreign exchange markets: a general equilibrium perspective’, *Rev. Fin. Stud.*, 9, Summer 1996; 10. ‘Emerging equity market volatility’ (with C.R. Harvey), *J Fin E*, 43, Jan. 1997; 11. ‘On biases in tests of the expectation hypothesis of the term structure of interest rates’ (with R.J. Hodrick, D. Marshall), *J Fin E*, 44, July 1997; 12. ‘The implications of first order risk aversion for asset market risk premiums’ (with R.J. Hodrick, D. Marshall), *JME*, 40, Sept. 1997; 13. ‘Target zones and exchange rates: an empirical investigation’ (with S. Gray), *J Int E*, 45, June 1998; 14. ‘Asymmetric volatility and risk in equity markets’ (with G. Wu),

Rev. Fin. Stud., 13, Spring 2000; 15. ‘Foreign speculators and emerging equity markets’ (with C.R. Harvey), *J Fin*, 55, April 2000; 16. ‘Expectations hypotheses tests’ (with R.J. Hodrick), *J Fin*, 56, Aug. 2001; 17. ‘Peso problem explanations for term structure anomalies’ (with R.J. Hodrick, D. Marshall), *JME*, 48, Oct. 2001; 18. ‘Emerging equity markets and economic development’ (with C.R. Harvey, C. Lundblad), *JDE*, 66, Dec. 2001; 19. ‘Regime switches in interest rates’ (with A. Ang), *JBES*, 20, April 2002; 20. ‘The dynamics of emerging market equity flows’ (with C.R. Harvey, R. Lumsdaine), *JIMF*, 21, 2002.

Principal Contributions First, I have documented patterns of return predictability in international equity, foreign exchange and term structure markets but have also uncovered various statistical inference problems in standard econometric inferences regarding predictability. A combination of time-varying risk and correct statistical inference may account for the predictability patterns. For example, in Bekaert, Hodrick and Marshall (*JME*, 2001), we explain term structure predictability using a regime-switching model in which the population and data frequencies of observing the various regimes differ (an example of a statistical problem called a peso problem) but at the same time the regime switches bring about time-varying risk premiums. Second, in other research (mostly joint with Cam Harvey), I have used the financial liberalization process unfolding in many developing countries since the late 1980s as a laboratory to study international market integration. Liberalization should bring about integration with the global capital market with foreign investors bidding up local stock prices, and reducing the cost of equity capital which in turn may increase investment and economic welfare. It is

also possible that foreign investment has adverse effects, as the 1990s crises in Mexico and Southeast Asia have illustrated. My empirical results so far point toward overall beneficial rather than adverse consequences of equity market liberalization. Because capital market liberalization is a complex process, part of my work has focused on characterizing the degree of integration and ‘dating’ its occurrence. For example, I have proposed measuring the degree of integration directly from equity return data using a parameterized regime-switching model of integration versus segmentation. The model yields a time-varying measure of the extent of integration between 0 and 1.

BELK, Russell W. n.e.

BÉNABOU, Roland Jean-Marc

Born 1958, Paris, France.

Current Post Prof. Econ. and Public Affairs, Princeton Univ., Princeton, NJ, USA, 1999–.

Past Posts Chargé de Recherches, CNRS at CEPREMAP, 1986–88; Asst Prof., Assoc. Prof., MIT, 1988–92, 1992–94; Assoc. Prof., Prof., NYU, 1994–96, 1996–99.

Degrees Ingénieur École Polytech., Paris, 1980; Ingénieur École Nationale des Ponts et Chaussées, Paris, 1982; PhD MIT, 1986.

Offices and Honours Faculty Res. Fell., NBER, 1991–2001; Res. Fell., CEPR, 1992–; Assoc., Inst. Res. Poverty, 1994–; Fell., Em Soc, 1995–; Res. Assoc., NBER, 2002–; Mem., Inst. Adv. Study, 2002–03.

Editorial Duties Foreign Ed., *REStud*, 1993–2001; Overseas Assoc. Ed., *Europ ER*, 1994–2000; Assoc. Ed., *JEG*, 1995–,

QJE, 1997–2001, *Macroecon. Dynamics*, 1997–, *Quality Rated J. Macroecon.*, 2000–, *J Pub E*, 2000–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; D0 Microeconomics: General; Z1 Cultural Economics.

Publications Articles: 1. ‘Search, price setting, and inflation’, *REStud*, 55, 1988, repr. in E. Sheshinski, Y. Weiss (eds), *Optimal Pricing, Inflation and Costs of Price Adjustment* (MIT Press, 1993); 2. ‘Optimal price dynamics and speculation with a storable good’, *Em*, 57, 1989; 3. ‘Inflation and markups: theories and evidence from the retail trade sector’, *Europ ER*, 36, 1991; 4. ‘Inflation and efficiency in search markets’, *REStud*, 59, 1992, repr. in E. Sheshinski, Y. Weiss (eds), *Optimal Pricing, Inflation and Costs of Price Adjustment* (MIT Press, 1993); 5. ‘Using privileged information to manipulate markets: insiders, gurus, and credibility’ (with G. Laroque), *QJE*, 107, 1992; 6. ‘Search with learning from prices: does increased inflationary uncertainty lead to higher markups?’ (with R. Gertner), *REStud*, 60, 1993; 7. ‘Search market equilibrium, bilateral heterogeneity, and repeat purchases’, *JET*, 60, 1993; 8. ‘Workings of a city: location, education, and production’, *QJE*, 108, 1993, repr. in M. Sattinger (ed.), *Income Distribution* (ed. M. Blaug), *The International Library of Critical Writings in Economics* (Edward Elgar, 2001); 9. ‘On inflation and output with costly price changes: a simple unifying result’ (with J. Konieczny), *AER*, 84, 1994; 10. ‘Equity and efficiency in human capital investment: the local connection’, *REStud*, 62, 1996; 11. ‘Heterogeneity, stratification and growth: macroeconomic implications of community structure and school finance’, *AER*, 86, 1996; 12. ‘Inequality and growth’, in B. Bernanke, J. Rotemberg (eds), *NBER Macroecon. Annual* (MIT Press, 1996); 13. ‘Unequal societies: in-

come distribution and the social contract', *AER*, 90, 2000, repr. in D. Cohen, T. Piketty, G. Saint-Paul (eds), *The New Economics of Rising Inequalities* (OUP, 2002); 14. 'Social mobility and the demand for redistribution: the POUM hypothesis' (with E.A. Ok), *QJE*, 116, 2001; 15. 'Tax and education policy in a heterogeneous agent economy: what levels of redistribution maximize growth and efficiency?', *Em*, 70, 2002; 16. 'Self-confidence and personal motivation' (with J. Tirole), *QJE*, 117, Aug. 2002; 17. 'Trust, coordination, and the industrial organization of political activism' (with M. Battaglini), *JEEA*, 1, 2003; 18. 'Human capital, technical change, and the welfare state', *JEEA*, 1, 2003; 19. 'Intrinsic and extrinsic motivation' (with J. Tirole), *REStud*, forthcoming.

Principal Contributions I have made contributions in the following areas: (1) microfoundations of the welfare effects of inflation; imperfect competition and price dynamics; (2) search theory; (3) speculation and market manipulation; (4) local interactions, socio-economic stratification, and growth; (5) urban economics and club theory; human capital, peer effects, and education finance; (6) inequality and growth; income distribution and the determinants of the social contract; (7) political economy, influence; (8) macroeconomics with heterogeneous agents; (9) social mobility and the politics of redistribution; (10) economics and psychology; self-confidence, endogenous memory, self-deception; willpower and self-control, personal rules; intrinsic and extrinsic motivation.

BENCIVENGA, V.R. n.e.

BENDOR, Jonathan

Born 1950, New York City, NY, USA.

Current Post Walter and Elise Haas Prof. Polit. Econ. and Org., Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Prof., Polit. Econ., Grad. Sch. Bus., Stanford Univ., 1976–86, 1986–94, 1994–99.

Degrees BA, MA, PhD (Polit. Sc.) Univ. California, Berkeley, 1972, 1973, 1979.

Offices and Honours Best Article, *Amer. Polit. Sc. Rev.*, 1997; Fell., Center Adv. Study in Behav. Sc., 1999–2000; Best Paper applying quant. methods to a substantive problem, 58th Annual Meeting, Midwest Polit. Sc. Assoc., 2000.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; D8 Information and Uncertainty; H4 Publicly Provided Goods.

Publications *Articles*: 1. 'Institutional structure and the logic of ongoing collective action' (with D. Mookherjee), *Amer. Polit. Sc. Rev.*, 81, March 1987; 2. 'In good times and bad: reciprocity in an uncertain world', *Amer. J. Polit. Sc.*, 37, Aug. 1987; 3. 'Norms, third party sanctions, and cooperation' (with D. Mookherjee), *JLEO*, 6, Spring 1990; 4. 'When in doubt: cooperation in a noisy prisoner's dilemma' (with R. Kramer, S. Stout), *J Conflict Resolution*, 35, Dec. 1991; 5. 'Types of evolutionary stability and the problem of cooperation' (with P. Swistak), *Proceedings NAS*, 92, April 1995; 6. 'A model of muddling through', *Amer. Polit. Sc. Rev.*, 89, Dec. 1995; 7. 'The evolutionary stability of cooperation' (with P. Swistak), *Amer. Polit. Sc. Rev.*, 91, June 1997; 8. 'Evolutionary equilibria: characterization theorems and their implications' (with P. Swistak), *Theory and Decision*, 45, Oct. 1998; 9. 'Reinforcement learning in repeated interaction games' (with D.

Mookherjee, D. Ray), *Advances in Theoretical Econ.*, 1, 2001; 10. 'The evolution of norms' (with P. Swistak), *Amer. J. Sociology*, 106, May 2001; 11. 'Aspiration-based reinforcement learning in repeated games: an overview' (with D. Mookherjee, D. Ray), *Intl Game Theory Rev.*, 3, 2001; 12. 'Theories of delegation' (with A. Glazer, T. Hammond), *Annual Rev. Polit. Sc.*, 4, 2001; 13. 'Bounded rationality in political science', in N. Smelser, P. Baltes (eds), *International Encyclopedia of the Social and Behavioral Sciences* (Elsevier, 2001); 14. 'Recovering behavioralism: adaptively rational strategic behavior with endogenous aspirations' (with D. Diermeier, M. Ting), in K. Kollman, S. Page (eds), *Computational Political Economy* (MIT Press, forthcoming); 15. 'A behavioral model of turnout' (with D. Diermeier, M. Ting), *Amer. Polit. Sc. Rev.*, forthcoming; 16. 'Rational foundations of social institutions: an evolutionary analysis' (with P. Swistak), in J. Morris, K. Soltan, J. Oppenheimer (eds), *Politics and Rational Choice* (Stanford Univ. Press, forthcoming).

Principal Contributions A political scientist by training, my contributions to economics mainly result from long-standing collaboration with two economists (Dilip Mookherjee and Debraj Ray) and with a mathematical sociologist (Piotr Swistak). Mookherjee and I have worked in two areas: n -person collective action problems with imperfect monitoring, and a study of norms via Nash equilibrium analysis. In the former we show that decentralized regimes of conditional cooperation tend to collapse given noise and large N ; certain types of centralized institutions (that punish selectively) are more effective. In the latter we analyze when norms (third-party sanction strategies) are better than dyadic strategies in upholding cooperation as Nash equilibria. Mookherjee, Ray and I have worked on

models of aspiration-based reinforcement learning: actions that 'succeed' (exceed an aspiration level) are reinforced; those that 'fail' are inhibited. We examine stable states of the corresponding stochastic process; in repeated interactions the set of stable states is much smaller than the set of Nash equilibria of folk theorems. In related work with Daniel Diermeier and Michael Ting, we endogenize aspirations and show via computational methods that an aspiration-based model of adaptation solves the 'paradox of voting': citizens vote in substantial numbers even when electorates are large and voting is costly. Piotr Swistak and I have used evolutionary game theory to study the emergence of cooperation and also the evolution of social norms (again, strategies with third-party sanctions). We show that given strong evolutionary pressures the only stable strategies are social norms. And although folk theorems hold – inefficient norms are evolutionarily stable – efficient norms turn out to be the most stable type.

BENHABIB, Jess

Born 1948, Istanbul, Turkey.

Current Post Paulette Goddard Prof. Polit. Econ., NYU, New York City, NY, USA, 1983–.

Past Posts Asst Prof. Econ., Univ. Southern California, 1977–80; Dean Social Sc., Interim Dean Arts and Sc., NYU, 1997–2000, 1998–2000.

Degrees BA Bogazici Univ., Istanbul, 1971; PhD Columbia Univ., 1976.

Offices and Honours Fell., Em Soc, 1992.

Editorial Duties Assoc. Ed., Ed., *JET*, 1991–, 2000–; Assoc. Ed., *ET*, 1994–2000, *JEDC*, 1994–, *Japanese Econ. Rev.*, 1995–; Advisory Panel, *Stud. in Nonlinear Dynamics and Em.*, 1995–.

Principal Fields of Interest E0 Macro-

economics and Monetary Economics: General; O0 Economic Development, Technological Change, and Growth: General; C0 Mathematical and Quantitative Methods: General.

Publications *Articles*: 1. ‘The Hopf bifurcation and existence and stability of closed orbits in multisector models of optimal economic growth’ (with K. Nishimura), *JET*, 21, 1979; 2. ‘Rational choice and erratic behavior’ (with R.H. Day), *RESstud*, 48, 1981; 3. ‘A characterization of erratic trajectories in the overlapping generations model’ (with R.H. Day), *JEDC*, 4, 1982; 4. ‘Job search: the choice of intensity’ (with C. Bull), *JPE*, 91, 1983; 5. ‘Homework in macroeconomics’ (with R. Rogerson, R. Wright), *JPE*, 99, 1991; 6. ‘Vintage capital, investment and growth’ (with A. Rustichini), *JET*, 55, 1991; 7. ‘Externalities and growth accounting’ (with B. Jovanovic), *AER*, 81, 1991; 8. ‘Joint exploitation of a productive asset: a game-theoretic formulation’ (with R. Radner), *ET*, 2, 1992; 9. ‘The role of human capital and political instability in economic development’ (with M. Spiegel), *JME*, 34, 1994; 10. ‘Indeterminacy and increasing returns’ (with R. Farmer), *JET*, 63, 1994; 11. ‘Uniqueness and indeterminacy: on the dynamics of endogenous growth’ (with R. Perli), *JET*, 63, 1994; 12. ‘Social conflict and growth’ (with A. Rustichini), *JEG*, 1, 1996; 13. ‘On the political economy of immigration’, *Europ ER*, 40, 1996; 14. ‘Optimal taxes without commitment’ (with A. Rustichini), *JET*, 77, 1997; 15. ‘The perils of Taylor rules’ (with S. Schmitt-Grohe, M. Uribe), *JET*, 96, 2001; 16. ‘Monetary policy and multiple equilibria’ (with S. Schmitt-Grohe, M. Uribe), *AER*, 91, 2001; 17. ‘Avoiding liquidity traps’ (with S. Schmitt-Grohe, M. Uribe), *JPE*, 110, 2002.

Principal Contributions Most of my work is in the areas of economic growth

and business cycle fluctuations. I have studied how equilibrium models of growth and business cycles can generate cyclic and chaotic trajectories, and have explored the economic mechanisms that could explain the internal propagation dynamics of economic fluctuations. I have investigated how real business cycle models can yield a better fit to the data when agents can choose between leisure, market work and home production. My empirical work on growth has explored the role of external effects, and of vintage capital in accounting for growth. I have explored the role of social conflict on retarding economic growth, and in creating poverty traps below threshold levels of wealth. I have undertaken empirical work aimed at understanding the sources of economic growth, and in particular the role of education in catch-up and technology diffusion. I have investigated the problem of optimal taxation when the government cannot credibly commit to future tax policies. I have explored how imperfect competition and external effects can generate multiple equilibria that can be Pareto-ranked in standard growth and business cycle models, and I have investigated policies that can guide the economy to the selection of good equilibria. In particular I have explored the role of monetary policy in generating destabilizing multiple equilibria and liquidity traps, and I have studied the design of stabilizing monetary and fiscal policies to avoid multiplicities and their undesirable economic consequences.

BENJAMIN, Harry Dwayne

Born 1961, Orillia, Ontario, Canada.

Current Post Prof., Dept Econ., Univ. Toronto, Toronto, Ontario, Canada, 2000–.

Past Posts Res. Asst, Living Standards Unit, World Bank, 1986–87; Asst Prof.,

Assoc. Prof., Dept Econ., Univ. Toronto, 1989–95, 1995–2000; Vis. Assoc. Prof., Woodrow Wilson Sch., Princeton Univ., 1996–97; Vis. Scholar, Dept Econ., Res. Sch. Social Sc., ANU, 1998.

Degrees BSc (High Distinction) Univ. Toronto, 1984; MA, PhD Princeton Univ., 1987, 1989.

Offices and Honours John C. Polanyi Prize, 1992; Mem. Bd, Canadian Employment Res. Forum, 1998–, CEA, 2001–; William Davidson Inst. Res. Fell., 1999–.

Editorial Duties Bd Eds, *CJ*, 1997–99.

Principal Fields of Interest O1 Economic Development; J2 Time Allocation; Work Behavior; Employment Determination and Creation; P2 Socialist Systems and Transitional Economies.

Publications *Book*: 1. *Labour Market Economics* (with M. Gunderson, W.C. Riddell), (McGraw-Hill Ryerson, 1998, 2002).

Articles: 1. ‘Household composition, labor markets, and labor demand: testing for separation in agricultural household models’, *Em*, 60, March 1992; 2. ‘Household welfare and the pricing of cocoa and coffee in Côte d’Ivoire: lessons from the living standards surveys’ (with A. Deaton), *WBER*, 7, Sept. 1993; 3. ‘The determinants of success in university introductory economics courses’ (with G. Anderson, M.A. Fuss), *J. Econ. Educ.*, 25, Spring 1994; 4. ‘The economic performance of immigrants in the Canadian labor market’ (with M. Baker), *J Lab E*, 12, July 1994; 5. ‘Can unobserved land quality explain the inverse productivity relationship?’, *JDE*, 46, Feb. 1995; 6. ‘The distribution of the male–female earnings differential: 1970–1990’ (with M. Baker, A. Desaulniers, M. Grant), *CJ*, 28, Aug. 1995; 7. ‘The receipt of transfers by immigrants to Canada’ (with M. Baker), *JHR*, 30, Fall 1995; 8. ‘Markets, discrimination, and the economic contribution of women in rural China: historical evidence’

(with L. Brandt), *EDCC*, 44, Oct. 1995; 9. ‘The role of the family in immigrants’ labor market activity: an evaluation of alternative explanations’ (with M. Baker), *AER*, 87, Sept. 1997; 10. ‘Land, factor markets, and inequality in rural China: historical evidence’ (with L. Brandt), *Explor. in Econ. Hist.*, 34, Oct. 1997; 11. ‘How do retirement tests affect the labour supply behaviour of older men?’ (with M. Baker), *J Pub E*, 71, Jan. 1999; 12. ‘The highs and lows of the minimum wage effect: a time series–cross section study of the Canadian law’ (with M. Baker, S. Stanger), *J Lab E*, 17, April 1999; 13. ‘Markets and inequality in rural China: parallels with the past’ (with L. Brandt), *AER*, 89, May 1999; 14. ‘Early retirement provisions and the labor force behavior of older men: evidence from Canada’ (with M. Baker), *J Lab E*, 17, Oct. 1999; 15. ‘Aging, well-being, and social security in rural north China’ (with L. Brandt, S. Rozelle), *Pop. and Devlp. Rev.*, 26, Dec. 2000; 16. ‘Property rights, labour markets, and efficiency in a transition economy: the case of rural China’ (with L. Brandt), *CJ*, 35, Nov. 2002.

Principal Contributions My research has focused on a variety of labour market and public policy issues, pertaining to Canada, the US, and especially developing countries. In a Canadian context, I explored a variety of questions concerning immigration, minimum wages, and retirement. I am currently investigating issues related to aging and retirement, and possible linkages with public pension programmes. For developing countries, my main interests concern the empirical testing of various models of rural labour markets, and investigating the connections between labour market institutions and household welfare. My recent projects focus on the impact of economic transition and development on household well-being and behaviour in China and Vietnam.

These research topics include the role of education in rapidly expanding labour markets; the implications for income inequality and poverty; and the consequences of institutional reform for the health and well-being of the elderly.

BENSON, Bruce Lowell

Born 1949, Havre, MT, USA.

Current Posts DeVoe Moore Prof. and Disting. Res. Prof., Res. Assoc., Dept Econ., Florida State Univ., Tallahassee, FL, USA, 1997–, 1993–, 1994–; Sr. Fell., Independent Inst., Oakland, CA, USA, 1997–; Assoc., Polit. Econ. Res. Center, Bozeman, MT, USA, 1982–; Res. Assoc., James Madison Inst. Pol. Stud., Tallahassee, FL, USA, 1989–; Assoc., Inst. Econ. Affairs, London, UK, 1999–; Adjunct Scholar, Ludwig von Mises Inst., Auburn, AL, USA, 1995–; Adjunct Fell., Enterprise Prison Inst., Washington, DC, USA, 1996–.

Past Posts Vis. Asst Prof. Econ., Asst Prof. Econ., Assoc. Prof. Econ., Pennsylvania State Univ., 1978–79, 1979–82, 1982; Assoc. Prof. Econ., Montana State Univ., 1982–85; Pacific Res. Fell., Pacific Res. Inst. Public Pol., 1982–90; Assoc. Prof. Econ., Prof. Econ., Faculty Assoc., Pol. Sc. Center, Florida State Univ., 1985–87, 1987–93, 1987–93; Res. Fell., Independent Inst., 1991–97; Salvatori Fell., Salvatori Center Acad. Leadership, Heritage Foundation, 1992–94.

Degrees BA, MA Univ. Montana, 1973, 1975; PhD Texas A&M Univ., 1978.

Offices and Honours F. Leroy Hill Faculty Fellowship, Inst. Humane Stud., 1985–86; Georgescu-Roegen Prize for best article in *SEJ*, 1989; Hon. Mention Runner-up, H.L. Mencken Natl Book Award for *The Enterprise of Law*, 1991; Earhart Foundation Res. Fellowship, 1991, 1992, 1995, 2002; Ludwig von Mises

Prize, 1992; Bd Trustees, SEA, 1995–97; Bd Dirs, Mem., Center for Study of Emerging Inst., 1998–; Professional Excellence Program Award, Florida State Univ., 1999; Bd Cons., Soc. Legal and Econ. Stud., Praha, Czech Republic, 1999–; *J Private Enterprise* Best Paper Award, 1999; Exec. Comm. Mem. 1999–2001, Vice-Pres., 2001–02, Pres., 2002–03, Assoc. Private Enterprise Educ.; Oversight/Adv. Bd, DeVoe L. Moore Center, 2000–; Sir Antony Fisher Intl Memorial Award for *To Serve and Protect*, 2000; Assoc. Private Enterprise Educ. Disting. Scholar Award, 2001; Advisory Council, Friedrich A. von Hayek Foundation, Buenos Aires, 2001–; Fulbright Sr Specialist in Econ., Czech Republic, 2003–04.

Editorial Duties Assoc. Ed., *J Reg S*, 1988–, *J. Drug Issues*, 1998–, *Rev. Austrian Econ.*, 1998–; Contrib. Ed., *Independent Rev.*, 1995–; Ed. Bds, *Q. J. Austrian Econ.*, 1997–, *J. Libertarian Stud.*, 1999–; Co-Ed., *Econ. J. Watch*, 2001–; Comité Sc., *J. des Écon. et des Études Humaines*, 2002–.

Principal Fields of Interest K4 Legal Procedure, the Legal System, and Illegal Behavior; D7 Analysis of Collective Decision-Making; N4 Government, War, Law, and Regulation.

Publications *Books*: 1. *American Anti-trust Law in Theory and in Practice* (with M. Greenhut), (Avebury, 1989); 2. *The Enterprise of Law: Justice Without the State* (Pacific Res. Inst. Public Pol., 1990); 3. *The Economic Anatomy of a Drug War: Criminal Justice in the Commons* (with D. Rasmussen), (Rowman & Littlefield, 1994); 4. *To Serve and Protect: Privatization and Community in Criminal Justice* (NYU Press, 1998).

Articles: 1. ‘Löschian competition under alternative demand conditions’, *AER*, 70, Dec. 1980; 2. ‘Tariff restrictions which lower price in the restricting country: an analysis of spatial markets’ (with J.

Hartigan), *J Int E*, 14, Aug. 1983; 3. 'Rent seeking from a property rights perspective', *SEJ*, 51, Oct. 1984; 4. 'The political economy of government corruption: the logic of underground government' (with J. Baden), *J. Legal Stud.*, 14, June 1985; 5. 'The lagged impact of state and local taxes on economic activity and political behavior' (with R.N. Johnson), *EI*, 24, July 1986; 6. 'The spontaneous evolution of commercial law', *SEJ*, 55, Jan. 1989; 7. 'Integration of spatial markets' (with M. Faminow), *AJAE*, 70, Feb. 1990; 8. 'On the basing point system' (with M. Greenhut, G. Norman), *AER*, 80, June 1990; 9. 'Basing point pricing and production concentration' (with M. Greenhut, G. Norman, J. Soper), *EJ*, 101, May 1991; 10. 'Are public goods really common pools: considerations of the evolution of policing and highways in England', *EI*, 32, April 1994; 11. 'Police bureaucrats, their incentives, and the war on drugs' (with D. Rasmussen, D. Sollars), *Public Choice*, 83, April 1995; 12. 'An exploration of the impact of modern arbitration statutes on the development of arbitration in the United States', *JLEO*, 11, Oct. 1995; 13. 'Deterrence and public policy: trade-offs in the allocation of police resources' (with I. Kim, D. Rasmussen), *Intl Rev. Law Econ.*, 18, March 1998; 14. 'To arbitrate or to litigate: that is the question', *Europ. J. Law Econ.*, 8, Sept. 1999; 15. 'Entrepreneurial police and drug enforcement policy' (with B. Mast, D. Rasmussen), *Public Choice*, 104, Sept. 2000; 16. 'Privately produced general deterrence' (with B. Mast), *J Law E*, 44, Oct. 2001.

Principal Contributions M.L. Greenhut was my graduate-school mentor, and as a consequence, much of my early work was on spatial price theory and its applications. However, I also studied with Randall Holcombe, Svetozar Pejovich, and Eirik Furubotn, so I developed interests in pub-

lic choice, property rights, and neo-institutional economics, and over time these interests expanded. Furthermore, when David Theroux asked me to contribute to a volume on gun control, I began documenting private responses to crime (initially to demonstrate that the dominant causal relationship ran from crime to guns for protection). As I explored this issue, I realised that the assumption dominating economics, that government provides and enforces the rules of the game, was not valid. This led to *The Enterprise of Law*, a number of articles on private policing, the Law Merchant, arbitration, and customary law, and another book, *To Serve and Protect*. This research continues, with a major focus on the evolution of both law and norms, and another with Brent Mast on the relationships between private security regulation, security market performance, crime, and the demand for public policing. A new research focus also emerged in the late 1980s as David Rasmussen and I started exploring the economics and politics of illicit drug policy. This ongoing collaboration has expanded to consider alcohol policy, generating a number of articles and a book on *The Economic Anatomy of a Drug War*. In the course of my career I have produced four books, over 110 academic journal articles, and more than 40 chapters for edited volumes, along with other publications.

BENTOLILA, Samuel n.e.

BERGER, Allen N.

Born 1953, St. Louis, MO, USA.

Current Posts Sr Econ., Bd Governors Fed. Reserve System, Washington, DC, USA, 1982–; Sr Fell., Wharton Fin. Insts Center, Philadelphia, PA, USA, 1993–.

Past Post Adjunct Prof. Fin., Georgetown Univ., 1989.

Degrees BA (Distinction) Northwestern Univ., 1976; MA, PhD Univ. California, Berkeley, 1979, 1983.

Offices and Honours Co-coordinator, The Efficiency of Financial Institutions Conf., FRB, Atlanta, 1992, The Role of Capital in Financial Institutions Conf., Wharton Fin. Insts Center, 1994, Payments System Research and Public Policy: Risk, Efficiency, and Innovation Conf., Bd Governors Fed. Reserve System, 1995, The Economics of Small Business Finance Conf., NYU, 1997, The Consolidation of the Financial Services Industry Conf., FRB, New York, 1998; Bd Dirs, FMA, 1994–97; Winner of Best Paper Award, *J. Fin. Intermediation*, 2000.

Editorial Duties Assoc. Ed., *J Bank Fin*, 1992–, *J. Fin. Services Res.*, 1996–; Co-Ed., Special issues on ‘The Efficiency of Financial Institutions’, *J. Bank Fin*, 1993, ‘The Role of Capital in Financial Institutions’, *J Bank Fin*, 1995, ‘Payments System Research and Public Policy: Risk, Efficiency, and Innovation’, *JMCB*, 1996, ‘New Approaches in Evaluating the Performance of Financial Institutions’, *Europ. J. OR*, 1997, ‘The Economics of Small Business Finance’, *J Bank Fin*, 1998, and ‘The Consolidation of the Financial Services Industry’, *J Bank Fin*, 1999; Ed., *J. Productivity Analysis*, 1996–; Ed. Advisory Bd, *Contemporary Fin. J.*, 1997–; Ed., Co-Ed., *JMCB*, 1994–2001; Advisory Bd, *JMCB*, 2001–.

Principal Fields of Interest G2 Financial Institutions and Services; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Articles*: 1. ‘Competitive viability in banking: scale, scope, and product mix economies’ (with G.A. Hanweck, D.B. Humphrey), *JME*, 20, Dec. 1987; 2. ‘The price–concentration relationship in banking’ (with T.H. Hannan), *REStat*, 71,

May 1989; 3. ‘Collateral, loan quality, and bank risk’ (with G.F. Udell), *JME*, 25, Jan. 1990; 4. ‘The dominance of inefficiencies over scale and product mix economies in banking’ (with D.B. Humphrey), *JME*, 28, Aug. 1991; 5. ‘The rigidity of prices: evidence from the banking industry’ (with T.H. Hannan), *AER*, 81, Sept. 1991; 6. ‘Some evidence on the empirical significance of credit rationing’ (with G.F. Udell), *JPE*, 100, Oct. 1992; 7. ‘Did risk-based capital allocate bank credit and cause a credit crunch in the US?’ (with G.F. Udell), *JMCB*, 26, Aug. 1994; 8. ‘The profit–structure relationship in banking: tests of market-power and efficient-structure hypotheses’, *JMCB*, 27, May 1995; 9. ‘The relationship between capital and earnings in banking’, *JMCB*, 27, May 1995; 10. ‘Relationship lending and lines of credit in small firm finance’ (with G.F. Udell), *J Bus*, 68, July 1995; 11. ‘The transformation of the US banking industry: what a long, strange trip it’s been’ (with A.K. Kashyap, J.M. Scalise), *BPEA*, 2, 1995; 12. ‘The efficiency of bank branches’ (with J.H. Leusner, J.J. Mingo), *JME*, 40, Sept. 1997; 13. ‘The coexistence of multiple distribution systems for financial services: the case of property-liability insurance’ (with J.D. Cummins, M.A. Weiss), *J Bus*, 70, Oct. 1997; 14. ‘The efficiency cost of market power in the banking industry: a test of the “quiet life” and related hypotheses’ (with T.H. Hannan), *REStat*, 80, Aug. 1998; 15. ‘The effects of bank mergers and acquisitions on small business lending’ (with A. Saunders, J.M. Scalise, G.F. Udell), *J Fin E*, 50, Nov. 1998; 16. ‘Comparing market and regulatory assessments of bank performance: who knows what when?’ (with S.M. Davies, M. Flannery), *JMCB*, 32, Aug. 2000; 17. ‘Conglomeration versus strategic focus: evidence from the insurance industry’ (with J.D. Cummins, M.A. Weiss, H. Zi), *J. Fin. Intermediation*, 9,

Oct. 2000; 18. 'Small business credit availability and relationship lending: the importance of bank organisational structure' (with G.F. Udell), *EJ*, 112, Feb. 2002; 19. 'What explains the dramatic changes in cost and profit performance of the US banking industry?' (with L.J. Mester), *J. Fin. Intermediation*, 12, Jan. 2003; 20. 'The dynamics of market entry: the effects of mergers and acquisitions on entry in the banking industry' (with S.D. Bonime, L.G. Goldberg, L.J. White), *J Bus*, forthcoming.

Principal Contributions I have published more than 85 professional economics and finance articles primarily focused on the performance of financial institutions. I have participated in the creation and dissemination of a number of innovations in the measurement of financial institution efficiency and productivity growth, including measures of scale and scope efficiency, frontier efficiency, and profit efficiency and productivity growth. As well, I have investigated a number of the determinants of these measures of performance, including technological progress, mergers and acquisitions, corporate governance, domestic deregulation, and the falling of international barriers. I have also researched the performance of institutions in terms of providing credit to informationally opaque small businesses. I was among the first to identify and measure the effects of relationship lending. My research has also examined how various contract features – including collateral, commitments, covenants, maturity, and pricing – can be used to mitigate information problems and increase credit availability. As well, I have studied the effects of industry consolidation, cross-border penetration, de novo entry, and credit scoring on the supply of small business credit. My research also includes the application of modern industrial organization tools to address issues of competition and market

power on the performance of financial institutions. I have studied the effects of concentration, market share, and other factors on efficiency, profitability and profit persistence over time, credit availability, and prices. Some of my research has examined the effects of financial institution performance on the macroeconomy. I have investigated credit rationing and credit crunches, the procyclicality of bank lending, and price stickiness. As well, I have researched the effects of government policy changes that operate through financial institutions, such as changes in monetary policy, capital requirements, and supervisory toughness. Other topics in my research agenda include off-balance sheet activities, securitization, market value accounting, and the payments system.

BERGER, Philip Gary

Born 1962, Regina, Canada.

Current Post Prof. Accounting, Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 2002–.

Past Posts Lect. Accounting, Asst Prof., Assoc. Prof., Wharton Sch., Univ. Pennsylvania, 1991–92, 1992–98, 1998–2002; Vis. Assoc. Prof. Mgmt, Sloan Sch., MIT, 1998–99.

Degrees BComm, MSc (Accounting) Univ. Saskatchewan, 1984, 1987; MBA, PhD (Accounting and Econ.) Univ. Chicago, 1988, 1992.

Offices and Honours Prize for best fin. paper, Glucksman Inst. Res., 1997; Tax Manuscript Award, AAA, 1997; Miller-Sherrerd Award for Teaching Excellence in MBA Core, Wharton Sch., 1998; Hon. MA, Univ. Pennsylvania, 1998; Helen K. Moss Anvil Award, Wharton Sch., 1998; Grad. Div. Excellence in Teaching Award, Wharton Sch., 2001, 2002; Class of 1984 Teaching Award, Wharton Sch., 2001, 2002.

Editorial Duties Ed. Bd, *J. Accounting Res.*, 2000–.

Principal Fields of Interest M4 Accounting; G3 Corporate Finance and Governance; L2 Firm Objectives, Organization, and Behavior.

Publications Articles: 1. ‘Explicit and implicit tax effects of the R&D tax credit’, *J. Accounting Res.*, 31, Autumn 1993; 2. ‘Diversification’s effect on firm value’ (with E. Ofek), *J Fin E*, 37, Jan. 1995; 3. ‘Motives for forming research and development financing organizations’ (with A. Beatty, J. Magliolo), *JAE*, 19, March–May 1995; 4. ‘Bustup takeovers of value-destroying diversified firms’ (with E. Ofek), *J Fin*, 51, Sept. 1996; 5. ‘Investor valuation of the abandonment option’ (with E. Ofek, I. Swary), *J Fin E*, 42, Oct. 1996; 6. ‘Managerial entrenchment and capital structure decisions’ (with E. Ofek, D. Yermack), *J Fin*, 52, Sept. 1997; 7. ‘Causes and effects of corporate refocusing programs’ (with E. Ofek), *Rev. Fin. Stud.*, 12, Summer 1999; 8. ‘A simultaneous equations analysis of forecast accuracy, analyst following, and trading volume’ (with A. Alford), *J. Accounting, Auditing Fin.*, 14, Summer 1999; 9. ‘The impact of SFAS No. 131 on information and monitoring’ (with R. Hann), *J. Accounting Res.*, 41, May 2003.

Principal Contributions My work falls into four broad areas. In corporate refocusing, my studies examine the valuation of diversification and the antecedents and consequences of breakups following takeovers and internal restructurings. In corporate tax planning and organizational form choices, my work investigates how firms trade off tax considerations with nontax factors such as capital market imperfections when making organizational form, investing, and financing decisions. Within the area of valuation and sell-side analysts, my research has examined the use of financial statement information in

firm valuation, the role played by sell-side analysts in this process, and how analyst behaviour is affected by firm and analyst characteristics. Finally, within the area of the relation between capital structure and agency costs I have studied the association between managerial entrenchment and capital structure.

BERMAN, Eli

Born 1960, Ottawa, Canada.

Current Post Assoc. Prof., and Mitchell Assoc. Prof. Sustainable Devlp., Rice Univ., Houston, TX, USA, 2002–.

Past Posts Asst Prof., Assoc. Prof., Boston Univ., 1993–2001, 2001–02.

Degrees BA (Econ./Computer Sc.), MA Hebrew Univ., Jerusalem, 1987, 1989; PhD Harvard Univ., 1993.

Offices and Honours Foerder Scholarship, 1987–89; Harvard Prize Fellowship, 1989–91; Perlman Scholarship, 1991–92; Sloan Doctoral Dissertation Fellowship, 1992–93; NBER Sloan Fell., NBER, 1999.

Principal Fields of Interest J0 Labor and Demographic Economics: General; O0 Economic Development, Technological Change, and Growth: General; Q0 Agricultural and Natural Resource Economics: General.

Publications Articles: 1. ‘Changes in the demand for skilled labor within US manufacturing industries: evidence from the annual survey of manufactures’ (with J. Bound, Z. Griliches), *QJE*, 109, May 1994; 2. ‘Skill biased technological change and the structure of employment’ (with S. Machin), in S. Dowrick (ed.), *Economic Approaches to Innovation* (Edward Elgar, 1995); 3. ‘Help wanted, job needed: estimates of a matching function from employment service data’, *J Lab E*, 15, Jan. 1997; 4. ‘Implications of skill-biased technological change: international evidence’

(with J. Bound, S. Machin), *QJE*, 113, Nov. 1998; 5. 'Subsidized sacrifice: state support of religion in Israel', *Contemporary Jewry*, 20, 1999; 6. 'Korbanot Mesubsadot: Tmichat HaMedina beDat beYisrael', *Econ. Q.* (Hebrew trans. 'Subsidized sacrifice'), June 2000; 7. 'Sect, subsidy and sacrifice: an economist's view of Ultra-Orthodox Jews', *QJE*, 115, Aug. 2000; 8. 'Skill-biased technology transfer around the world' (with S. Machin), *OREP*, 16, Fall 2000; 9. 'Kat, Subsidya veKorban: Hashkafato shel Kalkalan al haYehadut haHaredit', *Econ. Q.* (Hebrew trans. 'Sect, subsidy and sacrifice'), June 2001; 10. 'Environmental regulation and labor demand: evidence from the South Coast Air Basin' (with L. Bui), *JPE*, 109, Feb. 2001; 11. 'Environmental regulation and productivity: evidence from oil refineries' (with L. Bui), *REStat*, 83, Aug. 2001; 12. 'Language-skill complementarity: estimated returns to immigrant language acquisition' (with K. Lang, E. Siniver), *Labour Econ.*, forthcoming.

Principal Contributions My co-authors and I have studied 'skill-biased technological change', the tendency of new technologies to favour more educated workers. We have shown that it has been the principal cause of increased demand for education in manufacturing industries not only in the US, but also in other developed and middle-income countries. This same tendency of technology to complement education may explain why poorer countries are slow to converge in income/capita with OECD countries. My work on the economics of religious sects has extended the Iannaccone club good model to show how subsidies to sects can drastically exacerbate radical behaviour, leading to extreme reductions in labour supply and rapid increases in fertility. Those sharp changes were documented in joint work with Ruth Klinov for Ultra-Orthodox Jews in Israel. Recent work ex-

tends that model to explain destructive behaviour by radical Islamic militias. Linda Bui and I applied a treatment/comparison design to measuring the costs of smog reduction in Los Angeles, finding them to be surprisingly small. I have also studied the dynamics of vacancies and unemployment, immigration decisions and the value of language.

BERNANKE, Ben S.

Born 1953, Augusta, GA, USA.

Current Post Prof. Econ. and Public Affairs, Princeton Univ., Princeton, NJ, USA, 1994–.

Past Posts Asst Prof., Assoc. Prof., Grad. Sch. Bus., Stanford Univ., 1979–83, 1983–85.

Degrees BA (Econ.) Harvard Univ., 1975; PhD (Econ.) MIT, 1979.

Offices and Honours Allyn Young Prize, 1975; John H. Williams Prize, 1975; Hoover Inst. Natl Fell., 1982–83; Fell., Em Soc; Res. Assoc., NBER; Alfred P. Sloan Res. Fell., 1983–84.

Editorial Duties Co-Ed., *NBER Macroecon. Annual*, 1994–, *Econ. Letters*, 1993–97, *J Bus*, 1993–; Assoc. Ed., *J. Fin. Intermediation*, 1990–, *JMCB*, 1993–, *QJE*, 1985–92, *REStat*, 1993–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E5 Monetary Policy, Central Banking, and the Supply of Money; N1 Macroeconomics and Monetary Economics; Growth and Fluctuations.

Publications *Book*: 1. *Macroeconomics* (with A. Abel), (Addison-Wesley, 1991, 1994).

Articles: 1. 'Irreversibility, uncertainty and cyclical investment', *QJE*, 89, Feb. 1983; 2. 'Non-monetary effects of the financial crisis in the propagation of the Great Depression', *AER*, 73, June 1983; 3. 'Credit, money and aggregate demand'

(with A.S. Blinder), *AER Papers and Proceedings*, 78, May 1988, repr. in A.S. Blinder (ed.), *Macroeconomics Under Debate* (Wheatsheaf, 1989), and in G. Mankiw, D. Romer (eds), *New Keynesian Economics* (MIT Press, 1991); 4. 'Agency costs, net worth and business fluctuations' (with M. Gertler), *AER*, March 1989; 5. 'Financial fragility and economic performance' (with M. Gertler), *AER*, 105, Feb. 1990; 6. 'Procyclical labor productivity and competing theories of the business cycle: some evidence from US interwar manufacturing industries', *JPE*, 99, June 1991; 7. 'The credit crunch' (with C. Lown), *BPEA*, 2, 1991; 8. 'The federal funds rate and the channels of monetary transmission' (with A. Blinder), *AER*, 82, Sept. 1991; 9. 'The macroeconomics of the Great Depression: a comparative approach' (Money, Credit and Banking Lecture), *JMCB*, 27, Feb. 1995; 10. 'Measuring monetary policy' (with I. Mihor), *QJE*, 113, 1998.

Principal Contributions n.e.

BERNARD, Andrew B.

Born 1963, Cleveland, OH, USA.

Current Post Assoc. Prof., Tuck Sch. Bus., Dartmouth Coll., Hanover, NH, USA, 1999–.

Past Posts Asst Prof., Dept Econ., MIT, 1991–97; Assoc. Prof., Yale Sch. Mgmt, 1997–99.

Degrees AB Harvard Univ., 1985; PhD Stanford Univ., 1991.

Principal Fields of Interest F1 Trade; D2 Production and Organizations; C1 Econometric and Statistical Methods: General.

Publications Articles: 1. 'Convergence in international output' (with S.N. Durlauf), *JAE*, 10, 1995; 2. 'Exporters, jobs and wages in US manufacturing, 1976–87' (with J.B. Jensen), *BPEA:*

Microecon., 1995; 3. 'Productivity and convergence across US states and industries' (with C. Jones), *Empirical Econ.*, 1, 1996; 4. 'Productivity across industries and countries: time series theory and evidence' (with C. Jones), *REStat*, 78, Feb. 1996; 5. 'Interpreting tests of the convergence hypothesis' (with S.N. Durlauf), *J Em*, 71, March 1996; 6. 'Technology and convergence' (with C. Jones), *EJ*, 106, July 1996; 7. 'Comparing apples and oranges: productivity convergence and measurement across industries and countries' (with C. Jones), *AER*, 86, 1996; 8. 'Exporters, skill upgrading and the wage gap' (with J.B. Jensen), *J Int E*, 42, 1997; 9. 'Exports and success in German manufacturing' (with J. Wagner), *WA*, 133, 1997; 10. 'Exceptional exporter performance: cause, effect, or both?' (with J.B. Jensen), *J Int E*, 47, 1999; 11. 'Export entry and exit by German firms' (with J. Wagner), *WA*, 137, 2001; 12. 'Entry, expansion and intensity in the US export boom, 1987–1992' (with J.B. Jensen), *Rev. Intl Econ.*, forthcoming; 13. 'Who wins the Olympic Games? Economic resources and medal totals' (with M.R. Busse), *REStat*, forthcoming; 14. 'Plants and productivity in international trade' (with J. Eaton, J.B. Jensen, S.S. Kortum), *AER*, forthcoming.

Principal Contributions n.e.

BERNHEIM, B. Douglas n.e.

BERRY, Steven T. n.e.

BERTOLA, Giuseppe

Born 1960, Ivrea, Turin, Italy.

Current Post Prof. Ordinario, Faculty Sc. Polit., Univ. Torino, Turin, Italy, 2000–.

Past Posts Asst Prof., Princeton Univ., 1988–93; Prof. Assoc., Prof. Straordinario, Univ. Torino, 1993–96, 1996–97; Prof., Europ. Univ. Inst., Fiesole, Florence, Italy, 1997–2003.

Degrees Laurea (Economia e Commercio) Univ. Torino, 1983; PhD MIT, 1988.

Offices and Honours Council, Europ. Econ. Assoc., 1993–2003.

Editorial Duties Condirettore, *Giornale degli Economisti e Annali di Economia*, 1997–; Joint Managing Ed., *Econ. Pol.*, 2001–.

Principal Fields of Interest A0 General Economics and Teaching: General; E0 Macroeconomics and Monetary Economics: General; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Social Europe: One for All?* (with C. Bean, S. Bentolila, J. Dolado), (CEPR, 1998); 2. *Metodi dinamici e fenomeni macroeconomici* (with F. Bagliano), (Il Mulino, 1999).

Articles: 1. ‘Institutions and labor reallocation’ (with R. Rogerson), *Europ ER*, 41, 1997; 2. ‘Interest rate targeting and the dynamics of short-term rates’ (with P. Balduzzi, S. Foresi, L. Klapper), *JMCB*, 30, 1998; 3. ‘Irreversible investment’ (1989 unpubl. draft), *Ricerche Econ./Res. Econ.*, 52, 1998; 4. ‘Convergence ... an overview’, in R. Baldwin, D. Cohen, A. Sapir, A. Venables (eds), *Market Integration, Regionalism and the Global Economy* (CUP, 1999); 5. ‘Microeconomic perspectives on aggregate labor markets’, in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3B (N-H, 1999); 6. ‘Macroeconomics of income distribution and growth’, in A.B. Atkinson, F. Bourguignon (eds), *Handbook of Income Distribution*, Vol. 1 (N-H, 2000); 7. ‘Employment protection in industrialized countries: the case for new indicators’ (with T. Boeri, S. Cazes), *Intl Lab. Rev.*, 139, 2000; 8. ‘Making work pay: policy choices and interac-

tions with existing instruments’, *OECD Econ. Stud.*, 31, 2000; 9. ‘Labor markets in the European Union’, *ifo Studien*, 1, 2000; 10. ‘Welfare systems and labour markets in Europe: what convergence before and after EMU?’ (with J.F. Jimeno, R. Marimon, C. Pissarides), in G. Bertola, T. Boeri, G. Nicoletti (eds), *Welfare and Employment in a United Europe* (MIT Press, 2001; Italian trans., *Protezione sociale, occupazione ed integrazione europea*, Il Mulino, 2001); 11. ‘Banks’ reserve management, transaction costs, and the timing of federal reserve intervention’ (with L. Bartolini, A. Prati), *J Bank Fin*, 25, 2001; 12. ‘Wages and the size of firms in a dynamic matching model’ (with P. Garibaldi), *Rev. Econ. Dynamics*, 4, 2001; 13. ‘Europe’s unemployment problems’, in M. Artis, F. Nixson (eds), *Economics of the European Union* (OUP, 2nd edn 2001); 14. ‘Day-to-day monetary policy and the volatility of the federal funds rate’ (with L. Bartolini, A. Prati), *JMCB*, 34, Feb. 2002; 15. ‘Comparative analysis of labor market outcomes: lessons for the US from international long-run evidence’ (with F.D. Blau, L.M. Kahn), in A.B. Krueger, R. Solow (eds), *The Roaring Nineties: Can Full Employment Be Sustained?* (Russell Sage and Century Foundations, 2002); 16. ‘EMU labour markets two years on: microeconomic tensions and institutional evolution’ (with T. Boeri), in M. Buti, A. Sapir (eds), *EMU and Economic Policy in Europe: The Challenge of the Early Years* (Edward Elgar, 2002); 17. ‘The overnight interbank market: lessons from the G-7’ (with A. Prati, L. Bartolini), *J Bank Fin*, forthcoming; 18. ‘A pure theory of job security and labor income risk’, *REStud*, forthcoming.

Principal Contributions My research studies macroeconomic interactions in the light of institutional features. I study the implications of employment protection and other labor market regulation for employment and wage patterns, and the im-

plications of central bank intervention rules for the dynamic behavior of exchange rates and money market interest rates. I also work on the European Economic and Monetary Union process, on theoretical and empirical aspects of durable consumption patterns and households' interactions with credit suppliers, and other applied topics.

BESLEY, Timothy John

Born 1960, Kesteven, England.

Current Post Prof. Econ., LSE, London, UK, 1995–.

Past Posts Fell., All Souls Coll., Oxford, 1984–91; Asst Prof. Econ. and Intl Affairs, Princeton Univ., 1989–95.

Degrees BA (PPE), MPhil, DPhil Oxford Univ., 1983, 1985, 1987.

Offices and Honours Council Mem., RES, 2000–, Europ. Econ. Assoc., 2001–, Em Soc, 2002–; Richard Musgrave Prize, 2000; Fell., Em Soc, 2000–; Dir., STICERD, LSE, 2001–.

Editorial Duties Managing Ed., *EJ*, 1997–99; Co-Ed., *AER*, 1999–.

Principal Fields of Interest H0 Public Economics: General; H1 Structure and Scope of Government; O1 Economic Development.

Publications Articles: 1. 'Public provision of private goods and the redistribution of income' (with S. Coate), *AER*, 81, Sept. 1991; 2. 'Decentralizing public good supply' (with I. Jewitt), *Em*, 59, Nov. 1991; 3. 'Workfare versus welfare: incentive arguments for work requirements in poverty alleviation programs' (with S. Coate), *AER*, 82, March 1992; 4. 'Taxes and bribery: the role of wage incentives' (with J. McLaren), *EJ*, 103, Jan. 1993; 5. 'The economics of rotating savings and credit associations' (with S. Coate, G. Loury), *AER*, 83, Sept. 1993; 6. 'Thy neighbor's keeper: the design of a credit

cooperative with theory and a test' (with A. Banerjee, T. Guinnane), *QJE*, May 1994; 7. 'Rotating savings and credit associations, credit markets and efficiency' (with S. Coate, G. Loury), *REStud*, 61, Oct. 1994; 8. 'Incumbent behavior: vote seeking, tax setting and yardstick competition' (with A. Case), *AER*, 85, March 1995; 9. 'The design of income maintenance programs' (with S. Coate), *REStud*, 62, April 1995; 10. 'Does electoral accountability affect economic policy choices? Evidence from gubernatorial term limits' (with A. Case), *QJE*, 110, Aug. 1995; 11. 'Property rights and investment incentives: theory and evidence from Ghana', *JPE*, 103, Oct. 1995; 12. 'Savings, credit and insurance', in J. Behrman, T.N. Srinivasan (eds), *Handbook of Development Economics*, Vol. IIIa (N-H, 1995); 13. 'Non-market institutions for credit and risk-sharing in low-income countries', *JEP*, Symposium on Consumption Smoothing in the Third World, Summer 1995; 14. 'An economic model of representative democracy' (with S. Coate), *QJE*, 112, Feb. 1997; 15. 'Sources of inefficiency in a representative democracy: a dynamic analysis' (with S. Coate), *AER*, 88, 1998; 16. 'Land reform, poverty reduction and growth: evidence from India' (with R. Burgess), *QJE*, 115, May 2000; 17. 'Lobbying and welfare in a representative democracy' (with S. Coate), *REStud*, 68, Jan. 2001; 18. 'Public versus private ownership of public goods' (with M. Ghatak), *QJE*, 116, Nov. 2001.

Principal Contributions Most of my work has been on policy problems straddling an interest in developing and developed countries. Latterly this has been combined with an interest in political economy issues. Much of this work considers how non-market institutions work. This includes work on micro-finance in developing countries. Among my contributions in this area is a theoretical model of rotating savings

and credit associations (with Stephen Coate and Glenn Loury) and of group lending (with Stephen Coate). I have also written on property rights in agriculture including empirical studies in Ghana and India. The work on political economy has two main strands. With Stephen Coate, I have developed a model of representative democracy based on citizens as policy makers (the so-called citizen-candidate approach). This allowed us to look carefully at some welfare economic issues in government. It also gives a way of handling some multi-dimensional policy problems. My other main interest is in models where there are information problems between citizens and policy makers (political agency models). One significant application is to yardstick political competition (work with Anne Case). Another is to work on the media (with Robin Burgess and Andrea Prat). My work in the political economy area spans theory and empirics.

BESSEMBINDER, Hendrik (Hank)

Born 1956, Chemainus, BC, Canada.

Current Post Blaine Huntsman Presidential Chair Fin., David Eccles Sch. Bus., Univ. Utah, Salt Lake City, UT, USA, 2001–.

Past Posts Vis. Asst Prof. Fin., Simon Grad. Sch. Bus., Univ. Rochester, 1986–89; Asst Prof. Fin., Assoc. Prof., Prof., Coll. Bus., Arizona State Univ., 1989–99; Prof. Fin., Goizueta Bus. Sch., Emory Univ., 1999–2001.

Degrees BS (Bus. with Econ., *cl*) Utah State Univ., 1977; MBA Washington State Univ., 1978; PhD (Fin.) Univ. Washington, 1986.

Office Dir., Western Fin. Assoc., 2000–02.

Editorial Duties Assoc. Ed., *JFQA*, 1999–, *J Fin.*, 2000–, *J. Fin. Markets*, 2000–, *J Fin E*, 2001–.

Principal Field of Interest G1 General Financial Markets.

Publications Articles: 1. ‘Forward contracts and firm value: investment incentive and contracting effects’, *JFQA*, 26, Dec. 1991; 2. ‘Time varying risk premia and forecastable returns in futures markets’ (with K. Chan), *J Fin E*, 32, Oct. 1992; 3. ‘Systematic risk, hedging pressure, and risk premiums in futures markets’, *Rev. Fin. Stud.*, 5, 1992, repr. in A.G. Malliaris (ed.), *Futures Markets* (Edward Elgar, 1997); 4. ‘Futures trading activity and stock price volatility’ (with P. Seguin), *J Fin*, 57, Dec. 1992; 5. ‘Price volatility, trading volume, and market depth: evidence from futures markets’ (with P. Seguin), *JFQA*, 28, March 1993; 6. ‘An empirical analysis of risk premia in futures markets’, *J. Futures Markets*, 13, Sept. 1993; 7. ‘Return autocorrelations around non-trading days’ (with M. Hertzfel), *Rev. Fin. Stud.*, 6, 1993; 8. ‘Bid–ask spreads in the interbank foreign exchange markets’, *J Fin E*, 35, June 1994, repr. in L. Sarno, M.P. Taylor (eds), *New Developments in Exchange Rate Economics* (Edward Elgar, 2001); 9. ‘Mean reversion in equilibrium asset prices: evidence from the futures term structure’ (with J. Coughenour, M. Monroe, P. Seguin), *J Fin*, 50, March 1995; 10. ‘The profitability of technical trading rules in the Asian stock markets’ (with K. Chan), *Pacific-Basin Fin. J.*, 3, July 1995; 11. ‘Is there a term structure of futures volatilities? Re-evaluating the Samuelson hypothesis’ (with J. Coughenour, P. Seguin, M. Smoller), *J. Derivatives*, 4, Winter 1996; 12. ‘An empirical examination of information, differences of opinion, and trading activity’ (with P. Seguin, K. Chan), *J Fin E*, 40, Jan. 1996; 13. ‘The degree of price resolution and equity trading costs’, *J Fin E*, 45, July 1997; 14. ‘A comparison of trade execution costs for NYSE and NASDAQ-listed stocks’ (with H.

Kaufman), *JFQA*, 32, Sept. 1997; 15. 'A cross-exchange comparison of execution costs and information flow for NYSE-listed stocks' (with H. Kaufman), *J Fin E*, 46, Dec. 1997; 16. 'Market efficiency and the returns to technical analysis' (with K. Chan), *Fin. Mgmt*, 27, Summer 1998; 17. 'Trading costs and volatility for technology stocks' (with H. Kaufman), *Fin. Analysts J.*, 54, Sept./Oct. 1998; 18. 'Trade execution costs on NASDAQ and the NYSE: a post-reform comparison', *JFQA*, 34, Sept. 1999; 19. 'Tick size, spreads, and liquidity: an analysis of NASDAQ securities trading near ten dollars', *J. Fin. Intermediation*, 9, 2000; 20. 'Equilibrium pricing and optimal hedging in electricity forward markets' (with M. Lemmon), *J Fin*, 57, June 2002.

Principal Contributions n.e.

BHAGAT, Sanjai n.e.

BHAGWATI, Jagdish n.e.

BIKCHANDANI, Sushil n.e.

BINMORE, Kenneth George

Born 1940, London, UK.

Current Post Prof. Econ., Bristol Univ., Bristol, UK, 2001–.

Past Posts Lect. Maths, Royal Holloway Coll., London Univ., 1965–69; Vis. Prof. Maths, State Univ., Albany, NY, 1967–68; Lect., Reader, Prof., Maths, LSE, 1969–88; Vis. Lect. Econ., Pennsylvania Univ., 1985–86; Prof., Econ., LSE, 1988–90; Prof. Econ., Michigan Univ., 1988–93; Prof. Econ., Univ. Coll. London, 1991–2002.

Degrees BSc, PhD (Maths) Imperial Coll., London Univ., 1962, 1965.

Offices and Honours Chairman, Dept Stats and Maths Sc., LSE, 1978–80; Fell. Commoner, Churchill Coll., Cambridge Univ., 1980–; Fell., Inst. Maths and its Apl., 1980–; Fell., Em Soc, 1988; Dir., Centre for Econ. Learning and Social Devlp., Univ. Coll. London, 1994; Fell., BA, 1996–; Council, RES, 1997–2001; Fell., Royal Soc. Arts, Manufactures and Commerce, 1997–; Council, Europ. Econ. Assoc., 1998–2002; CBE, 2001, Foreign Mem., AAAS, 2002–.

Editorial Duties Ed. Bd, *Ec*, 1980–88; Assoc. Ed., *Games and Econ. Behav.*, 1990–96, *Intl J. Games Theory*, 1994–, *Econ. and Philo.*, 1995–97; Ed., MIT Press *Econ. Learning and Social Evolution* series, 1995–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; H0 Public Economics: General.

Publications *Books*: 1. *Mathematical Analysis: A Straightforward Approach* (CUP, 1977); 2. *Foundations of Analysis: Logic, Sets and Numbers* (CUP, 1980); 3. *Foundations of Analysis: Topological Ideas* (CUP, 1981); 4. *Calculus* (CUP, 1982); 5. *Economic Organisations as Games* (ed. with P. Dasgupta), (Blackwell, 1986); 6. *Economics of Bargaining* (ed. with P. Dasgupta), (Blackwell, 1986); 7. *Fun and Games* (D.C. Heath, 1991); 8. *Playing Fair: Game Theory and the Social Contract I* (MIT Press, 1994); 9. *Just Playing: Game Theory and the Social Contract II* (MIT Press, 1998).

Articles: 1. 'Bargaining and coalitions', in A. Roth (ed.), *Game-Theoretic Models of Bargaining* (CUP, 1985); 2. 'Testing non-cooperative game theory: a preliminary study' (with A. Shaked, J. Sutton), *AER*, 75, 1985; 3. 'Nash bargaining theory I, II and III and other papers', in K. Binmore, P. Dasgupta (eds), *Economics of Bargaining* (Blackwell, 1986); 4. 'Nash bargaining solution in economet-

ric modelling' (with A. Rubenstein, A. Wolinsky), *RandJE*, 17, 1986; 5. 'Modelling rational players I and II', *Econ. and Philo.*, 3, 1987, and 4, 1988; 6. 'Security equilibrium' (with M. Herrero), *REStud*, 55, 1988; 7. 'Matching and bargaining in dynamic markets' (with M. Herrero), *REStud*, 55, 1988; 8. 'Do people exploit their bargaining power? An experimental study' (with P. Morgan, A. Shaked, J. Sutton), *Games and Econ. Behav.*, 3, 1991; 9. 'Evolutionary stability in repeated games played by finite automata' (with L. Samuelson), *JET*, 57, 1992; 10. 'Equilibrium selection and evolutionary drift' (with L. Samuelson), *REStud*, 66, 1999; 11. 'Coordinated action in the Electronic Mail Game' (with L. Samuelson), *Games and Econ. Behav.*, 35, 2001.

Principal Contributions Proving limitation theorems for gap power series. Clarifying the role of the Nash bargaining solution in economic modelling. Pioneering the use of learning as an explanatory variable in experimental economics. Calling attention to the unsound foundations of the literature on refinements of Nash equilibrium. Naturalizing the theories of justice proposed by Harsanyi and Rawls to allow a proper treatment of interpersonal comparison of utility. Contributing to the literature on evolutionary models of economic dynamics. Designing multi-billion dollar telecom auctions.

BINSWANGER, Hans P.

Born 1943, Kreuzlingen, Switzerland.

Current Posts Dir., Rural Devlp. and Environment, Africa Region and Sr Adviser, Rural Devlp., World Bank, Washington, DC, USA, 1980–.

Past Posts Res. Assoc., Univ. Minnesota, 1973–74; Assoc., Agric. Devlp. Council, New York, 1974–80; Principal

Econ., Intl Crops Res. Inst. Semi-Arid Tropics, Hyderabad, India, 1975–80.

Degrees Certificat (Polit. Sc.) Univ. Paris, 1964; Ing. Agric. (Agric. Sc.) ETH, Zurich, Switzerland, 1969; PhD North Carolina State Univ., 1973.

Offices and Honours Awards for Excellence in Publication 1979; Quality of Res. Discovery, 1988; Fell., AAEA, 1998.

Editorial Duties Assoc. Ed., *AJAE*, 1983–84.

Principal Fields of Interest D0 Microeconomics: General; O0 Economic Development, Technological Change, and Growth: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *The Economics of Tractors in South Asia: An Analytical Review* (Agric. Devlp. Council, 1978); 2. *Induced Innovation; Technology Institutions and Development* (with V. Ruttan and others), (JHUP, 1978); 3. *Rural Household Studies in Asia* (ed. with R. Evenson, C. Florenzo, B. White), (Singapore Univ. Press, 1980); 4. *Thailand, Rural Growth and Employment* (with others), (World Bank, 1983); 5. *Rural Labor Markets in Asia; Contractual Arrangements, Employment and Wages* (ed. with M. Rosenzweig), (YUP, 1984); 6. *Agricultural Mechanization and the Evolution of Farming Systems in Sub-Saharan Africa* (with Y. Bigot, P. Pingali), (JHUP, 1987); 7. *Policies, Markets and Mechanisms for Agricultural Land Reform in South Africa* (with J. Kirsten, J. van Zyl), (OUP, 1995).

Articles: 1. 'The measurement of technical change biases with many factors of production', *AER*, 64, Dec. 1974; 2. 'Attitudes toward risk, experimental measurement of rural India', *AJAE*, 62, Aug. 1980; 3. 'Attitudes toward risk, theoretical implications of an experiment in rural India', *EJ*, 91, Dec. 1981; 4. 'Behavior and material determinants of production relations in agriculture' (with M.

Rosenzweig), *J Dev Stud*, 22, April 1986; 5. 'Modeling the impact of agricultural growth and government policy on income distribution in India' (with J. Quizon), *WBER*, 1, Sept. 1986; 6. 'On the determinants of cross-country aggregate agricultural supply' (with A. Bowers, Y. Mundlak, M. Yang), *Em*, 36, 1987; 7. 'Brazilian policies that encourage deforestation in the Amazon', *WD*, 19, July 1991; 8. 'Wealth, weather, risk and the profitability of agricultural investment' (with M. Rosenzweig), *EJ*, 103, Jan. 1993; 9. 'Power, distortions, revolt, and reform in agricultural land relations' (with K. Deininger, H. Feder), in *Handbook of Development Economics* (N-H, 1995); 10. 'Explaining agricultural and agrarian policies in developing countries' (with K. Deininger), *JEL*, 35, 1997.

Principal Contributions With my many collaborators, I have strengthened the theoretical underpinnings of agricultural and rural development, tested the underlying theories, estimated policy-relevant parameters, and synthesized knowledge in the areas of technical change, agricultural supply, behavior under risk, production relations, land markets, land reform, and the political economy of agriculture. A major line of inquiry concerns peasant behavior. Peasants are risk averse. Their incomes are covariant, which explains the imperfections in agricultural insurance and financial markets. Imperfect intertemporal markets, together with other material conditions of agriculture, explain key features of peasant behavior. Peasants are credit rationed. They have to rely on wealth and social networks for risk diffusion. The poorer ones cannot maximize profits but use their investments to reduce risk. Nevertheless, family farms usually have higher total factor productivity than other farm types. This is because of superior incentives to work and to invest. Land sales

markets in many countries have failed to allocate land to efficient family farms. Imperfect intertemporal markets would be sufficient to explain this failure, and the resulting need to use land reform to effect this reallocation. But usually policy distortions contribute to imperfect land markets. Many distortions have been used to drive down the profitability of owner-operated family farms and induce peasants to offer themselves as workers or tenants to less-efficient large owners. The distortions explain agricultural stagnation, resource degradation, and rural poverty in many countries. When we try to explain why the distortions are adopted a striking paradox emerges: family farms are handicapped in the political arena by the same material conditions and market imperfections which lead to their economic superiority. They thus easily become victims of distortions, taxation, and urban bias.

BIRCH, Stephen n.e.

BISHOP, John A.

Born 1955, Norfolk, VA, USA.

Current Posts Prof. Econ. and Grad. Dir., East Carolina Univ., Greenville, NC, USA, 1998–.

Past Posts Vis. Asst Prof. Econ., Univ. Alabama, 1987–88; Asst Prof., Assoc. Prof., East Carolina Univ., 1988–93, 1993–98.

Degrees BA (Distinction) Univ. Virginia, 1978; MA Virginia Commonwealth Univ., 1983; PhD Univ. Alabama, 1987.

Offices and Honours Beta Gamma Sigma, 1982; Outstanding Grad. Student in Econ., Virginia Commonwealth Univ., 1983; Coll. Commerce Outstanding Dissertation Award, Univ. Alabama, 1987–88; Post-Doctoral Res. Fellowship, Luxembourg Income Study, 1988.

Editorial Duties Ed., *Res. Econ. Inequality*, 2000–; Assoc. Ed., *J. Econ. Inequality*, 2000–.

Principal Fields of Interest D3 Distribution; D6 Welfare Economics; I3 Welfare and Poverty.

Publications *Articles*: 1. ‘Health scare, excise taxes and advertising ban in cigarette demand and supply’ (with J. Yoo), *SEJ*, 57, Oct. 1985; 2. ‘Asymptotically distribution-free statistical inference for generalized Lorenz curves’ (with S. Chakraborti, P. Thistle), *REStat*, 71, Nov. 1989; 3. ‘Lorenz dominance and welfare: changes in the US distribution of income, 1967–1986’ (with J. Formby, W.J. Smith), *REStat*, 73, Feb. 1991; 4. ‘Rank dominance and international comparisons of income distributions’ (with J. Formby, P. Thistle), *Europ ER*, 35, Oct. 1991; 5. ‘Tests for Lorenz dominance: a study of inequality in nine countries’ (with J. Formby, W.J. Smith), *Ec*, 58, Nov. 1991; 6. ‘Are regional income distributions converging?’ (with J. Formby, P. Thistle), *AER*, 82, March 1992; 7. ‘Explaining interstate variation in income inequality’ (with J. Formby, P. Thistle), *REStat*, 74, Aug. 1992; 8. ‘Truncation bias and the ordinal evaluation of income inequality’ (with J. Formby, J.R. Chiou), *JBES*, 12, Jan. 1994; 9. ‘Convergence and divergence of regional income distributions and welfare’ (with J. Formby, P. Thistle), *REStat*, 76, May 1994; 10. ‘Testing for marginal changes in income distributions with Lorenz and concentration curves’ (with J. Formby, V. Chow), *IER*, 35, May 1994; 11. ‘The impact of the US food stamp program on poverty in the 1980s’ (with J. Formby, L. Zeager), *Ec*, 63, May 1996; 12. ‘Taxpayer noncompliance and the distribution of income and tax burdens in the United States: evidence from random IRS audits’ (with J. Formby, V. Chow, C. Ho), in J. Creedy (ed.), *Taxation, Poverty, and Income Distribution* (Edward Elgar,

1996); 13. ‘A dominance approach to evaluating the US distribution of income’ (with J. Formby), in J. Bergstrand *et al.* (eds), *The Changing Distribution of Income in an Open US Economy* (Blackwell, 1996); 14. ‘Inference tests for Sen’s distribution sensitive poverty index’ (with J. Formby, B. Zheng), *IER*, 38, May 1997; 15. ‘Inference tests of Gini-based tax progressivity indices’ (with J. Formby, B. Zheng), *JBES*, 16, July 1998; 16. ‘Distribution sensitive measures of poverty in the United States’ (with B. Zheng, J. Formby), *Rev. Social Econ.*, 57, Sept. 1999; 17. ‘Tests of significance for Lorenz partial orders’ (with J. Formby), in J. Silber (ed.), *Income Inequality Measurement: From Theory to Practice* (Kluwer, 1999); 18. ‘The effect of food stamp cashout on undernutrition’ (with J. Formby, L. Zeager), *Econ. Letters*, 67, March 2000; 19. ‘Redistribution through the income tax: the vertical and horizontal effects of noncompliance and tax evasion’ (with J. Formby, P. Lambert), *Public Fin. Rev.*, 28, June 2000; 20. ‘Decomposing Lorenz and concentration curves’ (with L. Zeager, V. Chow), *IER*, forthcoming 2003.

Principal Contributions The majority of my work has focussed on using the tools of stochastic dominance and statistical inference to draw conclusions about poverty, inequality, and welfare. The advantage of stochastic dominance as a tool in welfare economics is that its ordinal rankings are more widely acceptable than cardinal index numbers (such as the Gini). This work began by demonstrating the ranking power of the Lorenz curve in many different empirical settings when sampling variability is taken into account. Similar tools are applied to ranking welfare where we conclude that the first (rank) order dominance ordering is only marginally improved by second (generalized Lorenz) and higher order dominance in

many empirical applications. New inference tools have been developed to support the empirical issues undertaken. Finally, we apply the dominance approach to regional convergence of income distributions, policy evaluation, tax progressivity orderings, nutrition orderings, and mortality orderings. My current work includes a decomposition of the ordinary Lorenz curve and studying the relationship between Lorenz and concentration curves.

BLACK, Bernard S. n.e.

BLACKBURN, McKinley Lee

Born 1960, Greenville, SC, USA.

Current Post Prof., Univ. South Carolina, Columbia, SC, USA, 1987–.

Past Post Vis. Scholar, Russell Sage Foundation, 1989–90.

Degrees BS Univ. South Carolina, 1982; MA, PhD Harvard Univ., 1985, 1987.

Honour Aldi J.M. Hagenaars Memorial Award, Luxembourg Income Study, 1994.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J1 Demographic Economics; J3 Wages, Compensation, and Labor Costs.

Publications *Articles*: 1. 'Earnings and income inequality' (with D.E. Bloom), *Pop. and Devlp. Rev.*, 13, Dec. 1987; 2. 'Interpreting the magnitude of changes in measures of income inequality', *J Em*, 43, Oct. 1989; 3. 'Poverty measurement: an index related to a Theil measure of inequality', *JBES*, 7, Oct. 1989; 4. 'Trends in poverty in the United States: 1967–84', *RIW*, 36, March 1990; 5. 'What can explain the increase in earnings inequality among males?', *Ind. Relations*, 29, Fall 1990; 6. 'Unobserved ability, efficiency

wages, and interindustry wage differentials' (with D. Neumark), *QJE*, 107, Nov. 1992; 7. 'Omitted-ability bias and the increase in the return to schooling' (with D. Neumark), *J Lab E*, 11, July 1993; 8. 'International comparisons of poverty', *AER*, 84, May 1994; 9. 'The worker adjustment and retraining notification act: effects on notice provision' (with J.T. Addison), *ILRR*, 47, July 1994; 10. 'The declining marital status earnings differential' (with S. Korenman), *J. Pop. Econ.*, 7, Aug. 1994; 11. 'Policy watch: the worker adjustment and retraining notification act' (with J.T. Addison), *JEP*, 8, Winter 1994; 12. 'Advance notice and job search: more on the value of an early start' (with J.T. Addison), *Ind. Relations*, 34, April 1995; 13. 'Are OLS estimates of the return to schooling biased downward? Another look' (with D. Neumark), *REStat*, 77, May 1995; 14. 'Decomposing wage variation: a comment', *JHR*, 30, Fall 1995; 15. 'A puzzling aspect of the effects of advance notice' (with J.T. Addison), *ILRR*, 50, Jan. 1997; 16. 'Misspecified skedastic functions in grouped-data models', *Econ. Letters*, 55, 1997; 17. 'The sensitivity of international poverty comparisons', *RIW*, 44, Dec. 1998; 18. 'Minimum wages and poverty' (with J.T. Addison), *ILRR*, 52, April 1999; 19. 'The effects of unemployment insurance on post-unemployment earnings' (with J.T. Addison), *Labour Econ.*, 7, Jan. 2000; 20. 'Welfare effects on the marital behaviour of never-married mothers', *JHR*, 35, Winter 2000.

Principal Contributions My work has primarily focussed on the determinants of individual-level wages and income. In particular, I have made contributions (primarily empirical) to the study of changes in earnings and income inequality (and poverty) over time and across countries. This work has been concerned both with measuring these changes, and examining the reasons for these changes. My contribu-

tions to the latter have primarily been associated with changes in the return to education in the United States since 1980. In work with David Bloom and Richard Freeman, we pointed out the role that demand and supply shifts in the labor market have played in these changes. David Neumark and I have worked on using cognitive-ability measures in wage equations to examine the level and changes in returns to education. A second major component of my work focussed on the role that advance-notice legislation has played in the outcomes of displaced workers. John Addison and I studied the efficacy of such legislation in providing notice to workers, and the benefit that that notice provides to workers. In recent years, I have changed my focus towards the determinants of family decision-making. In particular, I have focussed on the role that welfare-system generosity may have played in the marital decisions of never-married women with children, as well as the role the welfare system plays in the divorce decisions of married mothers.

BLACKORBY, Charles

Born 1938, ND, USA.

Current Post Prof., UBC, Vancouver, Canada, 1978–.

Past Posts Asst Prof., Univ. California, Santa Barbara, 1967–70; Assoc. Prof., Southern Illinois Univ., 1972–74; Assoc. Prof., UBC, 1974–78.

Degrees BA Harvard Univ., 1960; PhD Johns Hopkins Univ., 1967.

Principal Field of Interest D0 Microeconomics: General.

Publications *Book*: 1. *Duality, Separability, and Functional Structure: Theory and Economic Applications* (with D. Primont, R. Russell), (Elsevier, N-H, 1978).

Articles: 1. ‘Degrees of cardinality and aggregate partial ordering’, *Em*, 43, Sept.–

Nov. 1975; 2. ‘On testing separability restrictions with flexible functional forms’ (with D. Primont, R. Russell), *J Em*, 5, March 1977; 3. ‘Utility versus equity: some plausible quasi-orderings’ (with D. Donaldson), *J Pub E*, 7, July 1977; 4. ‘Expenditure functions, local duality, and second order approximations’ (with W.E. Diewert), *Em*, 47, May 1979; 5. ‘Ethical indices for the measurement of poverty’ (with D. Donaldson), *Em*, 49, May 1980.

Principal Contributions n.e.

BLANCHARD, Olivier Jean

Born 1948, Amiens, France.

Current Posts Class of 1941 Prof. Econ., MIT, Cambridge, MA, USA, 1994–; Chairman, Dept Econ., MIT, 1998–.

Past Posts Asst Prof., Assoc. Prof., Harvard Univ., 1977–81, 1981–83; Assoc. Prof., Prof., MIT, 1983–85, 1985–.

Degrees DES Univ. Paris Nanterre, 1972; PhD MIT, 1977.

Offices and Honours Res. Assoc., NBER, 1982–; Fell., Em Soc, 1985–; Mem., Brookings Panel on Econ. Activity, 1986–, AAAS, 1990–; Council, Em Soc, 2001–.

Editorial Duties Co-Ed., *QJE*, 1979–98, *NBER Macroecon. Annual*, 1989–93; Amer. Ed., *REStud*, 1983–84.

Principal Fields of Interest n.e.

Publications *Books*: 1. *Lectures in Macroeconomics* (with S. Fischer), (MIT Press, 1989); 2. *Reform in Eastern Europe, Wider World Economy Group 1990 Report* (WIDER and MIT Press, 1991); 3. *Competitive Disinflation, the Mark, and Fiscal Policies in Europe, International Policy Group at OPCE* (OUP, 1993); 4. *Post Communist Reform, Wider World Economy Group 1992 Report* (Wider World Econ. Group, MIT Press, 1993); 5. *Taux d'intérêt et Chômage, International*

Policy Group at OPCE (Presse de la Fondation Natl des Sc. Polit., 1993); 6. *The Transition in Eastern Europe* (ed. with K. Froot, J. Sachs), Vols I, II (NBER and UCP, 1994); 7. *Spanish Unemployment: Is there a Solution?* (CEPR, 1994); 8. *The Economics of Transition* (OUP, 1997); 9. *Macroeconomics* (Prentice-Hall, 1997, 2000, 2003).

Articles: 1. 'The monetary mechanism in the light of rational expectations', in S. Fischer (ed.), *Rational Expectations and Economic Policy* (UCP, 1980); 2. 'Output, the stock market and interest rates', *AER*, 71, March 1981; 3. 'Price asynchronization and price level inertia', in R. Dornbusch, M. Simonsen (eds), *Inflation, Debt and Indexation* (MIT Press, 1983); 4. 'Deficits, debt and finite horizons', *JPE*, 93, April 1985; 5. 'Hysteresis and European unemployment' (with L. Summers), in S. Fischer (ed.), *NBER Macroecon. Annual* (MIT Press, 1986); 6. 'Monopolistic competition and the effects of aggregate demand' (with N. Kiyotaki), *AER*, 77, Sept. 1987; 7. 'The dynamic effects of aggregate demand and aggregate supply shocks' (with D. Quah), *AER*, 79, Sept. 1989; 8. 'Regional evolutions' (with L. Katz), *BPEA*, 1, 1992; 9. 'On the speed of transition in Central Europe' (with P. Aghion), *NBER Macroecon. Annual*, 1994; 10. 'The medium run', *BPEA*, 2, 1997; 11. 'The role of shocks and institutions in the rise of European unemployment: the aggregate evidence' (with J. Wolfers), Harry Johnson lecture, *EJ*, 110, March 2000.

Principal Contributions I started my research in the late 1970s by looking at the effects of forward-looking expectations in financial and goods markets, and studying the role of policy in that context. I then moved to the study of nominal rigidities, and tried to understand how small individual nominal lags and rigidities can build up into substantial aggregate price

inertia. In the 1980s, high unemployment in Europe led me to question the idea of a natural rate of unemployment and rethink the determination of unemployment and wage determination. In the 1990s, I have been working mostly on the economic issues raised by transition in Eastern Europe. I now work on the macroeconomic aspects of product and labor market reforms.

BLANCHFLOWER, David Graham

Born 1952, Brighton, England.

Current Post Prof. Econ., Dartmouth Coll., Hanover, NH, USA, 1989–.

Past Posts Res. Officer, Inst. Employment Res., Warwick Univ., 1984–86; Lect. Econ., Univ. Surrey, 1986–89.

Degrees BA (Social Sc. Econ.) Univ. Leicester, 1973; Certificate Educ., Univ. Birmingham, 1975; MSc Univ. Wales, 1981; PhD Univ. London, 1985.

Honour Richard A. Lester Prize for most outstanding book in ind. relations and labor econ. in 1994, Princeton Univ.

Editorial Duties Ed. Bds, *Small Bus. Econ.*, 1996–99, *ILRR*, 1996–99.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining; J6 Mobility, Unemployment, and Vacancies.

Publications *Books:* 1. *Part-Time Employment in Great Britain, 1980* (with B. Corry), (Dept Employment Res. Paper No. 57, 1987); 2. *Occupational Earnings and Work Histories: Who Gets the Good Jobs?* (with P. Elias), (Dept Employment Res. Paper No. 68, 1989); 3. *The Wage Curve* (with A. Oswald), (MIT Press, 1994); 4. *Swedish Labor Market Policy: An Evaluation. Report of a Non-Nordic Institution* (with R. Jackman, G. Saint-Paul), (Swedish Min. Labour, 1995).

Articles: 1. 'Profit related pay: prose

discovered', *EJ*, 88, Sept. 1988; 2. 'The wage curve' (with A. Oswald), *Scand JE*, 92, 1990, repr. in B. Holmlund, K.G. Lofgren (eds), *Unemployment and Wage Determination in Europe* (Blackwell, 1994); 3. 'Insider power in wage determination' (with A. Oswald, M. Garrett), *Ec*, 57, 1990; 4. 'Unionism and employment behaviour' (with A. Oswald, N. Millward), *EJ*, 101, July 1991; 5. 'Fear, unemployment and pay flexibility', *EJ*, 101, March 1991; 6. 'Going different ways: unionism in the US and other OECD countries', *Ind. Relations*, 31, Winter 1992, repr. in M. Bognanno, M. Kleiner (eds), *Labor Market Institutions and the Future Role of Unions* (Blackwell, 1992); 7. 'Estimating a British wage curve, 1973–1990' (with A. Oswald), *EJ*, 104, Sept. 1994; 8. 'An introduction to the wage curve' (with A. Oswald), *JEP*, 9, Summer 1995; 9. 'Wages, profits and rent sharing' (with A. Oswald, P. Sanfey), *QJE*, 111, Feb. 1996; 10. 'What makes an entrepreneur? Evidence on inheritances and capital constraints' (with A. Oswald), *J Lab E*, 16, Jan. 1998.

Principal Contributions My main interest over the years has been to understand the wage determination process. The early work, which developed out of my PhD thesis, was concerned with examining the size of the union/non-union wage differential in Britain. I then moved to look more generally at the role of 'inside' and 'outside' forces and how they affect the wage. This has involved looking on the one hand at the extent to which trade unions, the possession of a scarce skill or the level of profitability of the firm is able to influence the wage and on the other hand at the local labour market and its influence. The culmination of this work was the book *The Wage Curve*, jointly authored with Andrew Oswald. Here we claim to have found an empirical law! The book uses micro-data on nearly four

million people across twelve countries and finds a negative relation between an individual's wage and the local area unemployment rate. These results have been replicated by many other researchers. I have also been interested in the process by which jobs are generated. This work has been in two parts. First, in a series of papers I have examined the determinants of employment growth and the process of job creation and destruction in the British economy. In another group of articles I have looked at the self-employed. I have examined the extent to which they are faced by capital constraints. Over the last few years I have become particularly interested in cross-country comparisons of labour market behaviour using large-scale micro-data files.

BLANK, Rebecca Margaret

Born 1955, Columbia, MO, USA.

Current Post Dean and Henry Carter Adams Prof., Gerald R. Ford Sch. Public Pol., Univ. Michigan, Ann Arbor, MI, USA, 1999–.

Past Posts Asst Prof., Dept Econ. and Woodrow Wilson Sch. Public and Intl Affairs, Princeton Univ., 1983–89; Vis. Fell., Dept Econ. and Inst. Res. on Poverty, Univ. Wisconsin, Madison, 1985; Vis. Asst Prof., Dept Econ., MIT, 1988–89; Sr Staff Econ., Mem., US President's Council Econ. Advisers, Washington, DC, 1989–90, 1997–99; Assoc. Prof. Econ., Prof. Econ., Dept Econ, Northwestern Univ., 1989–94, 1994–99.

Degrees BS (*scl*) Univ. Minnesota, 1976; PhD MIT, 1983.

Offices and Honours Faculty Res. Assoc., NBER, 1985–; Jr Faculty teaching award, Dept Econ., Princeton Univ., 1985; David Kershaw Prize, Assoc. Public Pol. and Mgmt, 1993; Chair, Comm. on Status of Women in Econ. Profession,

AEA, 1993–96; Faculty Affiliate, Inst Res. Poverty, 1994–, Joint Center Poverty Res., 1996–; Exec. Comm., AEA, 1995–97; Richard A. Lester Prize for Outstanding Book in Labor Econ. and Ind. Relations, 1997; Frank Paish Lecture, RES, 1999; Disting. Lecture on Econ. in Govt, Soc. Govt Econ., 2000; J. Douglas Gibson Lecture, Queen’s Univ., Canada, 2000; Adam Smith Lecture, Europ. Assoc. Labour Econ., 2001; Pol. Council, Assoc. Public Pol. and Mgmt, 2001–; Pres., MEA, 2001–02.

Editorial Duties Bd Eds, *AER*, 1993–97; Advisory Bds, *J Pub E*, 1993–97, *J Econ. Educ.*, 1993–97, 2002–, *Feminist Econ.*, 1994–97; Co-Ed., *JHR*, 1995–97.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0 Health, Education, and Welfare: General; I3 Welfare and Poverty.

Publications *Books*: 1. *Social Protection vs. Economic Flexibility: Is There a Tradeoff?* (UCP, 1994); 2. *It Takes a Nation: A New Agenda for Fighting Poverty* (Princeton Univ. Press, 1997); 3. *Finding Jobs: Working and Welfare Reform* (with D. Card), (Russell Sage, 2000); 4. *The New World of Welfare* (with R. Haskins), (Brookings Inst., 2001).

Articles: 1. ‘The impact of state economic differentials on household welfare and labor force behavior’, *J Pub E*, 28, Oct. 1985; 2. ‘Simultaneously modeling the supply of weeks and hours of work among female household heads’, *J Lab E*, 6, April 1988; 3. ‘Disaggregating the effect of the business cycle on the distribution of income’, *Ec*, 56, May 1989; 4. ‘Analyzing the duration of welfare spells’, *J Pub E*, 39, Aug. 1989; 5. ‘Why are wages cyclical in the 1970s?’, *J Lab E*, 8, Jan. 1990; 6. ‘Recent trends in insured and uninsured unemployment: is there an explanation?’ (with D. Card), *QJE*, 106, Nov. 1991; 7. ‘The effects of double-blind versus single-blind reviewing: experimen-

tal evidence from the *American Economic Review*’, *AER*, 81, Dec. 1991; 8. ‘Down and out in North America: recent trends in poverty in the US and Canada’ (with M. Hanratty), *QJE*, 107, Feb. 1992; 9. ‘Poverty, income distribution and growth: are they still connected?’ (with D. Card), *BPEA*, 1993; 10. ‘State abortion rates: the impact of policies, providers, politics, demographics and economic environment’ (with C.C. George, R.A. London), *JHE*, 15, Fall 1996; 11. ‘When do women use AFDC and food stamps? The dynamics of eligibility vs. participation’ (with P. Ruggles), *JHR*, 31, Winter 1996; 12. ‘Labor market dynamics and part-time work’, *Res. in Labor Econ.*, 17, 1998; 13. ‘When can public policy makers rely on private markets? The effective provision of social services’, *EJ*, 110, March 2000; 14. ‘What causes public assistance caseloads to grow?’, *JHR*, 36, Winter 2001; 15. ‘Can equity and efficiency complement each other?’, *Labor Econ.*, 9, May 2002; 16. ‘Evaluating welfare reform in the US’, *JEL*, 40, Dec. 2002.

Principal Contributions My work has focussed on the overlap between labor markets, government programs, the macroeconomy, and behavior and well-being among lower-wage workers. One strand of work has investigated the impact of the design of means-tested assistance programs on welfare receipt, on migration, and on work behavior among single-mother households. I have tried to identify and utilize credible methodologies to link policies to outcomes; this research is typically interested in changes over time as program parameters change. Another strand of work has focussed on the role of the macroeconomy and how it affects poverty, income distribution, labor market behavior, and welfare receipt among low-wage workers. A third strand of work has investigated the functioning of labor markets, particularly the role of

part-time work and the interaction of market and family demands. A fourth strand has investigated the determinants of effective government policy, both theoretically and empirically. All of this research has tried to use economic theory and best-available methodologies to understand what influences outcomes among disadvantaged populations, and what policies can be most effective in improving economic well-being among poor families and low-wage workers.

BLAU, David Michael

Born 1951, State College, PA, USA.

Current Post Prof. Econ., Univ. North Carolina, Chapel Hill, NC, USA, 1985–.

Past Posts Res. Assoc., Charles River Assoc., Cambridge, MA, 1974–76; Post-doctoral Fell., Econ. Growth Center, Yale Univ., 1980–82; Asst Prof. Econ., Univ. Miami, 1982–85.

Degrees BA Antioch Coll., 1973; MA, PhD Univ. Wisconsin, 1978, 1980.

Offices and Honours Norman L. Johnson Prof., 1994–97; Friends of DIW Prize, for best paper using the German Socioecon. Panel, 1984–98/99, 2000.

Editorial Duties Co-Ed., *JHR*, 1991–97; Dep. Ed., *Demography*, 1998–2001.

Principal Fields of Interest J2 Time Allocation; Work Behavior; Employment Determination and Creation; J1 Demographic Economics.

Publications *Books*: 1. *The Economics of Child Care* (ed.), (Russell Sage Foundation, 1991); 2. *The Child Care Problem: An Economic Analysis* (Russell Sage Foundation, 2001).

Articles: 1. ‘Family earnings and wage inequality early in the life cycle’, *REStat*, 66, May 1984; 2. ‘Job search, wage offers, and unemployment insurance’ (with P.K. Robins), *J Pub E*, 29, March 1986; 3. ‘A time series analysis of self-employ-

ment in the United States’, *JPE*, 95, June 1987; 4. ‘Child care costs and family labor supply’ (with P.K. Robins), *REStat*, 70, Aug. 1988; 5. ‘Job search outcomes for the employed and unemployed’ (with P.K. Robins), *JPE*, 98, June 1990; 6. ‘Search for nonwage job characteristics: a test of the reservation wage hypothesis’, *J Lab E*, 9, April 1991; 7. ‘Child care demand and labor supply of young mothers over time’ (with P.K. Robins), *Demography*, 28, Aug. 1991; 8. ‘The supply of child care labor’, *J Lab E*, 11, April 1993; 9. ‘Labor force dynamics of older men’, *Em*, 62, Jan. 1994; 10. ‘The production of quality in child care centers’, *JHR*, 32, Spring 1997; 11. ‘Social security and the labor supply of older married couples’, *Labour Econ.*, 4, Dec. 1997; 12. ‘The demand for quality in child care’ (with A. Hagy), *JPE*, 106, Feb. 1998; 13. ‘Labor force dynamics of older married couples’, *J Lab E*, 16, July 1998; 14. ‘The effect of income on child development’, *REStat*, 81, May 1999; 15. ‘The effect of child care characteristics on child development’, *JHR*, 34, Fall 1999; 16. ‘Retiree health insurance and the labor force behavior of older men in the 1990s’ (with D. Gilleskie), *REStat*, 83, Feb. 2001; 17. ‘The supply of quality in child care centers’ (with H.N. Mocan), *REStat*, 84, Aug. 2002; 18. ‘Child care subsidy programs’, in R. Moffitt (ed.), *Means-Tested Transfer Programs in the US* (UCP for NBER, forthcoming 2003).

Principal Contributions My main areas of research have been child care and retirement. My 1988 *REStat* paper with P. Robins was the first empirical analysis of the impact of child care costs on employment behavior of women with young children in the US. I have also studied the demand for quality in child care and the ‘quality production function’. My 2001 book synthesizes economic research on child care for a broad audience, and proposes a new approach to child care policy.

Recently, I have studied the impact of child care subsidies instituted by welfare reform on the employment decisions of single mothers; and the impact of child care regulations on the child care and labor markets. My research on retirement began with a study of employment dynamics of older men that demonstrated a high frequency of movement in and out of employment, and a very sharp spike in labor force exit at the exact age of 65 (*Em*, 1994). I have also studied the joint retirement decisions of older married couples, showing a strong relationship between the labor force behavior of spouses that cannot be explained by financial incentives. With D. Gilleskie, I have analyzed the impact of retiree health insurance on retirement timing, seeking an explanation for the very high rate of labor force exit at age 65. Our findings indicate that retiree health insurance is associated with earlier exit from the labor force, but the economic mechanism that generates this association remains unclear.

BLAU, Francine D.

Born 1946, New York City, NY, USA.

Current Posts Frances Perkins Prof. Ind. and Labor Relations and Labor Econ., Cornell Univ., Ithaca, NY, USA, 1994–; Res. Assoc., NBER, Cambridge, MA, USA, 1988–; Res. Fell., CESifo, Munich, Germany, 2001–.

Past Posts Vis. Lect., Yale Univ., 1971; Instr. Econ., Trinity Coll., Hartford, CT, 1971–74; Res. Assoc., Center Human Resource Res., Ohio State Univ., 1974–75; Asst Prof. Econ. and Labor and Ind. Relations, 1975–78; Assoc. Prof., Prof., Univ. Illinois at Urbana-Champaign, 1978–83, 1983–94; Assoc., Center for Adv. Study, Univ. Illinois at Urbana-Champaign, 1988; Vis. Fell., ANU, Canberra, Australia, 1993; Res. Dir., Sch. Ind.

and Labor Relations, Cornell Univ., 1995–2001.

Degrees BS (Ind. and Labor Relations) Cornell Univ., 1966; MA, PhD Harvard Univ., 1969, 1975.

Offices and Honours Vice-Pres., Pres., Exec. Bd, MEA, 1983–84, 1991–92, 1991–92; Mem., NAS Panel on Tech. and Women's Employment, 1983–86; Mem., NAS Panel on Pay Equity Res., 1985–89; Exec. Bd, IRRRA, 1987–89; Burlington Northern Faculty Achievement Award, Univ. Illinois, 1993; Vice-Pres., AEA, 1993–94; Pres., IRRRA, 1997; Carolyn Shaw Bell Award for furthering status of women in econ. profession, AEA Comm. on Status of Women in Econ. Profession, 2001.

Editorial Duties Ed. Bds, *Social Sc. Q.*, 1978–94, *Signs: J. of Women in Culture and Society*, 1979–, *Women and Work*, 1983–94, *Ind. Relations*, 1989–95, *Feminist Econ.*, 1994–; Co-Ed., *J Lab E*, 1992–95; Assoc. Ed., Advisory Bd, *JEP*, 1994–2001, 2001–; Bd Eds, *AER*, 1998–2002.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J7 Discrimination; J1 Demographic Economics.

Publications *Books*: 1. *Equal Pay in the Office* (Lexington Books, 1977); 2. *The Economics of Women, Men and Work*, 1st and 2nd edns (with M.A. Ferber), (Prentice-Hall, 1986, 1992), 3rd and 4th edns (with M.A. Ferber, A. Winkler), (Prentice-Hall, 1998, 2002); 3. *At Home and Abroad: US Labor Market Performance in International Perspective* (with L.M. Kahn), (Russell Sage Foundation, 2002).

Articles: 1. 'Occupational segregation by sex: trends and prospects' (with W.E. Hendricks), *JHR*, 14, Spring 1979; 2. 'Discrimination: evidence from the United States' (with M.A. Ferber), *AER*, 77, May 1987, repr. in L. Reynolds, S. Masters, C. Moser (eds), *Readings in Labor Economics and Labor Relations* (Prentice-Hall,

1989); 3. 'Gender', *NPDE* (Macmillan Press, 1987), repr. in J. Eatwell, M. Milgate, P. Newman (eds), *The New Palgrave: Social Economics* (Macmillan Press, 1989), and in J. Eatwell, M. Milgate, P. Newman (eds), *The New Palgrave: The World of Economics* (Macmillan Press, 1991); 4. 'Trends in earnings differentials by gender: 1971–1981' (with A.H. Beller), *ILRR*, 41, July 1988; 5. 'Black/white differences in wealth and asset composition' (with J.W. Graham), *QJE*, 105, May 1990; 6. 'Black–white earnings over the 1970s and 1980s: gender differences in trends' (with A. Beller), *REStat*, 74, May 1992; 7. 'Maternal labor supply and children's cognitive development' (with A. Grossberg), *REStat*, 74, Aug. 1992; 8. 'Rising wage inequality and the US gender gap' (with L.M. Kahn), *AER*, 84, May 1994, repr. in M.A. Ferber (ed.), *Women in the Labor Market* (Intl Library of Critical Writings in Econ. No. 90), (Edward Elgar, 1998); 9. 'Wage structure and gender earnings differentials: an international comparison' (with L.M. Kahn), *Em*, 63, May 1996, repr. in M.A. Ferber (ed.), *Women in the Labor Market* (Intl Library of Critical Writings in Econ. No. 90), (Edward Elgar, 1998); 10. 'International differences in male wage inequality: institutions versus market forces' (with L.M. Kahn), *JPE*, 104, Aug. 1996; 11. 'Swimming upstream: trends in the gender wage differential in the 1980s' (with L.M. Kahn), *J Lab E*, 15, Jan. 1997; 12. 'Trends in the well-being of American women, 1970–1995', *JEL*, 36, March 1998; 13. 'Institutions and laws in the labor market' (with L.M. Kahn), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3A (Elsevier Sc., 1999); 14. 'Gender differences in pay' (with L.M. Kahn), *JEP*, 14, Fall 2000; 15. 'Understanding young women's marriage decisions: the role of labor and marriage market conditions' (with L.M. Kahn, J. Waldfogel), *ILRR*, 53, July 2000; 16. 'Comparative

analysis of labor-market outcomes: lessons for the United States from international long-run evidence' (with G. Bertola, L. Kahn), in A. Krueger, R. Solow (eds), *The Roaring Nineties* (Russell Sage Foundaton and Century Foundation, 2001); 17. 'Understanding international differences in the gender pay gap' (with L.M. Kahn), *J Lab E*, 21, Jan. 2003.

Principal Contributions One of my abiding interests has been the sources of gender differences in wages. A focus which began with my doctoral dissertation was on the measurement and wage consequences of employment segregation by sex. My empirical work has helped to establish the negative impact of such segregation, by establishment as well as by occupation, on women's relative earnings. In work with Lawrence Kahn, I have explored the relationship between demographic pay differentials and overall wage structure, the array of prices the labor market establishes for skills and the rents received for employment in favored sectors. We have found that wage structure, especially the considerably higher level of wage inequality (i.e., higher rewards to skills and sectoral differentials) in the US than elsewhere, is responsible for the larger gender pay differential here than in many industrialized countries. Our analysis implies that in the face of rising wage inequality in the 1970s and 1980s, American women were swimming upstream in a labor market growing increasingly unfavorable for workers with below-average skills. We found that the gender pay gap nonetheless narrowed due to improvements in women's relative qualifications and a decrease in the 'unexplained' wage differential between men and women. The latter may reflect an upgrading of women's unmeasured labor market skills, a decline in labor market discrimination against women, and/or a shift in labor market demand favoring women over men.

Kahn and I have also investigated the sources of higher wage inequality in the US compared to other advanced nations, finding that it is related to our extremely decentralized wage-setting institutions. An important conclusion of this work is that while it is possible to use interventionist institutions like those that prevail in Europe to compress the inequality of pay, some loss of employment is likely to result.

BLINDER, Alan Stuart

Born 1945, Brooklyn, NY, USA.

Current Posts Gordon S. Rentschler Memorial Prof. Econ., Princeton Univ., Princeton, NJ, USA, 1982–; Dir., Center Econ. Pol. Stud., Princeton Univ., 1989–93, 1996–; Vice-Chairman, The G7 Group, 1997–; Partner, Promontory Fin. Group, 2000–.

Past Posts Instr. Fin., Rider Coll., Trenton, NJ, 1968–69; Instr. Econ., Boston State Coll., Boston, MA, 1969; Asst Prof. Econ., Bicentennial Preceptor, Assoc. Prof. Econ., Prof. Econ., Princeton Univ., 1971–76, 1975–78, 1976–79, 1979–82; Chairman, Dept Econ., Princeton Univ., 1988–90.

Degrees AB (*scl*) Princeton Univ., 1967; MSc LSE, 1968; PhD MIT, 1971.

Offices and Honours Dep. Asst Dir., CBO, 1975; Fell., Em Soc, 1981–, AAAS, 1991–; Mem., US President's Council Econ. Advisers, 1993–94, Amer. Philo. Soc., 1996–, Council Foreign Relations, 1997–; Vice-Chairman, Bd Governors, Fed. Reserve System, 1994–96; Adam Smith Award, Natl Assoc. Bus. Econ., 1999; Hon. Fell., Foreign Pol. Assoc., 2000–.

Editorial Duties Econ. Columnist, *Boston Globe*, 1981–85, *Bus. Week*, 1985–92, *Nikkei Fin. Daily*, 2001–; Bd Eds, *JET*, 1981–84, 1988–1993, *Amer. Prospect*,

1989–93; Ed. Bd, *JME*, 1981–93; *Challenge*, 1984–93; Occasional Columnist, *Washington Post*, 1982–90, *Newsday*, 1987–92; Assoc. Ed., *JPE*, 1982–93; Ed. Advisor, Bristlecone Books, 1990–92; Founding Advisor, Cogito Learning Media, 1997–2001; Intl Advisory Bd, *World Econ.*, 2000–; Commentator, *Nightly Business Report* (public television), 2001–; Advisory Bd, *JEP*, 2002–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E5 Monetary Policy, Central Banking, and the Supply of Money; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications *Books*: 1. *Toward an Economic Theory of Income Distribution* (MIT Press, 1974, pb 1977), chap. 5 repr. in W. Darity, Jr (ed.), *Economics and Discrimination*, Vol. II (Edward Elgar, 1995); 2. *Economic Policy and the Great Stagflation* (Acad. Press, 1979, pb 1981; trans., Japanese 1982); 3. *Hard Heads, Soft Hearts: Tough-Minded Economics for a Just Society* (Addison-Wesley, 1987, pb 1988; trans., Japanese, 1988); 4. *Paying for Productivity* (ed.), (Brookings, 1990); 5. *Central Banking in Theory and Practice* (MIT Press, 1998; trans., Spanish, Antoni Bosch, Barcelona, 1999, Portuguese, Editora, 1999, Japanese, Toyo Kezei, 1999, Polish, CeDeWu, 2001); 6. *Asking About Prices: A New Approach to Understanding Price Stickiness* (with E. Canetti, D. Lebow, J. Rudd), (Russell Sage Foundation, 1998); 7. *The Fabulous Decade: Macroeconomic Lessons from the 1990s* (with J.L. Yellen), (Century Foundation, 2001).

Articles: 1. 'Wage discrimination: reduced form and structural estimates', *JHR*, Fall 1973, repr. in W. Darity, Jr (ed.), *Economics and Discrimination*, Vol. II (Edward Elgar, 1995); 2. 'Does fiscal policy matter?' (with R.M. Solow), *J Pub*

E, Nov. 1973 ('A correction', *J Pub E*, 1976), repr. in T.M. Havrilesky, J.T. Boorman (eds), *Current Issues in Monetary Theory and Policy* (AMH Publishing, 1976), A. Atkinson (ed.), *Modern Public Finance*, 1991, and T. Mayer, S.M. Sheffrin (eds), *Fiscal and Monetary Policy* Vol. I (Edward Elgar, 1995); 3. 'Distribution effects and the aggregate consumption function', *JPE*, June 1975; 4. 'Temporary income taxes and consumer spending', *JPE*, Feb. 1981; 5. 'Inventories, rational expectations, and the business cycle' (with S. Fischer), *JME*, Nov. 1981; 6. 'Retail inventory behavior and business fluctuations', *BPEA*, 2, 1981; 7. 'Inventories and sticky prices: more on the microfoundations of macroeconomics', *AER*, June 1982, repr. in J.P. Benassy (ed.), *Macroeconomics and Imperfect Competition* (Edward Elgar, 1995); 8. 'Money, credit constraints, and economic activity' (with J.E. Stiglitz), *AER*, May 1983; 9. 'Can the production smoothing model of inventory behavior be saved?', *QJE*, Aug. 1986; 10. 'Credit, money, and aggregate demand' (with B.S. Bernanke), *AER Papers and Proceedings*, 78, May 1988, repr. in N.G. Mankiw, D. Romer (eds), *New Keynesian Economics* (MIT Press, 1991), and D. Laidler (ed.), *The Foundations of Monetary Economics* (Edward Elgar, 1999); 11. 'The federal funds rate and the channels of monetary transmission' (with B. Bernanke), *AER*, 82, Sept. 1992; 12. 'What central bankers could learn from academics – and vice versa', *JEP*, 11, Spring 1997; 13. 'Central bank credibility: why do we care? How do we build it?', *AER*, Dec. 2000.

Principal Contributions My research has touched on a number of fields (e.g., consumption, Social Security) but has focussed on three: the distribution of income, inventories, and fiscal and (especially) monetary policy. I was also, during the 1970s and 1980s, one of the major

defenders of Keynesianism and challenges from monetarism and the New Classical school. Since returning to academia from the Federal Reserve, I have focussed on central banking issues. Two of my most cited works were written very early in my career: 'Does fiscal policy matter?' (1973, with Robert Solow) and 'Wage discrimination: reduced form and structural estimates' (1973). The latter introduced a decomposition technique that is still widely used in labor economics. In the 1980s, I wrote a series of influential papers which emphasized the (at that point neglected) importance of inventories in business cycles, pointed out some sharp discrepancies between the theory and the stylized facts, and suggested some alternative theories (culminating in 'Can the production smoothing model of inventory behavior be saved?', 1986). Since leaving the Federal Reserve System, I have written two short books based on lecture series (*Central Banking in Theory and Practice*, 1998 and *The Quiet Revolution*, forthcoming) and several articles on central banking. I have also completed a book based on an extensive interview study on the reasons for price stickiness that I had started before entering government service (*Asking About Prices*, 1998). In my career, I have also written several books and articles on the recent macroeconomic history of the United States covering: the 'Great Recession' of the 1970s, the 'Great Inflation' of the late 1970s and early 1980s, and the boom of the 1990s. A new book on corporate downsizing (with William Baumol and Edward Wolff) is forthcoming.

BLOOM, David Elliot

Born 1955, New York, NY, USA.

Current Posts Clarence James Gamble Prof. Econ. and Demography and Chair, Dept Pop. and Intl Health, Harvard

Sch. Public Health, Boston, MA, USA, 1996–, 2001–.

Past Posts Asst Prof. Econ., Sch. Urban and Public Affairs, Carnegie-Mellon Univ., 1980–82; Asst Prof. Econ., Paul Sack Assoc. Prof. Polit. Econ., Dept Econ., Harvard Univ., 1982–85, 1985–88; Prof. Econ. and Chair, Dept Econ., Columbia Univ., 1988–95, 1990–93; Dep. Dir., Harvard Inst. Intl Devlp., Harvard Univ., 1995–99.

Degrees BSc (Ind. and Labor Relations) Cornell Univ., 1976; MA, PhD (Econ. and Demography) Princeton Univ., 1978, 1981.

Offices and Honours Fulbright Scholar, 1982–83; Faculty Res. Fell., Faculty Res. Assoc., NBER, Labor Stud. Program, 1982–85, 1985–; Arbitrator, Labor Arbitration Panel, Amer. Arbitration Assoc., 1983; Alfred P. Sloan Res. Fell., 1986–91; Galbraith Award for Good Teaching in Econ., 1987; Sc. Advisory Panel, Alan Guttmacher Inst., 1987–90; Scholar-in-Residence, Russell Sage Foundation, 1989–90; Mem., NAS Comm. Human Factors, 1990–92, NAS Comm. Natl Needs for Biomedical and Behavioral Res. Personnel, 1993–94; Hon. MA, Harvard Univ., 1996; Study Co-Dir. and Head of Secretariat, Task Force on Higher Educ., 1998–2000; Bd Dirs, Amer. Foundation for AIDS Res., 2000; Mem., UNAIDS Reference Group on Econ., 2000.

Editorial Duties Contrib. Ed., *Amer. Demographics*, 1986–90; Assoc. Ed., *REStat*, 1986–92; Bd Rev. Eds, *Sc.*, 1991–99; Book Rev. Bd, *Sc.*, 2000; Ed. Bd, *Apl. Pop. and Pol.*, 2002; Ed. Advisory Bd, *Encyclopedia of Globalization*, 2002.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0 Health, Education, and Welfare: General; O0 Economic Development, Technological Change, and Growth: General.

Publications *Books*: 1. *Higher Education in Developing Countries: Peril and*

Promise (with H. Rosovsky), (World Bank, 2000); 2. *The Quality of Life in Rural Asia* (with P. Craig, P. Malaney), (OUP, 2001); 3. *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change* (with D. Canning, J. Sevilla), (Rand, 2002).

Articles: 1. 'Pay discrimination research and litigation: the use of regression' (with M. Killingsworth), *Ind. Relations*, 21, Fall 1982; 2. 'Models of arbitrator behavior: theory and evidence' (with O. Ashenfelter), *AER*, 74, 1984; 3. 'An analysis of the selection of arbitrators' (with C. Cavanagh), *AER*, 76, June 1986; 4. 'Empirical models of arbitrator behavior under conventional arbitration', *REStat*, 68, Nov. 1986; 5. 'Negotiator behavior under arbitration' (with C. Cavanagh), *AER Papers and Proceedings*, 77, May 1987; 6. 'Commitment and the modern union: assessing the link between premarital cohabitation and subsequent marital stability' (with N. Blanc, A. Blanc), *Amer. Sociological Rev.*, 53, Feb. 1988; 7. 'The divergence of black and white marriage patterns' (with N. Bennett, P. Craig), *Amer. J. Sociology*, 95, Nov. 1989; 8. 'Modeling American marriage patterns' (with N. Bennett), *JASA*, 85, Dec. 1990; 9. 'Benefits and costs of HIV testing' (with S. Glied), *Sc.*, 252, June 28, 1991; 10. 'The fall in pension coverage in the US' (with R. Freeman), *AER Papers and Proceedings*, 82, May 1992; 11. 'Fertility timing, wages, and human capital' (with M. Blackburn, D. Neumark), *J. Pop. Econ.*, 6, 1993; 12. 'Economics of municipal solid waste' (with D. Beede), *World Bank Res. Observer*, 10, Aug. 1995; 13. 'Does the AIDS epidemic threaten economic growth?' (with A. Mahal), *J Em*, 77, 1997; 14. 'Demographic transitions and economic miracles in emerging Asia' (with J. Williamson), *WBER*, 12, 1998; 15. 'Geography, demography, and economic growth in Africa' (with J. Sachs), *BPEA*,

2, 1998; 16. 'Demographic change and economic growth in Asia' (with D. Canning, P. Malaney), *Pop. and Devlp. Rev.*, 26, 2000; 17. 'The health and wealth of nations' (with D. Canning), *Sc.*, 287, Feb. 18, 2000.

Principal Contributions My work has been divided among the fields of labor, population, health, education, demography, and environment. In the area of labor institutions I have focussed on arbitrator and negotiator behavior under different mechanisms of arbitration. My labor market work has focussed on pay and employment determination and the use of statistical analysis in testing hypotheses about labor market disparities. My work on population has focussed on the links between population dynamics and the pace of economic growth and development. This work demonstrates the contribution of demographic change to the growth of income per capita, mainly via the effect of population age structure. Related cross-country work shows that population health is both a cause and a consequence of economic growth and that there are four channels through which health affects economic performance: labor productivity, human capital accumulation, savings and investment, and demographic change. My health research has also identified economic determinants and consequences of the AIDS epidemic. In the area of education I have focussed on the contribution of higher education to national development, as well as the rationale, means, and consequences of expanding basic and secondary education in developing countries. My work on demography has identified key covariates of age patterns of first marriage and first birth, and the effects of pre-marital cohabitation and out-of-wedlock childbearing on marital stability. My work on environment has focussed on economic aspects of the generation and management of municipal solid waste, as well

as the existence of poverty traps associated with indoor air pollution caused by the use of fuelwood in traditional ways.

BLUME, Lawrence E.

Born 1952, Rochester, NY, USA.

Current Post Prof. Econ., Cornell Univ., Ithaca, NY, USA, 1990–.

Past Posts Asst Prof., Assoc. Prof., Univ. Michigan, 1977–83, 1983–88; Vis. Assoc. Prof., Cornell Univ., 1988–90.

Degrees AB Washington Univ., 1973; PhD Univ. California, Berkeley, 1977.

Offices and Honours Co-Dir., Econ. Program, Santa Fe Inst., 1996–98; Econ. Advisory Panel, NSF, 1997–99; Fell., Em Soc, 1999.

Editorial Duties Assoc. Ed., *J. Math. Analysis and Apl.*, 1990–93, *Games and Econ. Behav.*, 1996–2001, *Macroecon. Dynamics*, 1997–2000.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D5 General Equilibrium and Disequilibrium; D8 Information and Uncertainty.

Publications *Book*: 1. *Mathematics for Economists* (with C. Simon), (W.W. Norton, 1994).

Articles: 1. 'The ergodic behavior of stochastic processes of economic equilibrium', *Em*, 47, 1979; 2. 'Learning to be rational' (with D. Easley), *JET*, 26, 1982; 3. 'Characterization of optimal plans for stochastic dynamic programs' (with D. Easley, M. O'Hara), *JET*, 28, 1982; 4. 'The taking of land: when should compensation be paid' (with D. Rubinfeld, P. Shapiro), *QJE*, 99, 1984; 5. 'Compensation for takings: an economic analysis' (with D. Rubinfeld), *Univ. California Law Rev.*, 72, 1984; 6. 'On the private provision of public goods' (with T. Bergstrom, H. Varian), *J Pub E*, 29, 1986; 7. 'An overview of lexicographic choice under uncertainty' (with A. Brandenburger, E.

Dekel), *Annals OR*, 19, 1989; 8. 'Implementation of Walrasian expectations equilibrium' (with D. Easley), *JET*, 51, 1990; 9. 'Lexicographic probabilities and choice under uncertainty' (with A. Brandenburger, E. Dekel), *Em*, 59, 1991; 10. 'Lexicographic probabilities and equilibrium refinements' (with A. Brandenburger, E. Dekel), *Em*, 59, 1991; 11. 'Evolution and market behavior' (with D. Easley), *JET*, 58, 1992; 12. 'The statistical mechanics of strategic interaction', *Games and Econ. Behav.*, 5, 1993; 13. 'Market statistics and technical analysis: the role of volume' (with D. Easley, M. O'Hara), *J Fin*, 49, 1994; 14. 'The algebraic geometry of perfect and sequential equilibrium' (with W. Zame), *Em*, 62, 1994; 15. 'The statistical mechanics of best-response strategy revision', *Games and Econ. Behav.* 11, 1995; 16. 'The interactions based approach to socio-economic behavior' (with S. Durlauf), in S. Durlauf, H.P. Young (eds), *Social Dynamics* (MIT Press, 2001); 17. 'Optimality and natural selection in markets' (with D. Easley), *JET*, forthcoming; 18. 'How noise matters', *Games and Econ. Behav.*, forthcoming; 19. 'Equilibrium concepts for social interaction models' (with S. Durlauf), *Intl Game Theory Rev.*, forthcoming.

Principal Contributions Most of my research is concerned with the equilibrium analysis of economic and social systems. D. Easley and I have demonstrated the stability of rational expectations equilibrium under a variety of learning rules. Subsequently we have examined natural selection processes in markets, and have shown that these evolutionary forces are not sources of market efficiency. In recent work we have explored the implications of wealth dynamics for financial asset prices in the long run. I have also worked on the foundations of game theory. A. Brandenburger, E. Dekel and I characterized the underlying decision-theoretic

logic of refinements of Nash equilibrium such as perfect and proper equilibrium. With W. Zame I explored the geometric structure of the Nash, perfect, proper and sequential equilibrium correspondences. My work in evolutionary game theory has been concerned with the dynamics of play in large populations. In particular, I have developed dynamic adjustment models that are useful for modelling social interactions. In recent work I have applied these models to problems in the enforcement of social norms. I have also made contributions to the theory of public goods, and to the economic analysis of law.

BLUNDELL, Richard William

Born 1952, Shoreham, Sussex, UK.

Current Posts Prof. Econ., Dept Econ., Univ. Coll. London, UK, 1984–; Dir. Res., IFS, London, 1986–; Dir., ESRC Centre Micro-Econ. Analysis of Fiscal Pol., IFS, 1991–.

Past Posts Lect. Econ., Univ. Manchester, 1970–73; Head of Dept, Univ. Coll. London, 1988–92; Vis. Prof., MIT, 1993, Univ. California, Berkeley, 1999; Ford Vis. Prof., Univ. California, Berkeley, 1994.

Degrees BSc Univ. Bristol, 1973; MSc LSE, 1975.

Offices and Honours Council, RES, 1990–94, Europ. Econ. Assoc., 1997–; Fell., Em Soc, 1991–, BA, 1997–; Yrjö Jahnsson Prize, 1995; Council Mem., Em Soc, 1998–; Leverhulme Personal Res. Professorship, 1999–; Frisch Medal, Em Soc, 2000; Vice Pres., Europ. Econ. Assoc., 2002; Hon. Mem., AEA, 2001–; Fell., AAAS, 2002–.

Editorial Duties Assoc. Ed., *REStud*, 1984–88, *JHR*, 1995–97; Co-Ed., *J Em*, 1991–97, *Em*, 1997–2001.

Principal Fields of Interest n.e.

Publications *Books*: 1. *Unemployment, Search and Labor Supply* (ed. with I.

Walker), (CUP, 1986); 2. *The Measurement of Household Welfare* (ed. with I. Preston, I. Walker), (CUP, 1994); 3. *Taxation, Employment and Unemployment* (ed. with L. Bovenberg), (OECD Jobs Study, Working Party Tax Analysis and Tax Stats OECD Comm. Fiscal Affairs, OECD Secretariat, 1995); 4. *The Determinants and Effects of Work Related Training in Britain* (with L. Dearden, C. Meghir), (IFS, 1996); 5. *Higher Education, Employment and Earnings in Britain* (with L. Dearden, A. Goodman, H. Reed), (IFS, 1997).

Articles: 1. 'Estimation and hypothesis testing in dynamic singular equation systems' (with G. Anderson), *Em*, 50, 1982; 2. 'Testing restrictions in a flexible dynamic demand system: an application to consumers' expenditure in Canada' (with G. Anderson), *REStud*, 3, 1983; 3. 'An exogeneity test for the simultaneous equation Tobit model' (with R. Smith), *Em*, 54, 1986; 4. 'A life-cycle consistent empirical model of family labour supply using cross-section data' (with I. Walker), *REStud*, 53, 1986; 5. 'Selection criteria for a microeconomic model of labour supply' (with C. Meghir), *JAE*, 1, 1986; 6. 'Unemployment and female labour supply' (with J. Ham, C. Meghir), *EJ*, 97, 1987; 7. 'Consumer behaviour: theory and empirical evidence – a survey', *EJ*, 98, 1988; 8. 'What do we learn about consumer demand patterns from micro data?' (with P. Pashardes, G. Weber), *AER*, 83, 1993; 9. 'Consumer demand and the life-cycle allocation of household expenditures' (with M. Browning, C. Meghir), *REStud*, 161, 1994; 10. 'Bivariate alternatives to the Tobit model' (with C. Meghir), *J Em*, 34, 1997.

Principal Contributions The econometric analysis of microeconomic behaviour, including: statistical models for limited dependent variable and discrete processes; estimation methods for simultaneous equations limited dependent vari-

able models; dynamic interrelated models for consumer behaviour; identification and estimation of equivalence scales; estimation and simulation of tax reform on labour supply decisions; consumer reactions to income risks.

BOCKSTAEL, Nancy E. n.e.

BOLDRIN, Michele n.e.

BOLLERSLEV, Tim

Born 1958, Copenhagen, Denmark.

Current Posts Juanita and Clifton Kreps Prof. Econ. and Prof. Fin., Fuqua Sch. Bus., Dept Econ., Duke Univ., Durham, NC, USA, 1998–.

Past Posts Asst Prof. Econ., Assoc. Prof. Fin., Nathan S. and Mary P. Sharpe Prof. Fin., Northwestern Univ., 1986–88, 1991–95, 1995; Commonwealth Prof. Econ., Univ. Virginia, 1996–98.

Degrees MS (Econ. and Maths), (Cand. Scient. Oecon.) Univ. Aarhus, 1983; PhD Univ. California, San Diego, 1986.

Offices and Honours Faculty Res. Assoc., NBER, 1992–; Fell., Em Soc, 1999.

Editorial Duties Assoc. Ed., *JAE*, 1990–2002, *J. Empirical Fin.* 1991–2002, *JBES*, 1992–2000, *Rev. Fin. Stud.*, 1994–98, *Stud. in Nonlinear Dynamics and Em*, 1995–2001, *J. Macroecon. Dynamics*, 1996–2000; *J. Intl Fin. Markets, Inst. and Money*, 1996–2002; Co-Ed., *JAE*, 2003–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C2 Econometric Methods: Single Equation Models; G1 General Financial Markets.

Publications *Articles:* 1. 'Generalized autoregressive conditional heteroskedasticity', *J Em*, 31, 1986; 2. 'Modelling the

- persistence of conditional variances' (with R.F. Engle), *Em. Rev.*, 5, 1986; 3. 'A conditionally heteroskedastic time series model for speculative prices and rates of return', *REStat*, 69, 1987; 4. 'A capital asset pricing model with time varying covariances' (with R.F. Engle, J.M. Wooldridge), *JPE*, 96, 1988; 5. 'The message in daily exchange rates: a conditional variance tale' (with R.T. Baillie), *JBES*, 7, 1989; 6. 'Common stochastic trends in a system of exchange rates' (with R.T. Baillie), *J Fin*, 44, 1989; 7. 'Modelling the coherence in short-run nominal exchange rates: a multivariate generalized ARCH model', *REStat*, 72, 1990; 8. 'Intra day and inter market volatility in foreign exchange rates' (with R.T. Baillie), *REStud*, 58, 1991; 9. 'ARCH modeling in finance: a review of the theory and empirical evidence' (with R.Y. Chou, K.F. Kroner), *J Em*, 52, 1992; 10. 'Quasi-maximum likelihood estimation and inference in dynamic models with time varying covariances' (with J.M. Wooldridge), *Em. Rev.*, 11, 1992; 11. 'Trading patterns and prices in the interbank foreign exchange market' (with I. Domowitz), *J Fin*, 48, 1993; 12. 'Common persistence in conditional variances' (with R.F. Engle), *Em*, 61, 1993; 13. 'ARCH models' (with R.F. Engle, D.B. Nelson), *Handbook of Econometrics*, 1994; 14. 'Fractionally integrated generalized autoregressive conditional heteroskedasticity' (with R.T. Baillie, H.O. Mikkelsen), *J Em*, 74, 1996; 15. 'Heterogeneous information arrivals and return volatility dynamics: uncovering the long run in high frequency returns' (with T.G. Andersen), *J Fin*, 52, 1997; 16. 'DM-dollar volatility: intraday activity patterns, macroeconomic announcements, and longer-run dependencies' (with T.G. Andersen), *J Fin*, 53, 1998; 17. 'Answering the skeptics: yes, standard volatility models do provide accurate forecasts' (with T.G. Andersen), *Intl ER*, 39, 1998; 18. 'The distribution of realized exchange rate volatility' (with T.G. Andersen, F.X. Diebold, P. Labys), *JASA*, 96, 2001; 19. 'Micro effects of macro announcements: real-time price discovery in foreign exchange' (with T.G. Andersen, F.X. Diebold, C. Vega), *AER*, 93, 2003; 20. 'Modeling and forecasting realized volatility' (with T.G. Andersen, F.X. Diebold, P. Labys), *Em*, 71, 2003.
- Principal Contributions** The majority of my research has been concerned with modeling, forecasting, and understanding time-varying volatility in financial markets. Although risk and uncertainty play a central role in monetary and financial economics, it is only over the past decade that economists have begun to fully appreciate the importance of properly modeling the pronounced temporal dependencies in financial market volatility. The GARCH model and related procedures developed in some of my earlier work have figured very prominently in these developments. These tools are now available in a host of standard software packages and are routinely used by finance practitioners and economists throughout the world. More recently my interest has shifted toward the analysis of high-frequency, or tick-by-tick, financial data. This newly available data source holds the promise of important new insight into how information gets incorporated into asset prices and the functioning of markets, in turn allowing for better assessment of the effectiveness of macroeconomic policies and the implementation of improved risk management and oversight procedures. Meanwhile, as highlighted in a series of my recent papers, the proper statistical analysis of such data presents several new challenges *vis-à-vis* the procedures traditionally employed in time-series econometrics concerned with the analysis of daily or lower frequency economic data. The concept of realized vola-

tility developed in some of my most recent work affords a simplified way of dealing with many of these complications.

BOLTON, Gary

Born 1958, Utica, NY, USA.

Current Posts Prof. and Exec. Program Faculty Fell., Smeal Coll. Bus., Pennsylvania State Univ., Univ. Park, PA, USA, 1990–.

Past Posts n.e.

Degrees BA Drew Univ., 1983; PhD Carnegie-Mellon Univ., 1990.

Editorial Duties Assoc. Ed., *Experimental Econ.*, 1997–; Guest Ed., special issue on ‘Experimental Economics’, *J. Math. Psychology*, 42, June/Sept. 1998; Guest Co-Ed. (with A. Kwasnica), special issue on ‘Experimental Economics in Practice’, *Interfaces*, in press for 2002.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Articles*: 1. ‘A comparative model of bargaining: theory and evidence’, *AER*, 81, 1991; 2. ‘An experimental test for gender differences in beneficent behavior’ (with E. Katok), *Econ. Letters*, 48, 1995; 3. ‘Anonymity versus punishment in ultimatum bargaining’ (with R. Zwick), *Games and Econ. Behav.*, 10, 1995; 4. ‘Coalition formation, communication and coordination: an exploratory experiment’ (with K. Chatterjee), in R. Zeckhauser, R. Keeney, J. Sebenius (eds), *Wise Choices: Games, Decisions, and Negotiations* (Harvard Bus. Sch. Press, 1996); 5. ‘The rationality of splitting equally’, *JEB*, 32, 1997; 6. ‘Analyzing ultimatum bargaining: a Bayesian approach to the comparison of two potency curves under shape constraints’ (with D.K.H. Fong), *JBES*, 15, 1997; 7. ‘Dictator game giving: rules of fairness versus

acts of kindness’ (with E. Katok, R. Zwick), *Intl J. Game Theory*, 27, 1998; 8. ‘Strategy and equity: an ERC-analysis of the Güth–van Damme game’ (with A. Ockenfels), *J. Math. Psychology*, 42, 1998; 9. ‘An experimental test of the crowding out hypothesis: the nature of beneficent behavior’ (with E. Katok), *JEB*, 37, 1998; 10. ‘Reinterpreting arbitration’s narcotic effect: an experimental investigation’ (with E. Katok), *Games and Econ. Behav.*, 25, 1998; 11. ‘Measuring motivation in the reciprocal responses observed in a dilemma game’ (with J. Brandts, A. Ockenfels), *Experimental Econ.*, 1, 1998; 12. ‘Bargaining and dilemma games: from experimental data towards theoretical synthesis’, *Experimental Econ.*, 1, 1998; 13. ‘Weak and strong equity effects’, in D. Budescu, I. Erev, R. Zwick (eds), *Games and Human Behavior* (Erlbaum, 1999); 14. ‘How strategy sensitive are contributions? A test of six hypotheses in a two-person dilemma game’ (with J. Brandts, E. Katok), *ET*, 15, 2000; 15. ‘ERC: a theory of equity, reciprocity and competition’ (with A. Ockenfels), *AER*, 90, 2000; 16. ‘Comment: motives and the games people play’, *J. Consciousness Stud.*, special issue on ‘Evolutionary origins of morality’, 7, 2000; repr. in L.D. Katz (ed.), *Motives and the Games People Play* (Imprint Acad., 2000); 17. ‘Learning versus punishment in ultimatum bargaining’ (with K. Abbink, K. Sadrieh, F.-F. Tang), *Games and Econ. Behav.*, 37, 2001.

Principal Contributions My main interests have to do with issues in social capital; specifically, fairness, reciprocity and reputation, and how these issues help to support or deter the workings of the marketplace.

BOLTON, Patrick n.e.

BOLTON, Ruth Nancy

Born 1956, Sault Ste. Marie, Ontario, Canada.

Current Post Prof. Marketing, Vanderbilt Univ., Nashville, TN, USA, 2002–.

Past Posts Asst Prof. Marketing, UBC, 1982; Vis. Asst Prof. Marketing, Carnegie-Mellon Univ., 1982–83; Asst Prof., Univ. Alberta, 1983–87; Sr Mem., Principal Mem., Tech. Staff, Verizon, 1987–91, 1991–95; Assoc. Prof., Univ. Maryland, 1995–99; Thomas Henry Carroll Ford Foundation Vis. Assoc. Prof. Bus. Admin., Harvard Univ., 1998–99; Ruby K. Powell Prof. Marketing, Univ. Oklahoma, 1999–2001.

Degrees BComm (Hons) Queen's Univ., Canada, 1978; MSc (Marketing), PhD (Ind. Admin.) Carnegie-Mellon Univ., 1981, 1983.

Offices and Honours SSHRCC Award, 1986–87; Advisory Council, Assoc. Consumer Res., 1993–96; Acad. Council, Amer. Marketing Assoc., 2001–04.

Editorial Duties Ed. Bds, *J. Consumer Res.*, 1991–93, *J. Marketing*, 1991–, *Marketing Letters*, 1994–, *Marketing Sc.*, 1995–, *J. Service Res.*, 1997–, *J. Retailing*, 1997–, *J. Marketing Res.*, 1998–; Ed., *J. Marketing*, 2002–.

Principal Fields of Interest D4 Market Structure and Pricing; L1 Market Structure, Firm Strategy, and Market Performance; L8 Industry Studies: Services.

Publications *Articles*: 1. 'Searching for positive returns at the track: a multinomial logit model for handicapping horse races' (with R.G. Chapman), *Mgmt Sc.*, 32, 1986; 2. 'Implications of market structure for elasticity structure' (with G.J. Russell), *J. Marketing Res.*, 25, 1988; 3. 'The relationship between market characteristics and promotional price elasticities', *Marketing Sc.*, 8, 1989; 4. 'A longitudinal analysis of the impact of service changes

on customer attitudes' (with J.H. Drew), *J. Marketing*, 55, 1991; 5. 'A multi-stage model of customers' assessments of service quality and value' (with J.H. Drew), *J. Consumer Res.*, 17, 1991; 6. 'Pretesting questionnaires: content analyses of respondents' concurrent verbal protocols', *Marketing Sc.*, 12, 1993; 7. 'A dynamic model of the duration of the customer's relationship with a continuous service provider: the role of satisfaction', *Marketing Sc.*, 17, 1998; 8. 'A dynamic model of customers' usage of services: usage as an antecedent and consequence of satisfaction' (with K.N. Lemon), *J. Marketing Res.*, 36, 1999; 9. 'A model of customer satisfaction with service encounters involving failure and recovery' (with A.K. Smith, J. Wagner), *J. Marketing Res.*, 36, 1999; 10. 'Implication of loyalty programs and service experiences for customer retention and value' (with P.K. Kannan, M.D. Bramlett), *J. Acad. Marketing Sc.*, 28, 2000.

Principal Contributions All of my work is in the area of marketing, primarily building econometric models of customer opinions and behaviour. My current work with K. Lemon models business customers' purchase behaviour (e.g., repeat purchases, usage levels, cross-buying) for high-technology services sold in global markets. This work is part of a stream of research that links a company's marketing actions to financial performance – based on the notion that customers are assets to be managed. I am especially interested in how organizations can increase the value of their customer base through service and support. For example, my work with J. Drew examined the formation of customer opinions in the telecommunications industry. My work with A. Smith examined how companies can design services and manage service changes over time, and how they can proactively manage service failures. A key

feature of many studies is that they model individual customer opinions and behaviour regarding services change over time. Another stream of research examines how context variables influence customer price sensitivity and firm pricing decisions – especially in retailing contexts. These two streams of research overlap in my research regarding customer response to the pricing of services.

BOND, Stephen Roy

Born 1963, Lincoln, UK.

Current Posts Gwilym Gibbon Res. Fell. Public Econ., Nuffield Coll., Univ. Oxford, UK, 1993–; Res. Fell., IFS, London, UK, 1993–.

Past Posts Res. Officer, IFS, 1986–88; Jr Res. Fell., Wadham Coll., Univ. Oxford, 1988–90; Res. Officer, Inst. Econ. and Stats, Univ. Oxford, 1990–93.

Degrees BA Univ. Cambridge, 1984; MPhil, DPhil Univ. Oxford, 1986, 1990.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; E2 Consumption, Saving, Production, Employment, and Investment; G3 Corporate Finance and Governance.

Publications *Articles*: 1. ‘Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations’ (with M. Arellano), *REStud*, 58, 1991; 2. ‘Investment and Tobin’s q : evidence from company panel data’ (with R. Blundell, M. Devereux, F. Schiantarelli), *J Em*, 51, 1992; 3. ‘Dynamic investment models and the firm’s financial policy’ (with C. Meghir), *REStud*, 61, 1994; 4. ‘On the design of a neutral business tax under uncertainty’ (with M. Devereux), *J Pub E*, 58, 1995; 5. ‘Taxes and company investment: a microeconomic investigation exploiting cross-section variation in taxes’ (with M. Devereux, L. Chennells), *EJ*, 106, 1996; 6. ‘The as-

essment: investment performance and policy’ (with T. Jenkinson), *OREP*, 12, 1996; 7. ‘Initial conditions and moment conditions in dynamic panel data models’ (with R. Blundell), *J Em*, 87, 1998; 8. ‘GMM estimation with persistent panel data: an application to production functions’ (with R. Blundell), *Em. Rev.*, 19, 2000; 9. ‘The stock market and investment in the new economy’ (with J. Cummins), *BPEA*, 2000; 10. ‘Criterion-based inference for GMM in autoregressive panel data models’ (with C. Bowsher, F. Windmeijer), *Econ. Letters*, 73, 2001; 11. ‘Dynamic panel data models: a guide to micro data methods and practice’, *Portuguese Econ. J.*, 1, 2002.

Principal Contributions My main contributions to economics have been the development of econometric methods for dynamic panel data (DPD) models, and the development of econometric models for the analysis of company investment behaviour. My work on panel data began with work on estimation and testing using Generalized Method of Moments procedures, together with Manuel Arellano, and has continued with the development of our DPD computer program. More recently I have worked on methods suitable for highly persistent data, principally with Richard Blundell; and on more accurate statistical inference, principally with Frank Windmeijer. My work on company investment has included the development of Euler equation specifications suitable for testing the importance of financing constraints, with Costas Meghir; and more recently the development of alternative measures of the average q ratio, with Jason Cummins. I also have a longstanding interest in the effects of corporate taxation on company investment and financial behaviour, developed principally in work with Michael P. Devereux.

BONGAARTS, John

Born 1945, Tegelen, The Netherlands.

Current Post Vice Pres., Pol. Res. Div., Pop. Council, New York, NY, USA, 1989–.

Past Posts Assoc. Prof. (adjunct), Dept Pop. and Family Health, Columbia Univ., 1977–86; Assoc., Sr Assoc., Dep. Dir., Center Pol. Stud., Pop. Council, 1973–81, 1982–88, 1988–89.

Degrees MS (Systems Analysis) Eindhoven Inst. Tech., 1968; PhD (Physiology and Biomedical Eng.) Univ. Illinois, 1972.

Offices and Honours Postdoctoral Fell., Pop. Dynamics, Johns Hopkins Univ., 1973; Res. Career Devlp. Award, NIH, 1980–85; Mindel Sheps Award, PAA, 1986; Mem., Royal Dutch Acad. Sc., 1986, Johns Hopkins Soc. Scholars, 1988, NAS, 2002; Fell., AAAS, 1994; Robert J. Lapham Award, PAA, 1997.

Editorial Duties Chair Ed. Comm., *Stud. Family Planning*; 1985–.

Principal Field of Interest J1 Demographic Economics.

Publications *Books*: 1. *Fertility, Biology and Behavior: An Analysis of the Proximate Determinants* (with R.G. Potter), (Acad. Press, 1983); 2. *Family Demography: Methods and Their Applications* (ed. with T.K. Burch, K.W. Wachter), (Clarendon Press, 1987); 3. *Beyond Six Billion: Forecasting The World's Population* (ed. with R.A. Bulatao), (NRC/Natl Acad. Press, 2000).

Articles: 1. 'A framework for analyzing the proximate determinants of fertility', *Pop. and Devlp. Rev.*, 4, March 1978; 2. 'Demographic responses to famine' (with M. Cain), in K. Cahill (ed.), *Famine* (Orbis Press, 1982); 3. 'Malnutrition and fertility', *Sc.*, 215, March 1982; 4. 'Fertility policy in China: future options' (with S. Greenhalgh), in D.L. Poston, Jr, D. Yaukey (eds), *The Population of Modern China*

(Plenum Press, 1992); 5. 'Can the growing human population feed itself?', *Sc. Amer.*, 270, March 1994, repr. in G.R. Pitzl (ed.), *Annual Editions: Geography, 95/96*, R.M. Jackson (ed.), *Annual Editions: Global Issues, 96/97*, and D. McComb (ed.), *Annual Editions: World History, 96/97* (Dushkin, 1995, 1996, 1996); 6. 'Population pressure and the food supply system in the developing world', *Pop. and Devlp. Rev.*, 22, Sept. 1996; 7. 'Social interactions and contemporary fertility transitions' (with S.C. Watkins), *Pop. and Devlp. Rev.*, 22, Dec. 1996; 8. 'Global warming policy: population left out in the cold' (with B.C. O'Neill, S.R. Gaffin), *Environment*, 39, Nov. 1997; 9. 'Trends in unwanted child-bearing in the developing world', *Stud. in Family Planning*, 28, Dec. 1997; 10. 'The role of family planning programmes in contemporary fertility transitions', in G.W. Jones, R.M. Douglas, J.C. Caldwell, R.M. D'Souza (eds), *The Continuing Demographic Transition* (Clarendon Press, 1997); 11. 'On the quantum and tempo of fertility' (with G. Feeney), *Pop. and Devlp. Rev.*, 24, June 1998; 12. 'Demographic consequences of declining fertility', *Sc.*, 282, Oct. 1998; 13. 'Fertility decline in the developed world: where will it end?', *AER*, 89, June 1999; 14. 'The potential role of contraception in reducing abortion' (with C. Westoff), *Stud. Family Planning*, 31, Sept. 2000; 15. 'Population: ignoring its impact', *Sc. Amer.*, 286, Jan. 2002; 16. 'How long do we live?' (with G. Feeney), *Pop. and Devlp. Rev.*, 28, March 2002; 17. 'The end of the fertility transition in the developed world', *Pop. and Devlp. Rev.*, 28, Sept. 2002.

Principal Contributions My research has examined the determinants, consequences and policy implications of the contemporary global demographic transition. This work has focussed on the behavioral, socio-economic and program-

matic determinants of fertility declines in the developing world. These changes in reproductive behavior have been accelerated by family planning programs which were implemented in many countries in response to concern about the adverse consequences of rapid population growth. An analysis of the population projections for the 21st century indicates that population momentum is now a more important cause of future growth than high fertility. This finding calls for new and different policy responses. A set of related studies have quantified the contribution of population growth to global warming and to rising demand for food. In several recent studies I analyze the causes of very low fertility in the industrialized world, where population decline and rapid aging are expected to occur over the next few decades. Widely available fertility statistics were found to contain a 'tempo' distortion due to the rising mean age at child-birth. This result implies that women are experiencing higher fertility than conventional statistics suggest. A modest upturn in fertility in high-income countries with low fertility is therefore possible.

BOOT, Arnould W.A. n.e.

BOOTH, Alison Lee

Born year n.e., Melbourne, Australia.

Current Posts Prof. Econ., Univ. Essex, Colchester, Essex, UK, 1994–; Vis. Prof., ANU, Canberra, ACT, Australia, 2002–04.

Past Posts Lect., Bristol Univ., 1983–84, City Univ., London, 1984–1988; Brunel Univ., 1988–90; Lect., Birkbeck Coll., Univ. London, 1990–94.

Degrees Master (Town and Country Planning) Sydney Univ., 1978; MSc, PhD LSE, 1980, 1984.

Offices and Honours Panel Mem., Res. Assessment Exercise 2001, Econ. and Em., 1991–2000; Res. Fell. CEPR, London, 1993–, Inst. Stud. Labour, Bonn, Germany, 1996–; Exec. Comm., Europ. Assoc. Labour Econ., 1996–2002; Council, RES, 1997–2002; Fell., Royal Soc. Arts, 1998–.

Editorial Duties Ed.-in-chief, *Labour Econ.*, 1999–2004.

Principal Fields of Interest n.e.

Publications *Books*: 1. *The Economics of the Trade Union* (CUP, 1995, repr. 2002); 2. *Acquiring Skills: Market Failures, their Symptoms, and Policy Responses* (ed. with D. Snower), (CUP, 1996); 3. *The Economics of Labor Unions* (ed.), (Edward Elgar, 2002).

Articles: 1. 'A public choice model of trade union behaviour and membership', *EJ*, 94, Dec. 1984; 2. 'The free rider problem and a social custom theory of trade union membership', *QJE*, 99, Feb. 1985; 3. 'Estimating the probability of trade union membership: a study men and women in Britain', *Em*, 53, Feb. 1986; 4. 'The employment effects of a shorter working week' (with F. Schiantarelli), *Em*, 54, May 1987; 5. 'Redundancy payments and firm-specific training' (with M. Chatterji), *Em*, 56, Nov. 1989; 6. 'Job-related formal training: who receives it and what is it worth?', *OBES*, 53, Aug. 1991; 7. 'Private sector training and graduate earnings', *REStat*, 76, 1993; 8. 'Union membership and wage bargaining when membership is not compulsory' (with M. Chatterji), *EJ*, 105, March 1995; 9. 'Layoffs with payoffs: a bargaining model of union wage and severance payments', *Em*, 62, Nov. 1995; 10. 'The hazards of doing a PhD: an analysis of completion and withdrawal rates of British PhDs in the 1980s', *JRSS-A*, 1995; 11. 'An analysis of firing costs and their implications for unemployment policy', in D. Snower, G. de la Dehesa (eds), *Unemployment Policy* (CUP, 1997); 12.

'Training and unions' (with M. Chatterji), *EJ*, 108, March 1998; 13. 'Earnings, productivity and performance-related pay' (with J. Frank), *J Lab E*, 17, July 1999; 14. 'Job tenure and job mobility in Britain' (with M. Francesconi, C. Garcia-Serrano), *ILRR*, 53, Oct. 1999; 15. 'Persistence in union status: a longitudinal study of young men in Britain' (with W. Arulampalam), *JAE*, 15, Aug. 2000; 16. 'Hiring and firing: a tale of two thresholds' (with Y.-F. Chen, G. Zoega), *J Lab E*, April 2002; 17. 'A sticky floors model of promotion, pay, and gender' (with M. Francesconi, J. Frank), *Europ ER*, 47, April 2003.

Principal Contributions My work is in the field of labour economics. Much of it has related to the economic theory of trade unions and investigation of their impact. I have also worked on the economics of employment protection, focusing on redundancy pay in particular, in order to provide an economic rationale for this institution. I have also worked with Gylfi Zoega on the economics of training in imperfectly competitive labour markets. More recently I have begun to investigate in more detail, with J. Frank and G. Zoega, various models of monopsony wage determination.

BORENSTEIN, Severin

Born 1957, Berkeley, CA, USA.

Current Posts E.T. Grether Prof. Bus. Admin. and Public Pol., Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1996–; Dir., Univ. California Energy Inst., Berkeley, CA, USA, 1994–.

Past Posts Asst Prof. Econ. and Public Pol., Univ. Michigan, 1983–89; Assoc. Prof. Econ., Prof. Econ., Univ. California, Davis, 1989–94, 1994–96.

Degrees AB Univ. California, Berkeley, 1978; PhD MIT, 1983.

Editorial Duties Assoc. Ed., *REStat*, 1992–, *J Ind E*, 1993–95, *IJIO*, 1993–2000; Ed., *J Ind E*, 1995–2000.

Principal Fields of Interest L1 Market Structure, Firm Strategy, and Market Performance; M2 Business Economics; K0 Law and Economics: General.

Publications Articles: 1. 'Price discrimination in free-entry markets', *RandJE*, 16, Autumn 1985; 2. 'On the efficiency of competitive markets for operating licenses', *QJE*, 103, May 1988; 3. 'Market incentives for safe commercial airline operation' (with M. Zimmerman), *AER*, 78, Dec. 1988; 4. 'The economics of costly risk sorting in competitive insurance markets', *Intl Rev. Law and Econ.*, 9, June 1989; 5. 'Hubs and high fares: dominance and market power in the US airline industry', *RandJE*, 20, Autumn 1989; 6. 'How to carve a medical degree: human capital assets in divorce settlements' (with P. Courant), *AER*, 79, Dec. 1989; 7. 'Selling costs and switching costs: explaining retail gasoline margins', *RandJE*, 22, Autumn 1991; 8. 'The dominant-firm advantage in multi-product industries: evidence from the US airlines', *QJE*, 106, Nov. 1991; 9. 'Competition and price dispersion in the US airline industry' (with N. Rose), *JPE*, 103, Aug. 1994; 10. 'Bankruptcy and pricing behavior in US airline markets' (with N. Rose), *AER*, 85, May 1995; 11. 'Dynamic pricing in retail gasoline markets' (with A. Shepard), *RandJE*, 27, Autumn 1996; 12. 'Settling for coupons: discount contracts as compensation and punishment in antitrust lawsuits', *J Law E*, 39, Oct. 1996; 13. 'Do gasoline prices respond asymmetrically to crude oil price changes?' (with C. Cameron, R. Gilbert), *QJE*, 112, Feb. 1997; 14. 'An empirical analysis of market power in a deregulated California electricity market' (with J. Bushnell), *J Ind E*, 47, Sept. 1999; 15. 'Is cost cutting evidence of X-inefficiency?' (with J. Farrell),

AER, 90, May 2000; 16. 'Exercising market power in proprietary aftermarkets' (with J. MacKie-Mason, J. Netz), *JEMS*, 9, Summer 2000; 17. 'The competitive effects of transmission capacity in a deregulated electricity industry' (with J. Bushnell, S. Stoft), *RandJE*, 31, Summer 2000; 18. 'Sticky prices, inventories, and market power in wholesale gasoline markets' (with A. Shepard), *RandJE*, 33, Spring 2002; 19. 'The trouble with electricity markets: understanding California's restructuring disaster', *JEP*, 16, Winter 2002; 20. 'Measuring market inefficiencies in California's restructured wholesale electricity market' (with J. Bushnell, F. Wolak), *AER*, 92, Dec. 2002.

Principal Contributions Nearly all of my work has focussed on understanding firm pricing, competitive strategies, and market power, and their relationship to the efficiency of markets. It has been about equal parts empirical work and applied theory. I have contributed through theoretical and, mostly, empirical work to the study of price discrimination, focussing particularly on the practice in fairly competitive markets such as airlines and gasoline. I have worked extensively on understanding competition among airlines including one of the first studies to document the premium paid by passengers using hub airports. I have also studied competition in the gasoline and, most recently, electricity markets, including recent work with J. Bushnell and F. Wolak analyzing the cause of price increases during the summer-2000 California electricity crisis. In work with J. Farrell, I have examined the incentives for firms to operate efficiently and empirical evidence that they do not. I have also made some theoretical contributions to law and economics including examining incentives of insurance companies to use risk tests and the potential effects of laws that restrict such tests, studying the incentives for firms to settle

lawsuits by issuing discount coupons for their products and the effects of such settlements, and with P. Courant analyzing rules for dividing human capital wealth in divorce.

BORJAS, George J.

Born 1950, Havana, Cuba.

Current Posts Robert W. Scrivner Prof. Econ. and Social Pol., John F. Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1995–; Res. Assoc., NBER, Cambridge, MA, USA, 1983–.

Past Posts Asst Prof., Queens Coll., City Univ., New York, 1975–77; Asst Prof., Assoc. Prof., Prof. Econ., Univ. California, Santa Barbara, 1978–80, 1980–82, 1982–90; Prof. Econ., Univ. California, San Diego, 1990–95.

Degrees BA (Econ.-Maths) St Peter's Coll., NJ, 1971; MA, MPhil, PhD Columbia Univ., 1974, 1974, 1975.

Offices and Honours NIMH Post-Doctoral Res. Fellowship, Univ. Chicago, 1977–78; Mem., Panel on Immigration Stats, NAS, 1983–84; Mem., Advisory Panel in Econ., NSF, 1988–90; Comm. Visitors, Advisers to California's Governor, 1993–; Mem., Social Sc. and Pop. Study Section, NIH, 1995–97; Mem., Panel on Demographic and Econ., Impacts of Immigration, NAS, 1995–97; Sr Affiliate, Joint Center Poverty Res., 1998–; Fell., Em Soc, 1998.

Editorial Duties Ed. Bds, *QJE*, 1992–98, *Intl Migration Rev.*, 1992–; Ed., *REStat*, 1997–.

Principal Field of Interest J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Wage Policy in the Federal Bureaucracy* (AEI, 1980); 2. *Hispanics in the US Economy* (ed. with M. Tienda), (Acad. Press, 1985); 3. *International Differences in the Labor Market Performance of Immigrants* (Upjohn Inst.,

1988); 4. *Friends or Strangers: The Impact of Immigrants on the US Economy* (Basic Books, 1990); 5. *Immigration and the Work Force: Economic Consequences for the United States and Source Areas* (ed. with R.B. Freeman), (UCP, 1992); 6. *Heaven's Door: Immigration Policy and the American Economy* (Princeton Univ. Press, 1999); 7. *Labor Economics* (McGraw-Hill, 1996; 2nd edn 2000).

Articles: 1. 'Discrimination in HEW: is the doctor sick or are the patients healthy?', *J Law E*, 21, April 1978, repr. in G.J. Stigler (ed.), *Chicago Studies in Political Economy* (UCP, 1988); 2. 'The politics of employment discrimination in the Federal bureaucracy', *J Law E*, 25, Oct. 1982; 3. 'Assimilation, changes in cohort quality, and the earnings of immigrants', *J Lab E*, 3, Oct. 1985, repr. in O.C. Ashenfelter, K.F. Hallock (eds), *Labor Economics* (Edward Elgar, 1995); 4. 'Self-selection and the earnings of immigrants', *AER*, 77, Sept. 1987, repr. in O.C. Ashenfelter, K.F. Hallock (eds), *Labor Economics* (Edward Elgar, 1995); 5. 'Consumer discrimination and self-employment' (with S.G. Bronars), *JPE*, 97, June 1989; 6. 'Ethnic capital and intergenerational mobility', *QJE*, 107, Feb. 1992; 7. 'Long-run convergence of ethnic skill differentials: the children and grandchildren of the great migration', *ILRR*, 45, July 1994; 8. 'The economics of immigration', *JEL*, 32, Dec. 1994; 9. 'The economic benefits from immigration', *JEP*, 9, Spring 1995; 10. 'Ethnicity, neighborhoods, and human-capital externalities', *AER*, 85, June 1995; 11. 'Foreign competition, market power, and wage inequality' (with V.A. Ramey), *QJE*, 110, Nov. 1995; 12. 'How much do immigration and trade affect labor market outcomes?' (with R.B. Freeman, L.F. Kratz), *BPEA*, 1, 1997; 13. 'Does immigration grease the wheels of the labor market?', *BPEA*, 1, 2001.

Principal Contributions My early work studied the economic impact of labor turnover and the determination of wage structure in government bureaucracies. In the early 1980s, my interests shifted to the study of the economic consequences of immigration. Initially, the research analyzed the determinants of immigrant earnings. Over time, my work matured to a more complete study of the economics of immigration, including the nature of the immigration decision; the impact of immigrants on the employment opportunities of native-born workers; the impact of immigration on the costs of maintaining programs in a welfare state; the source and magnitude of the economic benefits from immigration; and the intergenerational progress of immigrant families. My work has stressed the significance of controlling for differences in skills across immigrant cohorts when interpreting the positive correlation between immigrant earnings and time spent in the new country. My research has also isolated the factors that determine whether the endogenous immigration decision leads to a positively selected immigrant flow (where the flow is, on average, more skilled than the typical person in the country of origin) or a negatively selected flow. Finally, the work has shown that skill differentials among ethnic groups tend to persist from generation to generation. In recent years, my research has emphasized the importance of providing a more systematic cost-benefit accounting of the impact of immigration on host countries.

BÖRSCH-SUPAN, Axel H.

Born 1954, Darmstadt, Germany.

Current Post Prof. Econ., Univ. Mannheim, Gebäude, Germany, 2001–.

Past Posts Asst Prof. Public Pol., J.F. Kennedy Sch. Govt, Harvard Univ., 1984–

89; Asst Prof. Econ., Univ. Dortmund, 1987–89; Assoc. Prof. Econ., Prof. Macroecon. and Econ. Pol., Univ. Mannheim, 1989–91, 1991–2001.

Degrees BA, BA (Maths, Econ.) Univ. Munich, 1976, 1976; MA (Maths) Univ. Bonn, 1980; PhD MIT, 1984.

Offices and Honours Fellowship, Studienstiftung des Deutschen Volkes, 1972–80; Doctoral Fellowship, Studienstiftung, 1981–82; Fell., Joint Center for Urban Stud., MIT and Harvard Univ., 1982–84; Sloan Foundation Fellowship, 1983; Faculty Res. Fell., Res. Assoc., NBER, 1985–90, 1990–; Vis. Res. Assoc., Em. Lab., Univ. California, Berkeley, 1992; Chairman, Dept Econ., Univ. Mannheim, 1994–95; Fell., McKinsey Global Inst., 1995–96; Dir., Inst. Econ. and Stats, Univ. Mannheim, 1997–; Mem., Berlin-Brandenburgische Acad. Sc. and Humanities, 1998–, German Acad. Natural Sc. Leopoldina, 2000–; Dir., Mannheim Res. Inst. for Econ. of Aging, 2001–; Disting. Harris German-Dartmouth Vis. Prof., 2001.

Editorial Duties (current) Assoc Ed., *RSUE*; Ed. Bd, *J. Pension Econ. and Fin.*

Principal Fields of Interest D1 Household Behavior; G2 Financial Institutions and Services; J3 Wages, Compensation, and Labor Costs.

Publications Books: 1. *Pensions: More Information, Less Ideology* (MA-Kluwer Acad., 2001); 2. *Pension Reform in Six Countries* (Springer, 2001); 3. *Savings in Germany* (DIA, 2002); 4. *Household Portfolios in Germany* (MIT Press, 2002); 5. *Aging and International Capital Flows* (Springer, 2002); 6. *Life Cycle Savings and Public Policy* (Acad., 2003); 7. *Stockholding in Germany* (Palgrave, 2003).

Articles: 1. ‘Would you like to reform the pension system? The opinions of European citizens’, *AER*, 32, 2001; 2. ‘Social and economic research with con-

sumer panel data’, *ZUMA*, special issue, 7, 2001.

Principal Contributions n.e.

BOSSERT, Walter

Born 1962, Pforzheim, Germany.

Current Post Prof. Econ., Univ. Montreal, Montreal, Quebec, Canada, 2000–.

Past Posts Asst Prof. Econ., Univ. Karlsruhe, 1987–89; Vis. Asst Prof. Econ., UBC, 1989–91; Assoc. Prof. Econ., Univ. Waterloo, Canada, 1991–97; Prof. Econ. Theory, Univ. Nottingham, 1997–2000.

Degrees Diplom-Wirtschaftsingenieur, Dr rer. pol. Univ. Karlsruhe, 1985, 1988; MA UBC, 1987.

Offices and Honours Council Mem., Soc. Social Choice and Welfare, 1997–; Mem., Sc. Council, Centre Interuniversitaire de Recherche en Économie Quantitative (CIREQ), 2002–.

Editorial Duties Ed. Bd, *Social Choice and Welfare*, 1997–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; D6 Welfare Economics; D8 Information and Uncertainty.

Publications Articles: 1. ‘On the extension of preferences over a set to the power set: an axiomatic characterization of a quasi-ordering’, *JET*, 49, 1989; 2. ‘An axiomatization of the single-series Ginis’, *JET*, 50, 1990; 3. ‘Intermediate inequality: concepts, indices, and welfare implications’ (with A. Pfingsten), *Math. Social Sc.*, 19, 1990; 4. ‘Ranking opportunity sets: an axiomatic approach’ (with P.K. Pattanaik, Y. Xu), *JET*, 63, 1994; 5. ‘Generalized Ginis and cooperative bargaining solutions’ (with C. Blackorby, D. Donaldson), *Em*, 62, 1994; 6. ‘Disagreement point monotonicity, transfer responsiveness, and the egalitarian bargaining solution’, *Social Choice and Welfare*, 11, 1994; 7. ‘Rational choice and two-person

bargaining solutions', *J Math E*, 23, 1994; 8. 'Redistribution mechanisms based on individual characteristics', *Math. Social Sc.*, 29, 1995; 9. 'Intertemporal population ethics: critical-level utilitarian principles' (with C. Blackorby, D. Donaldson), *Em*, 63, 1995; 10. 'Critical-level utilitarianism and the population-ethics dilemma' (with C. Blackorby, D. Donaldson), *Econ. and Philo.*, 13, 1997; 11. 'Price-independent welfare prescriptions and population size' (with C. Blackorby, D. Donaldson), *JET*, 84, 1999; 12. 'Foreign aid and population policy: some ethical considerations' (with C. Blackorby, D. Donaldson), *JDE*, 59, 1999; 13. 'Information invariance in variable-population social-choice problems' (with C. Blackorby, D. Donaldson), *IER*, 40, 1999; 14. 'Opportunity sets and uncertain consequences', *J Math E*, 33, 2000; 15. 'The value of limited altruism' (with C. Blackorby, D. Donaldson), *JET*, 95, 2000; 16. 'Minimax regret and efficient bargaining under uncertainty' (with H. Peters), *Games and Econ. Behav.*, 34, 2001; 17. 'Choices, consequences, and rationality', *Synthese*, 129, 2001; 18. 'Core rationalizability in two-agent exchange economies' (with Y. Sprumont), *ET*, 20, 2002; 19. 'Cooperative vs. non-cooperative truels: little agreement, but does that matter?' (with S. Brams, M. Kilgour), *Games and Econ. Behav.*, 40, 2002; 20. 'Upper semicontinuous extensions of binary relations' (with Y. Sprumont, K. Suzumura), *J Math E*, 37, 2002.

Principal Contributions The primary focus of my work is the analysis of individual and collective decision-making. Most of my contributions are concentrated in the three areas described in the following. (a) Over the last decade, Charles Blackorby, David Donaldson and I have been engaged in a research project on the ethical aspects of social evaluation in situations where the composition and the size of the population may vary. For example,

decisions regarding the allocation of resources to prenatal care or the use of development-aid funds to provide education on population control are such that the resulting population differs from one feasible choice to another. In a series of articles, we have established the normative foundations of several classes of variable-population social-evaluation criteria. Furthermore, possible applications of our proposed evaluation rules have been discussed. (b) Most of my work in individual decision theory has focussed on non-probabilistic models of choice under uncertainty (such as choice under ignorance) and the related issue of evaluating the informational contents of feasible sets in the presence of uncertainty regarding the consequences resulting from the feasible choices. (c) Another ongoing project (part of which is carried out in collaboration with Yves Sprumont and Kotaro Suzumura) deals with rational choice, both at an individual level and in collective choice problems. We have examined conditions on observed (or observable) choices for various forms of rationalizability that can be used to test theories of individual and collective choice. Both abstract choice models with arbitrary domains and more structured economic environments have been analyzed. In addition, I have contributed to areas such as the measurement of inequality and poverty, the role of individual opportunities and responsibilities in social evaluation, informational issues in individual and social choice, bargaining theory and cooperative game theory.

BOUND, John n.e.

BOVENBERG, Arij Lans

Born 1958, Oosterbeek, The Netherlands.

Current Posts Res. Prof., Center Econ. Res., Tilburg Univ., The Netherlands, 1998–; Prof., Res. Center Econ. Pol. (OCFEB), Erasmus Univ., Rotterdam, The Netherlands, 1992–.

Past Posts Res. Asst, Econometric Inst., Erasmus Univ., 1978–81; Teaching Asst, Univ. California, Berkeley, 1983; Vis. Scholar, Fiscal Econ. Inst., Erasmus Univ., 1984–85; Econ., IMF, Washington, DC, 1985–90; Econ., Directorate for General Econ. Pol., Min. Econ. Affairs, The Netherlands, 1990–92; Vis. Prof., Tinbergen Inst., Erasmus Univ., 1990–92; Sr. Res. Fell., Center Econ. Res., Tilburg Univ., 1992–98; Res. Prof., OCFEB, Erasmus Univ., 1992–98; Dep. Dir., CPB Netherlands Bureau Econ. Pol. Analysis, The Hague, The Netherlands, 1995–98.

Degrees Dr Erasmus Univ., Rotterdam, 1981; PhD Univ. California, Berkeley, 1984.

Offices and Honours Fellowships: Fulbright, 1981–84, Flood, Univ. California, Berkeley, 1981–82, Wheeler, Univ. California, Berkeley, 1982–83, Flagg, Univ. California, Berkeley, 1983–84; Hon. mention (second place) in annual competition for outstanding doctoral dissertations in govt fin. and taxation, Tax Inst. Amer., 1985; Erik Kempe Award, Environmental Econ., 1997.

Editorial Duties Ed. Bds, *Fiscal Stud.*, 1998–2001, *ITPF*, 1998–, *Empirica*, 1998–, *Europ ER*, 2002–02, *Fin. Archiv*, 2001–; Co-Ed., *J Pub E*, 1998–2002.

Principal Fields of Interest H0 Public Economics: General; F2 International Factor Movements and International Business; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications *Books*: 1. *Public Finance and the Environment in an Imperfect World* (with S. Cnossen), (Kluwer Acad., 1995); 2. *Economic Science and Prac-*

tice: The Roles of Academic Economists and Policymakers (Edward Elgar, 1997).

Articles: 1. ‘Capital income taxation in growing open economies’, *J Pub E*, 31, Dec. 1986; 2. ‘The effects of capital income taxation on international competitiveness and trade flows’, *AER*, 79, Dec. 1989; 3. ‘Investment-promoting policies in open economies: the importance of intergenerational and international distributional effects’, *JPE*, 51, May 1993; 4. ‘Environmental policy, public goods, and the marginal cost of public funds’ (with F. van der Ploeg), *EJ*, 104, March 1994; 5. ‘Environmental levies and distortionary taxation’ (with R.A. de Mooij), *AER*, 84, Sept. 1994; 6. ‘Environmental policy, public finance and the labor market in a second-best world’ (with F. van der Ploeg), *JPE*, 55, 1994; 7. ‘Environmental quality and polluting-saving technological change in a two-sector endogenous growth model’ (with S. Smulders), *JPE*, 57, July 1995; 8. ‘Optimal environmental taxation in the presence of other taxes: general equilibrium analyses’ (with L.H. Goulder), *AER*, 86, Sept. 1996; 9. ‘Why is capital so immobile internationally? Possible explanation and implications for capital income taxation’ (with R.H. Gordon), *AER*, 86, Dec. 1996; 10. ‘Transitional impacts of environmental policy in an endogenous growth model’, *IER*, 37, Nov. 1996; 11. ‘Central bank independence and public debt policy’ (with R. Beetsma), *J. Econ. Dynamics*, 21, May 1997; 12. ‘Environmental tax policy and intergenerational distribution’ (with B.J. Heijdra), *J Pub E*, 67, Jan. 1998; 13. ‘Monetary union without fiscal coordination may discipline policymakers’ (with R. Beetsma), *J Int E*, 45, 1998; 14. ‘Does monetary unification lead to excessive debt accumulation?’ (with R. Beetsma), *J Pub E*, 74, Nov. 1999; 15. ‘Tax reform and the Dutch labor market: an applied general equilibrium approach’ (with. J.J. Graafland, R.A. de

Mooij), *J Pub E*, 78, Oct. 2000; 16. 'The optimality of a monetary union without a fiscal union' (with R. Beetsma), *JMCB*, 33, May 2001; 17. 'Optimal taxation and search' (with J. Boone), *J Pub E*, 85, July 2002.

Principal Contributions Early work focused on applied general equilibrium modelling in general and intertemporal modelling in particular. To study the impact of capital income taxation, I incorporated forward-looking expectations and adjustment costs into applied general equilibrium models. Later on, these models were extended to allow for international capital flows. Both analytical and numerical models were employed to explore the consequences of capital income taxation in open economies. At the IMF, I studied other tax policy issues, including tax harmonization and tax incidence, and the impact of taxes on saving. After my move to the Netherlands in 1990, my work started to deal with pensions, labour markets, and environmental policy. I explored the macroeconomic impact of pensions on the labour market, the government budget, and the external accounts. In this connection, overlapping generations models were applied. Furthermore, the efficiency of various instruments of environmental policy were investigated as well as the conditions under which environmental taxes can not only improve environmental quality but also enhance employment. In this connection, various modern theories of unemployment were applied. Also the implications of a European Monetary Union for fiscal policy were studied. In particular, does European monetary unification require constraints on national fiscal policies? More recently, I worked on tax and social insurance reform in the Netherlands, pension reform in the OECD countries and issues in institutional economics.

BOYCKO, Maxim n.e.

BRADLEY, Michael D. n.e.

BRANDENBURGER, Adam M. n.e.

BRANDER, James Alan

Born 1953, New Westminster, BC, Canada.

Current Post Prof., Faculty Commerce, UBC, Vancouver, BC, Canada, 1990–.

Past Posts Asst Prof. Econ., Queen's Univ., Kingston, Ontario, Canada, 1979–84; Assoc. Prof., Faculty Commerce, UBC, 1984–90.

Degrees BA (Hons) UBC, 1975; AM, PhD Stanford Univ., 1978, 1979.

Offices and Honours Birks' Prize for best student in 2nd year Arts and Sc., Univ. Victoria, Canada, 1973; Joseph Crumb Prize for outstanding honours essay, UBC, 1975; Harry Johnson Prize for best article (for paper co-authored with B. Spencer), *CJ*, 1981; Faculty Res. Fell., Res. Assoc., NBER, 1982–85, 1985–; Inaugural Killam Res. Prize (Jr category), UBC, 1986; Innis Lect., CEA Annual Meetings, 1992; Biele Prize (premier res. award), UBC, 1998.

Editorial Duties Ed. Bds, *CJ*, 1985–88, *J Int E*, 1988–90, *IJIO*, 1989–93, *ITPF*, 1993–; Co-Ed., *J Int E*, 1991–97; Managing Ed., *CJ*, 1997–2001.

Principal Fields of Interest F1 Trade; L1 Market Structure, Firm Strategy, and Market Performance; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Book*: 1. *Government Policy Towards Business* (Wiley, 1988, 1992, 1995).

Articles: 1. 'Intra-industry trade in identical commodities', *J Int E*, 11, Feb. 1981,

repr. in M.L. Greenhut, G. Norman (eds), *The Economics of Location* (Edward Elgar, 1995); 2. 'Tariffs and the extraction of foreign monopoly rent under potential entry' (with B. Spencer), *CJ*, 14, Aug. 1981, repr. in J. Bhagwati (ed.), *International Trade: Selected Readings* (MIT Press, 2nd edn 1987); 3. 'International R&D rivalry and industrial strategy' (with B. Spencer), *REStud*, 50, Oct. 1983; 4. 'A "reciprocal dumping" model of international trade' (with P. Krugman), *J Int E*, 15, Nov. 1983, repr. in J.M.A. Gee, G. Norman (eds), *Market Strategy and Structure* (Harvester Wheatsheaf, 1993); 5. 'Tariff protection and imperfect competition' (with B. Spencer), in H. Kierzkowski (ed.), *Monopolistic Competition and International Trade* (OUP, 1984), repr. in G. Grossman (ed.), *Imperfect Competition and the International Trade* (MIT Press, 1992); 6. 'Export subsidies and international market share rivalry' (with B. Spencer), *J Int E*, 17, Feb. 1985; 7. 'Oligopoly and financial structure: the effects of limited liability' (with T. Lewis), *AER*, 76, Dec. 1986, repr. in A. Daughety (ed.), *Cournot Oligopoly* (CUP, 1988); 8. 'Why do venture capital firms exist? Theory and Canadian evidence' (with R. Amit, C. Zott), *J. Bus. Venturing*, 13, Nov. 1988; 9. 'The role of fertility and population in economic growth: new evidence from aggregate cross-national data' (with S. Dowrick), *JPE*, 7, 1994; 10. 'Strategic trade policy', in G. Grossman, K. Rogoff (eds), *Handbook of International Economics*, Vol. III (N-H, 1995); 11. 'International trade and open access renewable resources: the small open economy case' (with S. Taylor), *CJ*, 30, Aug. 1997; 12. 'The simple economics of Easter Island: a Ricardo–Malthus model of renewable resource use' (with S. Taylor), *AER*, 88, March 1998; 13. 'Open-access renewable resources: trade and trade policy in a two-country model'

(with S. Taylor), *J Int E*, 44, 1998; 14. 'Venture capital syndication: improved venture selection versus the value-added hypothesis' (with R. Amit, W. Antweiler), *JEMS*, 11, Fall 2002.

Principal Contributions While doing my PhD (supervised by Ron McKinnon) at Stanford in the late 1970s, I began working on the effect of market structure on international trade. My thesis identified oligopoly as a potential cause of trade that could operate without factor proportions (or other) differences between countries, and that could cause pure intra-industry trade. After going to Queen's University in 1979, I began work with Barbara Spencer on trade policy under imperfect competition. This work is usually credited as having started the area known as 'strategic trade policy'. The central insight is that government policy instruments such as tariffs and subsidies can shift the strategic relationship between oligopoly firms, possibly shifting rents or profits from foreign to domestic claimants. This creates an apparent incentive for intervention. In the mid-1980s, after moving to the Commerce faculty at the University of British Columbia, I began working on the impact of market structure on financial decision-making, leading to papers with several co-authors including Tracy Lewis, Michel Poitevin and Barbara Spencer. This work focuses on the idea that financial structure can affect oligopolistic product market rivalries by serving as a commitment device, adding a new consideration to financial structure decisions. While on leave at the Australian National University in 1989–90, I collaborated with Steve Dowrick to investigate the effect of fertility on economic growth. Using panel data methods and new data just then becoming available, we demonstrated a negative effect of fertility on economic growth, providing a counterpoint to the then influential 'popula-

tion neutrality' view. More recently, I worked with Scott Taylor on the effect of trade liberalization on renewable resource management, and on the interaction between renewable resources and population dynamics. My most current research relates to venture capital finance, drawing on my earlier work in finance and industrial organization.

BREMER, Stuart A. n.e.

BRENNAN, Michael J. n.e.

BRESLOW, Norman E. n.e.

BRESNAHAN, Timothy F. n.e.

BRICKLEY, James A. n.e.

BROCK, William Allen

Born 1941, Philadelphia, PA, USA.

Current Post Vilas Res. Prof. Econ., Dept Econ., Univ. Wisconsin, Madison, WI, USA, 1990–.

Past Posts Asst Prof. Econ. and Maths, Univ. Rochester, 1969–71; Assoc. Prof. Econ., Prof. Econ., Univ. Chicago, 1972–75, 1975–81; Assoc. Prof., Prof. Econ., Cornell Univ., 1974–77, Prof. Econ., F.P. Ramsey Prof. Econ., Univ. Wisconsin, 1975–83, 1984–90.

Degrees AB (Maths, Hons) Univ. Missouri, 1965; PhD (Maths) Univ. California, Berkeley, 1969.

Offices and Honours Fell., Em Soc, 1974, AAAS, 1992, NAS (USA), 1998; Sherman Fairchild Disting. Scholar, California Inst. Tech., 1978; Guggenheim Fell., 1987.

Editorial Duties Assoc. Ed., *JET*, 1972–, *IER*, 1972–99; *Intl J. Bifurcations and Chaos*, 1990–, *J. Nonlinear Sc.*, 1990–.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C1 Econometric and Statistical Methods: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *The Impact of Federal Regulations and Taxes on Business Formation, Dissolution, and Growth* (with D. Evans), (Holmes & Myers, 1986); 2. *Differential Equations, Stability and Chaos in Dynamic Economics* (with A. Malliaris), (N-H, 1989); 3. *Black Hole Tariffs and Endogenous Trade Policy: Political Economy in General Equilibrium* (with S. Magee, L. Young), (CUP, 1989); 4. *Nonlinear Dynamics, Chaos, and Instability: Statistical Theory and Economic Evidence* (with D. Hsieh, B. LeBaron), (MIT Press, 1991); 5. *Growth Theory, Nonlinear Dynamics and Economic Modelling: Scientific Essays of William Allen Brock* (ed. with W. Dechert), (Edward Elgar, 2001).

Articles: 1. 'Optimal economic growth and uncertainty: the discounted case' (with L. Mirman), *JET*, 4, June 1972; 2. 'On models of expectations that arise from maximizing behavior of economic agents over time', *JET*, 5, Dec. 1972; 3. 'Some results on the uniqueness of steady states in multi-sector models of optimum growth when future utilities are discounted', *IER*, 14, Oct. 1973; 4. 'Money and growth: the case of long-run perfect foresight', *IER*, 15, Oct. 1974; 5. 'A simple perfect foresight monetary model', *JME*, 1, 1975; 6. 'Global asymptotic stability of optimal control systems with applications to the theory of optimal economic growth' (with J. Scheinkman), *JET*, 12, Feb. 1976; 7. 'Global asymptotic stability results for multi-sector models of optimal growth under uncertainty when future utilities are

discounted', *JET*, 18, Aug. 1978; 8. 'The analysis of macroeconomic policies in perfect foresight equilibrium' (with S. Turnovsky), *IER*, 22, Feb. 1981; 9. 'Some theory of statistical inference for nonlinear science' (with E. Baek), *REStat*, 58, July 1991; 10. 'Simple technical trading rules and the stochastic properties of stock returns' (with J. Lakonishok, B. LeBaron), *J Fin*, 57, Dec. 1992; 11. 'A test for independence based upon the correlation dimension' (with W. Dechert, J. Scheinkman, B. LeBaron), *Em. Rev.*, 1996; 12. 'A rational route to randomness' (with C. Hommes), *Em*, 65, Sept. 1997; 13. 'Heterogeneous beliefs and routes to chaos in a simple asset pricing models' (with C. Hommes), *JEDC*, 22, 1998; 14. 'Discrete choice with social interactions' (with S. Durlauf), *REStud*, 68, April 2001.

Principal Contributions My early work on dynamic stochastic economic growth models with L. Mirman not only formulated this kind of model, but also located useful sufficient conditions for stochastic convergence to a generalized notion of steady state. This work served as a building block for the construction of modern dynamic stochastic intertemporal general equilibrium theory. My early work on monetary economics (i) formulated early notions of rational expectations, (ii) formulated an early version of the notion of a plethora of rational expectations equilibria, (iii) located sufficient conditions for uniqueness of equilibria and (iv) served as a building block for modern rational expectations monetary models. My early work with M. Magill, M. Majumdar, and J. Scheinkman, located useable sufficient conditions for global stability of general multisectoral optimal growth models for both stochastic and deterministic cases. My work with S. Magee and L. Young made early contributions to the modern literature on political economy. I developed, with W. Dechert,

J. Scheinkman, and B. LeBaron, a general statistical method for detecting potentially useable patterns in residuals of fitted econometric models. J. Lakonishok, B. LeBaron, and I developed a general specification test that uses quantities gleaned from the behavior of the agents in the system that generated the data. Recently, C. Hommes and I developed an evolutionary theory of expectational schemes where full structural rational expectations are costly to obtain and compete with other less costly expectational schemes in generating net profits. S. Durlauf and I have recently developed an econometric approach to the identification and estimation of social interactions.

BROMLEY, Daniel Wood

Born 1940, Phoenix, AZ, USA.

Current Post Anderson-Bascom Prof. Apl. Econ., Univ. Wisconsin-Madison, Madison, WI, USA, 1986–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Wisconsin-Madison, 1969–73, 1973–76, 1976–86; Vis. Prof., Univ. Cambridge, 1986–87.

Degrees BS (Ecology) Utah State Univ., 1963; MS, PhD Oregon State Univ., 1967, 1969.

Offices and Honours Bd Dirs, Assoc. Environmental and Resource Econ., 1980–84, AA, 1993–96; Fell., ACLS, 1988–89, AA, 1992; Pres., Intl Assoc. Study Common Property, 1990–92.

Editorial Duties Ed., *Land Econ.*, 1974–; Ed. Bd, *J. Environmental and Devlp. Econ.*, 1996–.

Principal Fields of Interest B5 Current Heterodox Approaches; Q2 Renewable Resources and Conservation; Environmental Management; O1 Economic Development.

Publications *Books*: 1. *Economic Interests and Institutions: The Conceptual Foun-*

dations of Public Policy (Blackwell, 1989); 2. *Environment and Economy: Property Rights and Public Policy* (Blackwell, 1991); 3. *Making the Commons Work: Theory, Practice, and Policy* (ed.), (ICS Press, 1992); 4. *Handbook of Environmental Economics* (ed.), (Blackwell, 1995); 5. *Sustaining Development: Environmental Resources in Developing Countries* (Edward Elgar, 1999); 6. *Economics, Ethics, and Environmental Policy: Contested Choices* (ed. with J. Paavola), (Blackwell, 2002).

Articles: 1. 'Property relations and economic development: the other land reform', *WD*, 17, June 1989; 2. 'The ideology of efficiency: searching for a theory of policy analysis', *JEEM*, 19, July 1990; 3. 'Property rights, externalities, and resource degradation: locating the tragedy' (with B. Larson), *JDE*, 33, 1990; 4. 'Regulatory takings: coherent concept or logical contradiction?', *Vermont Law Rev.*, 17, 1993; 5. 'Choices without prices without apologies' (with A. Vatn), *JEEM*, 26, March 1994; 6. 'Property rights and natural resource damage assessment', *Ecological Econ.*, 14, 1995; 7. 'Constitutional political economy: property claims in a dynamic world', *Contemporary Econ. Pol.*, 15, Oct. 1997; 8. 'Rethinking markets', *AJAE*, 79, Dec. 1997; 9. 'Indigenous land rights in sub-Saharan Africa: appropriation, security and investment demand' (with E. Sjaastad), *WD*, 25, 1997; 10. 'Externalities: a market model failure' (with A. Vatn), *Environmental Resource Econ.*, 9, 1997; 11. 'Expectations, incentives, and performance in America's schools', *Daedalus*, 127, Fall 1998; 12. 'Searching for sustainability: the poverty of spontaneous order', *Ecological Econ.*, 24, 1998; 13. 'A most difficult passage: the economic transition in central and eastern Europe and the former Soviet Union', *Emergo: J. Transforming Econ. and Socs*, 7, 2000; 14. 'The prejudices of property rights: on individualism, specificity, and

security in property regimes' (with E. Sjaastad), *Devlp. Pol. Rev.* 18, 2000.

Principal Contributions I am concerned with the theory of 'the commons'. There has been persistent conceptual incoherence in how the commons is understood and modeled. Economists have failed to comprehend the fundamental distinction between open-access regimes and common property regimes. I have conducted empirical work in Africa and South Asia, and I have written a number of books and articles to rectify this confusion. There now seems general understanding that common property regimes entail rights and duties for a defined group (the co-owners), while open-access regimes are unowned free-for-alls. My second area concerns institutional economics. I am working out a theory of economic institutions (and of institutional change) that avoids the circular efficiency-based models of the 'new institutional economics'. A coherent theory of institutional change requires that economists abandon the idea that institutions change in response to new relative prices, or in response to some undefined idea of 'power'. In seeking to make institutional change endogenous, these approaches reduce institutional change (a collective undertaking) to the same individualistic and mechanical processes that now undermine the received theory of individual choice. In other words, if institutional change is made endogenous there is nothing to explain. One is left with a 'theory' in which institutions change when it is efficient for them to change (or the 'powerful' were able to force them to change), and if they do not change then it must be efficient that they do not change (or those with 'power' were able to prevent institutional change). I am now finishing a book that situates institutional change where it properly belongs – not as a subsidiary of price theory writ large, but as the purposeful outcome of

collective action in restraint, liberation, and expansion of individual action. That is, after all, the essence of public policy. And public policy is nothing but institutional change.

BRONARS, Stephen G. n.e.

BROWN, Stephen Jeffery

Born 1949, Melbourne, Australia.

Current Posts Prof. Fin. and David Loeb Chair Fin., Stern Sch. Bus., NYU, New York, NY, USA, 1986–; Professorial Fell., Melbourne Bus. Sch., Melbourne Univ., Melbourne, Australia, 2002–.

Past Posts Mem. Tech. Staff, Bell Labs, 1976–83, Bell Communications Res., 1984; Assoc. Prof. Fin., Yale Univ., 1984–86.

Degrees BEcon (Hons) Monash Univ., 1972; MBA, PhD Univ. Chicago, 1974, 1976.

Offices and Honours Hon. Mem., Econ. Soc. Australia and New Zealand, 1972; Yamaichi Faculty Fell., Stern Sch. Bus., NYU, 1988–91; Bd Mem., AFA, 1989–91; Pres., Western Fin. Assoc., 1991–92; Co-Winner, *Rev. Fin. Stud.* Award, 1993; Nominated for Pres., AFA, 1999; Stern Bus. Sch., Excellence in Teaching Award, NYU, 2000.

Editorial Duties Assoc. Ed., *J Fin.*, 1980–83, 1995–99, *Pacific-Basin Fin. J.*, 1992–; Ed., *Rev. Fin. Stud.*, 1987–91; Managing Ed., *JFQA*, 1997–.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets; G2 Financial Institutions and Services.

Publications Books: 1. *Estimation Risk and Optimal Portfolio Choice* (with V.S. Bawa, R.W. Klein), (N-H, 1979); 2. *The Theory of Public Utility Pricing* (with D.S. Sibley), (CUP, 1986; trans., Japanese,

1994); 3. *Quantitative Methods for Financial Analysis* (with M.P. Kritzman), (Dow Jones-Irwin, 1987, 1990; trans., Japanese, 1992, Spanish, 1992); 4. *A Global Perspective on Real Estate Cycles* (with C. Liu), (Kluwer, 2000); 5. *Modern Portfolio: Theory and Analysis* (with E. Elton, M. Gruber, W. Goetzmann), (Wiley, 2002).

Articles: 1. 'The effect of estimation risk on capital market equilibrium', *JFQA*, 14, 1979; 2. 'Measuring security price performance' (with J.B. Warner), *J Fin E*, 8, 1980; 3. 'A new approach to testing asset pricing models: the bilinear paradigm' (with M.I. Weinstein), *J Fin*, 38, 1983; 4. 'Model selection when there is "minimal" prior information' (with R.W. Klein), *Em*, 52, 1984; 5. 'Differential information and the small firm effect' (with C.B. Barry), *J Fin E*, 13, 1984; 6. 'Using daily stock returns: the case of event studies' (with J.B. Warner), *J Fin E*, 14, 1985; 7. 'The empirical implications of the Cox, Ingersoll, Ross theory of the term structure of interest rates' (with P.H. Dybvig), *J Fin*, 41, 1986; 8. 'The number of factors in security returns', *J Fin*, 44, 1989; 9. 'Survivorship bias in performance studies' (with W. Goetzmann, R. Ibbotson, S. Ross), *Rev. Fin. Stud.*, 5, 1992; 10. 'Performance persistence' (with W. Goetzmann), *J Fin*, 50, 1995; 11. 'Survival' (with W. Goetzmann, S. Ross), *J Fin*, 50, 1995; 12. 'Mutual fund styles' (with W. Goetzmann), *J Fin E*, 43, 1997; 13. 'Offshore hedge funds: survival and performance' (with W. Goetzmann, R.G. Ibbotson), *J Bus*, 72, 1999; 14. 'The Japanese open-end fund puzzle' (with W. Goetzmann, T. Hiraki, T. Otsuki, N. Shiraishi), *J Bus*, 74, 2001; 15. 'Careers and survival: competition and risk in the hedge fund and CTA industry' (with W. Goetzmann, J. Park), *J Fin*, 61, 2001.

Principal Contributions Most of my recent research has focussed on the in-

vestment management function within the area of financial economics. My early research dealt with the distinction between risk and uncertainty by considering a Bayesian approach to portfolio theory. Later work branched out to consider performance measurement issues crucial to the investment management function. My most-cited work with Jerold Warner considers an econometric evaluation of a variety of procedures designed to measure the reaction of stock prices to new information in the context of so-called 'event studies'. Analysis of performance records raises the important issue of *ex post* conditioning – the fact that we are examining the records of managers who have survived. This has led to work with William Goetzmann and Stephen Ross on the role of *ex post* conditioning viewed in a more general context. More recent work has concentrated on performance and incentives in managed investment trusts and hedge funds.

BROWNING, Martin n.e.

BRUECKNER, Jan K.

Born 1950, Berkeley, CA, USA.

Current Post IBE Disting. Prof. Econ., Univ. Illinois, Urbana-Champaign, IL, USA, 1976–.

Past Posts Vis. Prof., Univ. California, Santa Barbara, 1979–80, 1989, Univ. California, San Diego, 1992–93; Vis. Scholar, UBC, 1990, City Univ. Hong Kong, 1995, Univ. Bonn, 1996, École Nationale des Ponts et Chaussées, Paris, 1996; Govt Inst. Econ. Res., Helsinki, Finland, 1997, 1998, 2001, Public Pol. Inst. California, 1998, Univ. Maine, France, 1999, Center Econ. Stud., Univ. Munich, 2002.

Degrees AB Univ. California, Berkeley, 1972; PhD Stanford Univ., 1976.

Offices and Honours Bd Dirs, AREUEA, 1988–90, 1992–94, 2000–02.

Editorial Duties Ed., *JUE*, 1991–; Ed. Bds, *J. Real Estate Fin. and Econ.*, *Real Estate Econ.*, *J. Housing Econ.*, *J. Public Econ. Theory*, *RSUE*, 1984–97.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; H0 Public Economics: General; L9 Industry Studies: Utilities and Transportation.

Publications Articles: 1. 'Property values, local public expenditure, and economic efficiency', *J Pub E*, 11, April 1979; 2. 'A vintage model of urban growth', *JUE*, 8, Nov. 1980; 3. 'A dynamic model of housing production', *JUE*, 10, July 1981; 4. 'A test for allocative efficiency in the local public sector', *J Pub E*, 19, Dec. 1982; 5. 'Property value maximization and public sector efficiency', *JUE*, 14, July 1983; 6. 'A modern analysis of the effects of site value taxation', *NTJ*, 39, March 1986; 7. 'Efficient contracts in credit markets subject to interest rate risk: an application of Raviv's insurance model' (with L. Arvan), *AER*, 76, March 1986; 8. 'The rise and fall of the ARM: an econometric analysis of mortgage choice' (with J. Follain), *REStat*, 70, Feb. 1988; 9. 'Club theory with a peer-group effect' (with K. Lee), *RSUE*, 19, Aug. 1989; 10. 'Growth controls and land values in an open city', *Land Econ.*, 66, Aug. 1990; 11. 'Competition and mergers in airline networks' (with P. Spiller), *IJIO*, 9, Sept. 1991; 12. 'Fare determination in airline hub-and-spoke networks' (with N. Dyer, P. Spiller), *RandJE*, 23, Autumn 1992; 13. 'Borrower mobility, adverse selection, and mortgage points', *J. Fin. Intermediation*, 3, Sept. 1994; 14. 'Consumption and investment motives and the portfolio choices of homeowners', *J. Real Estate Fin. and Econ.*, 15, Sept. 1997; 15. 'Infrastructure financing and urban development: the economics of impact fees', *J Pub E*, 66, Dec.

1997; 16. 'The price effects of international airline alliances' (with W.T. Whalen), *J Law E*, 43, Oct. 2000; 17. 'Do local governments engage in strategic property-tax competition?' (with L. Saavedra), *NTJ*, 54, June 2001; 18. 'The economics of international codesharing: an analysis of airline alliances', *IJIO*, 19, Dec. 2001; 19. 'Airport congestion when carriers have market power', *AER*, 92, Dec. 2002; 20. 'Space and unemployment: the labor-market effects of spatial mismatch' (with Y. Zenou), *J Lab E*, 21, Jan. 2003.

Principal Contributions My early work in urban economics focussed on spatial models of durable housing, showing how land-use depends both on location and the age of structures (articles 2, 3). A more-recent series of land-use papers explored the economics of urban growth controls, showing how they can enrich property owners while improving their quality of life (article 10). Spatial mismatch, whereby housing discrimination limits job access for minorities, has also been a focus of several recent theoretical papers (article 20). My early research in public economics developed an empirical test for efficient provision of local public goods, using the result that maximization of aggregate property value implies satisfaction of Samuelson's efficiency condition (articles 1, 4, 5). Subsequent work analyzed particular instruments of local finance – land value taxation (article 6), impact fees (article 15) among others – and studied tax competition, with one paper (article 17) looking for empirical evidence of strategic interaction among communities in the choice of property tax rates. Other work in public economics explored reasons why heterogeneous communities may be optimal, overturning the principles of the Tiebout model (article 9). My work on the economics of mortgage markets has investigated the choice

between fixed and adjustable rate mortgages (ARM), (article 8), the efficient form of ARM contracts (article 7), and the effect of asymmetric information in mortgage contracting (article 13). A related financial topic concerns the effect of homeownership on portfolio decisions (article 14). My initial research on the airline industry studied the economics of hub-and-spoke networks, focussing on the implications and measurement of economies of traffic density (articles 11, 12). More-recent airline research presented theory and evidence on the pricing of international travel by airline alliances, showing that alliances have procompetitive affects on fares for interline passengers (articles 16, 18). My latest work focusses on airport congestion pricing, recognizing that carriers internalize much of the congestion they cause (article 19).

BUCOVETSKY, Sam

Born 1952, Timmins, Ontario, Canada.

Current Post Assoc. Prof., Dept Econ., Faculty Arts, York Univ., Toronto, Ontario, Canada, 1990–.

Past Posts Lect. Econ., Asst Prof. Econ., Assoc. Prof. Econ., Univ. Western Ontario, 1978–79, 1979–84, 1984–90.

Degrees BSc (Math and Econ.), Univ. Toronto, 1973; MSc LSE, 1974; PhD Yale Univ., 1979.

Office Dept Chair, Arts/Econ., York Univ., 1997–2000.

Editorial Duties Book Rev. Ed., *CJ*, 1994–2001.

Principal Fields of Interest H0 Public Economics: General; C0 Mathematical and Quantitative Methods: General; L0 Industrial Organization: General.

Publications Articles: 1. 'Inequality in the local public sector', *JPE*, 90, 1982; 2. 'Price dispersion and stockpiling by consumers', *REStud*, 50, 1983; 3. 'On the

use of distributional waits', *CJ*, 17, 1984; 4. 'Concurrent renting and selling by a durable-goods monopoly under threat of entry' (with J. Chilton), *RandJE*, 17, 1986; 5. 'Majority rule in multi-dimensional spatial models', *Social Choice and Welfare*, 7, 1990; 6. 'Asymmetric tax competition', *JUE*, 30, 1991; 7. 'Tax competition with two tax instruments' (with J. Wilson), *RSUE*, 21, 1991; 8. 'Choosing tax rates and expenditure levels using majority rule', *J Pub E*, 46, 1991; 9. 'Simple normative rules imply simple positive rules', *Econ. Letters*, 38, 1992; 10. 'Factor ownership, taxes, and specialization', *CJ*, 26, 1993; 11. 'Rent seeking and tax competition', *J Pub E*, 58, 1995; 12. 'Insurance and incentive effects of transfers between regions: equity and efficiency', *ITPF*, 4, 1997; 13. 'Federalism, equalization and risk aversion', *J Pub E*, 67, 1998; 14. 'Tax competition and revelation of preferences for local public expenditure' (with M. Marchand, P. Pestieau), *JUE*, 44, 1998; 15. 'Efficient migration and redistribution', *J Pub E*, forthcoming; 16. 'The optimal majority with an endogenous status quo', *Social Choice and Welfare*, forthcoming; 17. 'Efficient migration and income tax competition', *J. Public Econ. Theory*, forthcoming.

Principal Contributions I am quite proud (vain even) about my work on the Coase conjecture (with John Chilton, *RandJE*, 1984), on two-tier medical care (*CJ*, 1984), and on stockpiling of toilet paper (*REStud*, 1983). However, I think my papers on tax competition have actually been read by some other economists. In part, that may reflect readers' curiosity as to how many papers one person can write using the same stylized matchbox models. But I hope the papers add something to the literature on the interaction among jurisdictions for which policy makers choose some fiscal instruments non-cooperatively.

BUMPASS, Larry L. n.e.

BURKHAUSER, Richard Valentine

Born 1945, Trenton, NJ, USA.

Current Posts Sarah Gibson Blanding Prof. Pol. Analysis and Chair, Dept Pol. Analysis and Mgmt, Cornell Univ., Ithaca, NY, USA, 1998–.

Past Posts Econ., HEW, 1976–77; Res. Assoc., Inst. Res. on Poverty, Univ. Wisconsin, 1977–79; Asst Prof., Assoc. Prof., Prof., Dept Econ., Vanderbilt Univ., 1979–90; Prof., Dept Econ., Syracuse Univ., 1990–98.

Degrees BA St. Vincent Coll., 1967; MA Rutgers Univ., 1969; PhD Univ. Chicago, 1976.

Editorial Duties Ed. Bds, *J. Gerontology*, 1984–89, *Gerontologist*, 1987–2000, *J. Disability Pol. Stud.*, 1989–, *RIW*, 1989–, *Labour Econ.*, 1991–, *Canadian Public Pol.*, 1995–99, *Res. on Aging*, 1998–, *J. Apl. Social Sc. Stud.*, 1999–; Assoc. Ed., *JHR*, 1984–94.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I3 Welfare and Poverty.

Publications *Books*: 1. *Disability and Work: The Economics of American Policy* (with R.H. Haveman), (JHUP, 1982); 2. *Passing the Torch: The Influence of Economic Incentives on Work and Retirement* (with J.F. Quinn, D.A. Myers), (Upjohn Inst. Employment Res., 1990).

Articles: 1. 'A time series analysis on social security and its effects on the market work of men at younger ages' (with J. Turner), *JPE*, 86, Aug. 1978; 2. 'The pension acceptance decision of older workers', *JHR*, 14, Winter 1979; 3. 'The early acceptance of social security – an asset maximization approach', *ILRR*, 33, July 1980; 4. 'Disentangling the annuity and redistributive aspects of social security in the United States' (with J. Warlick), *RIW*,

27, Dec. 1981; 5. 'Is mandatory retirement overrated? Evidence from the 1970s' (with J.F. Quinn), *JHR*, 18, Summer 1983; 6. 'The retirement–health nexus: a new measure for an old puzzle' (with K. Anderson), *JHR*, 20, Summer 1985; 7. 'Is the social security tax a tax?' (with J. Turner), *Public Fin. Q.*, 13, July 1985; 8. 'Social security in Panama: a multiperiod analysis of income distribution', *JDE*, 20, 1986; 9. 'Economic risks of gender roles: income loss and life events over the life course' (with G.J. Duncan), *Social Sc. Q.*, 70, March 1989; 10. 'The minimum wage and the poor: the end of a relationship' (with T.A. Finegan), *JPAM*, 8, Winter 1989; 11. 'Public policies for the working poor: the earned income tax credit versus minimum wage legislation' (with K.A. Couch, A.J. Glenn), *Res. Labor Econ.*, 15, 1996; 12. 'Relative inequality and poverty in Germany and the United States using alternative equivalency scales' (with T.M. Smeeding, J. Merz), *RIW*, 42, Dec. 1996; 13. 'Labor earnings mobility and inequality in the United States and Germany during the 1980s' (with D. Holtz-Eakin, S. Rhody), *IER*, 38, 1997; 14. 'A cross-national comparison of permanent inequality in the United States and Germany' (with J.G. Poupore), *REStat*, 79, Feb. 1997; 15. 'Economic analysis of transfer programs targeted on people with disabilities' (with J. Bound), in O.C. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3C (N-H, 1999); 16. 'The importance of accommodation on the timing of male disability insurance application: results from the survey of disability and work and the health and retirement study' (with J.S. Butler, Y.W. Kim, R. Weathers), *JHR*, 34, Summer 1999; 17. 'A reassessment of the new economics of the minimum wage literature using monthly data from the CPS' (with K.A. Couch, D.C. Wittenburg), *J Lab E*, 18, Oct. 2000; 18. 'The supplemental se-

curity income program' (with M.C. Daly), in R. Moffitt (ed.), *Means Tested Transfer Programs in the United States* (UCP/NBER, 2003).

Principal Contributions I have used my applied microeconomic training from the University of Chicago together with my applied theory of poverty measurement training from the Institute for Research on Poverty from the University of Wisconsin to evaluate the behavioral and distributional consequences of public policies. My contribution to this literature is the use of multi-period modeling of public policy outcomes. My early work on the retirement decision considered pensions as assets whose value varied over the life course and hence affected the decision to apply for such benefits and retire. It showed that the actuarially unfair nature of both private pensions and the US social security program were major factors in explaining exits from the labor force at specific ages and that ending mandatory retirement would have little effect on declines in retirement age. My more recent work uses this type of analysis to look at the timing of Social Security Disability Insurance benefit application. It has shown that even the application decisions of workers with severe disabilities are sensitive to policy variables, e.g., accommodation, ease of access and level of social security benefits. On the redistribution side of policy, I used lifecycle policy analysis to disentangle the insurance and redistributive components of social security and show how alternative tax and benefit rules could affect this balance. More generally, my work uses multi-period data to measure the dynamic nature of poverty and the degree that social security policies mitigate the adverse effects of economically risky life course events – retirement, disability, death of a spouse, divorce, etc. – both nationally and internationally. Finally, my work on the minimum wage

has focussed on how the rise of multi-worker households has resulted in the decline of the minimum wage as an effective method of redistributing income to the working poor.

BURNSIDE, Alexander Craig

Born 1965, Montreal, Canada.

Current Post Prof. Econ., Univ. Virginia, Charlottesville, VA, USA, 2002–.

Past Posts Asst Prof. Econ., Queen's Univ., Canada, 1990–92; Asst Prof. Econ., Univ. Pittsburgh, 1992–95; Lead Econ., World Bank, Washington, DC, 1995–2002.

Degrees BA UBC, 1985; MA, PhD Northwestern Univ., 1990, 1991.

Offices and Honours Natl Fell., Hoover Inst., 1998–99.

Editorial Duties Bd Eds, *AER*, 2001–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Articles*: 1. 'Labor hoarding and the business cycle' (with M. Eichenbaum, S. Rebelo), *JPE*, 101, April 1993; 2. 'Hansen–Jagannathan bounds as classical tests of asset pricing models', *JBES*, 12, Jan. 1994; 3. 'Capital utilization and returns to scale' (with M. Eichenbaum, S. Rebelo), *NBER Macroecon. Annual*, 1995; 4. 'Sectoral Solow residuals' (with M. Eichenbaum, S. Rebelo), *Europ ER*, 40, April 1996; 5. 'Production function regressions, returns to scale and externalities', *JME*, 37, July 1996; 6. 'Small sample properties of GMM based Wald tests' (with M. Eichenbaum), *JBES*, 14, July 1996; 7. 'Factor hoarding and the propagation of business cycle shocks' (with M. Eichenbaum), *AER*, 86, Dec. 1996; 8. 'Aid, policies and growth' (with D. Dollar), *AER*, 90, Sept. 2000; 9. 'Hedging and financial fragility in fixed exchange rate regimes'

(with M. Eichenbaum, S. Rebelo), *Europ ER*, 45, June 2001; 10. 'Prospective deficits and the Asian currency crisis' (with M. Eichenbaum, S. Rebelo), *JPE*, 109, Dec. 2001.

Principal Contributions Some of my early work concentrated on the role of unobserved input variation, in particular labour hoarding and capital utilization, in business cycle fluctuations. This work showed that these unobserved factors may be important shock propagators (articles 1, 7). Taking these factors into account (articles 3, 4, 5) also implies that increasing returns to scale and external effects are less likely to be the underlying reason we observe procyclical labour productivity in US data. My other early work focused on issues relating to empirical methods used in business cycle analysis and asset pricing (articles 2, 6). My later work has concentrated on international macroeconomics. My work on currency crises (article 10) suggests that predictable banking sector bailouts were a key cause of the Asian crisis of 1997. My work on hedging (article 9) suggests that banks' exposure to exchange rate risk is a function of government guarantees to bank creditors. My work on foreign aid (article 8) argues that a key determinant of the growth impact of foreign aid injections is the policy environment in the recipient country.

BUTLER, Richard J.

Born 1950, Salt Lake City, UT, USA.

Current Post Prof. Econ., Brigham Young Univ., Provo, UT, USA, 2000–.

Past Posts Sr Res. Econ., Natl Council Compensation Insurance, 1981–82; Asst Prof., Labor Econ., Cornell Univ., 1979–82; Prof. Econ., Brigham Young Univ., 1990–96, C. Arthur Williams, Jr Chair, Carlson Sch. Mgmt, Univ. Minnesota, 1994–2000.

Degrees BA Univ. Utah, 1972; PhD Univ. Chicago, 1979.

Offices and Honours Young Scholar Univ. Award, Karl G. Maeser Res. Award, Brigham Young Univ., 1989–92, 1991; Comm. Mem., Comm. to study the Fed. Employment Liability Act, NAS, 1992–93; Mem., Natl Acad. Social Insurance, 1996–; Pres., Risk Theory Soc., 1998–99, Life Mem., Risk Theory Soc., 2001; Mehr Award, Kulp-Wright Award, Amer. Risk and Insurance Assoc., 2001, 2001.

Editorial Duties Advisory Bds, *John Burton's Workers' Compensation Monitor*, 1994–2000, *J. Risk and Insurance*, 1995–, *Mind/Body Medicine*, 1997–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; I1 Health; D8 Information and Uncertainty.

Publications *Book*: 1. *The Economics of Social Insurance and Employee Benefits* (Kluwer Acad., 1999).

Articles: 1. 'Workers' compensation: benefit and injury claims rates in the seventies' (with J.D. Worrall), *REStat*, 65, Nov. 1983; 2. 'Work injury compensation and the duration of nonwork spells' (with J.D. Worrall), *EJ*, 95, Sept. 1985; 3. 'Trends in unemployment duration data' (with J.B. McDonald), *REStat*, 68, Nov. 1986; 4. 'Generalized mixture distributions' (with J.B. McDonald), *REStat*, 70, May 1987; 5. 'Measuring inequality with incomplete moments' (with J.B. McDonald), *J Em*, 42, Sept. 1989; 6. 'Re-

gressions with positive random variables' (with J.B. McDonald), *J Em*, 43, Jan./Feb. 1990; 7. 'Claims reporting and risk bearing moral hazard in workers compensation' (with J.D. Worrall), *J. Risk and Insurance*, 58, June 1991; 8. 'Measuring success in managing work disability: why return to work doesn't work' (with W.G. Johnson, M. Baldwin), *ILRR*, 48, April 1995; 9. 'Lost injury days: moral hazard differences between tort and workers' compensation', *J. Risk and Insurance*, 63, Sept. 1996; 10. 'HMOs, moral hazard and cost shifting in workers' compensation' (with R. Hartwig, H. Gardner), *JHE*, 16, April 1997; 11. 'Workers' compensation costs when maximum benefits change' (with B.D. Gardner, H.H. Gardner), *JRU*, 15, Dec. 1997; 12. 'A hierarchical theory of occupational segregation and wage discrimination' (with M. Baldwin, W. Johnson), *EI*, 29, Jan. 2001; 13. 'The effects of worker heterogeneity on duration dependence: low back claims in workers' compensation' (with M. Baldwin, B. Johnson), *REStat*, 83, Nov. 2001; 14. 'Form regulation in commercial insurance', in D. Cummings (ed.), *Regulation and the Insurance Industry* (Brookings-AEI, 2002).

Principal Contributions I have published over 80 articles on health, disability, and workers' compensation, as well as articles on discrimination, income inequality and education.

C

CABALLERO, Ricardo Jorge

Born 1959, Chile.

Current Post Ford Intl Prof. Econ., MIT, Cambridge, MA, USA, 2000–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Columbia Univ., 1988–90, 1990–92; Castle-Krob Assoc. Prof. Econ., Assoc. Prof. (tenured), Prof. Econ., MIT, 1992–94, 1994–95, 1995–2000.

Degrees BS, MA Pontificia Univ. Católica de Chile, 1982, 1983; PhD MIT, 1988.

Offices and Honours Premio Raul Iver, 1982; NBER Olin Fell., 1991–92; NBER Faculty Fell., 1991–94; Alfred P. Sloan Res. Fell., 1991–95; Castle Krob Devlp. Chair, MIT, 1992–94; NBER Res. Assoc., 1994; Grad. Teacher of Year, Dept Econ., MIT, 1994, 1998, 2000; Fell., Frisch Medal, Em Soc, 1998–, 2002; Chile's Econ. of year, 2001 (El Mercurio).

Editorial Duties Assoc. Ed., *Revista de Análisis Económico* 1992, *Cuadernos de Economía*, 1995–; Assoc. Co-Ed., *JME*, 1995–; Ed. Bd, Central Bank of Chile, 2001–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General; G0 Financial Economics: General.

Publications *Book*: 1. *Macroeconomic Volatility in Reformed Latin America* (Inter-Amer. Devlp. Bank, 2001).

Articles: 1. 'Durable goods: an explanation for their slow adjustment', *JPE*, 101, April 1993; 2. 'The "fundamental transformation" in macroeconomics' (with M. Hammour), *AER Papers and Proceedings*, 86, May 1996; 3. 'Aggregate employment dynamics: building from microeconomics' (with E. Engel, J. Haltiwanger), *AER*, 87, March 1997; 4. 'The macroeconomics of

specificity' (with M. Hammour), *JPE*, 106, Aug. 1998; 5. 'Explaining US manufacturing investment: a generalized (*S,s*) approach' (with E. Engel), *Em*, 67, July 1999; 6. 'Macroeconomic volatility in Latin America: a view and three case studies', *Ec*, 1, Fall 2000, repr. in *Estudios de Economía*, 28, June 2001; 7. 'International and domestic collateral constraints in a model of emerging market crises' (with A. Krishnamurthy), *JME*, 48, Dec. 2001; 8. 'A dual liquidity model of emerging markets' (with A. Krishnamurthy), *AER Papers and Proceedings*, 92, May 2002; 9. 'Excessive dollar debt: financial development and underinsurance' (with A. Krishnamurthy), *J Fin*, April 2003.

Principal Contributions I have done research on a wide range of macroeconomic and international economics themes, and on the boundaries between these and fields such as labor economics, productivity and R&D, and financial economics. The common methodological thread in this work is my acknowledgment of: (i) the substantial microeconomic heterogeneity exhibited in market economies, (ii) the 'churn' process arising from the dynamic nature of this heterogeneity, and (iii) the complexity and incomplete nature of microeconomic contractual relationships. From this perspective, I have built theories, and tested their empirical relevance, on a wide variety of aggregate variables and phenomena: consumption of durable and nondurable goods, savings, business investments, job creation and destruction, productivity growth and knowledge spillovers, exchange rates, financial flows, price rigidities, unemployment, growth, and systemic emerging market crises. At this time, I am extracting and integrating lessons from this research to enrich our answers to questions as diverse as: what are the costs of recessions? How do financial and contractual factors hamper aggregate economic per-

formance? What is a reasonable level of job destruction and unemployment in the aftermath of structural adjustment? What is the cost and why do some countries build social institutions that are later perceived as obstacles to flexible adjustment? Why do systemic crises occur? What is the optimal exchange rate mechanism in the presence of contractual incompleteness? How can we complete insurance markets for emerging economies? Which macroeconomic and structural policies should complement aggregate hedging strategies?

CALABRESI, Stephen G. n.e.

CALDWELL, John C. n.e.

CALDWELL, Pat n.e.

CALOMIRIS, Charles W. n.e.

CALVO, Guillermo A.

Born 1941, Buenos Aires, Argentina.

Current Posts Chief Econ., Inter-Amer. Devlp. Bank, Washington, DC, USA, 2001–; Disting. Univ. Prof., Dept Econ., and Dir., Center for Intl Econ., Univ. Maryland, College Park, MD, USA, 1994–; Carlos Diaz-Alejandro Prof. Intl Fin., Univ. CEMA, Buenos Aires, Argentina, 2001–.

Past Posts Prof. Econ., Columbia Univ., 1973–86; Prof. Econ., Univ. Pennsylvania, 1984; Sr Advisor, Res. Dept, IMF, 1988–94; Francisco Soldati Prof. Econ., Univ. Torcuato Di Tella, Buenos Aires, 1995–2000.

Degrees MA, MPhil, PhD Yale Univ., 1965, 1967, 1974.

Offices and Honours Simon Guggenheim Foundation Fellowship, 1980–81; Fell., Natl Acad. Econ. Sc. (Argentina), 1993–, Em Soc, 1995–; King Juan Carlos Prize in Econ., 2000; Pres., Latin Amer. Econ. Assoc. (LACEA), 2000–01; Pres.-elect, Intl Econ. Assoc., 2002.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E5 Monetary Policy, Central Banking, and the Supply of Money; P2 Socialist Systems and Transitional Economies.

Publications Books: 1. *Money, Exchange Rates and Output* (MIT Press, 1996); 2. *Private Capital Flows to Emerging Markets After the Mexican Crises* (Inst. Intl Econ., 1996); 3. *The Debt Burden and its Consequences for Monetary Policy* (with M. King), Proceedings Conf. Intl Econ. Assoc., Deutsche Bundesbank (Macmillan, 1998).

Articles: 1. 'On the time consistency of optimal policy in a monetary economy', *Em*, 46, Nov. 1978, repr. in R.E. Lucas, Jr, T.J. Sargent (eds), *Rational Expectations and Econometric Practice* (Univ. Minnesota Press, 1981); 2. 'On the indeterminacy of interest rates and wages with perfect foresight', *JET*, 20, Dec. 1978; 3. 'Quasi-Walrasian theories of unemployment', *AER*, 69, May 1979; 4. 'Hierarchy, ability and income distribution' (with S. Wellisz), *JPE*, 87, Oct. 1979; 5. 'Staggered contracts in a utility-maximizing framework', *JME*, 10, Sept. 1983; 6. 'Temporary stabilization: predetermined exchange rates', *JPE*, 94, Dec. 1986; 7. 'Servicing the public debt: the role of expectations', *AER*, 78, Sept. 1988; 8. 'Indexation and maturity of government bonds: an exploratory model' (with P. Guidotti), in R. Dornbusch, M. Draghi (eds), *Capital Markets and Debt Management* (CUP, 1990); 9. 'Capital inflows and real exchange rate appreciation in

Latin America: the role of external factors' (with L. Leiderman, C. Reinhart), *IMF Staff Papers*, 40, March 1993; 10. 'Reflections on Mexico's balance of payments crisis: a chronicle of death foretold' (with E. Mendoza), *J Int E*, 41, Sept. 1996; 11. 'Varieties of capital-market crises', in G. Calvo, M. King (eds), *The Debt Burden and its Consequences for Monetary Policy* (Macmillan, 1998); 12. 'Capital markets and the exchange rate: with special reference to the dollarization debate in Latin America', *JMCB*, 33, May 2001; 13. 'Fear of floating' (with C. Reinhart), *QJE*, 117, 2002; 14. 'Hierarchy, ability and income distribution' (with S. Wellisz), *JPE*, 87, Oct. 1979.

Principal Contributions Most of my work seeks to understand why developing countries – especially emerging market economies (EMs) – suffer from low growth and high volatility and are so prone to currency or credit crises. Early on, this led me to look 'behind' the production function to understand the limits to firm expansion, possible inefficiencies, etc. I ended up writing with Stan Wellisz about a theory of firm hierarchies. Similarly, I wrote an early paper on the efficiency wage hypothesis of unemployment showing that unemployment results from real wage rigidities caused by asymmetries in the information between managers and workers. Another key strand of my work focusses on the ineffectiveness of public policy, including time inconsistency of optimal policy and the credibility of policy and policymakers, both developed in the context of rational expectations models. This showed that lack of credibility is endemic to public policy and not simply the result of unreliable policymakers. My recent research on currency and credit crises began with the 1993 Staff Papers article with Leonardo Leiderman and Carmen Reinhart. We argued that capital inflows in Latin America in part reflect develop-

ments in the United States. Mexico's 1994/95 crisis appears to validate our view because US interest rates rose sharply during 1994. A central phenomenon revealed by my subsequent research on these issues is the sudden stop, namely, a sudden cut in international credit. All the current episodes in EMs display sizable sudden stops. The main challenge is to rationalize sudden stops that occur even when economic fundamentals are stable. My recent papers explore whether sudden stops stem from multiple equilibria, which in turn result from negative externalities generated during a sudden stop. Future projects include a systematic empirical analysis of sudden stops (e.g., do they precede or follow currency crises?) and developing the theory in a stochastic environment.

CAMERER, Colin Farrell

Born 1959, Drexel Hill, PA, USA.

Current Post Axline Prof. Bus. Econ., California Inst. Tech., Pasadena, CA, USA, 1994–.

Past Posts Asst Prof., Northwestern Univ., 1981–83; Assoc. Prof., Univ. Pennsylvania, 1983–91; Prof. Strategy and Behav. Sc., Univ. Chicago, 1991–94.

Degrees BA Johns Hopkins Univ., 1977; MBA Univ. Chicago, 1979; PhD Univ. Chicago, 1981.

Offices and Honours Fell., Center Adv. Study Behav. Sc., 1997–98; Fell., Em Soc, 1999; Pres., Econ. Sc. Assoc., 2001–03.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Books*: 1. *Pathological Gambling: A Critical Review* (Natl Acad. Press, 1999); 2. *Behavioral Game Theory: Experiments on Strategic Interaction* (Princeton Univ. Press, 2003); 3. *Advances in Behavioral Economics* (with G.

Loewenstein, M. Rabin), (Princeton Univ. Press, 2003).

Articles: 1. 'General conditions for the success of bootstrapping models', *Org. Behav. and Human Decision Processes*, 27, Nov. 1981; 2. 'Recent developments in modelling preferences under risk' (with M. Weber), *OR Spektrum*, 9, Nov. 1987; 3. 'Do biases in probability judgment matter in markets? Experimental evidence', *AER*, 77, Dec. 1987; 4. 'Gifts as economic signals and social symbols', *Amer. J. Sociology*, 94, Oct. 1988; 5. 'Experimental tests of a sequential equilibrium reputation model' (with K. Weigelt), *Em*, 56, Sept. 1988; 6. 'An experimental test of several generalized utility theories', *JRU*, 2, Sept. 1989; 7. 'Does the basketball market believe in the hot hand?', *AER*, 79, Oct. 1989; 8. 'Information mirages in experimental asset markets' (with K. Weigelt), *J Bus*, 64, 1991; 9. 'Experimental tests of Nash refinements in signaling games' (with J. Banks, D. Porter), *Games and Econ. Behav.*, 6, May 1994; 10. 'The predictive utility of generalized expected utility theories' (with D. Harless), *Em*, 62, June 1994; 11. 'Can asset markets be manipulated? A field experiment with race-track betting', *JPE*, 106, June 1998; 12. 'Rappresentazione mentale dei giochi: framing e editing', *Sistemi Intelligenti*, 11, April 1999; 13. 'Experience-weighted attraction (EWA) learning in normal-form games', *Em*, 67, July 1999; 14. 'The effects of financial incentives in economics experiments: a review and capital-labor-production framework' (with R. Hogarth), *JRU*, 19, Dec. 1999; 15. 'Cooperation, reciprocity and punishment in fifteen small-scales societies' (with J. Henrich, R. Boyd, S. Bowles, E. Fehr, H. Gintis, R. McElreath), *AER*, 91, May 2001; 16. 'Detecting failures of backward induction: monitoring information search in sequential bargaining', *JET*, 104, May 2002; 17. 'An experimental approach to the study

of organizational culture' (with R. Weber), *Mgmt Sc.*, 102, May 2003.

Principal Contributions My work applies psychological principles to economic decisions, in an effort to 'reunify' these social sciences in a synthesis called 'behavioral economics'. My research has spanned many domains. In laboratory experiments we have studied how people weigh the chances of different financial outcomes in risky decision making, how reputations emerge when people learn to trust one another, and how speculative price bubbles boom and crash in experimental stock markets. My book on behavioral game theory summarizes the results of hundreds of experiments. Behavioral game theory gives precise predictions about how people who think only a couple of steps ahead, have both guilt and envy toward others, and learn from experience, are likely to behave. One component is a cognitive hierarchy theory that predicts behavior in one-shot games better than Nash equilibrium and provides initial conditions for another component, a statistical theory of learning over time. Besides conducting experiments, I look at field data. In a paper with Babcock, Loewenstein and Thaler I showed that New York City cab drivers seem to choose a daily 'income target' and quit when they reach it (which is contrary to the standard theory of labor supply). I also found that the market for betting on basketball games mistakenly thinks that teams have 'hot hands' (teams with winning streaks are overbet), and National Basketball Association coaches exhibit 'escalation to commitment' by keeping players who were highly-touted draft picks in the game even when other players would score more points. Ongoing research studies how people develop 'codes' to describe situations, as one facet of organizational culture. I am also doing 'neural economics'—the study of how the brain operates when making economic decisions, using fMRI

imaging of real-time brain activity in collaborations with neuroscientists. We are also planning experiments on development economics.

CAMERON, Trudy Ann

Born 1956, Matsqui, BC, Canada.

Current Post Raymond F. Mikesell Prof. Econ., Dept Econ., Univ. Oregon, Eugene, OR, USA, 2002–.

Past Posts Asst Prof., Dept Econ., UBC, 1981–84; Prof., Dept Econ., UCLA, 1984–2001.

Degrees BA UBC, 1977; PhD Princeton Univ., 1982.

Offices and Honours Vice-Pres., Assoc. Environmental and Resource Econ., 1996–97.

Editorial Duties Assoc. Ed., *JEEM*, 1990–91, *AJAE*, 1992–95.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; H4 Publicly Provided Goods; C2 Econometric Methods: Single Equation Models.

Publications *Articles*: 1. ‘A nested logit model of energy conservation activity by owners of existing single family dwellings’, *REStat*, 67, May 1985; 2. ‘Efficient estimation methods for “closed ended” contingent valuation surveys’ (with M.D. James), *REStat*, 69, May 1987; 3. ‘Estimating willingness-to-pay from survey data: an alternative pre-test market evaluation procedure’ (with M.D. James), *J. Marketing Res.*, 24, Nov. 1987; 4. ‘The impact of grouping coarseness in alternative grouped-data regression models’, *J Em*, 35, 1987; 5. ‘A new paradigm for valuing non-market goods using referendum data: maximum likelihood estimation by censored logistic regression’, *JEEM*, 15, 1988; 6. ‘OLS versus ML estimation of non-market resource values with payment card interval data’ (with D.D.

Huppert), *JEEM*, 17, 1989; 7. ‘The determinants of household water conservation retrofit activity’ (with M. Wright), *Water Resources Res.*, 26, Feb. 1990; 8. ‘Generalized gamma family regression models for long distance telephone call durations’ (with K.J. White), in A. de Fontenay, M. Shugard, D. Sibley (eds), *Telecommunications Demand Modeling* (N-H, 1990); 9. ‘Interval estimates of non-market resource values from referendum contingent valuation surveys’, *Land Econ.*, 67, Nov. 1991; 10. ‘Referendum contingent valuation estimates: sensitivity to the assignment of offered values’ (with D.D. Huppert), *JASA*, 86, Dec. 1991; 11. ‘Energy audit programs versus market incentives as inducements to undertake energy conservation retrofits’ (with M. Wright), *Natural Resources Modeling*, 5, Winter 1991; 12. ‘Combining contingent valuation and travel cost data for the valuation of non-market goods’, *Land Econ.*, 68, Aug. 1992; 13. ‘Nonuser resource values’, *AJAE*, 74, Dec. 1992; 14. ‘Estimation using contingent valuation data from a “dichotomous choice with follow-up” questionnaire’ (with J. Quiggin), *JEEM*, 27, Nov. 1994; 15. ‘Augmenting travel cost models with contingent behaviour data: Poisson regression analyses with individual panel data’ (with J. Englin), *Environmental and Resource Econ.*, 7, 1996; 16. ‘Using actual and contingent behavior data with differing levels of time aggregation to model recreational demand’ (with W.D. Shaw, S.R. Ragland, J.M.(Mac) Callaway, S. Keefe), *J. Agric. and Resource Econ.*, 21, 1996; 17. ‘Welfare effects of changes in environmental quality under individual uncertainty about use’ (with J. Englin), *RandJE*, 28, special issue, 1997; 18. ‘Respondent experience and contingent valuation of environmental goods’ (with J. Englin), *JEEM*, 33, 1997; 19. ‘Nonresponse bias in mail survey data: salience vs. endogenous survey

complexity' (with W.D. Shaw, S. Ragland), in J.A. Herriges, C.L. Kling (eds), *Valuing Recreation and the Environment* (Edward Elgar, 1998); 20. 'Alternative nonmarket value-elicitation methods: are the underlying preferences the same?' (with G.L. Poe, R.G. Ethier, W.D. Schulze), *JEEM*, 44, Nov. 2002.

Principal Contributions Most of my work relates to methodology concerning the use and interpretation of different types of stated preference choice data in the measurement of non-market values for public goods. My applications involve a variety of environmental goods such as non-commercial fisheries, water resources, public lands, green power options, climate change mitigation, and policies that reduce human morbidity and mortality. My most widely cited early work (article 5 and related papers) concerns a reparameterization of a conventional binary logit or probit model that allows referendum-contingent valuation data to be interpreted similarly to an ordinary multiple-regression model for the latent continuous willingness-to-pay variable. I continue to make extensive use of maximum likelihood techniques to explore more general specifications for different types of stated-preference data involving limited dependent variables. Relying heavily on formal random utility models, I have adapted them to accommodate uncertainty, information, heteroscedasticity, and, most recently, discounting. I incorporate the concepts of option prices, subjective risks, and latency-in-risks into stated preference choice models, and I have recently used web-based surveys to assess the sensitivity of stated preference choices to extensive randomized variations in survey instrument design. I have also addressed strategies for dealing with systematic nonresponse to stated preference surveys.

CAMPBELL, John Young

Born 1958, London, UK.

Current Post Otto Eckstein Prof. Apl. Econ., Harvard Univ., Cambridge, MA, USA.

Past Posts Asst Prof., Class of 1926 Prof. Econ. and Public Affairs, Woodrow Wilson Sch., Princeton Univ., 1984–89, 1989–94.

Degrees BA (PPE) Oxford Univ., 1976; PhD Yale Univ., 1984.

Offices and Honours Council, Em Soc, 2002; Fell., AAAS, 2000; Paul A. Samuelson Award for Outstanding Scholarly Writing in Lifelong Fin. Security, TIAA-CREF, 1997 (with A.W. Lo, A.C. MacKinlay), 2003 (with L.M. Viceira); Leo Melamed Prize for Outstanding Scholarship, Grad. Sch. Bus., Univ. Chicago, 1996 (with S. Grossman, J. Wang).

Editorial Duties Ed., *REStat*, 1996–2002; Co-Ed., *AER*, 1991–93.

Principal Fields of Interest G1 General Financial Markets; E2 Consumption, Saving, Production, Employment, and Investment; E4 Money and Interest Rates.

Publications *Books*: 1. *The Econometrics of Financial Markets* (with A.W. Lo, A.C. MacKinlay), (Princeton Univ. Press, 1997); 2. *Strategic Asset Allocation: Portfolio Choice for Long-Term Investors* (with L.M. Viceira), (OUP, 2002).

Articles: 1. 'Stock returns and the term structure', *J Fin E*, 18, June 1987; 2. 'Cointegration and tests of present value models' (with R.J. Shiller), *JPE*, 95, Oct. 1987; 3. 'Does saving anticipate declining labor income? An alternative test of the permanent income hypothesis', *Em*, 55, Nov. 1987; 4. 'Are output fluctuations transitory?' (with N.G. Mankiw), *QJE*, 102, Nov. 1987; 5. 'The dividend-price ratio and expectations of future dividends and discount factors' (with R.J. Shiller), *Rev. Fin. Stud.*, 1, Fall 1988; 6. 'Consumption, income, and interest rates: re-

interpreting the time series evidence' (with N.G. Mankiw), in O.J. Blanchard, S. Fischer (eds), *NBER Macroecon. Annual*, 4, 1989; 7. 'Yield spreads and interest rate movements: a bird's eye view' (with R.J. Shiller), *REStud*, 58, July 1991; 8. 'What moves the stock and bond markets? A variance decomposition for long-term asset returns' (with J. Ammer), *J Fin*, 48, March 1993; 9. 'Intertemporal asset pricing without consumption data', *AER*, 83, June 1993; 10. 'Trading volume and serial correlation in stock returns' (with S.J. Grossman, J. Wang), *QJE*, 108, Nov. 1993; 11. 'Inspecting the mechanism: an analytical approach to the stochastic growth model', *JME*, 33, June 1994; 12. 'Understanding risk and return', *JPE*, 104, April 1996; 13. 'By force of habit: a consumption-based explanation of aggregate stock market behavior' (with J.H. Cochrane), *JPE*, 107, April 1999; 14. 'Consumption and portfolio decisions when expected returns are time varying' (with L.M. Viceira), *QJE*, 114, May 1999; 15. 'Asset pricing at the millennium', *J Fin*, 55, Aug. 2000; 16. 'Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk', *J Fin*, 56, Feb. 2001; 17. 'Who should buy long-term bonds?' (with L.M. Viceira), *AER*, 91, March 2001.

Principal Contributions Financial theorists describe asset prices as expected present values of future payments, discounted to adjust for time and risk. If an asset price is high, then either its future dividends must be high, or its future returns must be low; these low returns may reflect low real interest rates or low excess returns on the asset relative to short-term debt. Much of my research develops this simple insight into a quantitative framework that can be used to analyze the variation of asset prices. I have found, for example, that most variation in aggregate stock prices can be attributed to vari-

ation in the market price of risk. I have taken a similar approach to the study of aggregate consumption behavior in relation to wealth and income. My most recent research examines the microeconomic problem of consumption and portfolio choice for long-lived investors.

CANOVA, Fabio n.e.

CAPLIN, Andrew Stephen

Born 1956, London, UK.

Current Post Prof. Econ., NYU, New York City, NY, USA, 1995–.

Past Posts Dept Econ., Harvard Univ., 1983–86; Dept Econ., Princeton Univ., 1986–89; Dept Econ., Columbia Univ., 1989–95.

Degrees BA Cambridge Univ., 1978; PhD Yale Univ., 1983.

Offices and Honours Fell., Em Soc; Res. Assoc., NBER, 1988–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; D0 Microeconomics: General; H0 Public Economics: General.

Publications *Book*: 1. *Housing Partnerships: A New Approach to a Market at a Crossroads* (with S. Chan, C. Freeman, J. Tracy), (MIT Press, 1997).

Articles: 1. 'The variability of aggregate demand with (S, s) inventory policies', *Em*, 53, 1985; 2. 'Menu costs and the neutrality of money' (with D. Spulber), *QJE*, 102, 1987; 3. 'On 64% majority rule' (with B. Nalebuff), *Em*, 56, 1988; 4. 'State dependent pricing and the dynamics of money and output' (with J. Leahy), *QJE*, 106, 1991; 5. 'Aggregation and imperfect competition' (with B. Nalebuff), *Em*, 59, 1991; 6. 'Aggregation and social choice' (with B. Nalebuff), *Em*, 59, 1991; 7. 'Business as usual, market crashes, and wisdom after the fact' (with J. Leahy), *AER*,

84, 1994; 8. 'Monetary policy as a process of search' (with J. Leahy), *AER*, 86, 1996; 9. 'Aggregation and optimization with state dependent pricing' (with J. Leahy), *Em*, 65, 1997; 10. 'Competition among institutions' (with B. Nalebuff), *JET*, 72, 1997; 11. 'Collateral damage: how refinancing constraints exacerbate regional recessions' (with C. Freeman, J. Tracy), *JMCB*, 29, 1997; 12. 'Durable goods cycles' (with J. Leahy), NBER Working Paper, 6987, 1999; 13. 'The social discount rate' (with J. Leahy), NBER Working Paper, 7983, 2000; 14. 'Psychological expected utility theory and anticipatory feelings' (with J. Leahy), *QJE*, 116, 2001; 15. 'Turning assets into cash: problems and prospects in the reverse mortgage market', in O. Mitchell, Z. Bodie, P. Hammond, S. Zeldes (eds), *Innovations in Retirement Financing* (Univ. Pennsylvania Press, 2002); 16. 'Retirement consumption: insights from a survey' (with J. Ameriks, J. Leahy), NBER Working Paper, 8735, 2002; 17. 'Wealth accumulation and the propensity to consume' (with J. Ameriks, J. Leahy), NBER Working Paper, 8920, 2002; 18. 'Aids policy and psychology: a theoretical approach' (with K. Eliaz), NYU mimeo, 2002; 19. 'Fear as a policy instrument', in R. Baumeister, G. Loewenstein, D. Read (eds), *Time and Decision* (Russell Sage, forthcoming).

Principal Contributions I have broad interests in many fields of economics, in allied social sciences, and in the world of affairs. My current research focusses on areas of overlap between economics and psychology. A general theory is presented in article 14, with medical applications outlined in articles 18 and 19. Testing these theories calls for new methods of gathering data, and in this respect survey methodology has much to commend it. Applications of this methodology to issues in the theory of wealth accumulation, consumption, and portfolio choice

are an active area of interest (articles 16 and 17). Much of my earlier research (articles 1, 2, 4, 7, 8 and 9) was dedicated to understanding links between individual inertia and macroeconomic dynamics. This remains an active area of research (article 12). An interest in aggregation also underlies joint research with Barry Nalebuff on the behavior of voting rules (articles 3 and 6), of imperfectly competitive markets (article 5), and of political-economic equilibrium (article 10). My interest in market inertia lies behind proposals for reforming the housing finance market (articles 11, 15 and book 1). Economists are very interested in institutions, but we remain profoundly ignorant about how they operate. By continuing to participate in the process of housing finance reform, I hope to improve my understanding both of why so many institutions function poorly, and of the role of ideas in the process of reform.

CARD, David Edward

Born 1956, Guelph, Canada.

Current Post Class of 1950 Prof. Econ., Univ. California, Berkeley, CA, USA, 1997–.

Past Post Prof. Econ., Princeton Univ., 1983–97.

Degrees BA Queen's Univ., Canada, 1978; PhD Princeton Univ., 1983.

Honours John Bates Clark Prize, AEA, 1995.

Editorial Duties Assoc. Ed., *J Lab E*, 1988–92; Co-Ed., *Em*, 1993–97, *AER*, 2002–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; C5 Econometric Modeling.

Publications *Books*: 1. *Small Differences that Matter: Labor Markets and Income Maintenance in Canada and the United States* (with R. Freeman), (UCP,

1993); 2. *Myth and Measurement: The New Economics of the Minimum Wage* (with A. Krueger), (Princeton Univ. Press, 1995).

Articles: 1. 'Measuring the effect of subsidized training program on movements in and out of employment' (with J. Abowd), *Em*, 56, May 1988; 2. 'On the covariance structure of earnings and hours changes' (with D. Sullivan), *Em*, 57, March 1989; 3. 'The impact of the Mariel Boatlift on the Miami labor market', *ILRR*, 43, Jan. 1990; 4. 'Unexpected inflation, real wages, and employment determination in union contracts', *AER*, 80, Sept. 1990; 5. 'School quality and black-white relative earnings: a direct assessment' (with A. Krueger), *QJE*, 107, Feb. 1992; 6. 'Does school quality matter: returns to education and the characteristics of public schools in the United States' (with A. Krueger), *JPE*, 100, Feb. 1992; 7. 'Minimum wages and employment: a case study of the fast food industry in New Jersey and Pennsylvania' (with A. Krueger), *AER*, 84, Sept. 1994; 8. 'The effect of unions on the structure of wages: a longitudinal analysis', *Em*, 64, July 1996; 9. 'Can falling supply explain the rising return to college for younger men? A cohort-based analysis' (with T. Lemieux), *QJE*, 116, May 2001.

Principal Contributions n.e.

CARROLL, Christopher Dixon

Born 1964, Baton Rouge, LA, USA.

Current Post Prof. Econ., Johns Hopkins Univ., Baltimore, MD, USA, 2000–.

Past Posts Econ., Res. and Stats Div., Bd Governors, Fed. Reserve System, 1990–95; Asst Prof. Econ., Assoc. Prof. Econ., Johns Hopkins Univ., 1995–97, 1997–2000.

Degrees BA Harvard Univ., 1986; PhD MIT, 1990.

Offices and Honours NSF Grad. Fellowship, 1986–90; Certificate of Excellence, Paul A. Samuelson TIAA-CREF Award, 1998.

Editorial Duties Assoc. Ed., *J. Macroecon.*, 1996–2002, *JBES*, 1998–, *REStat*, 2002–.

Principal Fields of Interest D1 Household Behavior; D8 Information and Uncertainty; D9 Intertemporal Choice and Growth.

Publications *Articles:* 1. 'Consumption growth parallels income growth: some new evidence' (with L.H. Summers), in B.D. Bernheim, J.B. Shoven (eds), *National Saving and Economic Performance* (UCP, 1991); 2. 'The buffer-stock theory of saving: some macroeconomic evidence', *BPEA*, 2, 1992; 3. 'How does future income affect current consumption?', *QJE*, 109, 1994; 4. 'Are there cultural effects on saving? Some cross-sectional evidence' (with C. Rhee, B. Rhee), *QJE*, 109, 1994; 5. 'Saving and growth: a reinterpretation' (with D.N. Weil), *C-RPP*, 40, 1994; 6. 'Does consumer sentiment forecast household spending? If so, why?' (with J.C. Fuhrer, D.W. Wilcox), *AER*, 84, 1994; 7. 'On the concavity of the consumption function' (with M.S. Kimball), *Em*, 64, 1996; 8. 'Buffer-stock saving and the life cycle/permanent income hypothesis', *QJE*, 112, 1997; 9. 'Unemployment expectations, jumping (S , s) triggers, and household balance sheets' (with W.E. Dunn), in B.S. Bernanke, J.J. Rotemberg (eds), *NBER Macroecon. Annual* (MIT Press, 1997); 10. 'The nature of precautionary wealth' (with A.A. Samwick), *JME*, 40, 1997; 11. 'Why do the rich save so much?', in J.B. Slemrod (ed.), *Does Atlas Shrug? The Economic Consequences of Taxing the Rich* (HUP, 2000); 12. 'Requiem for the representative consumer? Aggregate implications of microeconomic consumption behavior', *AER Papers and Proceedings*, 90, May 2000; 13. 'Saving

and growth with habit formation' (with J.R. Overland, D.N. Weil), *AER*, 90, 2000; 14. 'Risky habits and the marginal propensity to consume out of permanent income', *Intl Econ. J.*, 14, 2000; 15. 'Individual learning about consumption' (with T.M. Allen), *Macroecon. Dynamics*, 5, 2001; 16. 'Death to the log-linearized consumption Euler equation! (And very poor health to the second-order approximation)', *Advances in Macroecon.*, 1, 2001; 17. 'A theory of the consumption function, with and without liquidity constraints', *JEP*, 15, 2001; 18. 'Portfolios of the rich', in *Household Portfolios: Theory and Evidence* (MIT Press, 2002); 19. 'The epidemiology of macroeconomic expectations', in L. Blume, S. Durlauf (eds), *The Economy as an Evolving Complex System*, III (OUP, forthcoming); 20. 'Macroeconomic expectations of households and professional forecasters', *QJE*, forthcoming 2003.

Principal Contributions My work has focussed principally on whether actual consumption and saving behavior is reasonably well approximated by a model in which typical consumers behave in ways close to the predictions of a dynamic optimization model. My early work emphasized that the behavior that emerges from the optimizing model is radically changed when a realistic treatment of uncertainty is incorporated. In particular, in such a context it can be optimal to engage in 'buffer-stock' saving, in which consumers have a target value for the ratio of wealth to permanent income. Such target saving behavior is sharply different from the predictions of the perfect foresight (PF) or certainty equivalent (CEQ) models that were the standard framework until recently, but these models are in much better agreement with empirical data than are the PF/CEQ models. More recent work has examined the consequences of habit formation for the short- and long-run dy-

namics of consumption. This work was motivated by empirical findings that exogenous increases in growth seem to lead to increasing saving rates, which is precisely the opposite of the predictions of the standard optimizing model. However, a model with consumption habits can in principle explain causality from income growth to saving: during periods of rapid income growth, income races ahead of consumption, which habits cause to adjust slowly. This model is much more consistent with the empirical patterns of saving and growth in the fast-growing Asian economies than is the traditional model. The model can also explain the 'excess smoothness' of aggregate consumption relative to the predictions of models with intertemporally separable utility.

CARROLL, Raymond J. n.e.

CARSON, Richard T.

Born 1955, Jackson, MS, USA.

Current Posts Prof., Dept Econ., Univ. California, San Diego, CA, USA, 1996–; Sr Fell., San Diego Supercomputer Center, Univ. California, San Diego, 1995–.

Past Posts Staff Mem., Resources for the Future, 1979–82; Asst Prof., Assoc. Prof., Univ. California, San Diego, 1985–96; Vis. Prof., Univ. Sydney, 1995, 1997, Oslo, 1996; Res. Dir., Intl Environmental Pol., Inst. Global Conflict and Co-op., Univ. California, 1998–2001.

Degrees BA Mississippi State Univ., 1977; MA (Intl Relations) George Washington Univ., 1979; MA (Stats), PhD Univ. California, Berkeley, 1985, 1985.

Offices and Honours Publication of Enduring Quality Award, Assoc. Environmental and Resource Econ., 1999; Bd Dirs, Assoc. Environmental and Resource Econ., 1999–; Program Chair, 2nd World

Congress Environmental and Resource Econ., 2002; Chair, Dept Econ., Univ. California, San Diego, 2002–.

Editorial Duties Ed. Bds, *J. Environment and Devlp.*, 1994–97, *JEEM*, 1994–, *Contemporary Econ. Pol.*, 2000–, *Environmental and Resource Econ.*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; C0 Mathematical and Quantitative Methods: General.

Publications *Books*: 1. *Using Surveys to Value Public Goods: The Contingent Valuation Method* (with R.C. Mitchell), (JHUP, 1989; trans., Japanese, 2001); 2. *Both Sides of the Border: Transboundary Environmental Management Issues Facing Mexico and the United States* (with L. Fernandez), (Kluwer Acad. Press, 2002).

Articles: 1. ‘A method of estimating the personal ideology of political representatives’ (with J. Oppenheimer), *Amer. Polit. Sc. Rev.*, 78, 1984; 2. ‘Property rights, protest, and the siting of hazardous waste facilities’ (with R. Mitchell), *AER*, 76, 1986; 3. ‘A seller’s (and buyer’s) guide to the job market for beginning academic economists’ (with P. Navarro), *JEP*, 2, 1988; 4. ‘Discounting statistical lives’ (with J. Horowitz), *JRU*, 3, 1990; 5. ‘Models for truncated counts’ (with J. Grogger), *JAE*, 6, 1991; 6. ‘On the theory of growth controls’ (with R. Engle, P. Navarro), *JUE*, 32, 1992; 7. ‘The value of clean water: the public’s willingness to pay for boatable, fishable, and swimmable quality water’ (with R. Mitchell), *Water Resources Res.*, 29, 1993; 8. ‘Valuing the preservation of Australia’s Kakadu Conservation Zone’ (with L. Wilks, D. Imber), *OEP*, 46, 1994; 9. ‘Sequencing and nesting in contingent valuation surveys’ (with R. Mitchell), *JEEM*, 28, 1995; 10. ‘Contingent valuation and revealed preference methodologies: comparing the estimates for quasi-public goods’ (with N. Flores, K. Martin,

J. Wright), *Land Econ.*, 72, 1996; 11. ‘Contingent valuation: theoretical advances since the NOAA Panel’, *AJAE*, 79, 1997; 12. ‘The relationship between income elasticities of demand and willingness to pay’ (with N. Flores), *JEEM*, 33, 1997; 13. ‘The relationship between air pollution emissions and income: US data’ (with Y. Jeon, D. McCubbin), *Environment and Devlp. Econ.*, 2, 1997; 14. ‘Valuation of tropical rainforest: philosophical and practical issues in the use of contingent valuation’, *Ecological Econ.*, 24, 1998; 15. ‘Referendum design and contingent valuation: the NOAA Panel’s no-vote recommendation’ (with W.M. Hanemann, R. Kopp, J. Krosnick, R. Mitchell, S. Presser, P. Ruud, V.K. Smith), *REStat*, 80, 1998; 16. ‘Sequencing and valuing public goods’ (N.E. Flores, W.M. Hanemann), *JEEM*, 36, 1998; 17. ‘Contingent valuation: a user’s guide’, *Environmental Sc. and Tech.*, 34, 2000; 18. ‘Contingent valuation: controversies and evidence’ (with N. Flores, N. Meade), *Environmental and Resource Econ.*, 19, 2001.

Principal Contributions Most of my work has been in the area of non-market valuation, that is placing a monetary value on goods not ordinarily bought and sold in the marketplace. I have done extensive work on the development of a survey-based approach to non-market valuation known as contingent valuation that is now widely used in environmental economics as well as in applied work on cultural, health, marketing, and transportation issues. My work on contingent valuation spans a large range and encompasses integration and clarification of underlying concepts from welfare economics, survey and experimental design issues, and the development of appropriate statistical techniques. My empirical contingent valuation work includes the assessment of the benefits of the US Clean Water Act, vis-

ibility improvements in the Grand Canyon, water reliability in Californian cities, drinking water risk reductions, an evaluation of the preservation of the Kakadu Conservation Zone in Australia and the rehabilitation of the Fez Medina in Morocco. I have also used contingent valuation techniques for natural resource damage assessment including the *Exxon Valdez* oil spill and DDT/PCB dumping off the coast of Los Angeles. Other environmental areas that I have worked on include: discounting health risks, voting behavior, outdoor recreation, siting hazardous waste sites, urban growth controls, coordination of US–Mexican environmental policy, tropical rainforests, and global climate change.

CARTER, Colin A. n.e.

CARTER, Richard B. n.e.

CASE, Anne Catherine

Born 1958, Elmira, NY, USA.

Current Post Prof. Econ. and Public Affairs, Woodrow Wilson Sch. and Econ. Dept, Princeton Univ., Princeton, NJ, USA, 1996–.

Past Posts Asst Prof., Dept Econ., Harvard Univ., 1988–91; Asst Prof., Woodrow Wilson Sch. and Dept Econ., Princeton Univ., 1991–96.

Degrees BS SUNY, Albany, 1980; MPA, MA, PhD Princeton Univ., 1983, 1985, 1988.

Editorial Duties Ed. Bds, *JEL*, 1994–98, *JEP*, 1994–2000, *EJ*, 1996–2000, *AER*, 2001–, *WBER*, 2001–.

Principal Fields of Interest O1 Economic Development; I0 Health, Education, and Welfare: General; D1 Household Behavior.

Publications Articles: 1. ‘Spatial patterns in household demand’, *Em*, 59, 1991; 2. ‘Neighborhood influence and technological change’, *RSUE*, 22, 1992; 3. ‘Budget spillovers and fiscal policy interdependence: evidence from the States’ (with J.R. Hines, Jr, H.S. Rosen), *J Pub E*, 52, 1993; 4. ‘Modeling technology adoption in developing countries’ (with T. Besley), *AER Papers and Proceedings*, 83, 1993; 5. ‘Interstate tax competition after TRA 86’, *JPAM*, 12, 1993; 6. ‘The effect of sibling composition on women’s education and earnings’ (with K.F. Butcher), *QJE*, 109, 1994; 7. ‘Incumbent behavior: vote seeking, tax setting and yardstick competition’ (with T. Besley), *AER*, 85, 1995; 8. ‘Does electoral accountability affect economic policy choices? Evidence from gubernatorial term limits’ (with T. Besley), *QJE*, 110, 1995; 9. ‘Large cash transfers to the elderly in South Africa’ (with A. Deaton), *EJ*, 108, 1998; 10. ‘Household resource allocation in stepfamilies: Darwin reflects on the plight of Cinderella’ (with I. Lin, S. McLanahan), *AER Papers and Proceedings*, 89, 1999; 11. ‘School inputs and educational outcomes in South Africa’ (with A. Deaton), *QJE*, 114, 1999; 12. ‘How hungry is the selfish gene?’ (with I. Lin, S. McLanahan), *EJ*, 110, 2000; 13. ‘Unnatural experiments? Estimating the incidence of endogenous policies’ (with T. Besley), *EJ*, 110, 2000; 14. ‘Election goals and income redistribution: recent evidence from Albania’, *Europ ER*, 45, 2001; 15. ‘Mothers and others: who invests in children’s health?’ (with C. Paxson), *JHE*, 20, 2001; 16. ‘Educational attainment in blended families’ (with I. Lin, S. McLanahan), *Evolution and Human Behav.*, 22, 2001; 17. ‘Parental behaviors and child health’ (with C. Paxson), *Health Affairs*, 21, 2002; 18. ‘Health, income and economic development’, *Annual World Bank Conf. on Devlp. Econ.* 2001/2002, 2002.

Principal Contributions My early work

focussed on spatial interactions and explored the role of geography in economic behavior. In part through the research on spatial modeling, my work turned to empirical political economy, and the analysis of US state decisionmaking. Throughout, I have worked on household behavior, with a special focus on the impact of household structure for children's outcomes. Since 1995, I have been conducting research in South Africa, quantifying the impact of several public programs, including the state old-age pension, the child support grant, and the education system. Currently, I am studying the relationship between socioeconomic status and health, in the US, the UK and South Africa.

CASON, Timothy N. n.e.

CAVES, Richard Earl

Born 1931, Akron, OH, USA.

Current Post Prof. Econ., Harvard Univ., MA, USA, 1962–.

Past Posts Asst Prof., Assoc. Prof. Econ., Univ. California, Berkeley, 1957–60, 1960–62.

Degrees BA Oberlin Coll., 1953; MA, PhD Harvard Univ., 1956, 1958.

Honours Wells Prize, Harvard Univ., 1957–58; Henderson Prize, 1962; Kenan Enterprise Award, 1990.

Editorial Duties Co-Ed., *REStat*, 1992–96.

Principal Field of Interest L0 Industrial Organization: General.

Publications *Books*: 1. *Trade and Economic Structure* (HUP, 1960); 2. *Air Transport and its Regulators* (HUP, 1962); 3. *Capital Transfers and Economic Policy: Canada, 1951–1962* (with G.L. Reuber), (HUP, 1971); 4. *Industrial Organization in Japan* (with M. Uekusa), (Brookings Inst., 1976); 5. *Competition in the Open*

Economy (with M.E. Porter, A.M. Spence), (HUP, 1980); 6. *Multinational Enterprise and Economic Analysis* (CUP, 1982, 1996); 7. *Britain's Productivity Gap* (with S. Davies), (CUP, 1987); 8. *Efficiency in US Manufacturing Industries* (with D. Barton), (MIT Press, 1990); 9. *Industrial Efficiency in Six Nations* (with associates), (MIT Press, 1992).

Articles: 1. 'International corporations: the industrial economics of foreign investment', *Ec*, 38, Feb. 1971; 2. 'Causes of direct investment: foreign firms' shares in Canadian and United Kingdom manufacturing industries', *REStat*, 56, Aug. 1974; 3. 'From entry barriers to mobility barriers' (with M.E. Porter), *QJE*, 91, May 1977; 4. 'Monopolistic export industries, trade taxes, and optimal competition policy' (with A.A. Auquier), *EJ*, 89, Sept. 1979; 5. 'Industrial organization, corporate strategy and structure', *JEL*, 18, March 1980; 6. 'The decline of dominant firms, 1905–1929' (with M. Fortunato, P. Ghemawat), *QJE*, 99, Aug. 1984; 7. 'Transaction-cost influences on the adjustment of industries' prices and outputs' (with R. Bradburd), *REStat*, 69, Nov. 1987; 8. 'Fat: the displacement of non-production workers from US manufacturing industries' (with M. Krepps), *BPEA: Microecon.*, 2, 1993; 9. 'Brands' quality levels, prices and advertising outlays' (with D. Greene), *IJIO*, 14, March 1996; 10. 'Cheap talk and investment rivalry in the pulp and paper industry' (with L. Christensen), *J Ind E*, 45, March 1997.

Principal Contributions Intersection between the fields of international trade and industrial organisation, including the effect of international trade on the structure and performance of national markets and on industrial policy, the structure and behaviour of multinational enterprises, export-led growth of national industries and economies, transnational comparisons of industrial organisation, countertrade agree-

ments, and effects of national and international influences on productive efficiency. Other research areas include the effects of regulation on industrial structure and behaviour, the consequences of resource commitments that create barriers to entry and exit, structural and behavioural components of horizontal product differentiation, pricing and promotional rivalry in the pharmaceutical industry, and investment rivalry in capital-intensive industries.

CECCHETTI, Stephen G.

Born 1956, Berkeley, CA, USA.

Current Post Prof. Econ., Ohio State Univ., Columbus, OH, USA, 1992–.

Past Posts Jr Econ., US President's Council Econ. Advisers, 1979–80; Asst Prof. Econ., NYU, 1982–87; Asst Prof. Econ., Assoc. Prof. Econ., Ohio State Univ., 1987–89, 1989–92; Exec. Vice-Pres., Dir. Res., FRB, New York, 1997–99.

Degrees SB MIT, 1977; MA, PhD Univ. California, Berkeley, 1979, 1982.

Offices and Honours Res. Assoc., Monetary Econ. and Asset Pricing Programs, NBER, 1989–; Acad. Adv. Panel, FRB, New York, 1999–; Res. Fell., Dice Center Res. Fin. Econ., Ohio State Univ., 2000–02.

Editorial Duties Bd Eds, *AER*, 1992–98, Ohio State Univ. Press, 1993–97, *Econ. Pol. Rev.*, FRB, New York, 1994–, *Contemporary Pol. Issues*, 2000–; Ed., *JMCB*, 1992–2001; Advisory Bd Eds, *JEL*, 1993–; Acad. Advisory Panel, FRB, Boston, 1994–95; Adv. Bd, *JMCB*, 2001–.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; E0 Macroeconomics and Monetary Economics: General; G0 Financial Economics: General.

Publications *Book*: 1. *Asset Prices and Central Bank Policy* (with H. Genberg, J.

Lipsky, S. Wadhvani), (Geneva Reports on World Economy, 2, Intl Center Monetary and Banking Stud. and CEPR, 2000).

Articles: 1. 'The frequency of price adjustment: a study of the newsstand prices of magazines', *J Em*, 31, April 1986; 2. 'Estimation of the optimal futures hedge' (with R. Cumby, S. Figlewski), *REStat*, 70, Nov. 1988; 3. 'Imperfect information and staggered price setting' (with L. Ball), *AER*, 78, Dec. 1988; 4. 'The case of the negative nominal interest rates: new estimates of the term structure of interest rates during the Great Depression', *JPE*, 96, Dec. 1988; 5. 'Mean reversion in equilibrium asset prices' (with P.-S. Lam, N. Mark), *AER*, 80, June 1990; 6. 'Inflation and uncertainty at short and long horizons' (with L. Ball), *BPEA*, 1, 1990; 7. 'Prices during the Great Depression: was the deflation of 1930–32 really unanticipated?', *AER*, 82, March 1992; 8. 'The equity premium and the risk free rate: matching the moments' (with P.-S. Lam, N. Mark), *JME*, 31, Feb. 1993; 9. 'The Consumer Price Index as a measure of inflation' (with M. Bryan), *Econ. Rev.*, *FRB, Cleveland*, 29, 1993; 10. 'Measuring core inflation' (with M. Bryan), in N. Mankiw (ed.), *Monetary Policy* (UCP for NBER, 1994); 11. 'Measuring short-run inflation for central bankers', *Econ. Rev.*, *FRB, St. Louis*, 79, May/June 1997; 12. 'Interactions between the seasonal and business cycles in production and inventories' (with A. Kashyap, D. Wilcox), *AER*, 87, Dec. 1997; 13. 'Inflation and the distribution of price chance' (with M. Bryan), *REStat*, 81, May 1999; 14. 'Asset pricing with distorted beliefs: are equity returns too good to be true?' (with P.-S. Lam, N. Mark), *AER*, 90, Sept. 2000; 15. 'Legal structure, financial structure and the monetary transmission mechanism', in H. Hermann, R. Köning (eds), *The Monetary Transmission Process* (Macmillan, 2001); 16. 'Asset prices in the measurement of

inflation' (with M. Bryan, R. O'Sullivan), *DE*, 149, Dec. 2001; 17. 'Price level convergence among United States cities: lessons for the European Central Bank' (with N. Mark, R. Sonora), *IER*, 42, Nov. 2002.

Principal Contributions My work is primarily empirical and spans a number of fields, beginning with my 1986 paper on the newsstand prices of magazines. In 1988 I wrote a theoretical paper on staggered price setting in an attempt to provide a foundation for New Keynesian macroeconomics. During the 1990s, I worked on the dynamics of aggregate asset pricing. Beginning in 1988, I wrote a series of papers on the Great Depression. Since the mid-1990s, my work has been related to monetary and financial policy. Together with M. Bryan I have written a series of papers on the measurement of inflation. Our primary contribution in this area has been the development of the median CPI for the measurement of core inflation. In addition, I have examined how asset prices might be best introduced into inflation measurement. Beyond these, I have tried to provide a general framework for improving the way in which central bank policy functions. My focus has been on the best way to structure decisions and actions of central bankers.

CHALOUKKA, IV, Frank J. n.e.

CHAMBERS, Robert n.e.

CHAN, K.C.

Born 1957, Hong Kong.

Current Posts Dean, Sch. Bus. and Mgmt, Prof. Fin., Hong Kong Univ. Sc. and Tech. (HKUST), Clear Water Bay, Kowloon, Hong Kong, 2002–, 1994–.

Past Posts Vis. Instr. Fin., Asst Prof.

Fin., Assoc. Prof. Fin., Ohio State Univ., 1984–85, 1985–91, 1991–95; Reader Fin., Assoc. Dean, Acting Dean, Sch. Bus. and Mgmt, HKUST, 1993–94, 1996–2000, 2001–02; Head, Dept Fin., HKUST, 1994–2000.

Degrees BA (Hons) Wesleyan Univ., 1979; MBA, PhD Univ. Chicago, 1981, 1985.

Offices and Honours Dir., Hong Kong Futures Exchange Ltd, 1998–2000; Pres., APFA, 2001–03.

Editorial Duties Assoc. Ed., *Pacific Basin Fin. J.*, 1999–, *Fin. Analysts J.*, 2001–; Ed., *Intl Rev. Fin.*, 2000–.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets.

Publications *Articles*: 1. 'An exploratory investigation of the firm size effect' (with N.-f. Chen, D. Hsieh), *J Fin E*, 14, Sept. 1985; 2. 'Can tax-loss selling explain the January seasonal in stock returns?', *J Fin*, 41, Oct. 1986; 3. 'On the contrarian investment strategy', *J Bus*, 61, April 1988, repr. in A. Lo (ed.), *Market Efficiency: Stock Market Behaviour in Theory and Practice* (Edward Elgar, 1997); 4. 'An unconditional test of asset pricing and the role of firm size as an instrumental variable for risk' (with N.-f. Chen), *J Fin*, 63, June 1988; 5. 'Risk and return from real estate: evidence from equity REITs' (with P. Hendershott, A. Sanders), *AREUEA J.*, 18, Winter 1990; 6. 'Structural and return characteristics of small and large firms' (with N.-f. Chen), *J Fin*, 46, Sept. 1991; 7. 'Intraday volatility in the stock index and stock index futures markets' (with K. Chan, A. Karolyi), *Rev. Fin. Stud.*, 4, Winter 1991; 8. 'The volatility of short-term interest rates: an empirical comparison of alternative models of the term structure of interest rates' (with G.A. Karolyi, F.A. Longstaff, A.B. Sanders), *J Fin*, 68, July 1992; 9. 'Global financial markets and

the risk premium on the US equity' (with A. Karolyi, R. Stulz), *J Fin E*, 32, Oct. 1992; 10. 'Economic forces and commodity futures prices: further evidence on time-varying risk premia' (with W. Bailey), *J Fin*, 48, June 1993; 11. 'Market structure and the intraday pattern of bid-ask spreads for NASDAQ securities' (with W.G. Christie, P.H. Schultz), *J Bus*, 68, Jan. 1995; 12. 'Does money explain asset returns? Theory and empirical analysis' (with S. Foresi, L. Lang), *J Fin*, 51, March 1996; 13. 'Information, trading and stock returns: lessons from dually-listed securities' (with W.-M. Fong, R. Stulz), *J Bank Fin*, 20, Aug. 1996; 14. 'The performance of Japanese mutual funds' (with J. Cai, T. Yamada), *Rev. Fin. Stud.*, 10, Summer 1997.

Principal Contributions Most of my works are about estimating the risks of financial assets and understanding the economic determinants of financial risk measures. In a single-factor asset pricing model such as the CAPM, the risk measure of a financial asset is represented by beta, which is proportional to the covariance of the asset's return with the market portfolio's return. I worked with Nai-fu Chen to try to understand the economic reasons for firms to have different betas, and particularly, how betas change because of the business cycles as well as changes in the firm's own fortune. I show that betas can vary over time, especially for firms that are close to being in financial distress, and that this feature should be incorporated in estimation of risks. Failure to do so will result in an erroneous rejection of the asset pricing model, or incorrectly assessing the risk of some investment strategies, such as the popular contrarian strategy. In the context of a multifactor asset pricing model, my works suggest what additional risk factors could capture the business cycle effect. My works can explain some of the well-known results in

the asset pricing literature, such as those showing that small-cap stocks have higher returns than large caps, and stocks with higher leverage earn more than firms with lower leverage. I have also made contributions to the market microstructure literature. I study how the intra-day volatility in the cash and futures markets are related. I also investigate the bid-ask spreads and liquidity behavior in the NASDAQ market. Other contributions include a study on the behavior of the short-term interest rate and comparing various models popular in the fixed income literature.

CHAN, Kalok

Born 1961, Hong Kong, China.

Current Post Prof. Fin., Hong Kong Univ. Sc. and Tech., Hong Kong, 2000–.

Past Posts Asst Prof. and Assoc. Prof., Arizona State Univ., 1990–97; Vis. Fell., City Univ. Hong Kong, 1994; Assoc. Prof., Hong Kong Univ. Sc. and Tech., 1995–2000; Vis. Prof., Natl Univ. Singapore, 2001, 2002.

Degrees BS Chinese Univ. Hong Kong, 1985; PhD (Fin.) Ohio State Univ., 1990.

Offices and Honours Best Paper Award, APFA/PACAP/FMA Intl Fin. Conf., 2002; PACAP Res. Fell., 1994.

Principal Field of Interest G1 General Financial Markets.

Publications *Articles*: 1. 'Intraday volatility in the stock market and stock index futures market' (with A. Karolyi, K.C. Chan), *Rev. Fin. Stud.*, 4, 1991; 2. 'A further analysis of the lead-lag relationship between the cash market and stock index futures markets', *Rev. Fin. Stud.*, 5, 1992; 3. 'Time varying risk premia and forecastable returns in futures markets' (with H. Bessembinder), *J Fin E*, 32, 1992; 4. 'Price volatility in the Hong Kong Stock Market: a test of the information and trad-

ing noise hypothesis' (with Y.C. Chan), *Pacific Basin Fin. J.*, 1, 1993; 5. 'Index arbitrage, spot and futures price volatility, and spot market volume: a test with intraday transactions data' (with P. Chung), *J Bank Fin*, 17, 1993; 6. 'Imperfect information and cross-autocorrelation among stock prices', *J Fin*, 48, 1993; 7. 'Why option prices lag stock prices: a trading-based explanation' (with P. Chung, H. Johnson), *J Fin*, 48, 1993; 8. 'Intraday bid-ask spread pattern in the stock and option market' (with P. Chung, H. Johnson), *JFQA*, 30, 1995; 9. 'An empirical examination of information, differences of opinion, and trading activity' (with H. Bessembinder, P. Seguin), *J Fin E*, 40, 1996; 10. 'Asian stock market bubbles' (with G. McQueen, S. Thorley), *Pacific Basin Fin. J.*, 6, 1998; 11. 'Market efficiency and the returns to technical analysis' (with H. Bessembinder), *Fin. Mgmt*, 27, 1998; 12. 'Bid-ask spread and arbitrage profitability: a study of the Hong Kong Index Futures and Options Market' (with K. Bae, Y.L. Cheung), *J. Futures Markets*, 18, 1998; 13. 'Profitability of momentum strategies in the international equity markets' (with A. Hameed, W. Tong), *JFQA*, 35, 2000; 14. 'Trade size, order imbalance, and the volatility-volume relation' (with W.M. Fong), *J Fin E*, 57, 2000; 15. 'Depository receipts, country funds, and the peso crash: the intraday evidence' (with W. Bailey, P. Chung), *J Fin*, 55, 2000; 16. 'Limit orders, depth, and volatility' (with H. Ahn, K. Bae), *J Fin*, 56, 2001; 17. 'The informational role of stock and option volume' (with P. Chung, W.M. Fong), *Rev. Fin. Stud.*, 15, 2002; 18. 'What if trading location is different from business location? Evidence from Jardine Group Trading' (with A. Hameed, S.T. Lau), *J Fin*, forthcoming; 19. 'Investability and return volatility in emerging equity markets' (with K. Bae, A. Ng), *J Fin E*, forthcoming; 20. 'Un-

der-pricing and long-term performance of IPOs in China' (with K.C. Wei, J. Wang), *J. Corp. Fin.*, forthcoming.

Principal Contributions My research contributions fall into three categories. The first area is on informational linkages between the derivatives market and the cash market. My research began with a study of the intraday relationship between the stock market and stock index futures market. My first two published papers illustrate that there are strong linkages between the two markets. Furthermore, the linkages between the two markets exist not only in terms of first moment (returns), but also in second moment (volatility). My subsequent studies extend the analysis to the linkages between stock options and underlying stocks and show that stock returns lead option returns more than vice versa. The second area is on market efficiency. Article 6 develops a theoretical model for information sharing across different securities. I show why the stock market index return exhibits positive autocorrelation and why large firms provide more information for small firms more than vice versa. My work with Bessembinder shows that the price movements in the futures market could be explained by changing risk premia, and are not inconsistent with market efficiency. I have also examined the profitability of trading strategies in international financial markets. The third area is on market liquidity. My work with Bessembinder and Seguin shows that volume in stock index futures is more closely associated with market-wide volatility, while volume in individual equities is more closely related to firm-specific volatility. My work with Fong shows that trades of different sizes will affect the volatility differently. I have also examined the determinants of bid-ask spread. My work with Chung and Johnson shows that the intraday bid-ask spread pattern of options differs from un-

derlying stocks. The work with Ahn and Bae finds that the market is self-adjusting in the provision of liquidity, since investors will provide liquidity when the market needs it.

CHAN, Louis K.-C. n.e.

CHARI, V.V. n.e.

CHAVAS, Jean-Paul

Born 1951, Pélussin, France.

Current Post Prof., Dept Agric. and Apl. Econ., Univ. Wisconsin, Madison, WI, USA, 1982–.

Past Posts Instr., Military Acad., Antsirabe, Madagascar, 1972–74; Asst Prof., Dept Agric. Econ., Texas A&M Univ., 1978–82; Cons., USAID project, Tunisia, 1988–91, USAID-World Bank project, Burkina-Faso, 1984–87.

Degrees Ingénieur Agricole, ISARA, Lyon, France, 1972; License ès Sc. Naturelles, Univ. Lyon, France, 1972; MS, PhD Univ. Missouri, 1976, 1978.

Offices and Honours Outstanding PhD Dissertation Award, AA, 1979; Award for Quality of Res. Discovery (Hon. Mention), AA, 1991; Award for Outstanding J. Article, *AJAE*, AA, 1993, Western Agric. Econ. Assoc., 2000; Fell., AA, 1994; Frederick V. Waugh Memorial Lecture, AA, 1994; Dudley Seers Memorial Prize for Outstanding J. Article, *J Dev Stud*, 1996; Disting. Grad. Teaching Award, AA, 1997; Award for Publication of Enduring Quality, AA, 2002.

Editorial Duties Assoc. Ed., *AJAE*, 1987–91, 1994–2000.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; D8 Information and Uncertainty; E3 Prices, Business Fluctuations, and Cycles.

Publications Articles: 1. 'Competitive industry equilibrium under uncertainty and free entry', *EI*, 26, April 1988; 2. 'Acreage decisions under risk: the case of corn and soybeans', *AJAE*, 72, April 1990; 3. 'A non-parametric analysis of productivity: the case of US and Japanese manufacturing', *AER*, 80, June 1990; 4. 'On nonlinear dynamics: the case of the pork cycle', *AJAE*, 73, Aug. 1991; 5. 'Nullity restrictions and comparative static analysis', *IER*, 33, Feb. 1992; 6. 'Market instability and nonlinear dynamics', *AJAE*, 75, Feb. 1993; 7. 'On generalized revealed preference analysis', *QJE*, 108, May 1993; 8. 'On production and investment decisions under sunk cost and temporal uncertainty', *AJAE*, 76, Feb. 1994; 9. 'Equity considerations in economic and policy analysis', *AJAE*, 76, Dec. 1994; 10. 'Economic behavior under uncertainty: a joint analysis of risk preferences and technology', *REStat*, 78, May 1996; 11. 'On nonparametric demand analysis', *Europ ER*, 41, Jan. 1997; 12. 'An analysis of the source and nature of technical change: the case of US agriculture', *REStat*, 79, Aug. 1997; 13. 'Spatial allocation and the shadow pricing of product characteristics', *Agric. Econ.*, 18, Jan. 1998; 14. 'On the economic rationality of market participants: the case of the US pork market', *J. Agric. and Resource Econ.*, 24, July 1999; 15. 'A dynamic analysis of land prices', *AJAE*, 81, Nov. 1999; 16. 'The microeconomics of food security', *Australian J. Agric. Econ.*, 44, March 2000; 17. 'On information and market dynamics: the case of the US beef market', *JEDC*, 24, June 2000; 18. 'On population growth and technological change: selectivity bias in historical analysis', *J. Agric. Econ.*, 51, Sept. 2000; 19. 'On the valuation of uncertainty in welfare analysis', *AJAE*, 84, Feb. 2002; 20. 'On fairness and welfare analysis under uncertainty', *Social Choice and Welfare*, 20, 2002.

Principal Contributions My main contributions to economic analysis have been in the areas of decision-making under risk, the dynamic nature of agricultural markets and decision-making, and non-parametric testing of production and consumption relationships. My early work in the area of risk focussed on producer welfare under risk and risk aversion. It developed producer surplus measures for the case when supply is risk responsive. It also yielded testable hypotheses regarding interactions among expected prices, risk and wealth terms in the analysis of supply response under risk and risk aversion. Several articles have applied theoretical results to the estimation of behavioral equations with risk terms. My work on the role of dynamics in agricultural markets and decision-making has helped better understand economic dynamics. This includes the investigation of nonlinear dynamics and chaos in agricultural markets, with a special focus on animal population dynamics. Also, my research has contributed to the emerging literature that seeks to test economic structure without the constraint of parametric assumptions. This involves the use of nonparametric methods to investigate technical change, to study supply response, and to estimate demand behavior. The analysis has provided new insights on the effects of R&D expenditures on productivity over time. Finally, I have contributed to analyzing the economic implications of sunk costs, information, and intertemporal uncertainty in resource allocation and welfare analysis.

CHEN, Nai-fu

Born 1950, Hong Kong.

Current Posts Prof. Fin., Grad. Sch. Mgmt, Univ. California, Irvine, CA, USA, 1989–; Adjunct Prof., Hong Kong Univ.

Sc. and Tech., Hong Kong, 2001–; Docent, Swedish Sch. Econ. and Bus. Admin., Helsinki, Finland, 1991–.

Past Posts Asst Prof. Fin., Assoc. Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1981–89.

Degrees AB (Maths), PhD (Maths) Univ. California, Berkeley, 1972, 1975; PhD (Fin.) UCLA, 1981.

Editorial Duties Ed., *Intl Rev. Fin.*, 1999–.

Principal Fields of Interests G1 General Financial Markets; E5 Monetary Policy, Central Banking, and the Supply of Money; G2 Financial Institutions and Services.

Publications Articles: 1. 'Exact pricing in linear factor models with finitely many assets: a note' (with J. Ingersoll), *J Fin*, 38, June 1983; 2. 'Some empirical tests of the theory of arbitrage pricing', *J Fin*, 38, Dec. 1983; 3. 'Hedging options' (with H. Johnson), *J Fin E*, 14, 1985; 4. 'An exploratory investigation of the firm size effect' (with K.C. Chan, D. Hsieh), *J Fin E*, 14, 1985; 5. 'Economic forces and the stock market' (with R. Roll, S. Ross), *J Bus*, 59, 1986; 6. 'A comparison of single and multifactor portfolio performance methodologies' (with T. Copeland, D. Mayers), *JFQA*, 22, 1987; 7. 'An unconditional asset pricing test and the role of firm size as an instrumental variable for risk' (with K.C. Chan), *J Fin*, 43, June 1988; 8. 'Changing risk, changing expectations and dividend yield effects' (with B. Grundy, R. Stambaugh), *J Bus*, 63, Jan. 1990; 9. 'Structural and return characteristics of small and large firms' (with K.C. Chan), *J Fin*, 46, Sept. 1991; 10. 'Financial investment opportunities and the macroeconomy', *J Fin*, 46, June 1991; 11. 'Are the discounts on closed-end funds a sentiment index?' (with R. Kan, M. Miller), *J Fin*, 48, June 1993; 12. 'Stock volatility and the levels of the basis and open interest in futures contracts' (with

C. Cuny, R. Haugen), *J Fin*, 50, March 1995; 13. 'Risk and return of value stocks' (with F. Zhang), *J Bus*, 71, 1998; 14. 'An intertemporal currency board' (with A. Chan), *Pacific Econ. Rev.*, 4, 1999; 15. 'The Hong Kong Currency Board during the 1997–8 crisis: problems and solutions', *Intl Rev. Fin.*, 2, 2001.

Principal Contributions Most of my work is related to asset pricings in financial markets and their relation to the real economy. In particular, we (with Richard Roll and Stephen Ross) look at how macroeconomic forces, such as production, inflation and investors' confidence, affect the stock market. As all stocks are subject to those risks, we (with K.C. Chan and Feng Zhang) examine the differences in structural characteristics between small vs. large stocks, value vs. growth stocks that would induce differences in price response to the same set of macroeconomic forces. We determine the risk and return tradeoffs in the market for those risks in accordance with the characteristics. My recent work is related to the stability of hard-fixed exchange rate systems such as currency boards. We (with Merton Miller and Alex Chan) show how the use of irrevocable commitments (irrevocable put options) can stabilize such arrangements – empirically confirmed with the Hong Kong experience during the 1997–98 financial crisis. We also show that integrating a 100 per cent reserve banking system into the exchange rate arrangement can simultaneously stabilize both the domestic financial system and the external value of the currency. With advances in financial engineering, we illustrate the desirability of a 100 per cent reserve universal banking system (100 per cent reserve for transaction accounts; loans and other investments securitized for non-guaranteed deposits while banks holding the residual tranches) over the prevalent fractional reserve banking system.

CHEUNG, Yin-Wong

Born 1957, Macau, China.

Current Post Prof. Econ., Univ. California, Santa Cruz, CA, USA, 1990–.

Past Posts Foreign Exchange Dealer, Bank of Tokyo, Hong Kong, 1980–83.

Degrees BSS Univ. Hong Kong, 1980; MA (Distinction) Univ. Essex, 1984; PhD Univ. Pennsylvania, 1990.

Offices and Honours Lawrence Robbin's Prize in Econ., 1986; Res. Fell., CESifo, Germany, 2000–; Vice-Pres., Chinese Econ. Assoc. in North Amer., 2001, 2002.

Editorial Duties Assoc. Ed., *Multinatl Fin. J.*, 1995–2001, *Apl. Fin. Econ.*, 1999–; Ed. Advisory Council, *Pacific Econ. Rev.*, 1996–; Guest Ed. special issue, *Multinatl Fin. J.*, 2000–; Area Ed., *Multinatl Fin. J.*, 2001–.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; E3 Prices, Business Fluctuations, and Cycles; F3 International Finance.

Publications *Book*: 1. *An Introduction to Financial Options* (with R.Y.H. Liu, W.C. Lo), (U-Press, 1997, in Chinese).

Articles: 1. 'Stock price dynamics and firm size: an empirical investigation' (with L. Ng), *J Fin*, 47, 1992; 2. 'Long memory in foreign exchange rates', *JBES*, 11, 1993; 3. 'Exchange rate risk premiums', *JIMF*, 12, 1993; 4. 'Long-run purchasing power parity during the recent float' (with K.S. Lai), *J Int E*, 34, 1993; 5. 'Finite-sample sizes of Johansen's likelihood ratio tests for cointegration' (with K.S. Lai), *OBES*, 55, 1993; 6. 'On maximum-likelihood estimation of the differencing parameter of fractionally-integrated noise with unknown mean' (with F.X. Diebold), *J Em*, 62, 1994; 7. 'Deterministic, stochastic, and segmented trends in aggregate output: a cross-country analysis' (with M.D. Chinn), *OEP*, 48, 1996; 8. 'A causality-in-variance test and its application

to financial market prices' (with L. Ng), *J Em*, 72, 1996; 9. 'Individual learning in normal form games: some laboratory results' (with D. Friedman), *Games and Econ. Behav.*, 19, 1997; 10. 'Bandwidth selection, prewhitening, and power of the Phillips–Perron test' (with K.S. Lai), *Em. Theory*, 13, 1997; 11. 'International evidence on the stock market and aggregate economic activity' (with L. Ng), *J. Empirical Fin.*, 5, 1998; 12. 'An analysis of German effects on the Austrian business cycle' (with F. Westermann), *WA*, 135, 1999; 13. 'On the purchasing power parity puzzle' (with K.S. Lai), *J Int E*, 52, 2000; 14. 'A survey of market practitioners' views on exchange rate dynamics' (with C.Y.P. Wong), *J Int E*, 51, 2000; 15. 'On cross-country differences in the persistence of real exchange rates' (with K.S. Lai), *J Int E*, 50, 2000; 16. 'Currency traders and exchange rate dynamics: a survey of the US market' (with M.D. Chinn), *JIMF*, 20, 2001; 17. 'Market structure and the persistence of sectoral real exchange rates' (with M.D. Chinn, E. Fujii), *Intl J. Fin. and Econ.*, 6, 2001; 18. 'Hong Kong output dynamics: an empirical analysis', *Pacific Econ. Rev.*, 7, 2002; 19. 'Effects of US inflation on Hong Kong and Singapore' (with J. Yuen), *J Comp E*, 30, 2002.

Principal Contributions I have published articles on a few topics, including econometric theory, exchange rate dynamics, finance, macroeconomics, and learning theory. My typical work is on empirical analysis of economic dynamics. My articles on the finite sample critical values of cointegration and unit root tests allow more accurate data analyses in a wide range of economic applications. I have developed two testing procedures: one tests for fractional cointegration and the other tests for causality in variance. The articles on testing for purchasing power parity contest the view that the parity does not hold, demonstrate the imprec-

ision of a typical real exchange rate persistence measurement, and investigate the sources of persistence. Among other techniques, I applied the fractional integration method to examine exchange rate dynamics. In addition to drawing inferences from existing data, I produced some survey data on foreign exchange markets to investigate some issues in exchange rate economics. In the area of finance, I explored the well-known leverage effect and the interaction between stock prices and their fundamentals. In the area of macroeconomics, I have examined both dynamics of individual country output series and common business cycles between countries. I have also employed laboratory data to compare and evaluate competing theories of learning.

CHIAPPORI, Pierre-André

Born 1955, Monaco.

Current Post Prof. Econ., Univ. Chicago, Chicago, IL, USA, 1997–.

Past Posts Asst Prof., Univ. Paris X, 1979–80; Asst Prof., Univ. Paris I, 1980–84; Maître de Conférences, École Hautes Études en Sc. Sociales, 1985–88; Chargé de Recherches, CNRS, 1988–91; Dir. de Recherche, CNRS, DELTA, Paris, 1991–97.

Degrees MA (Maths) Univ. Paris 7, 1975; DEA (Stats), PhD Univ. Paris I, 1978, 1981.

Offices and Honours Lauréat du Concours général (French, Physics), 1972; Res. Fell., CEPR, 1990–99; Council Mem., Europ. Econ. Assoc., 1992–97; Fell., Em Soc, 1995–; Centre des Hautes Études en Assurance Award, Best book in insurance, 1997; Invited Lect., 1st Mantel Lecture, Latin-Amer. Congress, Em Soc, Buenos Aires, 1998, 8th World Congress, Em Soc, Seattle, 2000, 10th Walras–Pareto Conf., Univ. Lausanne, 2000.

Editorial Duties Panel Mem., *Econ. Pol.*, 1988–90; Assoc. Ed., *Europ ER*, 1989–96, *Recherché Économique*, 1990–96, *Geneva Papers on Risk and Insurance Theory*, 1998–; Co-Ed., *JPE*, 2001–.

Principal Fields of Interest D1 Household Behavior; D8 Information and Uncertainty; D5 General Equilibrium and Disequilibrium.

Publications *Books*: 1. *The Making of Monetary Union: The Microeconomics of Monetary Union* (with C. Mayer, D. Neven, X. Vives), (CEPR, 1991); 2. *Théorie Micro-économique* (with F. Bourguignon, P. Rey), (Fayard, 1992); 3. *Risque et Assurance* (Flammarion, 1997).

Articles: 1. ‘Collective labour supply and welfare’, *JPE*, 100, 1992; 2. ‘Rational random walks’ (with R. Guesnerie), *REStud*, 60, 1993; 3. ‘Incomes and outcomes: a structural model of intra-household allocation (with F. Bourguignon, M. Browning, V. Lechene), *JPE*, 102, 1994; 4. ‘Introducing household production in collective models of labor supply’, *JPE*, 105, 1997; 5. ‘Empirical contract theory: the case of insurance data’ (with B. Salanié), *Europ ER*, 41, 1997; 6. ‘Moral hazard and the demand for physician services: lessons from a French natural experiment’ (with P.Y. Geoffard, F. Durand), *Europ ER*, 41, 1997; 7. ‘A convex Darboux theorem’ (with I. Ekeland), *Annali della Scuola Normale Superiore di Pisa*, 4, 1997; 8. ‘Efficient intra-household allocation: a general characterization and empirical tests’ (with M. Browning), *Em*, 66, 1998; 9. ‘Disaggregation of excess demand functions in incomplete markets’ (with I. Ekeland), *J Math E*, 31, 1999; 10. ‘Aggregation and market demand: an exterior differential calculus viewpoint’ (with I. Ekeland), *Em*, 67, 1999; 11. ‘Early starters versus late beginners’ (with B. Salanié, J. Valentin), *JPE*, 107, 1999; 12. ‘Testing for asymmetric information on insurance markets’ (with B. Salanié), *JPE*, 108,

2000; 13. ‘La modélisation en sciences économiques: l’exemple de la théorie du consommateur’, in J.Y. Grenier, C. Grignon, P.M. Menger (eds), *Le modèle et le récit* (La Maison des Sc. de l’Homme, 2001); 14. ‘Testing contract theory: a survey of some recent work’ (with B. Salanié), in M. Dewatripont, L. Hansen, P. Turnovsky (eds), *Advances in Economics and Econometrics – Theory and Applications*, 8th World Congress (Em Soc Monographs, CUP, 2003); 15. ‘Bertrand and Walras equilibria under moral hazard’ (with A. Bennardo), *JPE*, 111, 2003; 16. ‘Testing mixed strategy equilibria when players are heterogeneous: the case of penalty kicks in soccer’ (with S. Levitt), *AER*, 92, 2003; 17. ‘Moral hazard and dynamic insurance data’ (with J. Abbring, J. Pinquet), *JEEA*, 1, 2003.

Principal Contributions *Multiplicity of equilibria under rational expectations* A key characteristic of intertemporal models in economics is that expectations matter: the future of the system depends in part on what people believe it will be. The basic definition of rational expectations relies upon a ‘self-fulfillingness’ property, whereby behaviour to-day, as based on given (random) beliefs, does confirm *ex post* these beliefs. In many models, however, several self-fulfilling beliefs may co-exist. In several (co-authored) contributions, I characterize situations where such ‘sunspot’ solutions do exist. *Household behaviour* Traditionally, households are modelled as elementary decision units. My work explores an alternative setting, where household members have independent preferences, and make collective decisions that are assumed efficient. I prove that this general framework leads to strong empirical tests that generalize Slutsky symmetry. Also, I show when and how individual consumptions and the decision process can be recovered from household (aggregate) behaviour. Finally, the math-

emational techniques I develop for this purpose can be used to solve several traditional problems (aggregate market demand, etc.). *Insurance theory* Insurance companies currently use very rich data sets, which prove extremely useful for testing the predictions of decision and contract theory. The goal of this research is both to construct more realistic models of insurance contracts under asymmetric information (e.g., with moral hazard and adverse selection), and to develop relevant econometric procedures. One can thus evaluate the actual importance of adverse selection and moral hazard on insurance markets; conversely, these results allow us to improve considerably the efficiency of the companies' premium policies.

CHIB, Siddhartha n.e.

CHICHILNISKY, Graciela n.e.

CHINTAGUNTA, Pradeep Kumar

Born 1963, Salem, India.

Current Post Prof. Marketing, Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1995–.

Past Posts Asst Prof. Marketing, Assoc. Prof. Marketing, Cornell Univ., 1990–95.

Degrees BTech Inst. Tech., Banaras Hindu Univ., India, 1984; Post Grad. Diploma (Mgmt) Indian Inst. Mgmt, Ahmedabad, 1986; PhD (Marketing) Northwestern Univ., 1990.

Offices and Honours Robert Law Prof. Chair, Univ. Chicago, 1997–; Thomas Henry Carroll Ford Foundation Vis. Prof., Harvard Bus. Sch., 2002.

Editorial Duties Ed., *J Bus*, 1995–; Assoc. Ed., *Mgmt Sc.*, 1997–; Area Ed., *Marketing Sc.*, 1998–.

Principal Fields of Interest M3 Marketing and Advertising; C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications Articles: 1. 'Investigating heterogeneity in brand preferences in logit models for panel data' (with D.C. Jain, N.J. Vilcassim), *J. Marketing Res.*, 33, Nov. 1991; 2. 'Estimating a multinomial probit model of brand choice using the method of simulated moments', *Marketing Sc.*, 11, 1992; 3. 'Investigating purchase incidence, brand choice and purchase quantity decisions of households', *Marketing Sc.*, 12, 1993; 4. 'Analyzing household brand choice behavior using a random coefficients logit model' (with D.C. Jain, N.J. Vilcassim), *JBES*, 12, 1994; 5. 'Investigating the effects of marketing variables and unobserved heterogeneity in a multinomial probit model' (with B.E. Honore), *Intl J. Res. Marketing*, 13, 1996; 6. 'A framework for analyzing habits, "hand-of-past", and heterogeneity in dynamic brand choice' (with S. Haldar, R. Roy), *Marketing Sc.*, 15, 1996; 7. 'Empirical analysis of competitive product line pricing decisions: lead, follow or move together' (with V. Kadiyali, N. Vilcassim), *J Bus*, 69, Oct. 1996; 8. 'Do household scanner data provide representative inferences from brand choices: a comparison with store data' (with S. Gupta, D. Wittink, A. Kaul), *J. Marketing Res.*, 33, Nov. 1996; 9. 'Investigating purchase timing behavior in two related product categories' (with S. Haldar), *J. Marketing Res.*, 35, Feb. 1998; 10. 'Product line extensions and competitive market interactions: an empirical analysis' (with V. Kadiyali, N.J. Vilcassim), *J Em*, 89, March/April 1999; 11. 'Investigating dynamic multi-firm market interactions in price and advertising' (with V. Kadiyali, N. Vilcassim), *Mgmt Sc.*, 45, April 1999; 12. 'A Bayesian model to forecast new product perform-

ance in domestic and international markets' (with R. Neelamegham), *Marketing Sc.*, 18, 1999; 13. 'Investigating household state dependence effects across categories' (with A. Ainslie, P.B. Seetharaman), *J. Marketing Res.*, 36, Nov. 1999; 14. 'Power in manufacturer-retailer interactions: an empirical investigation of pricing in a local market' (with V. Kadiyali, N.J. Vilcassim), *Marketing Sc.*, 19, Spring 2000; 15. 'A panel data analysis of household brand choices' (with E. Kyriazidou, J. Perktold), *J Em.*, 103, 2001; 16. 'Endogeneity and heterogeneity in a probit demand model: estimation using aggregate data', *Marketing Sc.*, 20, 2001; 17. 'Investigating category pricing behavior in a retail chain', *J. Marketing Res.*, 39, May 2002; 18. 'Investigating the effects of store brand introduction on retailer demand and pricing behavior' (with A. Bonfrer, I. Song), *Mgmt Sc.*, 48, Oct. 2002; 19. 'Semiparametric estimation of brand choice behavior' (with R. Briesch, R. Matzkin), *JASA*, 97, 2002.

Principal Contributions I am interested in studying demand at the household, store and market levels and using this knowledge to aid better allocation of firms' resources across various instruments such as price, advertising, sales-force dollars, etc. Additionally, I am interested in forecasting the sales of experience goods (movies) and technology products.

CHIRINKO, Robert S.

Born 1953, Coatesville, PA, USA.

Current Posts Prof. Econ., Emory Univ., Atlanta, GA, USA, 1994–; Res. Fell., CESifo, Munich, Germany, 1999–.

Past Posts Asst Prof., Cornell Univ., 1982–85; Natl Fell., Stanford Univ., 1984–85; Asst Prof., Univ. Chicago, 1985–92; Vis. Scholar, FRB, Kansas City, 1992–

96; Vis. Asst Prof., Univ. Illinois, 1993–94.

Degrees BA Univ. Pennsylvania, 1975; MA, PhD Northwestern Univ., 1979, 1982.

Offices and Honours Outstanding Doctoral Dissertation Award (shared with L. Summers), NTA/Tax Inst. Amer., 1982; John Stauffer Natl Fell. Public Pol., Stanford Univ., 1985; James L. Barr Memorial Award, 1983, and best article award, Assoc. Public Pol. Analysis and Mgmt, 1993.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E2 Consumption, Saving, Production, Employment, and Investment; G0 Financial Economics: General.

Publications *Book*: 1. *Econometric Models and Empirical Findings for Business Investment* (Blackwell, 1993).

Articles: 1. 'The real wage rate over the business cycle', *REStat*, 62, Aug. 1980; 2. 'An empirical investigation of the returns to job search', *AER*, 72, June 1982; 3. 'Tax policy and investment in major US macroeconomic econometric models' (with R. Eisner), *J Pub E*, 20, March 1983; 4. 'Tobin's q and financial policy', *JME*, 19, Jan. 1987; 5. 'The ineffectiveness of effective tax rates on business investment: a critique of Feldstein's Fisher-Schultz lecture', *J Pub E*, 32, April 1987; 6. 'Business tax policy, the Lucas critique, and lessons from the 1980s', *AER*, 78, May 1988; 7. 'Altruism, egoism, and the role of social capital in the private provision of public goods', *Econ. and Polit.*, 2, Nov. 1990; 8. 'Buckle-up or slow-down? New estimates of offsetting behavior and the effects of automobile safety regulation' (with E.P. Harper, Jr), *JPAM*, 12, Spring 1993; 9. 'Multiple capital inputs, q , and investment spending', *JEDC*, 17, Sept./Nov. 1993; 10. 'Business fixed investment spending: modeling strategies, empirical results, and policy implications', *JEL*, 31,

Dec. 1993; 11. 'Nonconvexities, labor hoarding, technology shocks, and procyclical productivity: a structural econometric analysis', *J Em*, 66, Jan. 1995; 12. 'Why does liquidity matter in investment equations?' (with H. Schaller), *JMCB*, 27, May 1995; 13. 'Bubbles, fundamentals, and investment: a multiple equation testing strategy' (with H. Schaller), *JME*, 38, Aug. 1996; 14. 'Finance constraints, liquidity, and investment spending: theoretical restrictions and international evidence', *J. Japanese and Intl Econ.*, 11, June 1997; 15. 'How responsive is business capital formation to its user cost? An exploration with micro data' (with S.M. Fazzari, A.P. Meyer), *J Pub E*, 74, Oct. 1999; 16. 'Market power and inflation' (with S.M. Fazzari), *REStat*, 82, Aug. 2000; 17. 'Testing static tradeoff against pecking order models of capital structure: a critical comment' (with A.R. Singha), *J Fin E*, 58, Dec. 2000; 18. 'Business fixed investment and "bubbles": the Japanese case' (with H. Schaller), *AER*, 91, June 2001; 19. 'Corporate taxation, capital formation, and the substitution elasticity between labor and capital', *NTJ*, 55, June 2002.

Principal Contributions My research has focussed extensively on the acquisition of fixed capital by firms, and relies heavily on econometric tools to shed light on various issues. Much of my work quantifies the responsiveness of capital formation to tax and interest rates. Based on a large body of econometric results from a variety of specifications, my research suggests that the response is modest with the price elasticity of capital ranging from 0.25 to 0.40. Several new models of investment spending have been developed and estimated to obtain a better understanding of the decision to invest and the role of financial markets. For example, one framework estimates several different models of investment spending si-

multaneously, and evaluates two questions: do bubbles exist in equity markets and, if so, is investment spending stimulated? A similar framework has been used to understand the sources of procyclical productivity. Some of these new investment models have assessed the delicate relation between finance constraints and investment spending. I have also contributed to the analysis of deposit insurance, the cyclical properties of real wages and price/marginal cost markups, automobile safety regulation, and the quantitative importance of the Lucas Critique. More recent projects use investment data to test hypotheses about corporate governance, and study corporate finance and governance mechanisms using the unique institutional features in Canada, Germany, and the Netherlands.

CHISWICK, Barry Raymond

Born 1942, Brooklyn, NY, USA.

Current Posts Res. Prof. Econ., Head Dept Econ., Disting. Prof., Univ. Illinois, Chicago, IL, USA, 1978–, 1987–, 2002–.

Past Posts Asst Prof., Assoc. Prof., UCLA, 1966–71; Vis. Asst Prof., Univ. Chicago, 1969; Assoc. Prof., Columbia Univ., 1969–71; Res. Analyst, NBER, 1970–73; Assoc. Prof., Prof., Grad. Center, Queens Coll., City Univ., New York, 1971–75; Vis. Res. Econ., Princeton Univ., 1973; Sr Staff Econ., US President's Council Econ. Advisers, 1973–77; Sr Fell., Vis. Scholar, Hoover Inst., Stanford Univ., 1977–78, 1984–85; Olin Vis. Prof., Univ. Chicago, 1986–87, 1998–99; Vis. Prof., Hebrew Univ., 1992, Tel Aviv Univ., 2002.

Degrees BA Brooklyn Coll., NY, 1962; MA, PhD Columbia Univ., 1964, 1967.

Offices and Honours Ford Foundation Doctoral Dissertation Fell., 1964–65; Fell., ASA Natl Council, 1976–77; Mem., Univ. NBER Conference Res. Income and

Wealth, 1978–; Mem., Chair, ASA Census Advisory Comm., 1980–85, 1985; Mem., Natl Comm. Vital and Health Stats, 1981–83; Sr Univ. Scholar Award, Univ. Illinois, 1987; Vice-Pres., Pres.-Elect, Pres., MEA, 1987–88, 1992–93, 1993–94; Carlton C. Qualey Article Award, Immigration Hist. Soc., 1989; Fulbright Fellowship (Res.), 1992; Alumni Award for Disting. Res., Coll. Bus. Admin., Univ. Illinois, Chicago, 1993; ASA/NSF/Census Fellowship Program Rev. Bd, ASA, 1993–; Vis. Scholar, World Bank, 1995–96; Bd Trustees, Pres.-Elect, Pres., Illinois Econ. Assoc., 1997–, 1998–99, 1999–2000; Res. Fell., Inst. Study of Labour (IZA), Bonn, 1998–; Award for Disting. Res., Milken Inst., 2001; Disting. Alumnus Award, Brooklyn Coll., 1999; Exec. Bd, Europ. Soc. Pop. Econ., 1999–; Res. Comm., Natl Assoc. Econ. Educators, 2001–.

Editorial Duties Ed. Bds, *Intl Migration Rev.*, 1983–, *Pop. and Environment*, 1990–, *Contemporary Jewry*, 1992–, *Q. Rev. Econ. and Fin.*, 1994–, *Europ. Res. Stud.*, 1998–, *Res. Econ. of Households*, 2002–; Assoc. Ed. *J. Pop. Econ.*, 1994–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; D1 Household Behavior; I0 Health, Education, and Welfare: General.

Publications *Books*: 1. *Income Inequality: Regional Analyses within a Human Capital Framework* (Columbia Univ. Press, 1974); 2. *Statistics and Econometrics* (with S. Chiswick), (Univ. Park Press, 1975); 3. *Human Resources and Income Distribution: Issues and Policies* (ed. with J. O'Neill), (Norton, 1977); 4. *An Analysis of the Economic Progress and Impact of Immigrants* (NTIS, 1980); 5. *The Employment of Immigrants in the United States* (AEI, 1982); 6. *The Gateway: US Immigration Issues and Policies* (ed.), (AEI, 1982); 7. *The Dilemma of American Immigration: Beyond the Golden*

Door (with P. Cafferty, A. Greeley, T. Sullivan), (Transaction Books, 1983); 8. *Illegal Aliens: Their Employment and Employers* (Upjohn Inst., 1988); 9. *Immigration, Language, and Ethnicity: Canada and the United States* (ed.), (AEI, 1992).

Articles: 1. 'Education and the distribution of earnings' (with G.S. Becker), *AER*, 56, May 1966, repr. in G.S. Becker (ed.), *Human Capital* (Columbia Univ. Press, 1975); 2. 'Earnings inequality and economic development', *QJE*, Feb. 1971; 3. 'Time series changes in income inequality in the United States since 1939, with projections to 1985' (with J. Mincer), *JPE*, 80, pt 2, May–June 1972; 4. 'Racial discrimination in the labor market: a test of alternative hypotheses', *JPE*, 81, Nov.–Dec. 1973, repr. in G. von Furstenberg *et al.*, *Patterns of Racial Discrimination, II, Employment and Income* (D.C. Heath, 1974); 5. 'The demand for nursing home care: an analysis of the substitution between institutional and non-institutional care', *JHR*, 11, Summer 1976; 6. 'The effect of Americanization on the earnings of foreign-born men', *JPE*, 86, Oct. 1978, repr. in O. Ashenfelter, K. Hallock (eds), *Labour Economics* (Edward Elgar, 1995); 7. 'The earnings and human capital of American Jews', *JHR*, 18, Summer 1983; 8. 'Differences in education and earnings across racial and ethnic groups: tastes, discrimination and investments in child quality', *QJE*, 103, Aug. 1988; 9. 'The impact of immigrants on the macroeconomy' (with C. Chiswick, G. Karras), *C-RPP*, 1992; 10. 'The endogeneity between language and earnings: international analyses' (with P.W. Miller), *J Lab E*, 13, April 1995; 11. 'A model of destination language acquisition' (with P.W. Miller), *Demography*, 38, Aug. 2001.

Principal Contributions Research has focussed on the theoretical and empirical analysis of investment in human capital, employment and earnings. Public policy

research complemented by senior staff position on the President's Council of Economic Advisers and consulting for various government agencies, commissions and international organizations. Involved in the development and early application of the 'human capital earnings function', now a standard technique for analyses of earnings. Demonstrated its usefulness for estimating rates of return to schooling and for analyzing income distribution, differences among racial/ethnic groups, and immigrant assimilation. Pioneered empirical research on regional income distribution using a human capital model. Research on the income transfer system, public education policies, discrimination, racial and ethnic minorities, screening, private vs. public schooling, and unemployment compensation. Estimated the first econometric model of the supply and demand for nursing-home care and the first economic model for analyzing optimal hospital size and bed occupancy rates. Pioneered a series of systematic studies on US minorities (Chinese, Japanese, Hispanics and Jews). Pioneered systematic research on the economic adjustment and impact of immigrants. Focus on human capital investment, earnings, employment, occupation and language skills, thereby opening a new field of research for economists. Model based on skill transferability and self-selection shown to be robust for understanding immigrant adjustment. Modeling impact of immigrants on a multifactor economy. The first to model the links among immigrant assimilation, the economic impact of immigration, and explicit and implicit immigration policies. Extensive research on models of the determinants of dominant language proficiency among linguistic minorities and on the endogeneity between language skills and labor market outcomes. Current research focusses on immigrant adjustments and impacts, the economics of language, the

determinants of racial/ethnic group differences in skill and economic outcomes, and the economics of religion.

CHOU, Ray Y. n.e.

CHRISTIANO, Lawrence Joseph

Born 1952, Algiers, Algeria (US citizen since birth).

Current Post Alfred P. Chase Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1992–.

Past Posts Asst Prof. Bus. Econ., Sch. Bus., Univ. Chicago, 1981–85; Vis. Asst Prof. Econ., Carnegie-Mellon Univ., 1984–85; Econ., FRB, Minneapolis, 1985–92.

Degrees BA (Hist. and Econ.), MA Univ. Minnesota, 1973, 1975; MSc (Math. Econ. and Em.) LSE, 1977; PhD Columbia Univ., 1977.

Offices and Honours Mem., NSF Econ. Panel, 1996–98; Fell., Em Soc, 2001.

Editorial Duties Assoc. Ed., *AER*, 1992–95, *REStat*, 1993–96, *JBES*, 1994–, *JEDC*, 1995–, *Rev. Econ. Dynamics*, 1996–, *Macroecon. Dynamics*, 1996–2002, *IER*, 1997–99, *JET*, 2000–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. 'Why does inventory investment fluctuate so much?', *JME*, 21, 1988; 2. 'Money does Granger cause output in the bivariate output money relation' (with L. Ljungqvist), *JME*, 22, Sept. 1988; 3. 'Understanding Japan's saving rate: the reconstruction hypothesis', *FRB Minneapolis Q. Rev.*, 13, Spring 1989; 4. 'Unit roots in real GNP: do we know, and do we care?' (with M. Eichenbaum), *C-RPP*, 32, 1990; 5. 'Opti-

mal fiscal and monetary policy: some recent results' (with V.V. Chari, P. Kehoe), *JMBCB*, 23, 1991, repr. in A. Cukierman, Hercowitz, L. Leiderman (eds), *Business Cycles, Political Economy and Growth* (MIT Press, 1992); 6. 'Modeling the liquidity effect of a monetary shock', *FRB Minneapolis Q. Rev.*, 1991, repr. in R. Fiorito (ed.), *Inventory, Business Cycles and Monetary Transmission, Lecture Notes in Economics and Mathematical Systems 413* (S-V, 1994), and P. Miller (ed.), *The Rational Expectations Revolution, Readings from the Front Line* (MIT Press, 1994); 7. 'Liquidity effects and the monetary transmission mechanism' (with M. Eichenbaum), *AER Papers and Proceedings*, Jan. 1992; 8. 'Searching for a break in GNP', *JBES*, 10, July 1992; 9. 'Current real business cycle theories and aggregate labor market fluctuations' (with M. Eichenbaum), *AER*, 82, 1992; 10. 'The output, employment, and interest rate effects of government consumption' (with S.R. Aiyagari, M. Eichenbaum), *JME*, 34, 1992; 11. 'Optimal fiscal policy in a business cycle model' (with V.V. Chari, P. Kehoe), *JPE*, 102, Aug. 1994; 12. 'Inside money, outside money and short-term interest rates' (with V.V. Chari, M. Eichenbaum), *JMBCB*, 27, 1995; 13. 'Time to plan and aggregate fluctuations' (with R. Todd), *FRB Minneapolis Q. Rev.*, 1996; 14. 'Optimality of the Friedman Rule in economies with distorting taxes' (with V.V. Chari, P. Kehoe), *JME*, 37, 1996; 15. 'Sticky price and limited participation models of money: a comparison' (with M. Eichenbaum, C. Evans), *Europ ER*, 41, 1997; 16. 'Expectation traps and discretion' (with V.V. Chari, M. Eichenbaum), *JET*, 67, 1998; 17. 'Chaos, sunspots and automatic stabilizers' (with S. Harrison), *JME*, 43, 1999; 18. 'Monetary policy shocks: what have we learned and to what end?' (with M. Eichenbaum, C. Evans), in J. Taylor, M. Woodford (eds), *Hand-*

book of Macroeconomics (N-H, 2000); 19. 'Asset pricing lessons for modeling business cycles' (with M. Boldrin, J. Fisher), *AER*, 91, 2001; 20. 'The band pass filter' (with T. Fitzgerald), *IER*, forthcoming.

Principal Contributions Construction of econometrically estimated, general equilibrium models of the business cycle, with special emphasis on the channels of monetary transmission. Development of tools for applied time-series econometrics. Development of the economic theory of optimal monetary and fiscal policy. Analysis of models of monetary policy when policy makers do not have the ability to commit to future policy. Development of methods for approximating the solution to dynamic general equilibrium models.

CHRISTIE, William G. n.e.

CLAESSENS, Stijn

Born 1959, Udenhout, The Netherlands.

Current Post Prof. Intl Fin. Pol., Univ. Amsterdam, Amsterdam, The Netherlands, 2001–.

Past Posts Vis. Asst Prof. Intl Corp. Fin. and Intl Fin. Mgmt, Sch. Bus. Admin., NYU, 1987; Sr Fin. Econ., Fin. and Private Sector Devlp. Div. for Europe, Central Asia, Middle-East and North-Africa Regions, Sr Econ., Debt and Intl Fin. Div., Econ., Debt and Intl Fin. Div., Econ., Chief Econ.'s Office, Fin. Officer, Fin. Operations Dept, World Bank, Washington, DC, 1987–2001; Lead Econ., Fin. Sector Strategy and Pol. Group, Principal Econ. Fin. Econ. Group, Principal Econ. Econ. Pol. Dept, Principal Econ., East-Asia and Pacific Region, Principal Author, World Devlp. Report, 1996.

Degrees Kandidaats (Law), Doctorandus

(Bus. Econ.) Erasmus Univ., 1981, 1984; MS (Bus. Econ.), PhD (Bus. Econ.) Wharton Sch., Univ. Pennsylvania, 1984, 1986.

Offices and Honours Mem., AFA, 1984–; Fell., CEPR, 2001–.

Editorial Duties Ed. Bd, *WBER*, 1999–; Assoc. Ed., *J. Fin. Services Res.*, 1999–.

Principal Fields of Interest F3 International Finance; G0 Financial Economics: General; O1 Economic Development.

Publications *Books*: 1. *Market-Based Debt Reduction: Principles and Prospects* (with I. Diwan, K. Froot, P. Krugman), (World Bank, 1991); 2. *Managing Commodity Price Risk in Developing Countries Using Financial Instruments: Case Studies* (ed. with R. Duncan), (JHUP, 1993); 3. *The Internationalization of Financial Services: Issues and Lessons for Developing Countries* (ed. with M. Jansen), (World Bank and WTO, Kluwer Law Intl, 2000); 4. *International Financial Contagion* (ed. with K. Forbes), (Kluwer Acad., 2001); 5. *Resolution of Financial Distress: An International Perspective on the Design of Bankruptcy Laws* (ed. with S. Djankov, A. Mody), (World Bank Inst. Devlp Stud., 2001).

Articles: 1. ‘The debt Laffer curve: some estimates’, *WD*, 18, 1990; 2. ‘Balance of payments crises in an optimal portfolio model’, *Europ ER*, 35, 1991; 3. ‘The optimal currency composition of external debt: theory and applications to Brazil and Mexico’, *WBER*, 6, 1992; 4. ‘Secondary market prices and Mexico’s Brady Deal’ (with S. van Wijnbergen), *QJE*, 108, Nov. 1993; 5. ‘The emergence of equity investment in developing countries: overview’, *WBER*, 9, Jan. 1995; 6. ‘Deriving developing country repayment capacity from the market prices of sovereign debt’ (with G. Pennacchi), *JFQA*, 31, March 1996; 7. ‘Corporate governance and equity prices: evidence from the Czech and Slovak Re-

publics’, *J Fin*, 52, 1997; 8. ‘Banking reform in transition economies’, *J. Pol. Reform*, 2, 1998; 9. ‘Equity and bond flows to Asia and Latin America; the role of global and country factors’ (with P. Chuhan, N. Mamingi), *JDE*, 55, 1998; 10. ‘Contagion: understanding how it spreads’ (with R. Dornbusch, Y.C. Park), *World Bank Res. Observer*, 15, Aug. 2000; 11. ‘The separation of ownership and control in East Asian corporations’ (with S. Djankov, L. Lang), *J Fin E*, 58, Oct. 2000; 12. ‘How does foreign entry affect domestic banking markets?’ (with A. Demirgüç-Kunt, H. Huizinga), *J Bank Fin*, 25, 2001; 13. ‘Privatization benefits in Eastern Europe’ (with S. Djankov), *J Pub E*, 83, March 2002; 14. ‘Electronic finance: reshaping the financial landscape around the world’ (with T. Glaessner, D. Klingebiel), *J. Fin. Services Res.*, 22, 2002; 15. ‘Disentangling the incentive and entrenchment effects of large shareholdings’ (with S. Djankov, J. Fan, L. Lang), *J Fin*, 57, Dec. 2002.

Principal Contributions My policy and research interests are in external finance and domestic financial sector issues. Specific areas of interest are: asset-liability management and risk management for developing countries; alternative forms of external finance, including portfolio flows; financial sector development and reform in developing countries; internationalization of financial services; corporate governance; and bank and enterprise restructuring in transition economies and developing countries. I have published extensively in these areas and edited several books. My contribution to the field has been the analysis of debt reduction schemes for developing countries in the mid-1980s, initiating work on portfolio flows in the early 1990s, analyzing enterprise and bank restructuring in transition economies in the mid-1990s, and reviewing the process of financial restructuring

in East Asia. In corporate governance, I have drawn attention to the issue of expropriation in weak corporate governance environments and the importance of ownership structures in firm valuation and performance. My principal role at the World Bank was to help governments develop strategies for external debt restructuring and asset-liability management; and to provide advice on financial sector restructuring and reform. I have provided advice and led World Bank missions to Belarus, Brazil, Bulgaria, China, Chile, Colombia, Costa Rica, Hungary, India, Indonesia, South Korea, Kyrgyz Republic, Malaysia, Mexico, Nigeria, Papua New Guinea, the Philippines, Poland, Romania, Russia, Slovakia, Thailand, and Turkey.

CLARK, Andrew Eric

Born 1963, London, UK.

Current Post CNRS Res. Prof., DELTA, Paris, France, 2001–.

Past Posts Vis. Asst Prof., Dartmouth Coll., 1989–91; Sr Res. Officer, Univ. Essex, 1991–93; Vis. Res. Fell., CEPREMAP, 1993–94, DELTA, 1994–95; Cons., OECD, 1995–97; CNRS Res. Officer, CNRS Res. Prof., Univ. Orléans, 1997–2000, 2000–01.

Degrees BA Univ. Warwick, 1985; MSc, PhD LSE, 1986, 1989.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0 Health, Education, and Welfare: General; Z1 Cultural Economics.

Publications *Articles*: 1. ‘Efficient bargains and the McDonald–Solow conjecture’, *J Lab E*, 8, Oct. 1990; 2. ‘Trade union utility functions: a survey of union leaders’ views’ (with A. Oswald), *Ind. Relations*, 32, Fall 1993; 3. ‘Unhappiness and unemployment’ (with A. Oswald), *EJ*, 104, May 1994; 4. ‘Is job satisfaction u-shaped in age?’ (with A. Oswald, P. Warr),

JOOP, 69, Spring 1996; 5. ‘Job satisfaction in Britain’, *BJIR*, 34, June 1996; 6. ‘Satisfaction and comparison income’ (with A. Oswald), *J Pub E*, 61, Sept. 1996; 7. ‘Job satisfaction and gender: why are women so happy at work?’, *Labour Econ.*, 4, Dec. 1997; 8. ‘Comparison-concave utility and following behaviour in social and economic settings’ (with A. Oswald), *J Pub E*, 70, Oct. 1998; 9. ‘Are wages habit-forming? Evidence from micro data’, *JEBE*, 39, June 1999; 10. ‘What really matters in a job? Hedonic measurement using quit data’, *Labour Econ.*, 8, May 2001; 11. ‘Scarring: the psychological impact of past unemployment’ (with Y. Georgellis, P. Sanfey), *Ec*, 68, May 2001; 12. ‘Do health changes affect smoking? Evidence from British panel data’ (with F. Etilé), *JHE*, 21, July 2002; 13. ‘A simple statistical model for measuring how life events affect happiness’ (with A. Oswald), *Intl J. Epidemiology*, 31, Dec. 2002; 14. ‘Re-examining adaptation and the setpoint model of happiness: reaction to changes in marital status’ (with E. Diener, Y. Georgellis, R. Lucas), *J. Personality and Social Psychology*, 84, March 2003; 15. ‘Unemployment as a social norm: psychological evidence from panel data’, *J Lab E*, 21, April 2003.

Principal Contributions My work has largely focused on the interface between psychology, sociology and economics; in particular, I have used job and life satisfaction scores, and other psychological indices, as proxy measures of utility. One research field has been that of relative utility or comparisons (to others like you, to others in the same household, and to yourself in the past). I find evidence of such comparisons with respect to both income and unemployment. This work has spilled over into theoretical and empirical work on evidence for and the implications of following behaviour and learning from others’ actions. My recent work has

involved collaboration with psychologists to map out habituation to life events (such as job loss, marriage, and divorce) using long-run panel data. In addition, direct measures of utility allow us to carry out more direct tests of popular models of the labour market. In this spirit, I have worked on unemployment, quits, efficiency wages, and labour market rents. A current large-scale research project concerns individual well-being and income inequality. Earlier work covered trade-union bargaining theory. I have also written on the economics of drug legalisation. My contribution to jazz guitar remains, sadly, non-existent.

CLARK, Gordon Leslie

Born 1950, Yallourn, Australia.

Current Posts Halford Mackinder Prof. Geography and Fell., Said Bus. Sch., Oxford Univ., Oxford, UK, 1995–, 2000–.

Past Posts Asst Prof., Harvard Univ., 1978–83; Assoc. Prof., Univ. Chicago, 1983–85; Prof., Carnegie-Mellon Univ., 1985–91; Prof., Assoc. Dean, Dean, Monash Univ., 1990–94.

Degrees BEcon, MA Monash Univ., 1973, 1975; PhD McMaster Univ., 1978; MA, DSc Oxford Univ., 1995, 2002.

Offices and Honours Andrew Mellon Fell., NSA, 1981–82; Fell., Acad. Social Sc., Australia, 1993; Disting. Alumni Award, McMaster Univ., 1998; Chancellor's Medal, Univ. California, Santa Barbara, 2000; Academician, Learned Soc. UK, 2000.

Principal Fields of Interest G2 Financial Institutions and Services; R3 Production Analysis and Firm Location.

Publications *Books*: 1. *Regional Dynamics: Studies in Adjustment Theory* (with M. Gertler, J. Whiteman), (Unwin Hyman, 1986); 2. *Unions and Communities Under Siege: American Communities*

and the Crisis of Organized Labor (CUP, 1989); 3. *Pensions and Corporate Restructuring in American Industry: A Crisis of Regulation* (JHUP, 1993); 4. *Asian NIEs in the Global Economy: Corporate Strategy and Industrial Restructuring in the 1990s* (ed. with W.B. Kim), (JHUP, 1995); 5. *Pension Fund Capitalism* (OUP, 2000); 6. *Oxford Handbook of Economic Geography* (ed. with M. Gertler, M. Feldman), (OUP, 2000); 7. *European Pensions and Global Finance* (OUP, 2003).

Articles: 1. 'Capitalism and regional disparities', *Annals, Assoc. Amer. Geographers*, 70, 1980; 2. 'The employment relation and spatial division of labor: a hypothesis', *Annals, Assoc. Amer. Geographers*, 71, 1981; 3. 'Restructuring the US economy: the NLRB, the Saturn Project, and economic justice', *Econ. Geography*, 62, 1986; 4. 'Towards an alternative conception of job search theory and policy: information as an indeterminate process', *Environment and Planning A*, 18, 1986; 5. 'Dimensions of spatial price dispersion before and after the crash of 1929', *Geographical Analysis*, 18, 1986; 6. 'Global interdependence and regional development: business linkages and corporate governance in a world of financial risk', *Transactions, Inst. British Geographers*, NS18, 1993; 7. 'Costs and prices, corporate competitive strategies and regions', *Environment and Planning A*, 25, 1993; 8. 'Strategy and structure: corporate restructuring and the scope and characteristics of sunk costs', *Environment and Planning A*, 26, 1994; 9. 'Sunk costs: a framework for economic geography' (with N. Wrigley), *Transactions, Inst. British Geographers*, NS20, 1995; 10. 'Sunk costs: a framework for economic geography' (with N. Wrigley), *Transactions, Inst. British Geographers*, NS20, 1995; 11. 'Exit, the firm and sunk costs: re-conceptualising the corporate geography of disinvestment and plant closure' (with N.

Wrigley), *Progress in Human Geography*, 21, 1997; 12. 'The spatial configuration of the firm and the management of sunk costs' (with N. Wrigley), *Econ. Geography*, 73, 1997; 13. 'The City of London in the Asian crisis' (with D. Wojcik), *J. Econ. Geography*, 1, 2001.

Principal Contributions I am an economic geographer, with a continuing interest in the long-term structure and performance of urban and regional economic systems. Empirical research has included the US (North America), North East Asia and Europe. My research has sought to integrate measures of regional economic performance with an understanding of the role and significance of institutions (the firm, unions, state regulation) – by implication, my research attributes these institutions great significance in affecting the path and rate of accumulation. With Neil Wrigley, I have developed a theoretical-cum-analytical approach to this issue based upon sunk costs; unlike more conventional treatments of the topic, this approach emphasizes the costs of decision-making where 'exit' is made problematic by virtue of the accumulation in certain places of firm-specific costs and liabilities. Extending these ideas, more recent research has focused on the management and investment of pension fund assets – beginning with the institutions and industrial structure of the related Anglo-American financial services sector and extending the analytical framework to European pensions in the context of global finance. In this work, the analytical focus is empirical and theoretical being concerned with the interaction between nation-state institutional frameworks and the logic driving global financial markets. Here, my theoretical contributions have focused upon investment decision-making, going beyond models of individual risk aversion to the interaction between individuals and their constituent groups thereby

demonstrating the role that institutional heuristics may play in structuring financial decision-making.

CLARK, William Arthur Valentine

Born 1938, Christchurch, New Zealand.

Current Post Prof. Geography and Stats, UCLA, Los Angeles, CA, USA, 1970–.

Past Posts Lect. Geography, Univ. Canterbury, New Zealand, 1965–67; Asst Prof., Assoc. Prof., Univ. Wisconsin, Madison, 1967–70.

Degrees BA (Geography and Hist.), MA (Geography) Univ. New Zealand, 1960, 1961; PhD (Geography) Univ. Illinois, 1964.

Offices and Honours Fulbright Award, 1961; Howard G. Roepke Lecture in Econ. Geography, 1987; Honors Award, Assoc. Amer. Geographers, 1987; Belle Van Zuylen Professorship, Univ. Utrecht, 1989; Doctorate (*hc*), Univ. Utrecht, 1992; Hart Vis. Fellowship, Dept Geography, Univ. Sheffield, 1993; Fellowship-in-Residence, Netherlands Inst. Adv. Stud. in Humanities and Social Sc., 1993; DSc (Hon.), Univ. Auckland, 1994; Guggenheim Fellowship, 1994–95; Hon. Fell., Royal Soc. New Zealand, 1997; Award, Choice Magazine, 1997; Prize from Friends of DIW, 2000.

Editorial Duties Ed. Bds, *Geography and the Urban Environment* (John Wiley), 1978–84, *Annals, Assoc. Amer. Geographers*, 1979–84, *Urban Geography*, 1980–92, *Geographical Analysis*, 1987–95, *Pop. and Environment*, 2000–, *Urban Affairs Rev.*, 2001–; Ed., *Geographical Analysis*, 1984–87; Cons. Ed., *Tijdschrift voor Economische en Sociale Geografie*, 1985–88; Ed. Advisory Bd, *Progress in Human Geography*, 1987–90; Co-Ed. North Amer., *Environment and Planning A*, 1988–98.

Principal Fields of Interest R2 Household Analysis; R3 Production Analysis and Firm Location; R4 Transportation Systems.

Publications *Books*: 1. *Modelling Housing Market Search* (ed.), (Croom Helm, 1982); 2. *Households and Housing: Choice and Outcomes in the Housing Market* (with F. Dieleman), (Rutgers Univ., Center Urban Pol. Res., 1996); 3. *The California Cauldron: Immigration and the Fortunes of Local Communities* (Guilford Press, 1998); 4. *Immigrants and the American Dream: Remaking the Middle Class* (Guilford Press, 2003).

Articles: 1. 'Housing market search behavior and expected utility theory I: measuring preferences for housing' (with T.R. Smith), *Environment and Planning A*, 14, 1982; 2. 'Housing market search behavior and expected utility theory II: process of search' (with T.R. Smith), *Environment and Planning A*, 14, 1982; 3. 'Household location', in P. Nijkamp, E.S. Mills (eds), *Handbook in Regional and Urban Economics*, Vol. II (W. Van Lierop, 1986); 4. 'Household characteristics and tenure choice in the US housing market' (with M.C. Deurloo, F.M. Dieleman), *Netherlands J. Housing and Environmental Res.*, 5, 1990; 5. 'Understanding residential segregation', *Environment and Planning A*, 22, 1990; 6. 'Residential preferences and neighborhood racial segregation: a test of the Schelling segregation model', *Demography*, 28, 1991; 7. 'Comparing cross sectional and longitudinal models of mobility and migration', *Environment and Planning A*, 24, 1992; 8. 'Residential preferences and residential choices in a multi ethnic context', *Demography*, 30, 1992; 9. 'Tenure changes in the context of micro-level family and macro level economic shifts', *Urb Stud*, 31, 1994; 10. 'Tenure choice: cross sectional and longitudinal analyses', *Netherlands J. Housing and Built Environment*,

9, 1994; 11. 'Trends in residential integration by socio-economic status in Southern California', *Urban Affairs Rev.*, 32, 1997; 12. 'The geography of residential turnover in twenty seven large US metropolitan housing markets' (with F.M. Dieleman, M.C. Deurloo), *Urb Stud*, 37, 2000; 13. 'Disentangling the interaction of migration, mobility and labor-force participation', *Environment and Planning A*, 34, 2002; 14. 'Does commuting distance matter? Commuting tolerance and residential change' (with Y. Huang, S. Withers), *RSUE*, 33, 2003.

Principal Contributions The overarching research focus has been on demographic change at both local and metropolitan scales and the links between demographic change and changing housing markets. Within this broad context research has focussed on residential mobility and housing tenure choice (including studies of the impacts of housing change on commuting and labor force participation) and residential segregation. Models of housing search and tenure choice have used demographic variables to predict the probability of becoming an owner and the geographic variations in homeownership. A geographic analysis of residential relocation and commuting has shown that workers are sensitive to residence-work separation and adjust their commute distance when they make residential location changes. A formal model of the response to commuting distances estimates the probability of moving closer to the place of work with greater residence-work separation. Schelling's model of residential preferences has been empirically validated with residential choices in a set of US metropolitan areas and has established the important role of preferences in creating patterns of residential separation in large metropolitan areas in the United States.

CLAYTON, D.G. n.e.

COATE, Stephen Thomas

Born 1957, St Albans, Hertfordshire, England.

Current Post Kiplinger Prof. Public Pol., Dept Econ., Cornell Univ., Ithaca, NY, USA, 1998–.

Past Posts Asst Prof., Kennedy Sch. Govt, Harvard Univ., 1988–90; Asst Prof., Assoc. Prof., Dept Econ., Univ. Pennsylvania, 1990–93, 1997–98; Asst Prof., Dept Public Pol. and Mgmt, Wharton Sch., Univ. Pennsylvania, 1993–97.

Degrees BSc Univ. Coll. Swansea, 1980; MA (Public Pol. and Planning) Univ. Sussex, 1981; PhD Northwestern Univ., 1988.

Editorial Duties Co-Ed., *JPE*, 1997–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; H1 Structure and Scope of Government; D6 Welfare Economics.

Publications *Articles*: 1. ‘Public provision of private goods and the redistribution of income’ (with T. Besley), *AER*, 81, Sept. 1991; 2. ‘Workfare vs. welfare: incentive arguments for work requirements in poverty alleviation programs’ (with T. Besley), *AER*, 82, March 1992; 3. ‘Reciprocity without commitment: characterization and performance of informal risk-sharing arrangements’ (with M. Ravalliori), *JDE*, 40, Feb. 1993; 4. ‘The economics of rotating and savings credit associations’ (with T. Besley, G. Loury), *AER*, 83, Sept. 1993; 5. ‘Will affirmative action policies eliminate negative stereotypes?’ (with G. Loury), *AER*, 83, Dec. 1993; 6. ‘Group lending, repayment incentives and social collateral’ (with T. Besley), *JDE*, 41, Feb. 1995; 7. ‘Altruism, the Samaritan’s dilemma and government transfer policy’, *AER*, 85, March 1995; 8. ‘The design of income mainte-

nance programs’ (with T. Besley), *REStud*, 62, April 1995; 9. ‘On the form of transfers to special interests’ (with S. Morris), *JPE*, 103, Dec. 1995; 10. ‘An economic model of representative democracy’ (with T. Besley), *QJE*, 112, Feb. 1997; 11. ‘Sources of inefficiency in a representative democracy: a dynamic analysis’ (with T. Besley), *AER*, 88, March 1998; 12. ‘An efficiency approach to the evaluation of policy changes’, *EJ*, 110, April 2000.

Principal Contributions My early work primarily focussed on two topics: the design of transfer programs for the poor and disadvantaged and informal credit and insurance institutions. The former body of work yielded insights into how programs can be structured to deal with the various incentive problems that arise with poor support. It also provided insights into the problems of affirmative action programs. The latter body of work improved understanding of the function and performance of various institutions commonly observed in developing countries. My later work focussed on political economy, in particular on understanding why politically determined policies might be inefficient. It yielded a deeper understanding of the sources of ‘political failure’. This strand of work also yielded an alternative theory of electoral competition which has a number of advantages over existing approaches. My current work studies the merits of various political institutions, such as citizen initiatives and elected regulators, and also seeks to provide guidance on the regulation of campaign finance. I have also made a number of conceptual contributions to the theory of policy analysis.

COCHRANE, John H.

Born 1957, Chicago, IL, USA.

Current Post Theodore O. Yntema Prof. Fin., Grad. Sch. Bus., Univ. Chicago, IL, USA, 1994–.

Past Posts Jr Staff Econ. (Macroecon.), US President's Council Econ. Advisers, 1982–83; Asst Prof. Econ., Assoc. Prof. Econ., Univ. Chicago, 1985–90, 1990–94.

Degrees SB (Physics) MIT, 1979; PhD Univ. California, Berkeley, 1986.

Offices and Honours Res. Assoc., NBER, 1994–; Dir., NBER Asset Pricing Program, 1999–.

Editorial Duties Ed., *JPE*, 1998–.

Principal Fields of Interest G0 Financial Economics: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Book*: 1. *Asset Pricing* (Princeton Univ. Press, 2001).

Articles: 1. 'Multivariate estimates of the permanent components in GNP and stock prices' (with A.M. Sbordone), *JEDC*, 12, June/July 1988; 2. 'How big is the random walk in GNP?', *JPE*, 96, Oct. 1988; 3. 'The return of the liquidity effect: a study of the short-run relation between money growth and interest rates', *JBES*, 7, Jan. 1989; 4. 'The sensitivity of tests of the intertemporal allocation of consumption to near-rational alternatives', *AER*, 79, June 1989; 5. 'Production-based asset pricing and the link between stock returns and economic fluctuations', *J Fin*, 46, March 1991; 6 'A critique of the application of unit root tests', *JEDC*, 15, April 1991; 7. 'Volatility tests and efficient markets: a review essay', *JME*, 27, May 1991; 8. 'Explaining the variance of price-dividend ratios', *Rev. Fin. Stud.*, 5, June 1991; 9. 'A simple test of consumption insurance', *JPE*, 99, Oct. 1991; 10. 'Asset pricing explorations for macroeconomics' (with L.P. Hansen), in O. Blanchard, S. Fisher (eds), *NBER Macroecon. Annual*

(MIT Press, 1992); 11. 'Permanent and transitory components of GNP and stock prices', *QJE*, 109, Feb. 1994; 12. 'Shocks', *C-RPP*, 41, Dec. 1994; 13. 'Time-consistent health insurance', *JPE*, 103, June 1995, repr. in A. Tabrrok (ed.), *Entrepreneurial Economics* (OUP, 2002); 14. 'A cross-sectional test of an investment-based asset pricing model', *JPE*, 104, June 1996; 15. 'What do the VARs mean? Measuring the output effects of monetary policy', *JME*, 41, April 1998; 16. 'A frictionless model of US inflation', in B.S. Bernanke, J.J. Rotemberg (eds), *NBER Macroecon. Annual* (MIT Press, 1998); 17. 'By force of habit: a consumption-based explanation of aggregate stock market behavior' (with J.Y. Campbell), *JPE*, 107, April 1999; 18. 'Beyond arbitrage: good deal asset price bounds in incomplete markets' (with J. Saa-Requejo), *JPE*, 108, Feb. 2000; 19. 'Long-term debt and optimal policy in the fiscal theory of the price level', *Em*, 69, Jan. 2001.

Principal Contributions Most of my research concentrates on the intersection between macroeconomics and finance: using financial data to understand the important shocks to the macroeconomy, and understanding the real macroeconomic risks that drive asset prices in financial markets. I have worked on both the consumption (preferences; habit persistence) and the production sides of these questions; on volatility tests, and understanding that they are the same thing as return forecasting regressions; on the question whether economic fluctuations are permanent or transitory and some of the related unit root econometric questions; on estimating and understanding the effects of monetary policy; and lately on the fiscal theory of the price level. I also made brief forays into health economics, characterizing private-sector contracts that would solve the problem that sick people get

dropped from health insurance, and into the monetary and macroeconomics of transitions from socialist to market economies.

COE, David Theodore

Born 1947, Panama City, Panama.

Current Post Asst Dir., Asia and Pacific Dept, and various positions, IMF, Washington, DC, USA, 1988–.

Past Posts Intl Econ., US Treasury, 1972–74; Div. Chief and various positions, Econ. Dept, OECD, France, 1978–88; Lect., Amer. Coll., Paris, 1981–86.

Degrees BSc (High Hons) Univ. Maryland, 1970; MSc LSE, 1971; PhD Univ. Michigan, 1978.

Editorial Duties Assoc. Ed., *OECD Econ. Stud.*, 1985–88.

Principal Fields of Interest O3 Technological Change; O4 Economic Growth and Aggregate Productivity; F1 Trade.

Publications *Book*: 1. *Korean Crisis and Recovery* (ed. with S.-J. Kim), (IMF and Korea Inst. Intl Econ. Pol., 2002).

Articles: 1. ‘A logit analysis of the factor content of West German foreign trade’ (with C. Baum), *WA*, 2, 1978; 2. ‘Nominal wages, the NAIRU and wage flexibility’, *OECD Econ. Stud.*, 5, 1985; 3. ‘Microeconomic changes and macroeconomic wage disinflation in the 1980s’ (with J. Chan-Lee, M. Prywes), *OECD Econ. Stud.*, 8, 1987; 4. ‘Hysteresis effects in aggregate wage equations’, in R. Cross (ed.), *Unemployment, Hysteresis and the Natural Rate Hypothesis* (Blackwell, 1988); 5. ‘Insider–outsider influences on industry wages’, *Empirical Econ.*, 15, 1990; 6. ‘Structural determinants of the natural rate of unemployment in Canada’, *IMF Staff Papers*, 37, 1990; 7. ‘A systems approach to estimating the natural rate of unemployment and potential output for the United States’ (with C. Adams), *IMF Staff Papers*, 37, 1990; 8.

‘Capital and trade as engines of growth in France’ (with R. Moghadam), *IMF Staff Papers*, 40, 1993; 9. ‘International R&D spillovers’ (with E. Helpman), *Europ ER*, 39, 1995; 10. ‘Does the gap model work in Asia?’ (with J. McDermott), *IMF Staff Papers*, 44, 1997; 11. ‘Policy complementarities: the case for fundamental labor market reform’ (with D. Snower), *IMF Staff Papers*, 44, 1997; 12. ‘North–south R&D spillovers’ (with E. Helpman, A. Hoffmaister), *EJ*, 107, 1997; 13. ‘R&D spillovers and global growth’ (with E. Helpman, T. Bayoumi), *J Int E*, 47, 1999; 14. ‘North–south trade: is Africa unusual?’ (with A. Hoffmaister), *J. African Econ.*, 8, 1999; 15. ‘Are there international R&D spillovers among randomly matched trade partners? A response to Keller’ (with A. Hoffmaister), *IMF Working Papers* 99/18, 1999; 16. ‘The missing globalization puzzle’ (with A. Subramanian, N. Tamirisa, R. Bhavnani), *IMF Working Papers*, 171, 2002.

Principal Contributions My research has been primarily empirical and closely related to policy issues. An early paper on wages (article 2), which included a section on ‘Hysteresis in the natural rate’, was one of the first to address empirically the issue of the persistence of unemployment in Europe. A number of papers focussed on structural determinants of the natural rate of unemployment and the issue of labor market reforms. In the paper with D. Snower, we showed that labor market reforms were complementary in the sense that the effect of each reform is greater when implemented in conjunction with other reforms than in isolation. Interest in the natural rate led to a number of papers estimating potential output and total factor productivity as a function of, *inter alia*, the stock of R&D capital (*à la* Griliches). E. Helpman and I extended this internationally by constructing a stock of foreign R&D

capital in order to estimate international R&D spillovers. This paper and subsequent collaborations have stimulated a large literature on international R&D spillovers. Interest in trade, which plays a role in R&D spillovers, has led to a number of recent empirical, non-linear gravity model papers.

COGLEY, Timothy

Born 1958, Chicago, IL, USA.

Current Post Assoc. Prof., Arizona State Univ., Tempe, AZ, USA, 1999–.

Past Posts Asst Prof., Dept Econ., Univ. Washington, 1988–92; Sr Econ., Res. Dept, FRB, San Francisco, 1992–99.

Degrees AB, PhD Univ. California, Berkeley, 1980, 1988.

Editorial Duties Assoc. Ed., *JEDC*, 1995–2000, *Macroecon. Dynamics*, 2003–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications *Articles*: 1. ‘International evidence on the size of the random walk in output’, *JPE*, 98, June 1990; 2. ‘Empirical evidence on nominal wage and price flexibility’, *QJE*, 108, May 1993; 3. ‘Effects of the Hodrick–Prescott filter on trend and difference stationary time series: implications for business cycle research’ (with J. Nason), *JEDC*, 19, Jan.–Feb. 1995; 4. ‘Output dynamics in real business cycle models’ (with J. Nason), *AER*, 85, June 1995; 5. ‘A frequency decomposition of approximation errors in stochastic discount factor models’, *IER*, 42, May 2001; 6. ‘Estimating and testing rational expectations models when the trend specification is uncertain’, *JEDC*, 25, Oct. 2001; 7. ‘A simple adaptive measure of core inflation’, *JMCB*, 33, Feb. 2002; 8. ‘Idiosyncratic risk and the eq-

uity premium: evidence from the consumer expenditure survey’, *JME*, 46, March 2002; 9. ‘Evolving post World War II US inflation dynamics’ (with T.J. Sargent), *NBER Macroecon. Annual*, April 2002.

Principal Contributions I am best known for research on the propagation puzzle in real business cycle models. More recently, I have explored how the law of motion for inflation and other nominal variables has evolved over time.

COLE, Harold Linh

Born 1957, Saigon, Vietnam.

Current Post Prof., UCLA, Los Angeles, CA, USA, 2000–.

Past Posts Asst Prof., Univ. Pennsylvania, 1986–90; Vis. Scholar, IMF, 1990; Sr Econ., FRB, Minneapolis, 1990–2000; Adjunct Prof., Univ. Minnesota, 1992–2000.

Degrees BA Bates Coll., 1979; PhD Univ. Rochester, 1986.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F3 International Finance; N1 Macroeconomics and Monetary Economics; Growth and Fluctuations.

Publications *Articles*: 1. ‘Financial structure and international trade’, *IER*, 29, May 1988; 2. ‘Commodity trade and international risk sharing: how much do financial markets matter’ (with M. Obstfeld), *JME*, 28, 1991; 3. ‘Social norms, savings behavior and growth’ (with G. Mailath, A. Postlewaite), *JPE*, 100, Dec. 1992; 4. ‘Default, settlement, and signalling, lending resumption in a reputational model of sovereign debt’ (with J. Dow, W. English), *IER*, 36, May 1995; 5. ‘The role of institutions in reputation models of sovereign debt’ (with P. Kehoe), *JME*, 35, 1995; 6. ‘A self-fulfilling model of Mexico’s 1994–95 debt crisis’ (with T.

Kehoe), *J Int E*, 41, Nov. 1996; 7. 'Valuation equilibria with clubs' (with E. Prescott), *JET*, 74, May 1997; 8. 'Models of sovereign debt: partial vs. general reputations' (with P. Kehoe), *IER*, 39, Feb. 1998; 9. 'The Great Depression in the United States from a neoclassical perspective' (with L. Ohanian), *FRB Minneapolis Q. Rev.*, Winter 1999; 10. 'Can the Mortensen–Pissarides matching model match the business cycle facts?' (with R. Rogerson), *IER*, 40, 1999; 11. 'Self-fulfilling debt crises' (with T. Kehoe), *REStud*, 67, 2000; 12. 'Efficient allocations with hidden income and hidden storage' (with N. Kocherlakota), *REStud*, 68, July 2001; 13. 'Re-examining the contributions of money and banking shocks to the US Great Depression' (with L. Ohanian), *NBER Macroecon. Annual*, 2000; 14. 'Investment and concern with relative position' (with G. Mailath, A. Postlewaite), *Rev. Econ. Design*, 6, 2002; 15. 'The US and UK Great Depressions though the lens of neoclassical growth theory' (with L. Ohanian), *AER*, 92, May 2002.

Principal Contributions n.e.

COLLIER, Paul n.e.

COMMENT, Robert

Born 1953, Detroit, MI, USA.

Current Post Principal, Analysis Group/Econ., Washington, DC, USA, 2001–.

Past Posts Econ., US Securities and Exchange Commission, 1984–85, 1993–96; Asst Prof. Fin., Stern Grad. Sch. Mgmt, NYU, 1985–88; Assoc. Dir., Bradley Pol. Res. Center, Simon Grad. Sch. Bus., Univ. Rochester, 1988–93; Vice-Pres., Analysis Group/Econ., Washington, DC, 1997–2001.

Degrees BGS, MBA, PhD Univ. Michigan, 1977, 1981, 1985.

Principal Fields of Interest G0 Financial Economics: General; C1 Econometric and Statistical Methods: General; K2 Regulation and Business Law.

Publications Articles: 1. 'Two-tier tender offers: the imprisonment of the free-riding shareholder' (with G. Jarrell), *J Fin E*, 19, Feb. 1988; 2. 'Signaling with stock buybacks: Dutch auctions and post-crash repurchase programs' (with G. Jarrell), *J Fin*, 46, Sept. 1991; 3. 'Corporate focus and stock returns' (with G. Jarrell), *J Fin E*, 37, Jan. 1995; 4. 'Poison or placebo? Evidence on the deterrent and wealth effects of modern antitakeover measures' (with G.W. Schwert), *J Fin E*, 39, Sept. 1995.

Principal Contributions n.e.

CONSTANTINIDES, George M.

Born 1947, Nicosia, Cyprus.

Current Post Leo Melamed Prof. Fin., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1983–.

Past Posts Asst Prof., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1974–79; Ford Foundation Vis. Asst Prof., Assoc. Prof., Grad. Sch. Bus., Univ. Chicago; 1978–79, 1979–83; Marvin Bower Fell., Grad. Sch. Bus., Harvard Univ., 1985–86.

Degrees BA, MA (Physics) Oxford Univ., 1970, 1974; MBA, DBA Indiana Univ., 1972, 1975.

Offices and Honours Dir., Vice-Pres., Pres.-Elect, Pres., AFA, 1984–86 and 2002, 1999, 2000, 2001, 2002; Vice-Pres., Pres., Soc. Fin. Stud., 1988–90, 1990–93; Mem., Interim Governing Bd, Univ. Cyprus, 1989–95; Res. Assoc., NBER, 1989–; Dir., Western Fin. Assoc., 1989–91; Acad. Alumni Fellows Award, Indiana Univ., 1994; Mem., Fin. Econ. Roundtable, 1998–2000; Hon. Degree,

Univ. Piraeus, 1999; Dir./Trustee, DFA family of funds and trusts, 1983–.

Editorial Duties Assoc. Ed., *J Fin*, 1983–2000, *JFQA*, 1984–90, *Math. Fin.*, 1990–2001, *Rev. Fin. Stud.*, 1990–93, *Ekonomia*, 1990–, *Rev. Derivatives Res.*, 1996–, *Europ. Fin. Rev.*, 1996–, *Intl J. Theoretical and Apl. Fin.*, 1997–, *Multinatl Fin. J.*, 1997–, *Intl Rev. Fin.*, 2000–, *Quant. Fin.*, 2001–, *Intl J. Fin. Educ.*, 2002–; Advisory Ed., Elsevier/N-H *Handbooks in Finance* series, 2001–.

Principal Fields of Interest G1 General Financial Markets; D0 Microeconomics: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Theory of Valuation: Frontiers of Modern Financial Theory*, Vol. 1 (with S. Bhattacharya), (Rowman & Littlefield, 1989); 2. *Financial Markets and Incomplete Information: Frontiers of Modern Financial Theory*, Vol. 2 (with S. Bhattacharya), (Rowman & Littlefield, 1989); 3. *Options Markets: Equity Options Markets: Foundations and Pricing*, Vol. I, *The International Library of Critical Writings in Financial Economics* series, 6 (with A.G. Malliaris), (Edward Elgar, 2001); 4. *Options Markets: Interest Rate Derivatives, Exotics, Real Options and Empirical Evidence*, Vol. II, *The International Library of Critical Writings in Financial Economics*, series, 6 (with A.G. Malliaris), (Edward Elgar, 2001); 5. *Options Markets: American Options, Numerical Methods and Risk Management*, Vol. III, *The International Library of Critical Writings in Financial Economics* series, 6 (with A.G. Malliaris), (Edward Elgar, 2001); 6. *Handbook of the Economics of Finance* (with M. Harris, R. Stulz), *Economics* series (Elsevier/N-H, 2003).

Articles: 1. ‘Intertemporal asset pricing with heterogeneous consumers and without demand aggregation’, *J Bus*, 55, April 1982; 2. ‘Capital market equilib-

rium with personal tax’, *Em*, 51, May 1983; 3. ‘Capital market equilibrium with transaction costs’, *JPE*, 94, Aug. 1986; 4. ‘Habit formation: a resolution of the equity premium puzzle’, *JPE*, 98, June 1990; 5. ‘Habit persistence and durability in aggregate consumption: empirical tests’ (with W.E. Ferson), *J Fin E*, 29, Oct. 1991; 6. ‘Asset pricing with heterogeneous consumers’ (with D. Duffie), *JPE*, 104, 1996; 7. ‘Junior can’t borrow: a new perspective on the equity premium puzzle’ (with J.B. Donaldson, R. Mehra), *QJE*, 117, Feb. 2002; 8. ‘Asset pricing with heterogeneous consumers and limited participation: empirical evidence’ (with A. Brav, C. Geczy), *JPE*, 110, Aug. 2002; 9. ‘Rational asset prices’, *J Fin*, 57, Aug. 2002.

Principal Contributions Theoretical and empirical study of the prices and returns of financial assets and derivatives in incomplete markets (incomplete consumption insurance) and imperfect markets (transaction costs, taxes, borrowing constraints). Notably, I have addressed the causes of the historically observed premium of equity returns over bond returns. I have also addressed the pricing and hedging of fixed-income securities, options, futures and other derivatives and the effects of transaction costs and taxes on the pricing and hedging of derivatives and on portfolio management.

COOK, R. Dennis n.e.

COOKE, William Nelson

Born 1948, East Alton, IL, USA.

Current Posts Prof., Dir., D.A. Fraser Center for Workplace Issues, Coll. Urban, Labor and Metropolitan Affairs, Wayne State Univ., Detroit, MI, USA, 1990–, 1998–.

Past Posts Asst Prof., Assoc. Prof., Sch.

Bus. Admin., Univ. Maine, 1977–80, 1980–81; Vis. Scholar, Inst. Ind. Relations, Univ. California, Berkeley, 1979–80; Vis. Fell., Sch. Ind. and Labor Relations, Cornell Univ., 1980–81; Assoc. Prof., Chairman, Ind. Relations, Sch. Mgmt, Purdue Univ., 1981–83; Assoc. Prof., Sch. Bus. Co-Dir., Joint Labor–Mgmt Relations Center, Univ. Michigan, 1983–90, 1987–90.

Degrees BS Eastern Illinois Univ., 1970; MA (Labor and Ind. Relations), PhD (Labor and Ind. Relations) Univ. Illinois, 1973, 1977.

Editorial Duties Ed. Bds, *Human Resource Mgmt*, 1983–90, *Ind. Relations*, 1984–91, *Employee Rights and Responsibilities*, 1987–93, *Employee Relations J.*, 2000–.

Principal Fields of Interests F2 International Factor Movements and International Business; J3 Wages, Compensation, and Labor Costs; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications *Books*: 1. *Union Organizing and Public Policy: Failure to Secure First Contracts* (Upjohn, 1985); 2. *Labor–Management Cooperation* (Upjohn, 1990); 3. *Multinational Companies and Global Human Resource Strategies* (ed.), (Greenwood, 2003).

Articles: 1. ‘Political bias in NLRB unfair labor practice decisions’ (with G. Gautschi), *ILRR*, 35, July 1982; 2. ‘Determinants of the outcomes of union certification elections’, *ILRR*, 36, April 1983; 3. ‘The decline in union success in NLRB representation elections’ (with R. Seeber), *Ind. Relations*, 22, Winter 1983; 4. ‘Failure to negotiate first contracts: determinants and policy implications’, *ILRR*, 38, Jan. 1985; 5. ‘The rising toll of discrimination against union activists’, *Ind. Relations*, 24, Fall 1985; 6. ‘Economic and political factors in the resolution of formal grievances’ (with D. Meyer), *Ind. Re-*

lations, 27, Fall 1988; 7. ‘Improving productivity and quality through collaboration’, *Ind. Relations*, 28, Spring 1989; 8. ‘Structural and market predictors of corporate labor relations strategies’ (with D. Meyer), *ILRR*, 43, Jan. 1990; 9. ‘Factors influencing the effect of joint union–management programs on employee–supervisor relations’, *ILRR*, 43, July 1990; 10. ‘Product quality improvement through employee participation: the effects of unionization and joint union–management administration’, *ILRR*, 46, Oct. 1992; 11. ‘US labor relations in transition: strategic activities and company performance’ (with D. Meyer), *BJIR*, 31, Dec. 1993; 12. ‘Employee participation programs, group-based incentives, and company performance: a union–nonunion comparison’, *ILRR*, 46, July 1994; 13. ‘Determinants of NLRB decision making revisited’ (with A. Mishra, G. Sprietzer, M. Tschirhart), *ILRR*, 48, Jan. 1995; 14. ‘The influence of industrial relations factors on US foreign direct investment abroad’, *ILRR*, 50, Oct. 1997; 15. ‘Industrial relations systems and US foreign direct investment abroad’ (with D. Noble), *BJIR*, 36, Dec. 1998; 16. ‘The effects of labour costs and workplace constraints on foreign direct investment among highly industrialized countries’, *Intl J. Human Resource Mgmt*, 12, Aug. 2001; 17. ‘Union avoidance and foreign direct investment in the USA’, *Employee Relations*, 23, 2001.

Principal Contributions Most of my work has focussed on understanding four general issues in labor relations. First, my earliest work focussed on union representation, namely, on the contextual and behavioral determinants of union certification election outcomes and of first-contract negotiation outcomes. These contributions were the first of their kind to provide theoretical and econometric analyses of employee cost–benefit voting behavior in the case of election outcomes

and of relative power in the case of first-contract negotiation outcomes. Second, in two studies (with G. Gautschi and A. Mishra, G. Sprietzer and M. Tschirhart), we demonstrated the salient effects of political appointment biases and small-group dynamics on the decision-making behavior of individual members of the NLRB regarding the regulatory resolution of unfair labor practice disputes between employers and unions. These studies provided the first such theoretical and empirical inquiries of the regulatory behavior of NLRB members. Third, my work has focussed on the effects of union-management cooperation and related employee participation and group-based pay incentives on firm-level performance. Based on a broader, original theoretical model of the dynamics of absolute, relative, and total organizational power in union and nonunion firms, this line of my research has helped to sort out the conditions under which firms either enjoy positive collective voice effects or suffer negative union restriction effects on performance. Fourth, and most recently, my research has focussed on the influence of different national industrial relations systems factors on multinational company foreign direct investment (FDI) decision-making. Providing the first such analytical and empirical analyses regarding FDI, this work has demonstrated the perceived negative influence of restrictive workplace regulations, union representation, and centralized collective bargaining structures on the distribution of FDI across highly developed and developing countries.

COOLEY, Thomas Ferguson

Born 1943, Rutland, VT, USA.

Current Post Paganelli-Bull Prof. Econ., Stern Sch. Bus., NYU, New York City, NY, USA, 1999–.

Past Posts Asst Prof. Econ., Tufts Univ., 1970–76; Prof. Econ., Univ. California, Santa Barbara, 1980–87; Prof. Econ., Univ. Rochester, 1987–2000; Dir., Bradley Pol. Res. Center, William E. Simon Grad. Sch. Bus., Univ. Rochester, 1995–2000; Prof. Econ., Univ. Pennsylvania, 1995–97.

Degrees BS Rensselaer Polytech. Inst., 1965; MA, PhD Univ. Pennsylvania, 1967, 1971.

Offices and Honours Doctorem (*hc*) Stockholm Sch. Econ., 1987; Fell., Em Soc, 1997–; Pres., Soc. Econ. Dynamics, 2000–.

Editorial Duties Assoc. Ed., *AER*, 1981–85, *JME*, 1989–97; Coordinating Ed., *Rev. Econ. Dynamics*, 1999–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; C1 Econometric and Statistical Methods: General; H0 Public Economics: General.

Publications Book: 1. *Frontiers of Business Cycle Research* (Princeton Univ. Press, 1995).

Articles: 1. ‘Estimation in the presence of stochastic parameter variation’ (with E.C. Prescott), *Em*, 44, Jan. 1976; 2. ‘Identification and estimation of money demand’ (with S. LeRoy), *AER*, 71, 1981; 3. ‘A theoretical macroeconomics: a critique’ (with S. LeRoy), *JME*, 16, Nov. 1985; 4. ‘The inflation tax in a real business cycle model’ (with G. Hansen), *AER*, 79, Sept. 1989; 5. ‘Asymptotic likelihood based prediction functions’ (with W. Parke), *Em*, 58, Sept. 1990; 6. ‘The cyclical behavior of prices’ (with L. Ohanian), *JME*, 23, Aug. 1991; 7. ‘Tax distortions in a neoclassical monetary economy’ (with G. Hansen), *JET*, 58, Dec. 1992; 8. ‘Employment and hours over the business cycle’ (with J. Cho), *JEDC*, 18, 1994; 9. ‘The business cycle with nominal contracts’ (with J. Cho), *ET*, 6, 1995; 10. ‘Post-war British economic growth and the legacy of Keynes’ (with L. Ohanian),

JPE, 105, 1997; 11. 'The replacement problem' (with J. Greenwood, M. Yorokoglu), *JME*, 40, 1997; 12. 'Business cycle analysis without much theory: a look at structural VARs' (with M. Dwyer), *J Em*, 83, 1998; 13. 'Asymmetric information, financial intermediation and the business cycle' (with K. Nam), *ET*, 12, 1998; 14. 'A positive theory of social security based on reputation' (with J. Soares), *JPE*, 107, 1999; 15. 'Privatizing social security' (with J. Soares), *Rev. Econ. Dynamics*, 3, 1999; 16. 'A neoclassical model of the Phillips curve relation' (with V. Quadrini), *JME*, 4, 1999; 17. 'The cost of losing monetary independence: the case of Mexico' (with V. Quadrini), *JMCB*, 33, May 2000; 18. 'Financial markets and firm dynamics' (with V. Quadrini), *AER*, 91, 2001.

Principal Contributions The development and application of quantitative dynamic general equilibrium theory to problems in macroeconomics with particular emphasis on business cycles, monetary theory, public finance, political economy and economic growth.

COOPER, Joseph

Born 1933, Boston, MA, USA.

Current Post Prof. Polit. Sc., Johns Hopkins Univ., Baltimore, MD, USA, 1991–.

Past Posts Prof. Polit. Sc., Dean Social Sc., Rice Univ., 1970–91, 1979–88; Staff Dir., Commission Admin. Rev., US House of Representatives, 1976–78; Pres., Rice Inst. Pol. Analysis, 1981–91; John M. Olin Vis. Prof., Stanford Grad. Sch. Bus., 1988; Provost, Johns Hopkins Univ., 1991–96.

Degrees BA (Govt, *scl*), MA (Polit. Sc.), PhD (Polit. Sc.) Harvard Univ., 1955, 1959, 1961.

Offices and Honours Brookings Res. Fell., 1959; Natl Endowment for Humani-

ties Sr Fellowship, 1973; Pres., Southwestern Polit. Sc. Assoc., 1978; Secretary, Amer. Polit. Sc. Assoc., 1979; Program Chair, Amer. Polit. Sc. Assoc. Annual Meeting, 1985; *Congressional Q.* Press Award, 1989; Bd Dirs, Dirksen Congressional Center, 1994–2000, 2002–; Mem., US Advisory Comm. on Records of Congress, 1995–; Pres., Natl Capital Area Polit. Sc. Assoc., 1996; Old Gold and Sable Award (Johns Hopkins Class of 1996).

Editorial Duties Co-Ed., *Sage Yearbook on Electoral Studies*, 1975–82; Bd Eds, *Congress and the Presidency*, 1982–, *Legislative Stud. Q.*, 1987–90, 2001–; Assoc. Ed., *Carlson Hist. of Congress* series, 1988–90, *Encyclopedia of Legislative Systems*, 1990–93; Ed. Advisory Bd, *Congress Project*, Center for Legislative Archives, 2002.

Principal Fields of Interest H1 Structure and Scope of Government; B5 Current Heterodox Approaches; K4 Legal Procedure, the Legal System, and Illegal Behavior.

Publications Books: 1. *The Origins of the Standing Committees and the Development of the Modern House* (Rice Univ. Press, 1970); 2. *The House at Work* (ed. with G.C. Mackenzie), (Texas Univ. Press, 1981); 3. *Congress and its Committees* (Garland, 1988); 4. *Congress and the Decline of Public Trust* (ed.), (Westview, 1999).

Articles: 1. 'The legislative veto and the constitution' (with A. Cooper), *George Washington Law Rev.*, 30, March 1962; 2. 'The previous question: its status as a precedent for cloture', *US Senate Documents*, 104, 87th Congress, 1962; 3. 'Jeffersonian attitudes toward executive leadership and committee development in the House of Representatives', *Western Polit. Q.*, 18, March 1965; 4. 'Presidential leadership and policy success' (with G. Bombardier), *J. Polit.*, 30, Nov. 1968; 5. 'Berger: Con-

gress vs. the Supreme Court', *Harvard Law Rev.*, 85, Jan. 1972; 6. 'Congress in organizational perspective', in *Congress Reconsidered* (Praeger, 1977); 7. 'The decline of party in the US House' (with D. Brady, P. Hurley), *Legislative Stud. Q.*, 4, Aug. 1979; 8. 'Institutional context and leadership style' (with D. Brady), *Amer. Polit. Sc. Rev.*, 75, June 1981; 9. 'Toward a diachronic analysis of Congress' (with D. Brady), *Amer. Polit. Sc. Rev.*, 75, Dec. 1981; 10. 'Assessing legislative performance', *Congress and the Presidency*, 13, Spring 1986; 11. 'Theory and practice of OMB review of agency rules' (with W. West), *J. Polit.*, 50, Nov. 1988; 12. 'Bill introduction in the 19th Century House: a study of institutional change' (with C. Young), *Legislative Stud. Q.*, 13, Feb. 1989; 13. 'Legislative influence v. Presidential dominance' (with W. West), *Polit. Sc. Q.*, 104, Winter 1990; 14. 'The Twentieth-Century Congress', in *Congress Reconsidered* (Congressional Q. Press, 2001); 15. 'Party and preference in congressional decision making', in *New Directions in Studying the History of the US Congress* (Stanford, 2002); 16. 'Stability in parliamentary regimes' (with R. Pelizzo), *Legislative Stud. Q.*, 27, May 2002.

Principal Contributions Much of my work concerns the contextual determinants of the structure of political institutions and political behavior in such institutions. As such, it has important implications for conditioning rational choice accounts of the origins and operation of majority rule institutions as well as political behavior in such institutions. While recognizing the importance of self-interest and utility maximization, I have emphasized the impacts of institutional setting and norms as well as of mixed motivations in explaining the evolution of congressional rules and procedures, the committee system, voting behavior, and leadership style. I

have also been concerned with the broader distributions of task, power, and authority among the Congress, the President, and bureaucratic agencies, micro and macro causes of change in the structure of these relationships, and consequences of change for representative government in the United States.

COOPER, Russell W. n.e.

CORCORAN, Mary n.e.

CORNWELL, Christopher M.

Born 1959, Charlotte, NC, USA.

Current Post Prof. Econ., Dept Econ., Terry Coll. Bus., Univ. Georgia, Athens, GA, USA, 2002–.

Past Posts Asst Prof., Dept Econ., West Virginia Univ., 1985–88; Asst Prof., Assoc. Prof., Dept Econ., Univ. Georgia, 1988–94, 1994–2002; Vis. Assoc. Prof., Lehrstuhl für Statistik und Ökonometrie, Univ. Erlangen-Nürnberg, Germany, 1994; Vis. Lect., Dept Em., Monash Univ., Australia, 1995, Inst. Admin. des Entreprises, Univ. Jean Moulin-Lyon 3, France, 1996; Vis. Scholar, FRB, Cleveland, 1997–98; Vis. Prof., Central Europ. Univ., Budapest, Hungary, 2002.

Degrees BA (*scl*) Univ. North Carolina, Chapel Hill, 1981; PhD Michigan State Univ., 1985.

Editorial Duties Ed. Bd, *J. Real Estate Fin. and Econ.*, 1991–94.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; J0 Labor and Demographic Economics: General; I2 Education.

Publications *Book*: 1. *Pensions and Productivity* (with S. Dorsey, D. MacPherson), (Kalamazoo/Upjohn Inst., 1998).

- Articles:* 1. 'Efficient estimation with panel data: an empirical comparison of instrumental variables estimators' (with P. Rupert), *JAE*, 3, 1988; 2. 'Production frontiers with cross-sectional and time-series variation in efficiency levels' (with P. Schmidt, R. Sickles), *J Em*, 46, 1990, repr. in G.S. Maddala (ed.), *The Econometrics of Panel Data*, Vol. 2 (Edward Elgar, 1993); 3. 'Opportunistic behavior by firms in implicit pension contracts' (with S. Dorsey, N. Mehrzad), *JHR*, 26, 1991; 4. 'Models for which the MLE and the conditional MLE coincide' (with P. Schmidt), *Empirical Econ.*, 17, 1991; 5. 'Simultaneous equations and panel data' (with P. Schmidt, D. Wyhowski), *J Em*, 51, 1992; 6. 'Measuring technical efficiency with panel data: a dual approach' (with S. Atkinson), *J Em*, 59, 1993; 7. 'Estimating output and input technical efficiency using a flexible functional form and panel data' (with S. Atkinson), *IER*, 35, 1994; 8. 'Parametric estimation of technical and allocative inefficiency with panel data' (with S. Atkinson), *IER*, 35, 1994; 9. 'Women and minorities in Federal government agencies: examining new evidence from panel data' (with E. Kellough), *Public Admin. Rev.*, 54, 1994; 10. 'Estimating the economic model of crime with panel data' (with W. Trumbull), *REStat*, 76, 1994, repr. in R. Wassmer (ed.), *Readings in Urban Economics: Issues and Public Policy* (Blackwell, 1999); 11. 'External financing, liquidity and capital expenditures: evidence from panel data' (with W. Beranek, S. Choi), *J. Fin. Res.*, 28, 1995; 12. 'Marriage and wages' (with P. Rupert), *ER*, FRB, Cleveland, 4, 1995; 13. 'Production frontiers and efficiency measurement' (with P. Schmidt), in L. Mátyás, P. Sevestre (eds), *The Econometrics of Panel Data* (Kluwer Acad., 1996); 14. 'Unobservable individual effects, marital status and the earnings of young men' (with P. Rupert), *EI*, 35, 1997;
15. 'Using profit and cost frontiers to estimate price and technical inefficiency: a parametric approach with panel data' (with S. Atkinson), *SEJ*, 64, 1998; 16. 'Estimating radial measures of productivity growth: frontier vs non-frontier approaches' (with S. Atkinson), *J. Productivity Analysis*, 10, 1998; 17. 'Survey response-related biases in contingent valuation: concepts, remedies and empirical application' (with M. Messonnier, J. Bergstrom, R. Teasley, H. Cordell) *AJAE*, 82, 2000; 18. 'Measuring productivity change using a malmquist index: stochastic distance function estimation vs data envelopment analysis' (with S. Atkinson, O. Honerkamp), *JBES*, 21, April 2003.

Principal Contributions Broadly speaking, my primary contributions fall into the areas of applied econometrics and labour economics. My econometric research has focused on the estimation of panel-data models. The 1990 *Journal of Econometrics* paper derived estimators for correlated random-effects models with heterogeneous slopes, applying the procedures to a production frontier with time-varying, firm-specific efficiency levels. A comprehensive treatment of simultaneous equations models with unobserved effects was published in the *Journal of Econometrics* (1992). My 1994 *Review of Economics and Statistics* paper was the first to apply panel-data methods to estimate the economic model of crime. My work with Atkinson in the *Journal of Econometrics*, *International Economic Review* and the *Journal of Business and Economic Statistics* has provided solutions to several important problems in the parametric estimation of firm-specific efficiency and productivity with panel data. In labour economics, I have been concerned with the effects of implicit pension contracts (*Journal of Human Resources*, 1991 and my Upjohn monograph with Dorsey and MacPherson); the relationship between

marriage and wages (my 1997 *Economic Inquiry* paper); and more recently, the role of merit-based financial aid on college attendance and the stratification of college enrolments by income and race.

COX, Donald

Born 1954, Lawrence, MA, USA.

Current Post Prof. Econ., Boston Coll., Chestnut Hill, MA, USA, 1995–.

Past Posts Econ., FRB, New York, 1980–81; Asst Prof., Assoc. Prof., Boston Coll., 1981–87, 1987–94.

Degrees BS Boston Coll., 1975; PhD Brown Univ., 1980.

Offices and Honours Natl Fell., Hoover Inst., Stanford Univ., 1984–85; Cons., World Bank, 1986–; Social Sc. and Pop. Study Section, NIH, 1997–2004.

Principal Fields of Interest D1 Household Behavior; J0 Labor and Demographic Economics: General; O1 Economic Development.

Publications Articles: 1. 'Inequality in the lifetime earnings of women', *REStat*, 64, Aug. 1982; 2. 'Panel estimates of the effects of career interruptions on the earnings of women', *EI*, 22, June 1984; 3. 'Interfamily transfers and income redistribution' (with F. Raines), in M. David, T. Smeeding (eds), *Horizontal Equity, Uncertainty and Economic Well-Being* (UCP, 1985); 4. 'Motives for private income transfers', *JPE*, 95, June 1987; 5. 'Male–female wage discrimination in nineteenth-century France' (with J. Nye), *JEH*, 49, Dec. 1989; 6. 'Intergenerational transfers and liquidity constraints', *QJE*, 105, Feb. 1990; 7. 'Social objectives through private transfers: a review' (with E. Jimenez), *World Bank Res. Observer*, 5, July 1990; 8. 'Credit rationing and private transfers: evidence from survey data' (with T. Jappelli), *REStat*, 72, Aug. 1990; 9. 'The relative effectiveness of private

and public schools: evidence from two developing countries' (with E. Jimenez), *JDE*, 34, Nov. 1990; 10. 'Social security and private transfers in Peru' (with E. Jimenez), *WBER*, 6, Jan. 1992; 11. 'Inter vivos transfers and intergenerational exchange' (with M. Rank), *REStat*, 74, May 1992; 12. 'The effects of borrowing constraints on consumer liabilities' (with T. Jappelli), *JMCEB*, 25, May 1993; 13. 'Private transfers and the effectiveness of public income redistribution in the Philippines' (with E. Jimenez), in D. van de Walle, K. Nead (eds), *Public Spending and the Poor: Theory and Evidence* (JHUP, 1995); 14. 'The connection between public transfers and private inter-family transfers' (with G. Jakubson), *J Pub E*, 57, May 1995; 15. 'Family safety nets and economic transition: a study of worker households in Poland' (with E. Jimenez, W. Okrasa), *RIW*, 43, June 1997; 16. 'Motives for private transfers over the life-cycle: an analytical framework and evidence for Peru' (with Z. Eser, E. Jimenez), *JDE*, 55, Feb. 1998; 17. 'Risk sharing and private transfers: what about urban households?' (with E. Jimenez), *EDCC*, 46, April 1998; 18. 'Private inter-household transfers in Vietnam in the early and late 1990s', in P. Glewwe, N. Agrawal, D. Dollar (eds), *Economic Growth, Poverty and Household Welfare: Policy Lessons from Vietnam* (World Bank, 2002); 19. 'How do people make gifts and bequests within the family? Mothers, fathers, sons and daughters', in A. Munnell, A. Sunden (eds), *Death and Dollars: The Role of Gifts and Bequests in America* (Brookings Inst. Press, forthcoming 2003); 20. 'Intergenerational linkages in consumption behavior' (with S. Ng, A. Waldkirch), *JHR*, forthcoming 2004.

Principal Contributions My main contributions have been in the area of intergenerational transfers. Some questions I have investigated include: 'Why do par-

ents give money to their adult children?' and 'Why do children provide support and care for their parents?'. I distinguish between underlying motives for private transfers, such as altruistic feelings or exchange motives, and purposes of transfers, such as the alleviation of borrowing constraints. I have found, in US data, little evidence for the altruistic motive for private transfers; the evidence tends instead to favor the exchange motive. I also find that private transfers appear to be targeted toward liquidity-constrained consumers. Part of the reason why there could be little evidence for altruistic transfers in the United States might be that public transfers have already crowded out many of them. For this reason I turned to evidence from developing countries, where public safety nets are often smaller and less widespread. I have found stronger evidence for the 'crowding out' of private transfers by public ones in developing countries. More recently I have become interested in the relationship between biology and economics in family behavior. My recent work distinguishes between sisters and brothers and between mothers and fathers when investigating underlying motivations for private transfers. I have also started to depart from the now standard 'altruism/exchange' dichotomy to explore alternative motives for private transfers, including motivations that involve imitative behavior and those that encompass the nastier side of human nature. I have also carried out work on the earnings of women, public/private differences in educational outcomes, borrowing and consumption, and intergenerational correlations in consumption.

COX, Thomas L. n.e.

CRAFTS, Nicholas Francis Robert

Born 1949, Nottingham, England.

Current Post Prof. Econ. Hist., LSE, London, UK, 1995–.

Past Posts Lect., Exeter Univ., 1971–72; Lect., Prof., Warwick Univ., 1972–77, 1988–95; Vis. Asst Prof., Univ. California, Berkeley, 1974–76; Fell., Univ. Coll., Oxford Univ., 1977–86; Prof., Leeds Univ., 1986–88.

Degree BA Cambridge Univ., 1970.

Offices and Honours Fell., BA, 1992; Hon. Prof., Warwick Univ., 1995.

Editorial Duties Ed., *EHR*, 1999–.

Principal Fields of Interest N1 Macroeconomics and Monetary Economics; Growth and Fluctuations; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *British Economic Growth during the Industrial Revolution* (Clarendon Press, 1985); 2. *Britain's Relative Economic Performance, 1870–1999* (IEA, 2002).

Articles: 1. 'English economic growth in the eighteenth century: a re-examination of Deane and Cole's estimates', *Explor. in Econ. Hist.*, 29, May 1976; 2. 'Industrial revolution in England and France: some thoughts on the question "why was England first?"', *EHR*, 30, Aug. 1977; 3. 'Enclosure and labor supply revisited', *Explor. in Econ. Hist.*, 15, April 1978; 4. 'National income estimates and the British standard of living debate: a reappraisal of 1801–31', *Explor. in Econ. Hist.*, 17, April 1980; 5. 'British economic growth, 1700–1831: a review of the evidence', *EHR*, 36, May 1983; 6. 'Some evidence of insider knowledge in horserace betting in Britain', *Ec*, 52, Aug. 1985; 7. 'Comparative advantage in UK manufacturing trade, 1910–1935' (with M. Thomas), *EJ*, 96, Sept. 1986; 8. 'Long-term unemployment in Britain in the 1930s', *EHR*, 40, Aug. 1987; 9. 'Trends and cycles in British industrial production, 1700–1913' (with S. Leybourne,

T. Mills), *JRSS*, 152, Jan. 1989; 10. 'Britain's productivity gap in the 1930s: some neglected factors' (with S. Broadberry), *JEH*, 52, Sept. 1992; 11. 'Output growth and the British industrial revolution; a restatement of the Crafts-Harley view' (with K. Harley), *EHR*, 45, Nov. 1992; 12. 'The golden age of economic growth in western Europe, 1950-73', *EHR*, 48, Aug. 1995; 13. 'Exogenous or endogenous growth? The industrial revolution reconsidered', *JEH*, 55, Dec. 1995; 14. 'British economic policy and industrial performance in the early postwar period' (with S. Broadberry), *Bus. Hist.*, 38, Jan. 1996; 15. 'Forging ahead and falling behind: the rise and relative economic decline of the first industrial nation', *JEP*, 12, Spring 1998; 16. 'Economic growth in the twentieth century', *OREP*, 15, Winter 1999; 17. 'Simulating the two views of the first industrial revolution' (with K. Harley), *JEH*, 60, Sept. 2000; 18. 'A perspective on UK productivity performance' (with M. O'Mahony), *Fiscal Stud.*, 22, Sept. 2001.

Principal Contributions My most important work has involved reinterpreting the British industrial revolution. This has involved both revising estimates of economic growth and rethinking the economics of the growth process. This has shown that growth during the industrial revolution was much slower than was previously believed and that productivity improvement was centred on a few sectors rather than pervasive. Some of this research has been conducted with C.K. Harley and T.C. Mills. More recently, partly in joint work with S.N. Broadberry, I have re-examined Britain's post-World War II relative economic decline and have offered an explanation based on the incentive structures facing managers of firms and politicians which stresses the importance of an absence of competition and over-commitment to full employment during the early postwar period.

CRAMTON, Peter C.

Born 1957, Chicago, IL, USA.

Current Post Prof. Econ., Univ. Maryland, College Park, MD, USA, 1996-.

Past Posts Asst Prof. Decision Theory, Assoc. Prof. Econ. and Mgmt, Yale Sch. Mgmt, Yale Univ., 1984-88, 1988-93; Natl Fell., Hoover Inst., Stanford Univ., 1992-93; Assoc. Prof. Econ., Univ. Maryland, 1993-95.

Degrees BS (Eng.) Cornell Univ., 1980; PhD (Bus.) Stanford Univ., 1984.

Offices and Honours Outstanding Sr, OR Faculty, 1980; Stanford Merit Fellowship, 1981-83; Dean's Award for Service to Stanford Univ., 1983-84; Leonard J. Savage Thesis Award, outstanding dissertation in Bayesian Econ., 1984.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty; D0 Microeconomics: General.

Publications *Articles*: 1. 'Bargaining with incomplete information: an infinite-horizon model with continuous uncertainty', *REStud*, 51, 1984; 2. 'Dissolving a partnership efficiently' (with R. Gibbons, P. Klemperer), *Em*, 55, 1987; 3. 'Cartel enforcement with uncertainty about costs' (with T. Palfrey), *IER*, 31, 1990; 4. 'Using auction theory to inform takeover regulation' (with A. Schwartz), *JLEO*, 7, 1991; 5. 'Dynamic bargaining with transaction costs', *Mgmt Sc.*, 37, 1991; 6. 'Strategic delay in bargaining with two-sided uncertainty', *REStud*, 59, 1992; 7. 'Strikes and holdouts in wage bargaining: theory and data' (with J. Tracy), *AER*, 82, 1992; 8. 'Wage bargaining with time-varying threats' (with J. Tracy), *J Lab E*, 12, 1994; 9. 'Ratifiable mechanisms: learning from disagreement' (with T. Palfrey), *Games and Econ Behav.*, 10, 1995; 10. 'Money out of thin air: the nationwide narrowband PCS auction', *JEMS*, 4, 1995; 11. 'The FCC spectrum

auctions: an early assessment', *JEMS*, 6, 1997; 12. 'Synergies in wireless telephony: evidence from the broadband PCS auctions' (with L. Ausubel, R. McAfee, J. McMillan), *JEMS*, 6, 1997; 13. 'Ascending auctions', *Europ ER*, 42, May 1998; 14. 'Efficient relocation of spectrum incumbents' (with E. Kwerel, J. Williams), *J Law E*, 41, Oct. 1998; 15. 'The use of strike replacements in union contract negotiations: the US experience 1980–1989' (with J. Tracy), *J Lab E*, 16, 1998; 16. 'The effect of collective bargaining legislation on strikes and wages' (with M. Gunderson, J. Tracy), *REStat*, 81, 1999; 17. 'Collusive bidding: lessons from the FCC spectrum auctions' (with J. Schwartz), *J. Regulatory Econ.*, 17, May 2000; 18. 'Uniform pricing or pay-as-bid pricing: a dilemma for California and beyond' (with A. Kahn, R. Porter, R. Tabor), *Electricity J.*, 70, July 2001; 19. 'Bargaining with incomplete information' (with L. Ausubel, R. Deneckere), in R. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. 3 (Elsevier Sc., 2002); 20. 'Spectrum auctions', in M. Cave, S. Majumdar, I. Vogelsang (eds), *Handbook of Telecommunications Economics* (Elsevier Sc., 2002).

Principal Contributions Since 1993, my main focus has been in the emerging area of market design. The goal of this area is to improve the efficiency of markets through the effective design of the trading process. The area has blossomed in recent years as the result of two complementary forces: advances in information technology and communication – largely enabled by the Internet, and the deregulation of major industries (telecommunications, electricity, gas, and transportation). The main task in this research is to understand how market design impacts market outcomes. The work produces fundamental theory, and yet is intensely practical – a combination rarely

seen in academics. The central focus of my work has been in extending auction theory to the sale or purchase of multiple items. Interestingly, prior to the mid-1990s auction theory focussed almost entirely on the sale of a single good (with a few very notable exceptions by William Vickrey and Robert Wilson). This is remarkable, given that auctions almost always involve the sale of multiple items. The work demonstrates that although many of the insights from single-item auction theory carry forward, there are fundamental new issues when auctioning many items. My work extends the theory and then applies it in many settings, such as the government sale of spectrum licenses, the design of wholesale electricity markets, and the development of emission trading schemes. Most of my early work was in bargaining. I sought to explain the important role that time and information played in determining bargain outcomes. The work is both theoretical and empirical. The main application of the work is to union contract negotiations. My recent work demonstrates the impact of collective bargaining legislation, strike replacements, and employee stock ownership plans (ESOPs) on bargaining outcomes.

CRAWFORD, Vincent P.

Born 1950, Springfield, OH, USA.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 1985–.

Past Posts Asst Prof., Assoc. Prof., Chairman, Dept Econ., Univ. California, San Diego, 1976–81, 1981–85, 1994–97; Vis. Scholar, Harvard Univ., 1982–83; Vis. Prof. Econ. and Vis. Res. Assoc., Ind. Relations Section, Princeton Univ., 1985–86; Vis. Fell., ANU, 1988; Mem., Econ. Program Summer Study Group, Santa Fe Inst., 1990; Erskine Fell., Univ. Canter-

bury, New Zealand, 1991; Vis. Prof., École des Hautes Études en Sc. Sociales, Paris, 1998.

Degrees AB Princeton Univ., 1972; PhD MIT, 1976.

Offices and Honours Grad. (*scl*), Princeton Univ., 1972; North Amer. Standing Comm., Em Soc, 1979–81; Dissertation published in *Outstanding Dissertations in Economics* series (Garland, 1983); Fell., Em Soc, 1990; Invited lecture series, 6th Jerusalem Summer Sch. in Econ. Theory, Inst. Adv. Stud., Hebrew Univ., 1995; Invited Symposium Address, Em Soc 7th World Congress, Tokyo, 1995; Keynote speech, Canadian Theory Group Conf. on Adv. in Econ. Theory and Game Theory, Vancouver, 1996; Keynote speech, 2nd Intl Conf. Apl. of Dynamic Models to Econ., Nat. Central Univ., Chung-Li, Taiwan, 1996; Invited lecture series, Inst. Econ., Academia Sinica (Chinese Acad. Sc.), Taipei, Taiwan, 1996; Mem., US NSF Econ. Advisory Panel, 1996–98; Invited lecture, Workshop X, 'Evolution and Econ.', Int. School Econ. Res., Univ. Sienna, July 1997; Guggenheim Fellowship, 1997–98; Mem., US NSF, Office Sc. and Tech. Infrastructure, Special Emphasis Panel for Sc. and Tech. Centers: Integrative Partnerships Preproposal Competition, 1998; Plenary lecture, 4th Annual French Meeting Experimental Econ., École Normale Supérieure de Cachan, 1998; Exec. Bd, California Social Sc. Experimental Lab., UCLA and California Inst. Tech., 1999–; Game Theory Soc., Program Organizer for Econ., Mgmt, Experimentation, and Evolution, GAMES 2000: 1st World Congress Game Theory Soc., Bilbao, Spain, 2000; Invited lecture, GAMES 2000: 1st World Congress Game Theory Soc., Bilbao, 2000; Elected Mem., Council Game Theory Soc., 2001–; Elected Overseas Fell., Churchill Coll., Cambridge, 2001; Mem., Chair, Nominating Comm. for Fells, Em Soc, 2001, 2002.

Editorial Duties Assoc. Ed., *JET*, 1986–96, 1998–, *JEBO*, 2001–; Ed. Bd, *Games and Econ. Behav.*, 1988–; Guest Ed., *Games and Econ. Behav.*, special issues on 'Adaptive dynamics', 1993, *JET* symposium on 'Experimental game theory', 2002.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *Essays in Economic Theory* (Garland, 1983); 2. *International Lending, Long-Term Credit Relationships, and Dynamic Contract Theory*, Princeton Study in Intl Fin., No. 59 (Princeton Univ. Press, 1987).

Articles: 1. 'Learning the optimal strategy in a zero-sum game', *Em*, 42, Sept. 1974; 2. 'A game of fair division', *REStud*, 44, June 1977; 3. 'A procedure for generating Pareto-efficient egalitarian-equivalent allocations', *Em*, 47, Jan. 1979; 4. 'On compulsory-arbitration schemes', *JPE*, 87, Feb. 1979; 5. 'A theory of disagreement in bargaining', *Em*, 50, May 1982, repr. in K. Binmore, P. Dasgupta (eds), *The Economics of Bargaining* (Blackwell, 1987); 6. 'Strategic information transmission' (with J. Sobel), *Em*, 50, Nov. 1982; 7. 'Job matching, coalition formation, and gross substitutes' (with A.S. Kelso, Jr), *Em*, 50, Nov. 1982; 8. 'Efficient and durable decision rules: a reformulation', *Em*, 53, July 1985; 9. 'The role of arbitration and the theory of incentives', in A. Roth (ed.), *Game-Theoretic Models of Bargaining* (CUP, 1985); 10. 'Long-term relationships governed by short-term contracts', *AER*, 78, June 1988; 11. 'Learning and mixed-strategy equilibria in evolutionary games', *J. Theoretical Biology*, 140, Oct. 1989, repr. in C. Bicchieri, R. Jeffrey, B. Skyrms (eds), *The Dynamics of Norms* (CUP, 1996); 12. 'Equilibrium without independence', *JET*, 50, Feb. 1990; 13. 'Learning how to cooperate:

optimal play in repeated coordination games' (with H. Haller), *Em*, 58, May 1990; 14. 'An "evolutionary" interpretation of Van Huyck, Battalio, and Beil's experimental results on coordination', *Games and Econ. Behav.*, 3, Feb. 1991; 15. 'Adaptive dynamics in coordination games', *Em*, 63, Jan. 1995; 16. 'Theory and experiment in the analysis of strategic interaction', in D. Kreps, K. Wallis (eds), *Advances in Economics and Econometrics: Theory and Applications*, 7th World Congress (CUP, 1997), repr. in C. Camerer, G. Loewenstein, M. Rabin (eds), *Readings in Behavioral Economics* (forthcoming 2002); 17. 'What price coordination? The efficiency-enhancing effect of auctioning the right to play' (with B. Broseta), *AER*, 88, March 1998; 18. 'Cognition and behavior in normal-form games: an experimental study' (with M. Costa-Gomes, B. Broseta), *Em*, 69, Sept. 2001.

Principal Contributions Early work (articles 1–4, 8–9) considered adaptive learning in games, bargaining and arbitration, implementation, and mechanism design. Article 5 proposed a coordination-with-commitment explanation of bargaining impasses, in the spirit of Schelling's *The Strategy of Conflict*. Article 6 studied strategic communication when one privately informed player has an opportunity to send a message with no direct payoff implications ('cheap talk') to another, who then makes a decision that affects the welfare of both. If preferences do not diverge too much there are informative equilibria, in which the sender introduces intentional vagueness into his message. Article 7 developed models of two-sided matching in markets where transactions are indivisible and heterogeneous; it studied competitive equilibrium/core allocations and the extent to which they can be decentralized using procedures like ascending-bid auctions. Article 10 studied investment

incentives and efficiency in a long-term relationship that is governed by a series of short-term contracts, identifying conditions under which short-term contracting leads to inefficient investment. Article 11 investigates conditions in which the impossibility of convergence to a mixed-strategy equilibrium for adaptive learning (article 1) extends to 'evolutionary' models. Article 12 studied the existence and comparative statics of mixed-strategy equilibria when preferences need not satisfy the independence axiom. Article 13 characterized optimal strategies in repeated coordination games. Articles 14–17 interpret the results of game experiments and analyze the emergence of coordinating conventions in history-dependent learning processes with strategic uncertainty. Article 18 reports experiments designed to study *strategic sophistication*, the extent to which behavior in games reflects attempts to predict others' decisions, taking incentives into account, in normal-form games with various patterns of iterated dominance. The design allows subjects to search for hidden payoff information, and subjects' deviations from the search patterns suggested by equilibrium analysis help to predict their deviations from equilibrium decisions.

CREEL, Michael D. n.e.

CREMER, Helmuth n.e.

CROCKER, Keith John

Born 1954, Medina, OH, USA.

Current Posts William Elliot Prof. Insurance and Risk Mgmt, Pennsylvania State Univ., Univ. Park, PA, 2003–.

Past Posts Asst Prof. Econ., Univ. Virginia, 1980–86; Assoc. Prof., Prof. Econ.,

Pennsylvania State Univ., 1986–95, 1995–96; Waldo O. Hildebrand Prof. Risk Mgmt and Insurance, Prof. Bus. Econ. and Public Pol., Prof. Maths., Univ. Michigan Bus. Sch., Ann Arbor, MI, USA, 1996–2003.

Degrees BA Washington and Lee Univ., 1976; MS, PhD Carnegie-Mellon Univ., 1978, 1981.

Editorial Duties Ed. Bd, *J. Regulatory E.*, 1989–2002; Assoc. Ed., *J. Risk and Insurance*, 1995–; Co-Ed., *Geneva Papers on Risk and Insurance Theory*, 2000–.

Principal Fields of Interest D8 Information and Uncertainty; L1 Market Structure, Firm Strategy, and Market Performance; L2 Firm Objectives, Organization, and Behavior.

Publications *Articles*: 1. ‘Vertical integration and the strategic use of private information’, *Bell JE*, 14, Spring 1983; 2. ‘The efficiency of competitive equilibria in insurance markets with asymmetric information’ (with A. Snow), *J Pub E*, 26, 1985; 3. ‘A simple tax structure for competitive equilibrium and redistribution in insurance markets with asymmetric information’ (with A. Snow), *SEJ*, 51, April 1985; 4. ‘Efficient adaptation in long-term contracts: take or pay provisions for natural gas’ (with S. Masten), *AER*, 75, Dec. 1985; 5. ‘The efficiency effects of categorical discrimination in the insurance industry’ (with A. Snow), *JPE*, 94, April 1986; 6. ‘Mitigating contractual hazards: unilateral options and contract length’ (with S. Masten), *RandJE*, 19, Autumn 1988; 7. ‘Smoking, skydiving and knitting; the endogenous categorization of risks in insurance markets with asymmetric information’ (with E. Bond), *JPE*, 99, Feb. 1991; 8. ‘Pretia ex machina? Prices and process in long-term contracts’ (with S. Masten), *J Law E*, 34, April 1991; 9. ‘The social value of hidden information in adverse selection economies’ (with A. Snow), *J Pub E*, 48, Aug. 1992; 10. ‘The efficiency of incomplete contracts: an em-

pirical analysis of air force engine procurement’ (with K. Reynolds), *RandJE*, 24, Spring 1993; 11. ‘What do facilitating practices facilitate? An empirical investigation of most-favored nation clauses in natural gas contracts’ (with T. Lyon), *J Law E*, 37, Oct. 1994; 12. ‘Divisionalization, franchising, and divestiture incentives in oligopoly’ (with M. Baye, J. Ju), *AER*, 86, March 1996; 13. ‘Hardball and the soft touch: the economics of optimal insurance contracts with costly state verification and endogenous monitoring costs’ (with E. Bond), *J Pub E*, 63, Jan. 1997; 14. ‘Is honesty the best policy? Curtailing insurance fraud through optimal incentive contracts’ (with J. Morgan), *JPE*, 106, April 1998; 15. ‘Insurance fraud and optimal claims settlement strategies’ (with S. Tennyson), *J Law E*, 45, Oct. 2002.

Principal Contributions Most of my work has been concentrated in two areas: empirical analyses of contract design, and the role of private information in insurance markets. With respect to the former, my work has considered the role of various provisions in long-term contracts – including unilateral options, duration, price adjustment, and meeting-the-competition clauses – in minimizing the transaction costs of effecting exchange. With respect to the latter, my interest has been with the functioning of insurance markets in the presence of asymmetric information, and the role of risk classification tools to mitigate the potential for market failure. More recently, I have examined models of costly state falsification and claims fraud in insurance settings.

CROPPER, Maureen L.

Born 1949, Jersey City, NJ, USA.

Current Posts Principal Econ., Pol. Res. Dept, World Bank, Washington, DC,

USA, 1993–; Prof. Econ., Univ. Maryland, MD, 1992–; Univ. Fell., Resources for the Future, Washington, DC, 1996–.

Past Posts Asst Prof., Univ. California, Riverside, 1973–78; Asst Prof., Univ. Southern California, 1978–80; Asst Prof., Assoc. Prof., Univ. Maryland, 1980–82, 1982–92; Univ. Fell., Resources for the Future, 1987–90; Vis. Prof., Duke Univ. Law Sch., 1993.

Degrees BA Bryn Mawr Coll., 1969; MA, PhD Cornell Univ., 1972, 1973.

Offices and Honours Gilbert F. White Fellowship, Resources for the Future, 1986–87; Treasurer, Pres., Assoc. Environmental and Resource Econ., 1989–93, 1995–96; Mem., NSF Panel, Human Dimensions of Global Change, 1990–91, EPA Panel, Socio-Econ. Res., 1992, Vis. Comm., Cornell Center for Environment, 1992–, EPA Sc. Advisory Bd, 1994–, Comm. on Status of Women in Econ. Profession, 1995–97.

Editorial Duties Assoc. Ed., Ed. Council, *JEEM*, 1991, 1989–90 and 1993–95; Ed. Council, *Resource and Energy Econ.*, 1998–.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics; General; R1 General Regional Economics; I1 Health.

Publications *Articles*: 1. ‘Regulating activities with catastrophic environmental effects’, *JEEM*, 3, 1976; 2. ‘Health, investment in health, and occupational choice’, *JPE*, 85, 1977; 3. ‘Measuring benefits from reduced morbidity’, *AER Papers and Proceedings*, 71, 1981; 4. ‘On the choice of functional form for hedonic price functions’ (with L.B. Deck, K.E. McConnell), *REStat*, 70, 1988; 5. ‘Valuing future risks to life’ (with F.G. Sussman), *JEEM*, 19, 1990; 6. ‘The determinants of pesticide regulation: a statistical analysis of EPA decisionmaking’ (with W.N. Evans, S.J. Berardi, M.M. Ducla-Soares, P.R. Portney), *JPE*, 100,

1992; 7. ‘Environmental economics: a survey’ (with W.E. Oates), *JEL*, 30, 1992; 8. ‘The estimation of consumer preferences for attributes: a comparison of hedonic and discrete choice approaches’ (with L. Deck, N. Kishor, T. McConnell), *REStat*, 75, 1993; 9. ‘Preferences for life-saving programs: how the public discounts time and age’ (with S.K. Aydede, P.R. Portney), *JRU*, 8, 1994; 10. ‘When is a life too costly to save? Evidence from US environmental regulations’ (with G. Van Hontven), *JEEM*, 30, 1996.

Principal Contributions Although some of my early work dealt with the extraction of exhaustible and renewable resources, most of my research has focused on three areas: valuing health benefits, estimating hedonic models and studies of US environmental policy. The work on valuing health benefits includes examining the effects of age and latency on the value of reducing mortality rates. I have examined this both in the context of individual life-cycle models and empirically, from a social viewpoint, by asking people to make choices between saving lives now and in the future. Related work examines the preferences of the general public for saving lives of persons of different ages and through programs that have different qualitative characteristics. Also in the health area are attempts to examine the effect of air pollution on morbidity and mortality, in the United States, India and Taiwan. Work on hedonic models includes a Monte Carlo study of the effects of the form of the hedonic price function on the accuracy of the hedonic model in measuring the marginal value of the product attributes and a similar study that compares the hedonic model with discrete choice models. Empirical hedonic work includes measuring the value of urban amenities. In the area of US environmental policy, I have examined the value of a statistical life implicit in US Environmental Protec-

tion Agency (USEPA) regulations and have looked at the influence of special interest groups in USEPA rule making.

CRUCINI, Mario John

Born 1962, Sudbury, Ontario, Canada.

Current Posts Assoc. Prof. and Vice-Chairman, Dept Econ., Vanderbilt Univ., Nashville, TN, USA, 1999–.

Past Posts Res. Asst, Dept Monetary and Fin. Analysis, Bank of Canada, 1985–86; Vis. Scholar, Inst. Empirical Macroecon., FRB, Minneapolis, 1991; Vis. Asst Prof. Econ., Dept Econ., Stern Sch. Bus., NYU, 1995–96; Asst Prof. Econ., Dept Econ., Ohio State Univ., 1991–1995, 1996–98; Vis. Asst Prof. Econ., Dept Fin., Wharton Sch., Univ. Pennsylvania, 1998–99.

Degrees BA (Hons) Univ. Western Ontario, 1985; MA, PhD Univ. Rochester, 1989, 1991.

Editorial Duties Ed. Council, *Rev. Intl Econ.*, 1997–99; Assoc. Ed., *Rev. Intl Econ.*, 2000–, *JMCB*, 2001–, *J Int E*, 2001–.

Principal Fields of Interest E1 General Aggregative Models; E3 Prices, Business Fluctuations, and Cycles; F0 International Economics: General.

Publications *Articles*: 1. ‘Solving the stochastic growth model by a discrete-state-space, Euler equation approach’ (with M. Baxter, K.G. Rouwenhorst), *JBES*, 8, Jan. 1990; 2. ‘Explaining saving/investment correlations’ (with M. Baxter), *AER*, 83, June 1993; 3. ‘Sources of variation in real tariff rates: the United States, 1900–1940’, *AER*, 84, June 1994; 4. ‘Business cycles and the asset structure of foreign trade’ (with M. Baxter), *IER*, 36, Nov. 1995; 5. ‘Tariffs and aggregate economic activity: lessons from the Great Depression’ (with J. Kahn), *JME*, 38, Dec. 1996; 6. ‘Country size and economic fluc-

tuations’, *Rev. Intl Econ.*, 5, May 1997; 7. ‘On international and national dimensions of risk sharing’, *REStat*, 81, Feb. 1999; 8. ‘Oil prices and the terms of trade’ (with D.K. Backus), *J Int E*, 50, Feb. 2000; 9. ‘Commodity prices and the terms of trade’ (with P. Bidarkota), *Rev. Intl Econ.*, 8, Nov. 2000; 10. ‘Understanding European real exchange rates’ (with C.I. Telmer, M. Zachariadis), Vanderbilt Univ. Working Paper W20, July 2001; 11. ‘Persistence in law-of-one-price deviations: evidence from micro-data’ (with M. Shintani), Vanderbilt Univ. Working Paper W22, Dec. 2002.

Principal Contributions I have extended quantitative business cycle theory to the open economy with the aim of improving our understanding of various facets of international business cycles. Much of this work has been rewarding collaboration with co-authors Marianne Baxter, David Backus and James Kahn. The topics explored range from the importance of asset market structure for the character of international business cycles to the role of the tariff war in the propagation of the Great Depression. More recently my research has re-examined conventional wisdom on two basic theoretical propositions: the law-of-one-price and purchasing power parity. The foundation of this research is an extensive data collection effort funded by the National Science Foundation. The data on absolute prices of individual retail goods spans both international and intranational locations. The goal of this work is to synthesize cross-sectional and time-series evidence on micro-real exchange rates and develop implications for both macroeconomic and microeconomic theories of price determination. My collaborators in this area of research are Christopher Telmer, Mototsugu Shintani and Marios Zachariadis.

CUKIERMAN, Alex

Born 1938, Paris, France.

Current Posts Prof. Econ., Tel Aviv Univ., Tel Aviv, Israel, 1984–; Sr Res. Fell., Tilburg Univ., Tilburg, The Netherlands, 1994–; Res. Fell., CEPR, 2001–.

Past Posts Lect. Econ., Sr Lect. Econ., Tel Aviv Univ., 1972–76, 1976–79; Vis. Lect., Northwestern Univ., 1976; Vis. Assoc. Prof., NYU, 1977–78, Carnegie-Mellon Univ., 1978–79; Cons., EEC, 1982; Vis. Prof. Econ., Carnegie-Mellon Univ., 1984–85, Princeton Univ., 1989–90; Chair, Dept Econ., Tel Aviv Univ., 1986–88; Vis. Scholar, World Bank, 1990–93; Vis. Prof., Univ. Chicago, 1995; Pres., Israel Econ. Assoc., 1996–97, Vis. Fell., Univ. Canterbury, New Zealand, 2001; Vis. Prof., Stanford Univ., 2001, 2002.

Degrees BA, MA Hebrew Univ., 1963, 1967; PhD MIT, 1972.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E5 Monetary Policy, Central Banking, and the Supply of Money; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *The Capital Market in Israel* (with H. Ben Shazar, S. Bronfeld), (Weidenfeld & Nicholson, 1971; trans., Hebrew, Shoken, 1972); 2. *Inflation, Stagflation and Relative Prices Under Imperfect Information* (CUP, 1984; trans., Italian, Edizioni de Comunità, 1984); 3. *Political Economy* (with A.H. Meltzer, S. Richard), (OUP, 1991); 4. *Central Bank Strategy, Credibility and Independence: Theory and Evidence* (MIT Press, 1992); 5. *Political Economy, Growth and Business Cycles* (MIT Press, 1992).

Articles: 1. ‘Differential inflationary expectations and the variability of the rate of inflation: theory and evidence’ (with P. Wachtel), *AER*, 69, Sept. 1979; 2. ‘The effects of uncertainty on investment under risk neutrality with endogenous infor-

mation’, *JPE*, 88, June 1980; 3. ‘Stagflation persistent unemployment and the permanence of economic shocks’ (with K. Brunner, L.A. Meltzer), *JME*, 6, Oct. 1980; 4. ‘A theory of ambiguity, credibility and inflation under discretion and asymmetric information’ (with A. Meltzer), *Em*, 54, Sept. 1986; 5. ‘A political theory of government debt and deficits in a neo Ricardian framework’ (with A. Meltzer), *AER*, 79, Sept. 1989; 6. ‘The politics of ambiguity’ (with A. Alesina), *QJE*, 105, Nov. 1990; 7. ‘Optimal accommodation by strong policymakers under incomplete information’ (with N. Liviatan), *JME*, 27, Jan. 1991; 8. ‘Seigniorage and political instability’ (with S. Edwards, G. Tabellini), *AER*, 82, June 1992; 9. ‘When does it take a Nixon to go to China?’ (with M. Tommasi), *AER*, 88, March 1998; 10. ‘Central bank independence, centralization of wage bargaining, inflation and unemployment – theory and some evidence’ (with F. Lippi), *Europ ER*, 43, May 1999; 11. ‘Establishing a reputation for dependability by means of inflation targets’, *Econ. Governance*, 1, Feb. 2000; 12. ‘Labor markets and monetary union: a strategic analysis’ (with F. Lippi), *EJ*, 111, July 2001; 13. ‘Central bank reform, liberalization and inflation in transition economies – an international perspective’, *JME*, 49, March 2002; 14. ‘Are contemporary central banks transparent about economic models and objectives and what difference does it make?’, *FRB St. Louis Rev.*, 84, July–Aug. 2002; 15. ‘The choice of exchange rate bands: balancing credibility and flexibility’ (with Y. Spiegel, L. Leiderman), *J Int E*, forthcoming.

Principal Contributions Until 1985, investigated the interactions between relative price variability and inflation within equilibrium frameworks in which money is fundamentally neutral, with particular emphasis on the relationships among the following: the distribution of inflationary

expectations across individuals, inflation variance, inflation uncertainty, relative price variability, and general nominal uncertainty. Contributed to the development of the argument that slow learning about permanent changes in productivity causes stagflation. Participated in development of macro-inventory models of the business cycle with particular emphasis on employment, interest rates and the transmission of monetary policy. Investigated the effects of wage indexation on macroeconomic stability and the real effects of nonneutral tax structures in inflationary environments. Did empirical work on the inflation-induced distortions of the national accounts. Work since 1986 proceeded along two parallel paths. One on central bank strategy, credibility and independence and the other on modern political economy with particular emphasis on the effects of asymmetric information and the two-way interaction between political factors and fiscal policy. In the first area developed extensive cross-country indices of legal (including new central banks of economies in transition) and of actual central bank independence, investigated the relation between seigniorage and political instability and the consequences of imperfect credibility. In the second area provided an explanation for 'policy reversals' like that of Nixon opening the door for the international legitimization of China. Recent work deals with the interactions between monetary institutions and labor market institutions including implications for European Monetary Union, transparency in monetary policy, the optimal width of exchange rate bands in the presence of currency attacks, detection and consequences of asymmetries in central objectives, and monetary policy with unobserved potential output.

CUMMINGS, Ronald G. n.e.

CUMMINS, J. David

Born 1946, Falls City, NE, USA.

Current Posts Harry J. Loman Prof., Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 1983–; Exec. Dir., S.S. Huebner Foundation for Insurance Educ., Univ. Pennsylvania, 1988–.

Past Posts Asst Prof., Assoc. Prof., Prof., Wharton Sch., Univ. Pennsylvania, 1973–77, 1977–81, 1981–83; Vis. Scholar, FRB, Atlanta, 1996, FRB, Philadelphia, 1998; Vis. Econ., FRB, New York, 2000–01.

Degrees BA (High Distinction) Univ. Nebraska, 1968; MA, PhD Univ. Pennsylvania, 1971, 1972.

Offices and Honours Best Article Prizes *J. Risk and Insurance*, 1972, 1974, 1976, 1978, 1987, 1999; Chairman, Risk Theory Soc., 1979–80; Robert I. Mehr/Alpha Kappa Psi Best Article Awards, 1982, 1986, 1990, 1995, 1997, 1998, 2000; Pres., Amer. Risk and Insurance Assoc., 1986–87; Best Fin. Paper Prize, Centennial Meeting Intl Actuarial Assoc., 1995; Brian Hey Best Fin. Paper Prize, Inst. Actuaries, 1998; Best *J. Risk and Insurance* Paper Prize, Casualty Actuarial Soc., 1999, 2000; Best Article Prize, *J. Fin. Intermediation*, 2000.

Editorial Duties Assoc. Ed., *J. Fin. Services Res.*, 1989–, *Geneva Papers on Risk and Insurance Theory*, 1994–, *North Amer. Actuarial J.*, 1995–, *J. Risk and Insurance*, 1998–, *Geneva Papers on Risk and Insurance: Issues and Practices*, 1998–, *J. Risk Fin.*, 1999–; Ed., *J. Risk and Insurance*, 1992–97; Co-Ed., *J Bank Fin*, 2002–.

Principal Fields of Interest G2 Financial Institutions and Services; G3 Corporate Finance and Governance; L1 Market Structure, Firm Strategy, and Market Performance.

Publications Books: 1. *Deregulating Property-Liability Insurance: Restoring Competition and Increasing Market Efficiency* (ed.), (AEI-Brookings Inst. Joint Center for Regulatory Studies, 2002); 2. *Changes in the Life Insurance Industry: Efficiency, Technology, and Risk Management* (ed. with A.M. Santomero), (Kluwer Acad., 1999).

Articles: 1. 'Risk based premiums for insurance guaranty funds', *J Fin*, 43, Sept. 1988; 2. 'Measuring cost efficiency in the property-liability insurance industry' (with M. Weiss), *J Bank Fin*, 17, April 1993; 3. 'Moral hazard in insurance claiming: evidence from automobile insurance' (with S. Tennyson), *JRU*, 12, 1996; 4. 'Capital and risk in property-liability insurance markets' (with D. Sommer), *J Bank Fin*, 20, July 1996; 5. 'Price shocks and capital flows in liability insurance' (with P. Danzon), *J. Fin. Intermediation*, 6, Jan. 1997; 6. 'The coexistence of multiple distribution systems for financial services: the case of property-liability insurance' (with A. Berger, M. Weiss), *J Bus*, 70, Oct. 1997; 7. 'Comparison of frontier efficiency methods: an application to the US life insurance industry' (with H. Zi), *J. Productivity Analysis*, 10, Oct. 1998; 8. 'Financial pricing of insurance in the multiple line insurance company' (with R. Phillips, F. Allen), *J. Risk and Insurance*, 65, Dec. 1998; 9. 'Consolidation and efficiency in the US life insurance industry' (with S. Tennyson, M. Weiss), *J Bank Fin*, 23, Feb. 1999; 10. 'Organizational form and efficiency: an analysis of stock and mutual property-liability insurers' (with M. Weiss, H. Zi), *Mgmt Sc.*, 45, Sept. 1999; 11. 'Regulatory solvency prediction in property-liability insurance: risk-based capital, audit ratios, and cash flow simulation' (with M. Grace, R. Phillips), *J. Risk and Insurance*, 66, Sept. 1999; 12. 'The global market for reinsurance: consolidation, capacity, and efficiency' (with

M. Weiss), *Brookings-Wharton Papers on Fin. Services*, 2, 2000; 13. 'Conglomeration versus strategic focus: evidence from the insurance industry' (with A. Berger, M. Weiss, H. Zi), *J. Fin. Intermediation*, 9, Oct. 2000; 14. 'Derivatives and corporate risk management: participation and volume decisions in the insurance industry' (with R. Phillips, S. Smith), *J. Risk and Insurance*, 68, Sept. 2001; 15. 'Incentive effects of no fault automobile insurance' (with R. Phillips, M. Weiss), *J Law E*, 44, Oct. 2001; 16. 'Optimal capital utilization by financial firms: evidence from the property-liability insurance industry' (with G. Nini), *J. Fin. Services Res.*, 21, Feb.-April 2002; 17. 'Can insurers pay for the "big one"? Measuring the capacity of the insurance market to respond to catastrophic losses' (with N. Doherty, A. Lo), *J Bank Fin*, 26, March 2002; 18. 'The basis risk of catastrophic-loss index securities' (with D. Lalonde, R. Phillips), *J Fin E*, forthcoming.

Principal Contributions Most of my work has related to financial intermediation, the financial management of insurance companies, and the structure of financial services markets. A particular emphasis in the last decade has been my work on the efficiency and productivity of financial institutions and the structure of insurance markets in the United States and Europe. This work has focussed on changes in financial markets resulting from globalization, consolidation, and the convergence of banking and insurance markets. I have also contributed to the financing of catastrophic risk and the pricing of options on 'exotic underlyings'. Other areas of interest include the evaluation of solvency in the insurance industry and the economic analysis of moral hazard.

CURRIE, Janet Marion

Born 1960, Kingston, Canada.

Current Post Prof. Econ., UCLA, Los Angeles, CA, USA, 1996–.

Past Post Asst Prof., Assoc. Prof., UCLA, 1988–91, 1993–96; Asst Prof., Assoc. Prof., MIT, 1991–93.

Degrees AB, MA Univ. Toronto, 1982, 1983; PhD Princeton Univ., 1988.

Offices and Honours Lorne T. Morgan Gold Medal Econ, Univ. Toronto, 1982; Chair, Pentti Kouri Career Devlp., MIT, 1991–93; Alfred P. Sloan Fell., 1993–95; Dir., NBER Program on Children and Families, 1997–98; Fell., Canadian Inst. Adv. Res., 1997–99; Benjamin Meeker Lect., Univ. Bristol, 1998; Econ. Review Panel, NSF, 1999–2001; Board Mem., Comm. for Status of Women in Econ. Profession, 2001–03; Comm. on Pop., NAS, 2001–03; Demographic and Behav. Sc. Long Range Planning Comm., US NIH, 2001.

Editorial Duties Co-Ed., *J Lab E*, 1995–2001; Ed. Bd, *QJE*, 1995–; Assoc. Ed, *JHE*, 2000–02; Assoc. Ed., *J Pub E*, 2002–04.

Principal Fields of Interest H0 Public Economics: General; I0 Health, Education, and Welfare: General.

Publications *Book*: 1. *Welfare and the Well-Being of Children* (Harwood Acad., 1995).

Articles: 1. ‘Negotiator behavior and the occurrence of disputes’ (with O. Ashenfelter), *AER*, 26, May 1990; 2. ‘Collective bargaining in the public sector: the effect of legal structure on dispute costs and wages’ (with S. McConnell), *AER*, 81, Sept. 1991; 3. ‘Firm-specific determinants of the real wage’ (with S. McConnell), *REStat*, 74, May 1992; 4. ‘An experimental comparison of dispute rates in alternative arbitration systems’ (with O. Ashenfelter, H. Farber, M. Spigel), *Em*, 60, Nov. 1992; 5. ‘Welfare

and child health: the link between AFDC participation and birth weight’ (with N. Cole), *AER*, 83, Sept. 1993; 6. ‘Does head start make a difference?’ (with D. Thomas), *AER*, 85, June 1995; 7. ‘Male jobs, female jobs, and gender gaps in benefits coverage in Canada’ (with R. Chaykowski), *Res. Labour Econ.*, 14, Summer 1995; 8. ‘Medical care for children: public insurance, private insurance and racial differences in utilization’ (with D. Thomas), *JHR*, 15, Winter 1995; 9. ‘Health insurance eligibility, utilization of medical care, and child health’ (with J. Gruber), *QJE*, 111, May 1996; 10. ‘Saving babies: the efficacy and cost of recent expansions of Medicaid eligibility for pregnant women’ (with J. Gruber), *JPE*, 104, Dec. 1996; 11. ‘Is the impact of health shocks cushioned by socioeconomic status? The case of birthweight’ (with R. Hyson), *AER*, 89, May 1999; 12. ‘Does head start help Hispanic children?’ (with D. Thomas), *J Pub E*, 74, Nov. 1999; 13. ‘Health, health insurance and the labor market’ (with B. Madrian), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics* (N-H, 1999); 14. ‘Are public housing projects good for kids?’ (with A. Yelowitz), *J Pub E*, 75, Jan. 2000; 15. ‘Child health in developed countries’, in A. Culyer, J. Newhouse (eds), *Handbook of Health Economics* (N-H, 2000); 16. ‘Early childhood intervention programs: what do we know?’, *JEP*, 15, Spring 2001; 17. ‘Medicaid expansions and welfare contractions: offsetting effects on prenatal care and infant health’ (with J. Grogger), *JHE*, 21, March 2002; 18. ‘Longer-term effects of head start’ (with E. Garces, D. Thomas), *AER*, 92, Sept. 2002; 19. ‘Heat or eat? Income shocks and the allocation of nutrition in American families’ (with J. Bhattacharya, T. DeLeire, S. Haider), *Amer. J. Public Health*, forthcoming 2003.

Principal Contributions Most of my

work in the past decade has focussed on measuring the effects of anti-poverty programs on children. Although the intent of most such programs is to alleviate child poverty and to interrupt the inter-generational transmission of poverty, previous economic analyses of welfare programs had tended to emphasize the effects of such programs on parents' behavior. This evaluation research has emphasized the potential heterogeneity of treatment effects; the importance of controlling for the non-random selection of program participants; and the question of whether improvements in welfare could be gained in more efficient ways. Results suggest that in-kind programs may have greater benefits for children than cash transfers to parents. In-kind programs that I have studied include Medicaid (means-tested health insurance), Head Start (a preschool intervention for poor children), and a variety of nutrition programs. My research shows that all of these programs have had positive effects on the health and well-being of poor children, although in many cases the improvement in outcomes could have been achieved more efficiently. Other areas I have contributed to include the analysis of the effects of legal structure on collective bargaining outcomes, and experimental tests of bargaining theory.

CUTLER, David M.

Born 1965, Cleveland, OH, USA.

Current Post Prof. Econ., Dept Econ. and Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1997–.

Past Posts Asst Prof. Econ., Harvard Univ., 1991–95; on leave as Sr Staff Econ., US President's Council Econ. Advisers and Dir., Natl Econ. Council, 1993; John L. Loeb Assoc. Prof. Social Sc., Harvard Univ., 1995–97.

Degrees BA Harvard Univ., 1987; PhD MIT, 1991.

Offices and Honours Phi Beta Kappa, 1987; Hon. Mention, Outstanding Dissertation, Nat. Acad. Social Insurance, 1991; Outstanding Mentor Award, Harvard Univ. Grad. Sch. Arts and Sc., 1999; Griliches Prize, best paper in *QJE*, 1999; Kenneth Arrow Award, Best Paper in Health Econ., 2000; Fell., Center Advanced Study in Behav. Sc., 2000–01; Elected, Inst. Medicine, 2001.

Editorial Duties Ed., *JHE*; Assoc. Ed., *JEP*, *JPE*, *WHO Bull.*

Principal Fields of Interest H0 Public Economics: General; I0 Health, Education, and Welfare: General.

Publications Articles: 1. 'Sectoral shifts and cyclical unemployment reconsidered' (with S.L. Brainard), *QJE*, 108, Feb. 1993; 2. 'The incidence of adverse medical outcomes under prospective payment', *Em*, 63, Jan. 1995; 3. 'Does public insurance crowd out private insurance?' (with J. Gruber), *QJE*, 111, May 1996; 4. 'Measuring the health of the United States population' (with E. Richardson), *BPEA Microecon.*, 1997; 5. 'Are ghettos good or bad?' (with E. Glaeser), *QJE*, 112, Aug. 1997; 6. 'Paying for health insurance: the tradeoff between competition and adverse selection' (with S. Reber), *QJE*, 113, May 1998; 7. 'Are medical prices falling?' (with M. McClellan, J.P. Newhouse, D. Remler), *QJE*, 113, Nov. 1998; 8. 'The rise and decline of the American ghetto' (with E. Glaeser, J. Vigdor), *JPE*, 107, June 1999; 9. 'Restraining the leviathan: property tax limitations in Massachusetts' (with D. Elmendorf, R. Zeckhauser), *JPE*, 107, 1999; 10. 'The anatomy of health insurance' (with R. Zeckhauser), in A. Culyer, J. Newhouse (eds), *Handbook of Health Economics*, Vol. I (Elsevier, 2000); 11. 'How does managed care do it?' (with M. McClellan, J.P. Newhouse), *RandJIE*, 31, Autumn 2000; 12. 'Is technological

change in medicine worth it?' (with M. McClellan), *Health Affairs*, 20, Sept./Oct. 2001; 13. 'The economic impacts of the tobacco settlement' (with J. Gruber, R.S. Hartman, M.B. Landrum, J.P. Newhouse, M.B. Rosenthal), *JPAM*, 21, Winter 2002; 14. 'Financial crisis, health outcomes and aging: Mexico in the 1980s and 1990s' (with F. Knaul, R. Lozano, O. Mendez, B. Zurita), *JPE*, 110, 2002; 15. 'Public policy for health care', in A. Auerbach, M. Feldstein (eds), *Handbook of Public Economics*, Vol. 4 (Elsevier, 2002); 16. 'Equality, efficiency and market fundamentals', *JEL*, 40, 2002.

Principal Contributions My research is concentrated in health economics, including measuring the health of the population and understanding how medical and non-medical factors influence health. I have shown that increased medical spending is associated with substantial improvements in health, whose value is greater than the dollars spent. As a result, spending increases are not an allocation problem for society, although they may present distributional issues. I have also examined the influence of public insurance coverage on private insurance coverage, finding evidence of crowd-out between the two.

D

DARITY, Jr, William Alexander

Born 1953, Norfolk, VA, USA.

Current Post Boshamer Prof., Econ., Univ. North Carolina, Chapel Hill, NC, USA, 1991–; Res. Prof. Public Pol. Stud., African and African Amer. Stud. and Econ., Duke Univ., Durham, NC, USA, 1999–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Texas, Austin, 1978–81, 1981–83; Assoc. Prof., Prof. Econ., Prof. Econ. Sociology, Univ. North Carolina, Chapel Hill, 1983–87, 1987–91, 1991.

Degrees BA (*mcl*) Brown Univ., 1974; PhD MIT, 1978.

Offices and Honours Pres., NEA, 1985; First Vice Pres., Pres., SEA, 1989–90, 1996; Exec. Comm., AEA, 1993–95; W. Arthur Lewis Memorial, Barbados, 1999; Chair, Comm. Status of Minority Groups in Econ. Profession; AEA, 1999–2001; Cornelson Annual Disting. Lecture, Davidson Coll., 2000; Disting Invited Lect., Hist. Econ. Soc. Annual Conf., Vancouver, Canada, 2000; Laura Thomas Memorial Award 2001.

Editorial Duties Chair, Bd Eds, *Rev. Black Polit. Econ.*, 1988–; Bd Eds, *Eastern Econ. J.*, 1988–93, *Explor. in Econ. Hist.*, 1995–; Co-Ed., *Recent Econ. Thought* series, 1994–; Assoc. Ed., *Rev. Devlp. Econ.*, 1997–.

Principal Fields of Interest O1 Economic Development; J7 Discrimination; B0 Schools of Economic Thought and Methodology: General.

Publications Articles: 1. ‘The fundamental determinants of the terms of trade reconsidered: long-run and long-period equilibrium’, *AER*, 80, Winter 1990; 2. ‘Growth and trade with asymmetric returns to scale: a model for Nicholas Kaldor’ (with P. Conway), *SEJ*, 3, Jan.

1991; 3. ‘IS–LM under increasing returns’ (with A. Cottrell), *J. Macroecon.*, 13, Fall 1991; 4. ‘Rational expectations, rational belief, and Keynes’ “General Theory”’ (with B.L. Horn), *Res. Hist. Econ. Thought and Methodology*, 11, 1993; 5. ‘Many roads to extinction: early AEA economists and the black disappearance hypothesis’, *Hist. Econ. Rev.*, 21, Winter 1994; 6. ‘The undesirables, America’s underclass in the managerial age: beyond the Myrdal theory of racial inequality’, *Daedalus: J. AAAS*, 124, Winter 1995, repr. in Obie Clayton, Jr (ed.), *An American Dilemma Revisited: Race Relations in a Changing World* (Russell Sage Foundation, 1996); 7. ‘The impact of labor force history on self-esteem and its component parts, anxiety, alienation and depression’ (with A. Goldsmith, J. Veum), *JEP*, 17, 1996; 8. ‘Explaining differences in economic performance among racial and ethnic groups in the USA: the data examined’ (with D.K. Guilkey, W. Winfrey), *Amer. J. Econ. Sociology*, 55, Oct. 1996; 9. ‘Social psychology, unemployment and macroeconomics’ (with A.H. Goldsmith, J. Veum), *JEP*, 10, Winter 1996; 10. ‘Increasing returns and intensifications: a reprise on Ester Boserup’s model of agricultural growth’ (with W. Winfrey), *Metroeconomica: Intl Rev. Econ.*, 48, 1997; 11. ‘The impact of psychological and human capital on wages’ (with A. Goldsmith, J. Veum), *EI*, 35, Oct. 1997; 12. ‘Evidence on discrimination: codes of color, codes of gender’ (with P.L. Mason), *JEP*, 12, Spring 1998, repr. as ‘Evidence on discrimination in employment’, in T. Swartz, F. Bonello (eds), *Taking Sides: Clashing Views on Controversial Economic Issues* (Dushkin/McGraw-Hill, 9th edn 2000); 13. ‘Intergroup disparity: economic theory and social science evidence’ (1997 Pres. Address to SEA), *SEJ*, 65, April 1998; 14. ‘If it shall seem just and proper: the effects of race and morals on alimony and

child support appeals in the District of Columbia', *J. Family Hist.*, 23, Oct. 1998; 15. 'Racial and ethnic economic inequality: the international record' (with J.G. Nembhard), *AEA Papers and Proceedings*, 90, May 2000; 16. 'Secular changes in the gender composition of employment and growth dynamics in the North and the South' (with K. Ertürk), *WD*, 28, July 2000; 17. 'Tracing the divide: intergroup disparity across countries' (with A. Deshpande), *EEJ*, 26, Winter 2000; 18. 'Motivation and labor market outcomes' (with A. Goldsmith, J. Veum), in *Research in Labor Economics, Vol. 19, Worker Well-Being* (JAI/Elsevier Sc., 2000); 19. 'Persistent advantage or disadvantage? Evidence in support of the intergenerational drag hypothesis' (with J. Dietrich, D.K. Guilkey), *Amer. J. Econ. Sociology*, 60, April 2001; 20. 'Passing on blackness? Latinos, race and earnings in the USA' (with D. Hamilton, J. Dietrich), *Apl. Econ. Letters*, 9, Oct. 2002.

Principal Contributions Theory and applied research on racial and ethnic inequality; social psychological impact of joblessness; interpreting Keynes's concept of unemployment; north-south models of trade and growth; role of the Atlantic slave trade and slavery in the Americas on uneven development.

DAVIS, Steven J. n.e.

DE GREGORIO, José

Born 1959, Santiago, Chile.

Current Posts Prof., Centro de Economía Aplicada, Departamento de Ingeniería Industrial, Univ. Chile (on leave), 2000-; Mem. Bd, Central Bank Chile, 2001-.

Past Posts Econ., Res. Dept, IMF, 1990-94; Dir. Econ. Pol., Min. of Fin.,

Chile, 1994-97; Assoc. Prof., Centro de Economía Aplicada, Departamento de Ingeniería Industrial, Univ. Chile, 1997-99; Minister of Econ., Minister of Mining and Pres. Natl Commission of Energy, Chile, 2000-01.

Degrees Bachiller en Ciencias de la Ingeniería, Ingeniero Civil Industrial, Magister en Ingeniería Industrial, Mención Economía, Univ. Chile, 1984, 1984, 1984; PhD MIT, 1990.

Offices and Honours Marcos Orrego Puelma Award, for the best student graduated during the year, Civil Eng., Univ. Chile, 1984; MIT and Ford Foundation Fellowships, 1986-88; NBER dissertation support award, 1989; Award to the best teacher, Ind. Eng. Dept, Univ. Chile, 1997; Presentation at the Forum Public Pol. lecture, UCLA, 2002.

Editorial Duties Assoc. Ed., *Cuadernos de Economía*, 1996-99, *ITPF*, 1998-, *Latin Amer. Econ. Rev.*, 1999-.

Principal Fields of Interest F4 Macroeconomic Aspects of International Trade and Finance; E5 Monetary Policy, Central Banking, and the Supply of Money; O4 Economic Growth and Aggregate Productivity.

Publications Book: 1. *An Independent and Accountable IMF* (with B. Eichengreen, T. Ito, C. Wyplosz), (CEPR Press, 1999).

Articles: 1. 'Welfare costs of inflation, seigniorage and financial innovation', *IMF Staff Papers*, 38, Dec. 1991; 2. 'The effects of inflation on economic growth: lessons from Latin America', *Europ ER*, 36, April 1992; 3. 'Economic growth in Latin America', *JDE*, 39, July 1992; 4. 'Inflation, taxation, and long-run growth', *JME*, 31, June 1993; 5. 'Money demand and financial innovation: applications to Chile and Mexico' (with P. Arrau), *REStat*, 75, Aug. 1993; 6. 'International evidence on tradables and nontradables inflation' (with A. Giovannini, H. Wolf), *Europ ER*, 38,

June 1994; 7. 'The evolution of non-tradable goods prices in Europe: evidence and interpretation' (with A. Giovannini, T. Krueger), *Rev. Intl Econ.*, 2, Oct. 1994; Spanish version in *Moneda y Crédito*, 196, 1993; 8. 'Financial development and economic growth' (with P. Guidotti), *WD*, 23, March 1995; 9. 'The demand for money in developing countries: assessing the role of financial innovation' (with P. Arrau, C. Reinhart, P. Wickham), *JDE*, 46, April 1995; 10. 'Policy accommodation and gradual stabilizations', *JMCB*, 27, Aug. 1995; 11. 'Borrowing constraints, human capital accumulation, and growth', *JME*, 37, May 1996; 12. 'Financial markets and inflation under imperfect information' (with F. Sturzenegger), *JDE*, 54, Oct. 1997; 13. 'Exchange rate policies and capital account management: Chile in the 1990s' (with K. Cowan), in R. Glick (ed.), *Managing Capital Flows and Exchange Rates: Perspectives from the Pacific Basin* (CUP, 1998); 14. 'Inflation stabilization and the consumption of durables' (with P. Guidotti, C. Végh), *EJ*, 108, Jan. 1998; 15. 'How does foreign direct investment affect economic growth?' (with E. Borenzstein, J.-W. Lee), *J Int E*, 45, June 1998; 16. 'Credit markets with differences in abilities: education, distribution, and growth' (with S.-J. Kim), *IER*, 41, 2000; 17. 'Controls on capital inflows: do they work?' (with S. Edwards, R. Valdés), *JDE*, 63, Oct. 2000; 18. 'Crisis transmission: evidence from the debt, tequila and Asian flu crises' (with R. Valdés), *WBER*, 15, 2001, also in S. Claessens, K. Forbes (eds), *International Financial Contagion* (Kluwer Acad., 2001); 19. 'Education and income inequality: new evidence from cross-country data' (with J.-W. Lee), *RIW*, forthcoming.

Principal Contributions My academic work has centered mainly in two areas. First, in macroeconomics in open economies my main work has focussed on the

determinants of real exchange rates, stabilization policies and monetary policy. More recently I have focussed on topics such as crisis, contagion and exchange rate regimes. My second main area is development economics, where I started working on economic growth, with particular focus on the effects of inflation, financial markets, and growth performance in Latin America. I have also worked extensively on economic policy. I was the chief advisor for the Chilean Finance Minister during 1994–97. Then, in 2000–01, I became a minister in President Ricardo Lagos's first cabinet, responsible for three ministries: Economy, Mining and Energy. In 2001 I was nominated by the President to be a member of the Board of the Central Bank of Chile – governed independently by a board of five members – and confirmed by Congress to a 10-year tenure.

DE JANVRY, Alain

Born 1939, Versailles, France.

Current Posts Prof., Dept Agric. and Resource Econ., Univ. California, Berkeley, CA, USA, 1967–; Prof., Centre d'Études et de Recherches en Développement Intl (CERDI), Univ. Auvergne, Clermont-Ferrand, France, 1996–.

Degrees Ingénieur Agronome, Inst. Natl Agronomique, Paris, 1962; MS (Stats), PhD (Agric. Econ.) Univ. California, Berkeley, 1966, 1967.

Offices and Honours Chairman, Dept Agric. and Resource Econ., 1985–89; Chairman, Giannini Foundation Agric. Econ., 1987–89; Fell., AA, 1991–; Mem., Tech. Advisory Comm., Consultative Group in Intl Agric. Res., 1998–; Mem., Sc. Comm., Centre Intl pour la Recherche Agronomique et le Développement, 1999–; Mem., French Natl Acad. Agric., 1999–; Bd, Econ. Inst., Boulder Univ., 2000–.

Editorial Duties Ed. Advisory Bd, *Agric. Econ.*, 1998–.

Principal Fields of Interest O1 Economic Development; N5 Agriculture, Natural Resources, Environment, and Extractive Industries; I3 Welfare and Poverty.

Publications *Books*: 1. *Quantitative Development Policy Analysis* (with E. Sadoulet), (JHUP, 1995); 2. *State, Market, and Civil Organizations* (ed. with E. Sadoulet, E. Thorbecke), (Macmillan, 1995); 3. *Mexico's Second Agrarian Reform: Household and Community Responses* (with G. Gordillo de Anda, E. Sadoulet), (Center for US–Mexico Stud., Univ. California, San Diego, 1997); 4. *Access to Land, Rural Poverty, and Public Action* (ed. with G. Gordillo, J.-P. Platteau, E. Sadoulet), (OUP, 2001).

Articles: 1. 'NAFTA and Mexico's maize producers' (with E. Sadoulet, G. Gordillo de Anda), *WD*, 23, 1995; 2. 'The meaning of kinship in sharecropping contracts' (with E. Sadoulet, S. Fukui), *AJAE*, 79, 1997; 3. 'Labor market imperfections and selective recursiveness in household models' (with E. Sadoulet, C. Benjamin), *J. Ind. Relations*, 37, 1998; 4. 'Endogenous provision and appropriation in the commons' (with N. McCarthy, E. Sadoulet), *AJAE*, 80, 1998; 5. 'The role of agriculture in economic development: visible and invisible surplus transfers' (with P. Winters, E. Sadoulet, K. Stamoulis), *J Dev Stud*, 34, 1998; 6. 'Economic and welfare impacts of climate change on developing countries' (with P. Winters, R. Murgai, E. Sadoulet, G. Frisvold), *Environmental and Resource Econ.*, 12, 1998; 7. 'Land allocation under dual individual–collective use in Mexico' (with N. McCarthy, E. Sadoulet), *JDE*, 56, 1998; 8. 'Sustainability in the diffusion of innovations: smallholder nontraditional agro-exports in Guatemala' (with C. Carletto, E. Sadoulet), *EDCC*, 47, 1999; 9. 'Transac-

tions costs and agricultural household supply response' (with N. Key, E. Sadoulet), *AJAE*, 82, 2000; 10. 'Growth, poverty, and inequality in Latin America: a causal analysis, 1970–94' (with E. Sadoulet), *RIW*, 46, 2000; 11. 'Family and community networks in Mexico–US migration' (with P. Winters, E. Sadoulet), *JHR*, 36, 2001; 12. 'Income strategies among rural households in Mexico: the rule of off-farm activities in poverty reduction' (with E. Sadoulet), *WD*, 29, 2001; 13. 'Cash transfer programs with income multipliers: PROCAMPO in Mexico' (with E. Sadoulet, B. Davis), *WD*, 29, 2001; 14. 'Common pool resource appropriation under costly cooperation' (with N. McCarthy, E. Sadoulet), *JEEM*, 42, 2001; 15. 'World poverty and the role of agricultural technology: direct and indirect effects' (with E. Sadoulet), *J Dev Stud*, 38, 2002; 16. 'Localized and incomplete mutual insurance' (with R. Murgai, P. Winters, E. Sadoulet), *JDE*, 67, 2002.

Principal Contributions Main contributions to economics have been in the fields of rural development and poverty reduction strategies in Latin America, Africa, and Asia. Economic modelling concerned household behaviour and determinants of collective action in rural communities. Empirical analysis related to issues of household income strategies, land reform, technological change, the role of agriculture in economic development, and the logic of contracts. I have worked with most international development agencies, usually evaluating programmes directed at poverty reduction.

DE JONG, Robert Martin

Born 1967, Amsterdam, The Netherlands.

Current Post Assoc. Prof., Michigan

State Univ., East Lansing, MI, USA, 1997–.

Past Post Instr., Univ. Tilburg, 1993–97.

Degrees BSc Univ. Amsterdam, 1989; PhD Free Univ. Amsterdam, 1993.

Editorial Duties Assoc. Ed., *Em. Theory*, 2002–.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications Articles: 1. ‘On the limit behavior of a chi-square type test if the number of conditional moments tested approaches infinity’ (with H. Bierens), *Em. Theory*, 10, 1994; 2. ‘The Bierens test under data dependence’, *J Em*, 72, 1996; 3. ‘Central limit theorems for dependent heterogeneous random variables’, *Em. Theory*, 13, 1997; 4. ‘Uniform laws of large numbers and stochastic Lipschitz-continuity’, *J Em*, 86, 1998; 5. ‘Consistency of kernel estimators of heteroskedastic and autocorrelated covariance matrices’ (with J. Davidson), *Em*, 68, 2000; 6. ‘The functional central limit theorem and weak convergence to stochastic integrals I: weakly dependent processes’ (with J. Davidson), *Em. Theory*, 16, 2000; 7. ‘Nonlinear estimation using estimated cointegrating relations’, *J Em*, 101, 2001; 8. ‘Properties of L_p-GMM estimators’ (with C. Han), *Em. Theory*, 18, 2002; 9. ‘Nonlinear minimization estimators in the presence of cointegrating relations’, *J Em*, forthcoming; 10. ‘Nonlinear minimization estimators in the presence of cointegrating relations’, *J Em*, forthcoming.

Principal Contributions My research focuses on asymptotic theory for econometrics, especially time-series econometrics.

DE MEZA, David Emmanuel

Born 1952, Manchester, UK.

Current Posts Leverhulme Prof. Ind. Econ., Univ. Bristol, Bristol, UK, 2001–.

Past Post Lect. Econ, Prof. Mgmt, LSE, 1974–88, 1999–2001; Prof. Econ., Univ. Exeter, 1988–2001.

Degrees BSc (Econ.), MSc LSE, 1973, 1974.

Offices and Honours Council Mem., INEA, 1987–, RES, 1992–97.

Editorial Duties Co-Ed., *Ec*, 1983–88; Assoc. Ed., *J Ind E*, 1993–98; Joint Managing Ed., *EJ*, 1999–.

Principal Fields of Interest D0 Microeconomics: General; H0 Public Economics: General; L0 Industrial Organization: General.

Publications Articles: 1. ‘Market structure and optimal stockholding: a note’ (with T. von Ungern-Sternberg), *JPE*, 88, 1980; 2. ‘Generalised oligopoly derived demand with an application to tax induced entry’, *BER*, 34, 1982; 3. ‘Health-insurance and the demand for medical-care’, *JHE*, 2, 1983; 4. ‘Export subsidies and high productivity – cause or effect’, *CJ*, 19, 1986; 5. ‘Is the market biased against risky R-and-D?’ (with T. Klette), *RandJE*, 17, 1986; 6. ‘Free access versus private property in a resource – income distributions compared’ (with J.R. Gould), *JPE*, 95, 1987; 7. ‘Too much investment: a problem of asymmetric information’ (with D.C. Webb), *QJE*, 102, 1987; 8. ‘The case for permissive patents’ (with M. La Manna, R. McLeod), *Europ ER*, 33, 1989; 9. ‘A strategic motivation for commodity bundling’ (with J. Carbajo, D.J. Seidmann), *J Ind E*, 6, 1990; 10. ‘The social efficiency of private decisions to enforce property-rights’ (with J.R. Gould), *JPE*, 100, 1992; 11. ‘Price differences between successive auctions are no anomaly’ (with J. Black), *JEMS*, 1, 1992; 12. ‘Creating a good atmosphere – minimum par-

ticipation for tackling the greenhouse-effect' (with J. Black, M.D. Levi), *Ec*, 60, 1993, repr. in A. Bhataybal (ed.), *Economics of Environmental Agreements* (Ashgate, 1999); 13. 'House prices, the supply of collateral and the enterprise economy' (with J. Black, D. Jeffreys), *EJ*, 106, Jan. 1996; 14. 'The borrowers curse – optimism, finance and entrepreneurship' (with C. Southey), *EJ*, 106, March 1996, repr. in D. Storey (ed.), *Small Business: Critical Perspective* (Routledge, 1999); 15. 'Everyone may benefit from subsidising entry to risky occupations' (with J. Black), *J Pub E*, 113, 1997; 16. 'Does asset ownership always motivate managers? Outside options and the property rights theory of the firm' (with B. Lockwood), *QJE*, 113, 1998; 17. 'Too much monitoring, not enough performance pay' (with C. Southey), *EJ*, 109, March 1999; 18. 'Wealth, enterprise and credit policy' (with D.C. Webb), *EJ*, 109, March 1999; 19. 'Does credit rationing imply underinvestment?' (with D.C. Webb), *J Pub E*, 109, April 2000; 20. 'Advantageous selection in insurance markets' (with D.C. Webb), *RandJE*, 32, 2001.

Principal Contributions (i) Arc elasticity of labour demand may be greater in the short run. (ii) A production tax may raise oligopoly profits. (iii) A toll may benefit road users even if they receive none of the proceeds. (iv) Asymmetric information can cause excess lending. (v) House prices are the major influence on UK business formation. (vi) Abolition of private property may enhance economic efficiency. (vii) Unrealistic optimism explains the main features of business lending. (viii) Commodity bundling enables an oligopolist to extend market power. (ix) Subsidising entry to risky occupations may enable everyone to gain when private insurance involves costly monitoring. (x) Asset ownership may demotivate managers contrary to standard property rights

theory of the firm. (xi) Strategic trade theory implies, counterfactually, that low-cost exporters would be the most subsidised and that price controls dominate subsidies as export promotion devices. (xii) Standard models of patent races imply that firms choose R&D strategies which are excessively risky from the social perspective. (xiii) If two identical objects are sold in a private value auction, the equilibrium implies that on average the second item fetches more than the first, but this trajectory is reversed if the winner of the first round has the option of buying the second item for the same price. (xiv) Asymmetric information may result in the insured having lower accident probabilities than the uninsured and in socially excessive coverage. (xv) Evidence that the self-employed overestimate their future income by more than employees do. (xvi) Allowing close seconds to benefit from R&D breakthroughs is welfare enhancing. (xvii) Stock holding is lower in more competitive industries. (xviii) Competitive firms rely excessively on monitoring rather than on performance pay to motivate their workers.

DE PALMA, André

Born 1952, Etterbeek, Belgium.

Current Posts Prof. Mgmt, Univ. Cergy-Pontoise, Cergy-Pontoise, France, 1994–; Prof. Chargé de Cours, École Polytech., Paris, France, 1996–; Sr Mem., Inst. Universitaire de France, Paris, France, 2001–.

Past Posts Post-doctoral Res. Fell., McMaster Univ., 1982–83; Mem., CORE, Catholic Univ. Louvain, 1984; Vis. Prof., Econ. Dept, Queen's Univ., Canada, 1985; First Asst., Econ. Dept, Univ. Libre de Bruxelles, 1986; Asst Prof., Assoc. Prof., Dept Urban and Regional Planning, Civil Eng. Dept, Northwestern

Univ., 1987–91; Prof. Mgmt, Geneva Univ., 1992–94.

Degrees Masters degree (Physics), PhD (Physics) Univ. Libre de Bruxelles, 1976, 1981; PhD Univ. Bourgogne, 1988.

Offices and Honours Minna James Heinemen Stiftung, Germany, 1978; Mem., Assoc. Internatl de Micropsychologie, 1980–90; 1st Prize, Fonds Natl de la Recherche Sc./Bell Téléphone, Belgium, 1987; Mem., Sc. Comm., World Conf. on Transport Res. Soc., 1995–; Best article of Canadian Transportation Res. Forum (with R. Lindsey), 2001; Mem., CESifo, Germany, 2002–.

Editorial Duties Mem. Sc. Comm., *Europ. Investment Rev.*, 2001–.

Principal Fields of Interest R4 Transportation Systems; D4 Market Structure and Pricing; L9 Industry Studies: Utilities and Transportation.

Publications *Books*: 1. *La Modélisation des conduites d'alcoolisation* (ed. with A. Moles), (Inst. Recherches Sc. sur les Boissons, 1987); 2. *La diffusion en marketing, modèles et prévisions* (with C. Lefèvre, F. Droesbeke), (PUF Collection Gestion, 1989); 3. *Analysis of Differentiated Markets with Discrete Choice Models* (with S. Anderson, J.-F. Thisse), (MIT Press, 1992).

Articles: 1. 'On the stochastic modeling of systems with non-local interaction' (with M. Mansour), *Physica*, 128, 1984; 2. 'The principle of minimum differentiation holds under sufficient heterogeneity' (with V. Ginsburgh, Y.Y. Papageorgiou, J.-F. Thisse), *Em*, 53, 1985; 3. 'Dynamic model of peak period traffic congestion with elastic arrival rates' (with M. Ben-Akiva, P. Kanaroglou), *Transportation Sc.*, 20, 1986; 4. 'Effects of capacity constraints on peak period congestion' (with M. Ben-Akiva, P. Kanaroglou), *Transportation Res. Record*, 1085, 1986; 5. 'Spatial price discrimination with heterogeneous products' (with S. Anderson),

REStud, 55, 1988; 6. 'Demand for differentiated products, discrete choice models, and the characteristics approach' (with S. Anderson, J.-F. Thisse), *REStud*, 56, 1989; 7. 'A game theoretic approach to the analysis of simple congested networks', *AER Papers and Proceedings*, 82, 1992; 8. 'A structural model of peak-period congestion: a traffic bottleneck with elastic demand' (with R. Arnott, R. Lindsey), *AER*, 83, 1993; 9. 'Rational choice under imperfect ability to choose' (with G. Myers, Y.Y. Papageorgiou), *AER*, 84, 1994; 10. 'Oligopolistic competition and optimal provision of products' (with S. Anderson, Y. Nesterov), *Em*, 63, 1995; 11. 'METROPOLIS: modular system for dynamic traffic simulation', *Transportation Res. Record*, 1607, 1997; 12. 'Credit crunch in a model of the banking industry' (with R. Gary-Bobo), in G. Norman, J.-F. Thisse (eds), *Market Structure and Competition Policy, Game Theoretic Approach* (CUP, 2000); 13. 'From local to global competition' (with S. Anderson), *Europ ER*, 44, 2000; 14. 'The efficiency of indirect taxes under imperfect competition' (with S. Anderson, B. Kreider), *J Pub E*, 81, 2001; 15. 'Product diversity in asymmetric oligopoly: is the quality of consumer goods too low?' (with S. Anderson), *IJIO*, 49, 2001; 16. 'Private roads, competition and incentives to adopt time-based congestion tolling' (with R. Lindsey), *JUE*, 32, 2002; 17. 'Stationary dynamic solutions in congested transportation networks: summary and perspectives' (with Y. Nesterov), *Networks and Spatial Econ.*, special issue, forthcoming 2003.

Principal Contributions I am a specialist in transportation economics, large-scale models, industrial organization and applied finance. I have published more than 140 articles in international journals, including *Transportation Research, Transportation Science, American Economic*

Review, Review of Economics Studies, Econometrica, European Journal of Operations Research, as well as three books (MIT Press and PUF). I have earned several research grants during my career (in particular: US/NSF, Belgium Department of Transportation, Fonds National de la Recherche Scientifique/Switzerland and French Department of Transportation). I have participated in several EEC projects: DYNA (a dynamic traffic model for real-time applications), AIUTO (models and methodologies for the assessment of innovative urban transport systems and policies options) and TRACE (costs of private road travel and their effects on demand, including short- and long-term elasticities), MC-ICAM (Marginal Cost Pricing in Transport-Integrated Conceptual and Applied Model Analysis) and TIPP (Transport Institutions in the Policy Process) and am currently a member of the Scientific Committee of MC-ICAM which specialises in the implementation of marginal cost pricing in transport. I started organising the annual French Transportation Day in 1998. My multidisciplinary approach and interests led me from physics to studying social systems and from modelling social systems to economics. I was the first economist to introduce the concept of pricing as a strategic variable in discrete choice models applied to industrial economy. Currently, I am working in discrete choice models (welfare measures), portfolio optimisation and theoretical/applied (with the further development of my proprietary software METROPOLIS) analysis of road pricing.

DE VRIES, Casper George

Born 1955, The Hague, The Netherlands.

Current Post Prof. Econ., Erasmus Univ., Rotterdam, The Netherlands, 1992–.

Past Posts Vis. Asst Prof., Texas A&M Univ., 1987–88; Assoc. Prof., Katholiek Univ. Leuven, 1989–92.

Degrees BA, MA Erasmus Univ., 1976, 1980; MS, PhD Purdue Univ., 1982, 1983.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; E5 Monetary Policy, Central Banking, and the Supply of Money; F3 International Finance.

Publications Articles: 1. 'Theory and relevance of currency substitution with case studies for Canada and the Netherlands Antilles', *REStat*, 70, 1988; 2. 'Extremal behavior of solutions to a stochastic difference equation, with applications to ARCH processes' (with L. de Haan, S. Resnick, H. Rootzen), *Stochastic Processes and their Apl.*, 32, 1989; 3. 'The tail index of exchange rates' (with K. Koedijk, M. Schafgans), *J Int E*, 29, 1990; 4. 'On the relation between GARCH and stable processes', *J Em*, 48, 1991; 5. 'On the frequency of large stock returns: putting booms and busts into perspective' (with D. Jansen), *REStat*, 73, 1991; 6. 'The limiting distribution of extremal exchange rate yields' (with M. Hols), *JAE*, 6, 1991; 7. 'Optimal localized production experience and schooling' (with C. van Marrewijk, C. Withagen), *IER*, 33, 1992; 8. 'International trade and exchange rate volatility' (with J.-M. Viaene), *Europ ER*, 36, 1992; 9. 'It takes two to tango: equilibria in a model of sales' (with M.R. Baye, D. Kovenock), *Games and Econ. Behav.*, 4, 1992; 10. 'Rigging the lobbying process: an application of the all-pay-auction' (with M.R. Baye, D. Kovenock), *AER*, 83, 1993; 11. 'Stylized facts of nominal exchange rate returns', in F. van der Ploeg (ed.), *Handbook of International Macroeconomics* (Basil Blackwell, 1994); 12. 'Piecemeal versus precipitous factor market integration' (with H. Dellas), *IER*, 36, 1995; 13. 'The all-pay-auction with complete information' (with M.R. Baye, D. Kovenock), *ET*, 8,

1996; 14. 'An EMS target zone model in discrete time' (with K.G. Koedijk, P. Stork), *JAE*, 13, 1998; 15. 'The incidence of overdissipation in rent-seeking contests' (with M. Baye, D. Kovenock), *Public Choice*, 99, 1999; 16. 'Endogeneity in European money demand' (with I. Arnold), *EJPE*, 16, 2000; 17. 'Value-at-risk and extreme returns' (with J. Danielsson), *Annales D'Économie et de Statistique*, 60, 2000; 18. 'Convolutions of heavy-tailed random variables and applications to portfolio diversification and MA(1) time series' (with J. Geluk, L. Peng), *Advances in Apl. Probability*, 32, 2000; 19. 'Using a bootstrap method to choose the sample fraction in tail index estimation' (with J. Danielsson, L. de Haan, L. Peng), *J. Multivariate Analysis*, 76, 2001; 20. 'Fiat exchange in finite economies' (with D. Kovenock), *EI*, 40, 2002.

Principal Contributions My research interests are focused on international monetary issues, like foreign exchange rate determination and exchange rate risk, the issues surrounding the euro, and risk management in financial markets. In my research on financial risks, I have specialized in calculating the risks on extreme events by means of statistical extreme value analysis. My other research interests concern contest and auction theory, which can be applied to the theory of lobbying. I have published widely in leading internationally refereed journals.

DEANGELO, Linda n.e.

DEATON, Angus Stewart

Born 1945, Edinburgh, Scotland.

Current Posts Dwight D. Eisenhower Prof. Econ. and Intl Affairs, Woodrow Wilson Sch. and Dept Econ., Princeton Univ., Princeton, NJ, USA, 1983–

Past Posts Econ., Bank England, 1967–68; Res. Officer, Dept Apl. Econ., Univ. Cambridge, 1969–76; Fell., Dir. Stud. Econ., Fitzwilliam Coll., Cambridge, 1972–76; Prof. Em., Bristol Univ., 1976–83; Vis. Prof., Princeton Univ., 1979–80; Cons., World Bank, 1980–.

Degrees BA, MA, PhD Univ. Cambridge, 1967, 1971, 1974.

Offices and Honours First Recipient, Frisch Medal, Em Soc, 1978, Fell., Council, Em Soc, 1979, 1981–; Fell., AAAS, 1992, BA, 2001.

Editorial Duties Asst Ed., *REStud*, 1975–80; Assoc. Ed., Co-Ed., Ed., *Em*, 1978–80, 1980–84, 1984–88.

Principal Fields of Interest O1 Economic Development; I0 Health, Education, and Welfare: General; D1 Household Behavior.

Publications *Books*: 1. *Economics and Consumer Behaviour* (with J. Muellbauer), (CUP, 1980); 2. *Understanding Consumption* (OUP, 1992); 3. *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy* (JHUP, 1997).

Articles: 1. 'The analysis of consumer demand in the United Kingdom 1900–1970', *Em*, 42, March 1974; 2. 'A reconsideration of the empirical implications of additive preference', *EJ*, 84, June 1974; 3. 'Involuntary saving through unanticipated inflation', *AER*, 67, Dec. 1977; 4. 'An almost ideal demand system' (with J. Muellbauer), *AER*, 70, June 1980; 5. 'A profitable approach to labor supply and commodity demands over the life cycle' (with M. Browning, M.J. Irish), *Em*, 53, 1985; 6. 'Panel data from time series of cross sections', *J Em*, 30, Oct.–Nov. 1985; 7. 'Life-cycle models of consumption: is the evidence consistent with the theory?', in T. Bewley (ed.), *Advances in Econometrics* (CUP, 1987); 8. 'Quality, quantity, and spatial variation in price', *AER*, 78, June 1988; 9. 'Looking for boy–girl

discrimination in household expenditure data', *WBER*, 3, Jan. 1989; 10. 'Saving and liquidity constraints', *Em*, 59, Sept. 1991; 11. 'On the behavior of commodity prices' (with G. Laroque), *REStud*, 59, 1992; 12. 'Intertemporal choice and inequality' (with C. Paxson), *JPE*, 102, 1994; 13. 'Competitive storage and commodity price dynamics' (with G. Laroque), *JPE*, 104, 1996; 14. 'Economies of scale, household size, and the demand for food' (with C. Paxson), *JPE*, 106, 1998; 15. 'Counting the world's poor: problems and possible solutions', *World Bank Res. Observer*, 16, Fall 2001; 16. 'Policy implications of the gradient of health and wealth', *Health Affairs*, 21, March–April 2002; 17. 'Mortality, inequality, and race in American cities and states' (with D. Lubotsky), *Social Sc. Medicine*, forthcoming 2003.

Principal Contributions My work has been concerned with the wellbeing and behavior of households and individuals; with demand systems, with consumption and saving, with intra-household allocation, and with health. I have tried to work on these topics broadly, at both microeconomic and macroeconomic levels, and using data from developing as well as industrialized countries. I have been concerned with using theory to interpret data, and using data to discover whether theory is even broadly on the right lines. I am also much interested in measurement, with methods for organizing data that will cast light on issues of theory and policy. In the last decade, I have focussed on policy issues in economic development and particularly on the use of household survey data to illuminate issues of development policy. I have also worried about the effects of commodity price fluctuations on primary producing countries, and have tried, mostly unsuccessfully, to discover what makes world commodity prices behave as they do. I have tried to understand the relationship between population

ageing, saving, and inequality of consumption, income, and wealth. Most recently, I have worked on wellbeing in a broad sense, with a particular focus on income and on health, and on the relationship between them. Why is it that rich people live longer than poor people, at a moment in time, across countries, and over history, and what are the policy implications of the answer? I am afraid that I have usually been better at ruling out explanations than confirming them, and of showing what is *not* true than what is.

DECHOW, Patricia M. n.e.

DEININGER, Klaus n.e.

DEKEL, Eddie

Born 1958, New York, NY, USA.

Current Posts Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1993–; Prof. Econ., Tel Aviv Univ., Tel Aviv, Israel, 1998–.

Past Posts Miller Fell., 1986–88; Acting Assoc. Prof., Assoc. Prof., Prof. Econ., Univ. California, Berkeley, 1988–90, 1990–93, 1993–95.

Degrees BA Tel Aviv Univ., 1981; PhD Harvard Univ., 1986.

Offices and Honours Alfred P. Sloan Foundation Fellowship, 1990–92; Fell., Em Soc, 1997–.

Editorial Duties Assoc. Ed., *JET*, *Games and Econ. Behav.*, *Intl J. Game Theory*, *Em*.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty.

Publications *Articles*: 1. 'Rationalizability and correlated equilibria' (with A. Brandenburger), *Em*, 55, 1987; 2. 'Asset demands without the independence axiom',

Em, 57, 1989; 3. 'Rational behavior with payoff uncertainty' (with D. Fudenberg), *JET*, 52, 1990; 4. 'Existence and dynamic consistency of Nash equilibrium with non-expected utility preferences' (with Z. Safra, U. Segal), *JET*, 55, 1991; 5. 'Lexicographic probabilities and choice under uncertainty' (with L. Blume, A. Brandenburger), *Em*, 59, 1991; 6. 'Lexicographic probabilities and equilibrium refinements' (with L. Blume, A. Brandenburger), *Em*, 59, 1991; 7. 'On the evolution of optimizing behavior' (with S. Scotchmer), *JET*, 57, 1992; 8. 'Signaling future actions and the potential for sacrifice' (with E. Ben-Porath), *JET*, 57, 1992; 9. 'Hierarchies of beliefs and common knowledge' (with A. Brandenburger), *JET*, 59, 1993; 10. 'Possibility correspondences preclude unawareness' (with B. Lipman, A. Rustichini), *Em*, 66, 1998.

Principal Contributions n.e.

DELONG, J. Bradford n.e.

DENECKERE, Raymond J. n.e.

DENIS, David J. n.e.

DETEMPLE, Jérôme Benoit

Born 1957, Creutzwald, Moselle, France.

Current Posts Prof. Fin. Econ., Sch. Mgmt, Boston Univ., Boston, MA, USA, 1999–; Res. Assoc., CIRANO, Montreal, Canada, 1999–.

Past Posts Asst Prof. Fin., Assoc. Prof. Fin., Columbia Univ., 1984–87, 1987–92; Prof. Fin., McGill Univ., 1992–99; Dir. Res., CIRANO, 1993–99.

Degrees ESSEC Cergy-Pontoise Univ., 1979; DEA (Fin.) Univ. Paris-Dauphine, Paris, 1980; MA (Fin.), PhD (Fin.)

Wharton Sch., Univ. Pennsylvania, 1982, 1983; Doctorat d'État Univ. L. Pasteur, Strasbourg, 1985.

Honours *Math. Fin./Merrill Lynch* 1992 Best Paper Award, 3rd place with F. Zapatero, *Math. Fin.*, 1992.

Editorial Duties Assoc. Ed., *Math. Fin.*, 1997–, *Fin.*, 1999–, *Rev. Fin. Stud.*, 1999–2002, *Mgmt Sc.*, 2001–.

Principal Fields of Interest G1 General Financial Markets; D5 General Equilibrium and Disequilibrium; D9 Intertemporal Choice and Growth.

Publications *Articles*: 1. 'Asset pricing in a production economy with incomplete information', *J Fin*, 41, June 1986; 2. 'On the optimal hedge of a non-traded cash position' (with M. Adler), *J Fin*, 43, March 1988; 3. 'Option listing and stock returns' (with P. Jorion), *J Bank Fin*, 14, 1990; 4. 'Further results on asset pricing with incomplete information', *JEDC*, 15, 1991; 5. 'A general equilibrium analysis of option and stock market interactions' (with L. Selden), *IER*, 32, May 1991; 6. 'Asset prices in an exchange economy with habit formation' (with F. Zapatero), *Em*, 59, Nov. 1991; 7. 'Optimal consumption-portfolio policies with habit formation' (with F. Zapatero), *Math. Fin.*, 2, Oct. 1992; 8. 'Intertemporal asset pricing with heterogeneous beliefs' (with S. Murthy), *JET*, 62, April 1994; 9. 'American capped call options on dividend paying assets' (with M. Broadie), *Rev. Fin. Stud.*, 8, Spring 1995; 10. 'The relevance of financial policy' (with P. Gottardi, H. Polemarchakis), *Europ ER*, 39, June 1995; 11. 'Asset and commodity prices with multiattribute durable goods' (with C. Giannikos), *JEDC*, 20, 1996; 12. 'American option valuation: new bounds, approximations and a comparison of existing methods' (with M. Broadie), *Rev. Fin. Stud.*, 9, Winter 1996; 13. 'The valuation of American options on multiple assets' (with M. Broadie), *Math. Fin.*, 7, July

1997; 14. 'Equilibrium asset prices and no-arbitrage with portfolio constraints' (with S. Murthy), *Rev. Fin. Stud.*, 10, Winter 1997; 15. 'Aggregation, efficiency and mutual fund separation in incomplete markets' (with P. Gottardi), *ET*, 11, 1998; 16. 'Non-traded asset valuation with portfolio constraints: a binomial approach' (with S. Sundaresan), *Rev. Fin. Stud.*, 12, 1999; 17. 'American options with stochastic dividends and volatility: a nonparametric investigation' (with M. Broadie, E. Ghysels, O. Torres), *J Em*, 94, 2000; 18. 'Non-parametric estimation of American option exercise boundaries and call prices' (with M. Broadie, E. Ghysels, O. Torres), *JEDC*, 24, 2000; 19. 'The valuation of American options for a class of diffusion processes' (with W. Tian), *Mgmt Sc.*, 48, July 2002; 20. 'A Monte-Carlo method for optimal portfolios' (with R. Garcia, M. Rindisbacher), *J Fin*, 58, Feb. 2003.

Principal Contributions *Incomplete information and heterogeneous beliefs*: my early work showed that a dynamic consumption-portfolio choice problem with incomplete information about the drift of returns can be transformed into an equivalent model with complete information. This simple insight paved the way for the study of economies with heterogeneous beliefs. In collaboration with S. Murthy I developed a class of tractable dynamic models in which agents rationally disagree over the distributions of unobserved fundamentals and beliefs evolve stochastically in response to news. Heterogeneity in beliefs emerges as an important factor underlying the behaviour of asset prices, the interest rate and the volume of trade in asset markets. *Habit formation*: F. Zapatero and I solved the consumption-portfolio choice problem for individuals that display consumption habits in complete market models with Brownian information structure and Ito price processes. An extension of this model, which

allows for a more flexible class of preferences with habit formation, was considered in joint work with I. Karatzas. *American option pricing*: in collaboration with Mark Broadie I developed several numerical procedures for the computation of American option prices. We also studied the valuation of American-style capped options and options written on multiple assets. While these results were obtained in settings where the underlying prices follow geometric Brownian motions they can be extended to more general diffusions, as shown in joint work with W. Tian. *Portfolio allocation*: recent work with R. Garcia and M. Rindisbacher deals with the implementation of asset allocation models. Our approach, based on Monte Carlo simulation, enables us to compute the intertemporal hedging components of asset demands that were originally identified by R.C. Merton. This method is very flexible and handles large numbers of assets and state variables as well as arbitrary utility functions.

DEVEREUX, Michael Peter

Born 1959, Dover, England.

Current Posts Prof. Econ. and Fin., Warwick Univ., UK; Res. Fell., IFS, London, UK, 1998–.

Past Posts Res. Officer, Sr. Res. Officer, Dir., Corp. Sector Programme, IFS, London, 1982–85, 1985–86, 1987–90; Prof. Fin., Prof. Econ. and Fin., Keele Univ., UK, 1990–94, 1994–98.

Degrees BA (PPE) Oxford Univ., 1980; MSc LSE, 1982; PhD Univ. Coll. London, 1990.

Offices and Honours Houlton-Norman Res. Fell., Bank of England, 1992–93; Head, Econ. Dept, Keele Univ., 1993–96; Vis. Fell., Nuffield Coll., Oxford, 1995; Res. Dean, Social Sc., Keele Univ., 1996–97.

Editorial Duties Managing Ed., *Fiscal Stud.*, 1991–98; Contrib. Ed., *EC Tax Rev.*, 1992–; Assoc. Ed., *ITPF*, 1994–.

Principal Fields of Interest H3 Fiscal Policies and Behavior of Economic Agents; E2 Consumption, Saving, Production, Employment, and Investment; F2 International Factor Movements and International Business.

Publications *Books*: 1. *Taxing Profits in a Global Economy: Domestic and International Issues* (with M. Pearson, P. Sorensen, OECD staff), (OECD, 1991); 2. *The Economics of Tax Policy* (ed.), (OUP, 1996).

Articles: 1. ‘Tax asymmetries, the cost of capital and investment’, *EJ*, 99, 1989; 2. ‘Investment and Tobin’s q : some evidence from panel data’ (with R. Blundell, S.R. Bond, F. Schiantarelli), *J Em*, 51, 1992; 3. ‘Corporation tax asymmetries and investment: evidence from UK panel data’ (with M. Keen, F. Schiantarelli), *J Pub E*, 53, 1994; 4. ‘The impact of tax on foreign direct investment: empirical evidence and the implications for tax integration schemes’ (with H. Freeman), *ITPF*, 2, 1995, repr. in J. Slemrod (ed.), *Taxation of Multinational Enterprises* (Kluwer, 1996); 5. ‘On the design of a neutral business tax under uncertainty’ (with S.R. Bond), *J Pub E*, 58, 1995; 6. ‘European tax harmonisation and production efficiency’ (with M. Pearson), *Europ ER*, 39, 1995; 7. ‘Taxes and company dividends: a microeconomic investigation exploiting cross-section variation in taxes’ (with S.R. Bond, L. Chennells), *EJ*, 106, 1996; 8. ‘Investment, saving and taxation in an open economy’, *OREP*, 12, 1996; 9. ‘Intertemporal consumption, durables and liquidity constraints: a cohort analysis’ (with R. Alessie, G. Weber), *Europ ER*, 41, 1997; 10. ‘Taxes and the location of production: evidence from a panel of US multinationals’ (with R. Griffith), *J Pub E*, 68, 1998.

Principal Contributions Theoretical and empirical analysis of taxation and business. Development of theoretically neutral business tax systems. Investigation of impact of taxation on investment and financial policy of firms. Measurement of effective tax rates on international capital flows. Empirical investigation of effect of taxes on the location of investment. Theory of optimal taxation of international investment flows. Study of the demand for housing finance and the role played by tax relief. Theoretical and empirical studies testing the existence and effect of financial constraints on individual consumption patterns and on firm investment. Work on role of financial repression in developing countries.

DEWATRIPOINT, Mathias n.e.

DIAMOND, Douglas W. n.e.

DIAMOND, Peter Arthur

Born 1940, New York City, NY, USA.

Current Post Inst. Prof., MIT, Cambridge, MA, USA, 1997–.

Past Posts Asst Prof., Acting Assoc. Prof., Univ. California, Berkeley, 1963–65, 1965–66; Overseas Fell., Churchill Coll., Cambridge, 1965–66; Assoc. Prof., Prof., MIT, 1966–70, 1970–97; Vis. Prof., Univ. Coll., Nairobi, 1968–69, Hebrew Univ., Jerusalem, 1969; Vis. Fell., Balliol Coll., Oxford, 1973–74; Vis. Prof., Harvard Sch. Public Health, 1977–78; Vis. Scholar, Harvard Law Sch., 1982–83; Vis. Prof. Europ. Univ. Inst., 1992; Fulbright Fell., Univ. Siena, 2000.

Degrees BA (Maths) Yale Univ., 1960; PhD MIT, 1963.

Offices and Honours US SSRC Fell., 1965; Guggenheim Foundation Fell.,

1966–67, 1982–83; Fell., Council, Em Soc, 1968, 1981–87; Fell., AAAS, 1978; Mahalanobis Memorial Award, 1980; 2nd Vice-Pres., 1st Vice-Pres., Pres., Past Pres., Em Soc, 1989, 1990, 1991, 1992; Vice-Pres., Pres.-Elect, AEA, 1986, 2002; Mem., NAS, 1984–; Founding Mem., Pres., Chair of Bd, Natl Acad. Social Insurance, 1988, 1994–97, 1996–98; Nemmers Prize, 1994; CES Fell., 2000.

Editorial Duties Assoc. Ed., *JET*, 1969–71, *J Pub E*, 1971–86; Ed. Bd, *AER*, 1979–81; Co-Ed., *J Pub E*, 1986–95.

Principal Fields of Interest H0 Public Economics: General; E3 Prices, Business Fluctuations, and Cycles.

Publications *Books*: 1. *Uncertainty in Economics: Readings and Exercises* (ed. with M. Rothschild), (Acad. Press, 1978, 1987); 2. *A Search Equilibrium Approach to the Micro Foundations of Macroeconomics* (MIT Press, 1984); 3. *Growth/Productivity/Unemployment: Essays to Celebrate Bob Solow's Birthday* (MIT Press, 1990); 4. *On Time: Lectures on Models of Equilibrium* (CUP, 1994); 5. *Issues in Privatization of Social Security, Report of the Panel on Privatization of Social Security* (MIT Press, 1999); 6. *Social Security Reform: The 1999 Lindahl Lectures* (OUP, 2002); 7. *Taxation, Incomplete Markets and Social Security: The 2000 Munich Lectures* (MIT Press, 2002).

Articles: 1. 'Stationary utility and time perspective' (with T.C. Koopmans, R.E. Williamson), *Em*, 32, Jan.–April 1964; 2. 'National debt in a neoclassical growth model', *AER*, 55, Dec. 1965; 3. 'The role of a stock market in a general equilibrium model with technological uncertainty', *AER*, 57, Sept. 1967; 4. 'Optimal taxation and public production, I, II' (with J.A. Mirrlees), *AER*, 61, March, June 1971; 5. 'A model of price adjustment', *JET*, 3, June 1971; 6. 'A framework for social security analysis', *J Pub E*, 8, 1977; 7. 'Wage determination and efficiency in

search equilibrium', *REStud*, 49, 1982; 8. 'Aggregate demand management in search equilibrium', *JPE*, 90, Sept. 1982; 9. 'The Beveridge curve' (with O.J. Blanchard), *BPEA*, 1, 1989; 10. 'Organizing the health insurance market', *Em*, 60, Nov. 1992; 11. 'Money illusion' (with E. Shafir, A. Tversky), *QJE*, 112, May 1997; 12. 'Optimal income taxation: an example with a U-shaped pattern of optimal marginal tax rates', *AER*, 88, March 1998; 13. 'What stock market returns to expect for the future?', *Social Security Bull.*, 63, 2000.

Principal Contributions Early work was on infinite horizon preferences and growth theory. Positive and normative analyses have reconsidered the implications of the Walrasian model in the presence of overlapping generations, in the absence of some markets (especially insurance markets), in the absence of the ability to costlessly redistribute income among individuals, and in the absence of a Walrasian auctioneer. Both basic research and policy analyses have been done on the public provision of retirement income.

DIEBOLD, Francis X.

Born 1959, Philadelphia, PA, USA.

Current Posts W.P. Carey Prof. Econ., Univ. Pennsylvania, Philadelphia, PA, USA, 2000–; Prof. Fin. and Stats., Univ. Pennsylvania, 2000–; Res. Assoc., NBER, New York City, NY, USA, 1993–.

Past Posts Res. Econ., Bd Governors, Fed. Reserve System, 1986–89; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ. and Stats, Lawrence R. Klein Prof. Econ., Univ. Pennsylvania, 1989–92, 1992–96, 1996–99, 1999–2000; Faculty Res. Fell., NBER, New York City, 1993–99; Dir., Inst. Econ. Res., Univ. Pennsylvania, 1999–2000.

Degrees BS (Fin. and Econ.), PhD

Wharton Sch., Univ. Pennsylvania, 1981, 1986.

Offices and Honours Co-Chairman, Working Group on Common Elements of Trends and Fluctuations, NBER, 1990–91; Program Chair, Bus. and Econ. Stats Section, ASA, 1991; Alfred P. Sloan Foundation Res. Fell., 1992–94; Co-Chairman, Working Group on Empirical Methods in Macroecon. and Fin., NBER, 1992–2001; Program Comm., North Amer. Summer Meeting, Em Soc, 1993; Bd Sr Scholars, Natl Center for Educ. Quality of Workforce, 1993–95; Secretary/Treasurer, Bus. and Econ. Stat. Section, ASA, 1994; Kravis Award for Outstanding Teaching, Univ. Pennsylvania, 1994, 1998; Chairman, Forecasting Seminar, NSF/NBER, 1995–2001; Sr Fell., Wharton Fin. Insts Center, 1997–; Econ. Panel, NSF, 1998–2000; Fell., Em Soc, 1998–; ‘Club Six’ Teaching Distinction, Stern Sch. Bus., NYU, 1999; Program Comm., North Amer. Winter Meetings, Em Soc, 1999, 2003; Organizing Comm., Computational Fin., 1999–; Geewax-Terker Award for Outstanding Res., Dept Fin., Wharton Sch., 2001; Chairman, Organizing Comm., Time-Series Conf., NSF/NBER, 2002; Nominating Comm., AFA, 2002.

Editorial Duties Assoc. Ed., *Em. Rev.*, 1989–92, *JAE*, 1991–97, *J. Empirical Fin.*, 1992–95, *Stata Tech. Bull.*, 1993–, *J. Forecasting*, 1993–, *JBES*, 1993–, *IER*, 1993–, *Em*, 1994–97, *Emerging Markets Fin. J.*, 2002–; Co-Ed., *J. Forecasting*, 1990–93; Ed. Bd, *IER*, 1993–2000; Advisory Bd, *Macroecon. Dynamics*, 1996–, *Econ. Pol. Rev.*, FRB, NY, 1997–, *J Fin E*, 2000–, *Litigation Econ. Rev.*, 2001–, *Advances in Computational Mgmt Sc.*, 2002–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; G0 Financial Economics: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Empirical*

Modeling of Exchange Rate Dynamics (S-V, 1988); 2. *Elements of Forecasting* (South-Western Coll. Publ., 1998); 3. *Business Cycles: Durations, Dynamics, and Forecasting* (with G. Rudebusch), (Princeton Univ. Press, forthcoming).

Articles: 1. ‘The dynamics of exchange rate volatility: a multivariate latent-factor ARCH model’ (with M. Nerlove), *JAE*, 4, 1989; 2. ‘Scoring the leading indicators’ (with G. Rudebusch), *J Bus*, 62, 1989; 3. ‘Long memory and persistence in aggregate output’ (with G. Rudebusch), *JME*, 24, 1989; 4. ‘A nonparametric investigation of duration dependence in the American business cycle’ (with G. Rudebusch), *JPE*, 98, 1990; 5. ‘Nonparametric exchange rate prediction?’ (with J. Nason), *J Int E*, 28, 1990; 6. ‘On the power of Dickey–Fuller tests against fractional alternatives’ (with G. Rudebusch), *Econ. Letters*, 35, 1991; 7. ‘Forecasting output with the composite leading index: an *ex ante* analysis’ (with G. Rudebusch), *JASA*, 86, 1991; 8. ‘Have postwar economic fluctuations been stabilized?’ (with G. Rudebusch), *AER*, 82, 1992; 9. ‘Regime switching with time-varying transition probabilities’ (with J.-H. Lee, G. Weinbach), in C. Hargreaves (ed.), *Nonstationary Time Series Analysis and Cointegration (Advanced Texts in Econometrics)*, C.W.J. Granger, G. Mizon, eds, (OUP, 1994); 10. ‘Comparing predictive accuracy’ (with R.S. Mariano), *JBES*, 13, 1995; 11. ‘Measuring business cycles: a modern perspective’ (with G.D. Rudebusch), *REStat*, 78, 1996; 12. ‘Optimal prediction under asymmetric loss’ (with P. Christoffersen), *ET*, 13, 1997; 13. ‘Evaluating density forecasts, with applications to financial risk management’ (with T. Gunther, A. Tay), *IER*, 39, 1998; 14. ‘Dynamic equilibrium economies: a framework for comparing models and data’ (with L. Ohanian, J. Berkowitz), *REStud*, 65, 1998; 15. ‘The distribution of real-

ized exchange rate volatility' (with T. Andersen, T. Bollerslev, P. Labys), *JASA*, 96, 2001; 16. 'Range-based estimation of stochastic volatility models' (with S. Alizadeh, M.W. Brandt), *J Fin*, 57, 2002; 17. 'Micro effects of macro announcements: real-time price discovery in foreign exchange' (with T.G. Andersen, T. Bollerslev, C. Vega), *AER*, 2003 forthcoming.

Principal Contributions Research centers on applied time-series econometrics and extends into macroeconomics and finance. Early and ongoing research program in modeling asset return volatility, with particular attention to foreign exchange rates, helped to establish the fact that volatilities of dollar spot exchange rates in the post-1973 float fluctuate and are highly persistent. Related contributions to volatility modeling focus on temporal aggregation, diagnostic testing, multivariate models with factor structure, estimation, and prediction. Second, research program on evaluation of the predictive ability of indexes of leading economic indicators, duration dependence in US and international business cycles, and assessing the stabilization of the postwar economy. Third, research program on low-frequency dynamic econometric models, focussing on 'long-memory' models for macroeconomics and financial time series. Fourth, research program on numerical and simulation methods in econometrics; contributions include bootstrap algorithms for testing for structural change in dynamic econometric models, techniques for the exact maximum likelihood estimation of observation-driven models, and construction of a very general framework for assessing agreement between (generally misspecified) dynamic general equilibrium models and data. Fifth, research program on forecasting; contributions concern optimal prediction under asymmetric loss, the evaluation of point

and interval forecasts, the evaluation of volatility forecasts, and the measurement of predictability. Most recent research program centers on financial econometrics, specifically the interface between forecasting and finance, with emphasis on volatility forecasting and risk management.

DIMASI, Joseph A.

Born 1954, Boston, MA, USA.

Current Post Dir. Econ. Analysis, Tufts Center Study of Drug Devlp., Tufts Univ., Boston, MA, USA, 1987–.

Past Posts Part-time Instr., Boston Coll., 1980–81; Instr., Asst Prof., Coll. of Holy Cross, 1981–84, 1984–87.

Degrees BA (Maths and Econ.) Univ. Massachusetts, 1975; PhD Boston Coll., 1984.

Offices and Honours Undergrad. Excellence in Maths Award, Univ. Massachusetts, 1975; Doctoral Degree Representative, Boston Coll., 1984; Donald E. Francke Award, *Drug Info. J.*, Drug Info. Assoc., 2001.

Editorial Duties Ed. Bd, *Drug Info. J.*, 1995–99, *J. Res. Pharmaceutical Econ.*, 1998–.

Principal Fields of Interest O3 Technological Change; L6 Industry Studies: Manufacturing; I1 Health.

Publications *Articles*: 1. 'The appropriate specification of constant elasticity demand functions' (with D. Schap), *Social Choice and Welfare*, 2, 1985; 2. 'The wage gradient in a multi-nucleated city' (with M. Peddle), *Regional Sc. Perspectives*, 16, 1986; 3. 'The effects of site value taxation in an urban area: a general equilibrium computational approach', *NTJ*, 40, 1987; 4. Property tax classification and welfare in urban areas: a general equilibrium computational approach', *JUE*, 23, 1988; 5. 'Cost of innovation in the pharmaceutical industry' (with R.

Hansen, H. Grabowski, L. Lasagna), *JHE*, 10, 1991; 6. 'Rising research and development costs for new drugs in a cost containment environment', *PharmacoEcon.*, suppl. 1, 1992; 7. 'Implementation of the orphan drug act: 1983–1991' (with S. Shulman, B. Bienz-Tadmor, P. Seo, L. Lasagna), *Food and Drug Law J.*, 47, 1992; 8. 'Risks, regulation, and rewards in new drug development in the United States', *Regulatory Toxicology and Pharmacology*, 19, 1994; 9. 'Research and development costs for new drugs by therapeutic category: a study of the US pharmaceutical industry' (with R. Hansen, H. Grabowski, L. Lasagna), *PharmacoEcon.*, 7, 1995; 10. 'R&D costs, innovative output, and firm size in the pharmaceutical industry' (with H. Grabowski, J. Vernon), *IJEB*, 2, 1995; 11. 'The economics of psychotropic drug development' (with L. Lasagna), in F. Bloom, D. Kupfer (eds), *Psychopharmacology: The Fourth Generation of Progress* (Raven, 1995); 12. 'Recombinant protein and therapeutic monoclonal antibody drug development in the United States: 1980–1994' (with M. Gosse, T. Nelson), *Clinical Pharmacology and Therapeutics*, 60, 1996; 13. 'Initiatives to speed new drug development and regulatory review: the impact of FDA-sponsor conferences' (with M. Manocchia), *Drug Info. J.*, 31, 1997; 14. 'Effects of US regulatory policies on the research, development, and approval of new biotechnology derived pharmaceuticals: points to consider for OECD member countries' (with M. Gosse, K. Kaitin, S. Shulman), in *Biotechnology, Medical Innovation and the Economy: A Survey of the Key Relationships in Economic Aspects of Biotechnology Related to Human Health* (OECD, 1998); 15. 'Patent term restoration: the impact of the Waxman-Hatch Act on new drugs and biologics approved 1984–1995' (with S. Shulman, K. Kaitin), *J. Biolaw and Bus.*, 2, 1999; 16. 'Price trends for prescription pharma-

ceuticals: 1995–1999', *US Dept Health and Human Services*, <http://aspe.hhs.gov/health/reports/Drug-papers/dimassi/dimasi-final.htm>, Aug. 2000; 17. 'New drug innovation and pharmaceutical industry structure: trends in the output of pharmaceutical firms', *Drug Info. J.*, 34, 2000; 18. 'New drug development in the United States: 1963–1999', *Clinical Pharmacology and Therapeutics*, 69, 2001; 19. 'Risks in new drug development: approval success rates for investigational drugs', *Clinical Pharmacology and Therapeutics*, 69, 2001; 20. 'Emerging role of pharmacoeconomics in the research and development decision-making process', *PharmacoEcon.*, 19, 2001.

Principal Contributions My early work focussed on issues in urban economics and local public finance. I developed urban spatial location models to investigate the welfare effects of various property tax policy changes in an urban area and applied computable general equilibrium techniques to solve those models. A key result produced by this work was that consumer welfare is enhanced by taxing business property at lower rates than residential property. Most of my research has focussed on innovation in the pharmaceutical and biotechnology industries. In a series of papers that utilize unique datasets on aspects of the drug development process, I have examined various regulatory practices and initiatives that impact the speed with which new drugs can be developed and approved for marketing, risks in new drug development, trends in the cost of new drug development, and changes in the structure and performance of the pharmaceutical and biotechnology industries. I have recently joined Henry Grabowski and John Vernon to examine economic rates of return to new drug development, and I have used a large pharmacy claims dataset to examine pricing dynamics for pharmaceutical products.

DINARDO, John n.e.

DINOPOULOS, Elias n.e.

DIXIT, Avinash Kamalakar

Born 1944, Bombay, India.

Current Post John J.F. Sherrerd '52 Univ. Prof. Econ., Princeton Univ., NJ, USA, 1989–.

Past Posts Acting Asst Prof., Univ. California, Berkeley, 1968–69, Fell., Balliol Coll., Oxford, 1970–74; Prof. Econ., Univ. Warwick, 1974–80; Vis. Prof., MIT, 1977, 1994; Prof. Econ. and Intl Affairs, Princeton Univ., 1981–89.

Degrees BSc (Maths and Physics) Bombay Univ., 1963; BA (Maths) Univ. Cambridge, 1965; PhD MIT, 1968.

Offices and Honours Fell., Em Soc, 1977, AAAS, 1992; Mahalanobis Memorial Intl Medal, Em Soc, 1985; Guggenheim Fell., 1991–92; Disting. Fell. (title and prize), Center Econ. Stud., Univ. Munich, 1994; Pres., Em Soc, 2001; Vice-Pres., AEA, 2002.

Editorial Duties Ed. Bd, Asst Ed., *REStud*, 1970–80, 1975–78; Assoc. Ed., *JET*, 1972–75, *Em*, 1978–83; Co-Ed., *Bell JE*, 1981–83, *Em Soc Monograph* series, 1990–94.

Principal Fields of Interest F1 Trade; D9 Intertemporal Choice and Growth; H0 Public Economics: General.

Publications *Books*: 1. *Optimization in Economic Theory* (OUP, 1976, 1990; trans., Japanese, 1982); 2. *The Theory of Equilibrium Growth* (OUP, 1976; trans., Spanish, 1987); 3. *Theory of International Trade* (with V. Norman), (CUP, 1980; trans., German, 1982); 4. *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life* (with B. Nalebuff), (W.W. Norton, 1991; trans., Japanese, 1991, Spanish, 1992, Korean, 1993, Italian, 1993, Por-

tuguese, 1994, German, 1995, Chinese (complex characters), 1997, Greek, 2001, Chinese (simplified characters), 2002); 5. *The Art of Smooth Pasting*, Vol. 55, *Fundamentals of Pure and Applied Economics*, eds J. Lesourne, H. Sonnenschein (Harwood Acad., 1993); 6. *Investment Under Uncertainty* (with R.S. Pindyck), (Princeton Univ. Press, 1994); 7. *The Making of Economic Policy: A Transaction Cost Politics Perspective* (MIT Press, 1996); 8. *Games of Strategy* (with S. Skeath), (W.W. Norton, 1999).

Articles: 1. 'Optimal development in the labour surplus economy', *REStud*, 35, Jan. 1968; 2. 'The optimum factory town', *Bell JE*, 4, Autumn 1973; 3. 'Welfare effects of tax and price changes', *J Pub E*, 4, Feb. 1975; 4. 'Monopolistic competition and optimum product diversity' (with J.E. Stiglitz), *AER*, 67, June 1977; 5. 'The role of investment in entry deterrence', *EJ*, 90, March 1980; 6. 'International trade policy for oligopolistic industries', *EJ*, 94 (suppl.), March 1984; 7. 'Trade and insurance with adverse selection', *REStud*, 56, April 1989; 8. 'Hysteresis, import penetration, and exchange rate pass-through', *QJE*, 104, May 1989; 9. 'Entry and exit decisions under uncertainty', *JPE*, 97, June 1989; 10. 'Redistributive politics and economic efficiency' (with J. Londregan), *Amer. Polit. Sc. Rev.*, Dec. 1995; 11. 'The dynamics of political compromise' (with G. Grossman, F. Gul), *JPE*, 108, June 2000; 12. 'A repeated game model of monetary union', *EJ*, 110, Oct. 2000.

Principal Contributions Theoretical research in several areas of economics, including international trade, industrial organisation, public finance, investment and growth, political economy, and the new institutional economics. The work consists of mathematical models of choice and interaction that help us understand the performance of firms, markets, and governments.

DIXON, William J. n.e.

DOLADO, Juan J.

Born 1955, Zaragoza, Spain.

Current Post Prof. Econ., Univ. Carlos III de Madrid, Spain, 1997–.

Past Post Chief Econ., Res. Dept, Bank of Spain, 1988–96.

Degrees BSc Univ. Complutense de Madrid, 1977; MSc (Math. Econ.) LSE, 1982; PhD Oxford Univ., 1988.

Offices and Honours Mem. Council, Europ. Econ. Assoc., 1997–2001; Pres., Spanish Econ. Assoc., 2001; Mem., Group Econ. Analysis, Pres. of Europ. Community, 2001–.

Editorial Duties Co-Ed., *ET*, 1996–2000; Assoc. Ed., *Europ ER*, 1997–2000, *BER*, 2001–; Ed., *Spanish Econ. Rev.*, 2000–.

Principal Fields of Interest C4 Econometric and Statistical Methods: Special Topics; J6 Mobility, Unemployment, and Vacancies; E4 Money and Interest Rates.

Publications *Books*: 1. *Cointegration, Error-Correction and the Econometric Analysis of Non-stationary Data* (with A. Banerjee, D.F. Hendry, J.W. Galbraith), (OUP, 1993); 2. *Social Europe: One for All?, Monitoring Europ. Integration series*, Vol. 8 (with C. Bean, S. Bentolila, G. Bertola), (CEPR, 1998).

Articles: 1. 'Exploring equilibrium relationships in econometrics through static models: some Monte-Carlo evidence' (with A. Banerjee, D.F. Hendry, G.W. Smith), *OBES*, 48, 1986; 2. 'Intertemporal rules with variable speed of adjustment: an application to UK manufacturing employment' (with S. Burgess), *EJ*, 99, 1989; 3. 'The asymptotic distribution of the iterated Gauss–Newton estimators of an ARIMA process' (with J. Hidalgo), *ET*, 6, 1990; 4. 'Estimating intertemporal quadratic adjustment cost models with inte-

grated series' (with A. Banerjee, J.W. Galbraith), *IER*, 32, 1991; 5. 'The power of cointegration tests' (with N. Ericsson, J. Kremers), *OBES*, 54, 1992; 6. 'The growth effects of migration in the host country' (with A. Goría, A. Ichino), *J. Pop. Econ.*, 7, 1993; 7. 'Delegation in international monetary policy games' (with J. Padilla, M. Griffiths), *Europ ER*, 38, 1994; 8. 'Making Wald test work for cointegrated systems' (with H. Lütkepohl), *ER*, 15, 1996; 9. 'Wage bargaining in industries with market power' (with S. Bentolila, J. Padilla), *JEMS*, 5, 1996; 10. 'The causes of Spanish unemployment: a structural VAR analysis' (with J.F. Jimeno), *Europ ER*, 41, 1997; 11. 'Minimum wages, collective bargaining and wage dispersion: the Spanish case' (with F. Felgueroso, J.F. Jimeno), *Europ ER*, 41, 1997; 12. 'Error-correction mechanism tests on a single-equation framework' (with A. Banerjee, R. Mestre), *J. Time Series Analysis*, 19, 1998; 13. 'The future of European pension systems' (with M. Boldrin, J.F. Jimeno, F. Peracchi), *Econ. Pol.*, 29, 1999; 14. 'Drawing lessons from the boom of temporary jobs in Spain' (with C. García-Serrano, J.F. Jimeno,), *EJ*, 112, June 2002; 15. 'A fractional Dickey–Fuller test for unit roots' (with J. Gonzalo, L. Mayoral), *Em*, 70, Sept. 2002; 16. 'Long-range dependence in Spanish political poll series' (with J. Gonzalo, L. Mayoral), *JAE*, 18, Dec. 2002.

Principal Contributions My research has focused on the three areas: (i) the econometric analysis of non-stationary series; (ii) the role of institutions in the workings of labour markets; and (iii) the transmission effects on monetary policy on real output, employment and prices. Within area (i), contributions have been made on co-integration, causality and the development of new econometric techniques for models involving long-memory processes. Within area (ii), research has

centred on: the role of employment protection legislation in labour market adjustment, the effects of minimum wages on employment and wage bargaining, the determinants of persistence in unemployment, and the effects of over-education on the working of the labour market. Finally, as regards area (iii), articles have been written on: the monetary-policy transmission mechanisms in Spain, the credibility and delegation problems in the control of monetary policy by an independent central bank, and the cost-benefit analysis of achieving price stability.

DOLLAR, David Richard

Born 1954, St. Louis, MO, USA.

Current Post Res. Manager, Devlp. Res. Group, World Bank, Washington, DC, USA, 1995–.

Past Posts Asst Prof. Econ., UCLA, 1984–89; Country Econ. (Vietnam), World Bank, 1989–95.

Degrees BA (Asian Stud.) Dartmouth Coll., 1975; PhD NYU, 1984.

Principal Fields of Interest O1 Economic Development; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *Competitiveness, Convergence, and International Specialization* (with E. Wolff), (MIT Press, 1993); 2. *Assessing Aid* (with L. Pritchett), (OUP, 1998); 3. *Globalization, Growth, and Poverty* (with P. Collier), (OUP, 2001).

Articles: 1. 'Technological innovation, capital mobility, and the product cycle in north-south trade', *AER*, 76, March 1986; 2. 'Import quotas and the product cycle', *QJE*, 102, Aug. 1987; 3. 'Convergence of industry labor productivity among advanced economies, 1963–1982' (with E. Wolff), *REStat*, 70, Nov. 1988; 4. 'Economic reform and allocative efficiency in China's state-owned industry', *EDCC*, 39, Oct. 1990; 5. 'Patterns of productivity

growth in South Korean manufacturing industries, 1963–1979' (with K. Sokoloff), *JDE*, 33, Oct. 1990; 6. 'Convergence of Korean productivity on West German levels, 1966–1978', *WD*, 19, Feb./March 1991; 7. 'Outward-oriented developing economies really do grow more rapidly: evidence from 95 LDCs, 1976–85', *EDCC*, 40, April 1992; 8. 'Macroeconomic management and the transition to the market in Vietnam', *J Comp E*, 18, June 1994; 9. 'Agricultural seasonality and the organization of manufacturing during early industrialization' (with K. Sokoloff), *JEH*, 57, June 1997; 10. 'Crisis, adjustment, and reform in Thai industry' (with M. Hallward-Driemeier), *World Bank Res. Observer*, 15, Feb. 2000; 11. 'Who gives aid to whom and why?' (with A. Alesina), *JEG*, 5, March 2000; 12. 'Aid, policies, and growth' (with C. Burnside), *AER*, 90, Sept. 2000; 13. 'What explains the success or failure of structural adjustment programs?' (with J. Svensson), *EJ*, 110, Oct. 2000; 14. 'Can the world cut poverty in half?' (with P. Collier), *WD*, 29, Nov. 2001; 15. 'Aid allocation and poverty reduction' (with P. Collier), *Europ ER*, forthcoming; 16. 'Growth is good for the poor' (with A. Kraay), *JEG*, Dec. 2002; 17. 'Institutions, trade, and growth' (with A. Kraay), *JME*, forthcoming.

Principal Contributions My work focuses on the integration of developing countries with the global economy. Developing countries that have become more open to trade through reduced tariffs and non-tariff barriers and through improvements in trade institutions (customs, ports) have experienced accelerated growth. These reforms have not had any systematic effect on household income inequality, so that the accelerated growth has led to significant poverty reduction, especially in Asia. Foreign aid has also accelerated growth, but its impact is conditional on good economic policies. While aid effec-

tiveness depends on recipients' policies, donor agencies have had little influence over those policies. Domestic political economy overshadows any impact of conditionality. These results underpin the 'selectivity' approach to foreign aid, in which large-scale aid is targeted to developing countries with reasonably good economic policies without a lot of detailed conditionality. My research on integration includes both cross-country statistical analyses as well as case studies based on fieldwork in China, India, and Vietnam. Recent work focuses on the impact of integration on investment and productivity at the firm level in developing countries.

DONALDSON, David n.e.

DONOHUE, III, John J.

Born 1953, Alexandria, VA, USA.

Current Posts Prof. Law, Stanford Univ. Fell., William H. Neukom Prof. Law, Stanford Law Sch., Stanford Univ., Stanford, CA, USA, 1995–, 2001–, 2002–.

Past Posts Res. Asst Prof. Laurence Lynn, Kennedy Sch. Govt, Harvard Univ., 1975; Summer Assoc., Perkins, Coie, Stone, Olsen & Williams, 1976, Donovan Leisure Newton & Irvine, 1982; Law Clerk to Chief Justice T. Emmet Clarie, US District Court, 1977–78; Assoc. Attorney, Attorney Neighborhood Legal Services, Covington & Burling, 1978–81; Instr. Econ., Yale Coll., 1983–85; Private Practice (part-time), New Haven, CT, 1985–86; Fell., Yale Law School Program in Civil Liability, 1985–86, Center Adv. Stud. in Behav. Sc., Stanford Univ., 2000–01; Res. Fell., Amer. Bar Foundation, 1986–95; Asst Prof., Assoc. Prof., Prof. of Law, Northwestern Univ., 1986–89, 1989–91, 1991–94; Vis. Prof., Univ. Chicago Law Sch., 1992, Yale Law Sch.,

1999, Harvard Law Sch., 2003; James B. Haddad Prof. Law, Harry B. Reese Teaching Prof., Northwestern Univ., 1994–95, 1994–95; Lect., Toin Univ. Sch. Law, Japan, 1996; Disting. Vis. Fell. Law and Econ., 1996, 2000; Vis. Prof. Law and Econ., Cornell Law Sch., Univ. Virginia Law Sch., 1990, Univ. Virginia, 1997; Prof., Center Study Amer. Law in China, Renmin Univ. Law Sch., Beijing, 1998; John A. Wilson Disting. Faculty Scholar, Acad. Assoc. Dean Res., Stanford Univ., 1997–2003, 2001–03.

Degrees BA Hamilton Coll., 1974; JD (*cl*), MA, MPhil, PhD Harvard Law Sch., 1977, 1982, 1984, 1986.

Offices and Honours Phi Beta Kappa, 1973; Brockway Prize, 1974; Edwin Huntington Memorial Math. Scholarship, 1974; Fayerweather Prize Scholarship, 1974; Oren Root Prize Scholarship in Maths, 1974; Dept Hons in Econ. and in Maths, 1974; Pres., Root-Jessup Public Affairs Council, 1974; Congressman Bruce Morrison's Military Acad. Selection Comm., 1983; Dissertation with distinction, Yale Univ., 1986; Natl Res. Service Award, 1986; Grad. Exec. Comm., 1986; Grad. Affiliate, 1986; Advisory Bd, Corp. Counsel Center, Northwestern Univ. Sch. Law, 1987–; Michael E. Borus Award for best social sc. dissertation, 1988; Scholarly Papers Comm., Program C Chair, Section Law and Econ., Assoc. Amer. Law Schools, 1990, 1990–91; Bd Dirs, Nominating Comm., Program Comm., Amer. Law and Econ. Assoc., 1994–97, 1995–96, 1996–98 and 2000–02; Review Panel, Law and Social Sc., NSF, 1999–2001; Panel on Methods for Assessing Discrimination, NAS, 2001–.

Editorial Duties Bd Eds, *Amer. Law and Econ.*, 1998–; Ed. Bds, *Intl Rev. Law and Econ.*, 1999–, *Law and Social Inquiry*, 2000–.

Principal Fields of Interest H0 Public Economics: General; J0 Labor and De-

mographic Economics: General; L5 Regulation and Industrial Policy.

Publications Books: 1. *Foundations of Employment Discrimination Law* (OUP, 1997, Foundation Press, 2002); 2. *The Legal Response to Discrimination: Does Law Matter?* (with B. Garth, A. Sarat), (Northwestern Univ. Press, 1998).

Articles: 1. 'Employment discrimination law in perspective: three concepts of equality', *Michigan Law Rev.*, 52, 1994; 2. 'The selection of employment discrimination disputes for litigation: using business cycle effects to test the Priest/Klein hypothesis' (with P. Siegelman), *J. Legal Stud.*, 427, 1995; 3. 'Some perspective on crime and criminal justice policy', in L. Friedman, G. Fisher (eds), *The Crime Conundrum: Essays on Criminal Justice* (Westview Press, 1997); 4. 'Executive compensation', *Stanford J. Law Bus. and Fin.*, 3, 1997; 5. 'Some thoughts on affirmative action', *Washington Univ. Law Q.*, 75, 1997; 6. Discrimination in Employment, in *The New Palgrave Dictionary of Law and Economics* (Stockton/Macmillan, 1998); 7. 'Did Miranda diminish police effectiveness?', *Stanford Law Rev.*, 50, 1998; 8. 'Guns, violence and the efficiency of illegal markets' (with S. Levitt), *AER*, 88, 1998; 9. 'Allocating resources among prisons and social programs in the battle against crime' (with P. Siegelman), *J. Legal Stud.*, 27, 1998; 10. 'Some thoughts on law and economics and the theory of the second best', *Chicago-Kent Law Rev.*, 73, 1998; 11. 'Understanding the time path of crime', *J. Criminal Law and Criminology*, 88, 1998; 12. 'Why we should discount the views of those who discount discounting', *Yale Law J.*, 108, 1999; 13. 'Nondiscretionary concealed weapons law: a case study of statistics, standards of proof and public policy' (with I. Ayres), *Amer. Law and Econ. Rev.*, 1, 1999; 14. 'Understanding the reasons for and impact of legislatively

mandated benefits for selected workers', *Stanford Law Rev.*, 53, 2001; 15. 'The impact of legalized abortion on crime' (with S. Levitt), *QJE*, 116, May 2001; 16. 'The impact of race on policing and arrests' (with S. Levitt), *J Law E*, 44, Oct. 2001; 17. 'The schooling of Southern blacks: the roles of social activism and private philanthropy, 1910–1960' (with J. Heckman, P. Todd), *QJE*, 117, Feb. 2002; 18. 'The search for truth: in appreciation of James J. Heckman', *Law and Social Inquiry*, 27, 2002.

Principal Contributions Most of my work has related to public policy as well as law and economics. I have shown how many theoretical predictions of law and economics are extremely sensitive to initial assumptions. For example, an early theory suggested that risk aversion would lead litigants under a British rule in which the loser would pay attorney's fees to settle more frequently than they would under the American rule where litigants pay their own expenses, and a later theory argued that there would be fewer settlements under the British rule because optimism by litigants would shrink the expected inducement to settle. I showed that bargaining should lead to no change in settlement behavior, and surprisingly the Coase Theorem was overlooked. I have engaged in a great deal of empirical evaluation of the impact of law and public policy, showing (with James Heckman) that federal civil rights initiatives did improve the economic prospects of blacks in the decade beginning in 1975. With Heckman and Petra Todd, I also investigated the impact of NAACP litigation in improving black schooling quality in the pre-Brown v. Board of Education era. I have also worked extensively on the changing nature of employment discrimination litigation (with Peter Siegelman), showing the shift from hiring to firing cases and the dramatic drop in class action lawsuits.

Siegelman and I have also investigated the major policy choices involved in fighting crime and argued that we may have gone too far with incarceration and not gone far enough with social programs. Steve Levitt and I also demonstrated that crime dropped most sharply in states that had high abortion rates and we set forth an argument that abortion legalization would reduce the number of unwanted children, who are at greater risk of involvement in criminal activity.

DORNBUSCH, Rudiger (1942–2002)

Born 1942, Krefeld, West Germany.

Posts Held Asst Econ., Grad. Inst. Intl Stud., Geneva, 1966–67; Lect., Grad. Sch. Bus., Univ. Chicago, 1971; Asst Prof., Univ. Rochester, 1972–74; Assoc. Prof., Univ. Chicago, 1974–78; Prof. Econ. and Intl Mgmt, MIT, 1978–2002.

Degrees Licence de Sc. Polit., Univ. Geneva, 1966; MA, PhD Univ. Chicago, 1969, 1971.

Offices and Honours Fell., Em Soc, 1979, AAAS, 1980; John Simon Guggenheim Fellowship, 1979; Gaston Eyskens Lectures, Univ. Leuven, 1984; Graham Lecture, Princeton Univ. 1985; Lionel Robbins Lectures, LSE, 1986; John R. Hicks Lecture, Oxford Univ. 1988; Doctor (*hc*) Univ. Basle, 1988; Hon. Prof. Univ. del Pacifico, Lima, Peru, 1989; Edmund James Lecture, Univ. Illinois, 1989; Geary Lecture, Dublin, 1990; Foreign Mem., Finnish Acad. Sc. and Letters, 1992; Harms Prize, Inst. World Econ., Kiel, 1992; Okun Lectures, Yale Univ., 1992; Hon. doctorate, Catholic Univ., Lima, Peru, 1998; CES Disting. Fell., Center Econ. Stud., Munich Univ., 1998; Koc Memorial Lecture, Koc Univ., Istanbul, 1998; Bradbury Lecture, Univ. Florida, Gainesville, 1999; Concord Prize, Krefeld, 1999; Disting. Fell., AEA, 2001.

Principal Fields of Interest F3 International Finance; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *International Economic Policy: Theory and Evidence* (ed. with J.A. Frenkel), (JHUP, 1979); 2. *Open Economy Macroeconomics* (Basic Books, 1980); 3. *Dollars, Debts, and Deficits* (MIT Press, 1987); 4. *Economics* (with S. Fischer, R. Schmalensee), (McGraw-Hill, 2nd edn. 1987); 5. *Exchange Rates and Inflation* (MIT Press, 1988); 6. *Stabilization, Debt, and Reform: Policy Analysis for Developing Countries* (Prentice-Hall, 1993); 7. *Macroeconomics* (with S. Fischer, R. Startz), (McGraw-Hill, 7th edn. 1998); 8. *Keys to Prosperity: Free Markets, Sound Money and a Bit of Luck* (MIT Press, 2000).

Articles: 1. 'Devaluation, money and non-traded goods', *AER*, 63, Dec. 1973; 2. 'A portfolio balance model of the open economy', *JME*, 1, Jan. 1975; 3. 'Expectations and exchange rate dynamics', *JPE*, 84, Dec. 1976; 4. 'Comparative advantage, trade and payments in a Ricardian model with a continuum of goods' (with S. Fischer, P.A. Samuelson), *AER*, 67, Dec. 1977; 5. 'Exchange rates and the current account' (with S. Fischer), *AER*, 70, Dec. 1980; 6. 'Exchange rate economics: where do we stand?', *BPEA*, 1, 1980, repr. in J. Bhandari, B. Putman (eds), *The International Transmission of Disturbances under Flexible Exchange Rates* (MIT Press, 1982) and J.M. Letiche (ed.), *International Economic Policies and their Theoretical Foundations* (Acad. Press, 1982); 7. 'Stopping hyperinflation: past and present' (with S. Fischer), *WA*, 122, April 1986; 8. 'Flexible exchange rates and excess capital mobility', *BPEA*, 1, 1986; 9. 'Exchange rate economics: 1986', *EJ*, 97, March 1987; 10. 'Exchange rates and prices', *AER*, 77, March 1987; 11. 'Brazil's incomplete stabilization', *BPEA*, 1, 1997.

Principal Contributions Work on ex-

change-rate problems and open economy macroeconomics.

DOW, James

Born 1961, London, UK.

Current Post Prof. Fin., London Bus. Sch., London, UK, 1999–.

Past Posts W.P. Carey Term Asst Prof. Econ., Univ. Pennsylvania, 1986–88; Asst Prof. Fin., Assoc. Prof. Fin. and Barings Res. Fell., Res. Dean, London Bus. Sch., 1989–94, 1994–95, 1999–2001; Prof. Econ., Head Econ. Dept, Europ. Univ. Inst., 1995–98, 1996–97.

Degrees BA (Double 1st Class), MA Cambridge Univ., 1982, 1986; PhD Princeton Univ., 1987.

Offices and Honours Prize Scholar, Churchill Coll., Cambridge Univ., 1980–83; Alfred P. Sloan Doctoral Dissertation Fell., 1985–86; Res. Fell., CEPR, 1990–.

Editorial Duties Ed. Bd, *J. Fin. Markets*, 1990–; Managing Ed., *REStud*, 1999–.

Principal Fields of Interest G1 General Financial Markets; M1 Business Administration.

Publications *Articles*: 1. ‘Samuelson and Chipman–Moore on utility-generated community demand’ (with H. Sonnenschein), in M.H. Peston, R.E. Quandt (eds), *Prices, Competition and Equilibrium: Essays in Honour of William J. Baumol* (Philip Allan, 1986); 2. ‘The consistency of welfare judgements with a representative consumer’ (with S.R. da Costa Werlang), *JET*, 44, April 1988; 3. ‘Search decisions with limited memory’, *REStud*, 58, Jan. 1991; 4. ‘Uncertainty aversion, risk aversion and the optimal choice of portfolio’ (with S.R. da Costa Werlang), *Em*, 60, 1, Jan. 1992; 5. ‘Homothetic preferences’ (with S.R. da Costa Werlang), *J Math E*, 21, 1992; 6. ‘The ex-ante non-optimality of the Dempster–Shafer updat-

ing rule for ambiguous beliefs’ (with S.R. da Costa Werlang), in Y. Moses (ed.), *Proceedings of the Fourth Conference on Theoretical Aspects of Reasoning about Knowledge* (Morgan Kaufman, 1992); 7. ‘Excess volatility of stock prices and Knightian uncertainty’ (with S.R. da Costa Werlang), *Europ ER*, 36, 1992; 8. ‘Trading, communication and the response of asset prices to news’ (with G. Gorton), *EJ*, 103, May 1993; 9. ‘The return on the market and the social discount rate: a note on welfare in an overlapping generations model’ (with G. Gorton), *Econ. Letters*, 43, Nov. 1993; 10. ‘Arbitrage chains’ (with G. Gorton), *J Fin*, 49, July 1994; 11. ‘Nash equilibrium under Knightian uncertainty: breaking down backward induction’ (with S.R. da Costa Werlang), *JET*, 64, Dec. 1994; 12. ‘Lending resumption in a reputational model of sovereign debt’ (with H.L. Cole, W.B. English), *IER*, 36, May 1995; 13. ‘Profitable informed trading in a simple general equilibrium model of asset pricing’ (with G. Gorton), *JET*, 67, Nov. 1995; 14. ‘Stock market efficiency and economic efficiency: is there a connection?’ (with G. Gorton), *J Fin*, 52, July 1997; 15. ‘Noise trading, delegated portfolio management, and economic welfare’ (with G. Gorton), *JPE*, 105, Oct. 1997; 16. ‘Comments on “Banks, markets and the allocation of risk in an economy” by Martin Hellwig’, *J. Inst. and Theoretical Econ. (ZGS)*, 154, March 1998; 17. ‘Arbitrage, hedging, and financial innovation’, *Rev. Fin. Stud.*, 11, 1998; 18. ‘Should speculators be taxed?’ (with R. Rahi), *J Bus*, 73, Jan. 2000; 19. ‘What is systemic risk? Moral hazard, initial shocks and propagation’, *Monetary and Econ. Stud.*, 18, Dec. 2000; 20. ‘Informed trading, investment, and economic welfare’ (with R. Rahi), *J Bus*, forthcoming.

Principal Contributions Main research interests in financial markets and corporate finance, but with broad interests in

other areas of economics and business, including bounded rationality, corporate governance and leadership. Publications include articles in *JPE*, *REStud*, *Em*, *Journal of Finance*, and *Review of Financial Studies*. Past academic administrative tasks include research dean at London Business School and head of department at the European University Institute.

DOWRICK, Steve

Born 1953, Dublin, Eire.

Current Posts Prof. Econ. and Australian Res. Council Sr Fell., ANU, Canberra, Australia, 1997–, 2000–.

Past Posts many and varied.

Degrees BA Cambridge Univ., 1983; PhD Warwick Univ., 1987.

Offices and Honours Fell., Acad. Social Sc. in Australia, 1997.

Editorial Duties Ed., *ER*, 1995–98.

Principal Fields of Interest O4 Economic Growth and Aggregate Productivity; C4 Econometric and Statistical Methods: Special Topics; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications Articles: 1. ‘Von Stackelberg and Cournot duopoly: choosing roles’, *RandJE*, 17, 1986; 2. ‘Union–oligopoly bargaining’, *EJ*, 99, 1989; 3. ‘OECD economic growth in the post-war period: catch-up and convergence’ (with D.-T. Nguyen), *AER*, 79, Dec. 1989; 4. ‘The relative profitability of Nash bargaining on the labour demand curve or the contract curve’, *Econ. Letters*, 33, 1990; 5. ‘Explaining the productivity slow-down of the 1980s’, *Australian Bull. Labour*, 16, Sept. 1990; 6. ‘The impact of government spending levels on medium-term economic growth in the OECD, 1960–85’ (with F.G. Castles), *J. Theoretical Polit.*, 2, 1990; 7. ‘Wage pressure, bargaining and price–cost margins in UK manufac-

turing’, *J Ind E*, 38, 1990; 8. ‘Industrialisation, catching-up and economic growth: a comparative study across the world’s capitalist countries’ (with N. Gemmell), *EJ*, 101, 1991; 9. ‘Technological catch up and diverging incomes: patterns of economic growth 1960–88’, *EJ*, 102, 1992; 10. ‘Enterprise bargaining, union structure and wages’, *ER*, 69, 1993; 11. ‘The role of fertility and population in economic growth: empirical results from aggregate cross-national data’ (with J.A. Brander), *J. Pop. Econ.*, 7, 1994; 12. ‘International comparisons of living standards and tastes: a revealed preference analysis’ (with J. Quiggin), *AER*, 84, March 1994; 13. ‘Union attitudes to labor-saving innovation: when are unions Luddites?’ (with B.J. Spencer), *J Lab E*, 12, April 1994; 14. ‘Wage bargaining with endogenous profits, overtime-working and heterogeneous labor’ (with K. Mumford), *REStat*, 76, May 1994; 15. ‘Demographic change, investment and growth’, *Asia-Pacific Econ. Rev.*, 1, April 1995; 16. ‘Estimating the impact of government consumption on growth: growth accounting and endogenous growth models’, *Empirical Econ.*, 21, 1996; 17. ‘True measures of GDP and convergence: non-parametric bounds to multilateral indices’ (with J. Quiggin), *AER*, 87, March 1997; 18. ‘Swedish economic performance and Swedish economic debate: a view from outside’, *EJ*, 106, Nov. 1997; 19. ‘The cost of life expectancy and the implicit social valuation of life’ (with Y. Dunlop, J. Quiggin), *Scand JE*, 100, 1998; 20. ‘Classical and technological convergence’ (with M. Rogers), *OEP*, 54, July 2002.

Principal Contributions I pioneered (in collaboration with Duc-Tho Nguyen) the econometric analysis of cross-country convergence, using panel data to establish technology transfer as a likely cause of convergence amongst OECD countries, as opposed to changes in capital intensity.

Subsequent work has identified the role of industrialisation, public goods and fertility in economic growth. More recent work, with Mark Rogers, has created a bridge between competing theories of economic growth – establishing that endogenous sources of technological progress, combined with international technology transfer (facilitated by high levels of educational attainment) operate in tandem with neo-classical convergence due to diminishing returns to capital. In several papers I have identified the index number problems that beset international comparisons of economic aggregates such as GDP per capita. Together with John Quiggin, I have developed a new method of constructing utility-consistent multilateral indexes ('Afriat indexes') which avoid the substitution bias inherent in fixed-price methods. In earlier work, I established a game-theoretic framework for analysing the problem of unions bargaining with employers in the context of oligopolistic product markets. This framework produced new results on the relationship between wages, profits, trade union structure, the centralisation of bargaining and market power. It also led to analysis of trade union attitudes to labour-saving technological change.

DRANOVE, David

Born 1956, New York City, NY, USA.

Current Posts Walter Mc Nerney Disting. Prof. Health Ind. Mgmt, Kellogg Sch. Mgmt, Northwestern Univ. (KSMNWU), Evanston, IL, USA, 1999–; Dir., Center Health Ind. Market Econ., KSMNWU, 2001–.

Past Posts Asst Prof. Bus. Econ., Assoc. Prof. Bus. Econ., Univ. Chicago Grad. Sch. Bus. (UCGSB), 1983–87, 1987–91; Co-Dir., Grad. Programme in Health Admin., UCGSB, 1990–91; Assoc. Prof. Mgmt and

Strategy and Assoc. Prof. Health Services Mgmt, Prof. Mgmt and Strategy and Prof. Health Services Mgmt, Richard Paget Disting. Prof. Mgmt and Strategy and Chair, Dept Mgmt and Strategy, KSMNWU, 1991–95, 1995–96, 1996–99.

Degrees BA (Genetics), MBA Cornell Univ., 1977, 1979; PhD Stanford Univ., 1983.

Honours John D. Thompson Prize in Health Services Res., 1993; Faculty Publ. of Year, Marriott Corp. Health Care Services, 1993, 1996; Res. Paper of Year, NIH Care Mgmt, 1998; Res. Paper of Year, Assoc. Health Services, 1998; Sid Levy Teaching Award, 2002.

Editorial Duties Assoc. Ed., *JHE*, 1990–, *RandJE*, 1995–, *Health Services Res.*, 1998–, *Mgmt Sc.*, 1999–.

Principal Fields of Interest I1 Health; L1 Market Structure, Firm Strategy, and Market Performance; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *The Economic Evolution of American Health Care* (Princeton Univ. Press, 2000); 2. *The Economics of Strategy* (with D. Besanko, M. Shanley, S. Schaefer), (Wiley Press, 3rd edn. 2003); 3. *What is Your Life Worth?* (Prentice-Hall, 2003).

Articles: 1. 'The effect of injecting price competition into the hospital market: the case of preferred provider organizations' (with M. Satterthwaite, J. Sindelar), *Inquiry*, 23, Winter 1986; 2. 'Demand inducement and the physician/patient relationship', *EI*, 26, April 1988; 3. 'Pricing by non-profit institutions: the case of hospital cost shifting', *JHE*, 7, Spring 1988; 4. 'Medicaid drug formulary restrictions', *J Law E*, 32, April 1989; 5. 'Is hospital competition wasteful?' (with M. Shanley, C. Simon), *Res. J. Econ.*, 23, Summer 1992; 6. 'Monopolistic competition when price and quality are not perfectly observable' (with M. Satterthwaite), *Res. J. Econ.*, 23, Winter 1992; 7. 'Price and con-

centration in hospital markets: the switch from patient-driven to payor-driven competition' (with M. Shanley, W.D. White), *J Law E*, 36, April 1993; 8. 'Physician-induced demand for child-births' (with P. Wehner), *JHE*, 13, March 1994; 9. 'The economic side effects of dangerous drug announcements' (with C. Olsen), *J Law E*, 37, Oct. 1994; 10. 'Do important drugs reach the market sooner?' (with D. Meltzer), *Res. J. Econ.*, 25, Autumn 1994; 11. 'Cost reductions versus reputation enhancements as motives for mergers: the logic of multi-hospital systems' (with M. Shanley), *Strategic Mgmt J.*, 16, Feb. 1995; 12. 'Medicaid-dependent hospitals and their patients: how have they fared?' (with W. White), *Health Service Res.*, 33, April 1998; 13. 'Do strategic groups exist: an economic framework for analysis' (with M. Shanley, M. Peteraf), *Strategic Mgmt J.*, 19, Fall 1998; 14. 'Exploiting cost advantages and coping with cost disadvantages' (with D. Besanko, M. Shanley), *Mgmt Sc.*, 47, Feb. 2001; 15. 'Is managed care leading to consolidation in healthcare markets?' (with W.D. White, C. Simon), *Health Service Res.*, 37, May 2002; 16. 'Antitrust policy and hospital mergers: recommendations for a new approach' (with C. Capps, S. Greenstein, M. Satterthwaite), *Antitrust Bull.*, 47, March 2003; 17. 'Is more information better? The effects of report cards on health care providers' (with D. Kessler, M. McClellan, M. Satterthwaite), *JPE*, forthcoming.

Principal Contributions Most of my research focuses on the industrial organization of health care markets. In theoretical studies with M. Satterthwaite, and empirical studies with W.D. White, M. Shanley and C. Simon, I have examined how hospitals and physicians cope with purchasers who are increasingly sensitive to price. We have shown why and how selective contracting by managed care organizations has led to lower provider

prices, followed by provider consolidation and concerns about quality. More recent research with C. Capps, S. Greenstein and M. Satterthwaite examines the consequences of provider consolidation and recommends changes in health care antitrust policy, including new methods for defining provider markets. My recent book, *The Economic Evolution of American Health Care*, pulls these ideas together in a single volume. Much of my remaining health economics research examines the validity of conventional wisdoms in health care, such as the theories of 'supplier-induced demand' and 'cost-shifting'. Again combining theory with empirical evidence, I have shown that these well-accepted theories are inapplicable to competitive health care markets. My work with W. White shows that providers can no longer raise prices in response to cutbacks in government payments, but instead must reduce quality and access. I have also published several studies (and one book) on the economics of the pharmaceutical industry, as well as general papers about strategic management. The latter studies include establishing a new benchmark for identifying strategic groups, and explaining how firms exploit cost advantages. My other principal contribution to economics is as co-author (with David Besanko and Mark Shanley) of the textbook, *The Economics of Strategy*. This book combines economic principles with detailed real world examples to shed light on fundamental topics in business strategy. It has been adopted for the MBA classroom by leading business economists in the US and abroad.

DRAZEN, Allan

Born 1950, St. Louis, MO, USA.

Current Posts Jack and Lisa Yael Prof. Comparative Econ., Berglas Sch. Econ.,

Tel Aviv Univ., Ramat Aviv, Israel, 2000–; Prof. Econ. and Co-Dir., Center for Intl Econ., Univ. Maryland, College Park, MD, USA, 1990–.

Past Posts Asst Prof. Econ., Grad. Sch. Bus., Univ. Chicago, 1976–82; Sr Lect. and Assoc. Prof. Econ., Tel Aviv Univ., 1982–90; Vis. Prof. Econ., Univ. Pennsylvania, 1987–88, Princeton Univ., 1988–90; William Haber Prof. Econ., Hebrew Univ. Jerusalem, 1999–2000.

Degrees SB, PhD MIT 1972, 1976.

Honours Award for best book in econ. by a Professional or Scholarly Press for Polit. Econ. in Macroecon., Assoc. Amer. Publishers, 2000.

Editorial Duties Bd Eds, *Europ ER*, 1992–97, *AER*, 1998–, *Europ. J. Polit. Econ.*, 1999–; Assoc. Ed., *JEG*, 1996–2001; Co-Ed., *Econ. and Polit.*, 1998–.

Principal Fields of Interest P1 Capitalist Systems; F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Book*: 1. *Political Economy in Macroeconomics* (Princeton Univ. Press, 2000; trans., Chinese, 2002).

Articles: 1. ‘Government debt, human capital and bequests in a life-cycle model’, *JPE*, 86, June 1978; 2. ‘The optimal rate of inflation revisited’, *JME*, 5, April 1979; 3. ‘Recent developments in macroeconomic disequilibrium theory’, *Em*, 48, March 1980; 4. ‘Inflation and capital accumulation under a finite horizon’, *JME*, 8, Sept. 1981; 5. ‘State dependence in optimal factor accumulation’, *QJE*, 100, May 1985; 6. ‘Cyclical determinants of the natural level of economic activity’, *IER*, 26, June 1985; 7. ‘Optimal minimum wage legislation’, *EJ*, 96, Sept. 1986; 8. ‘Stabilization with exchange rate management’ (with E. Helpman), *QJE*, 102, Nov. 1987; 9. ‘On the organization of rural markets and the process of economic development’ (with Z. Eckstein), *AER*, 78, June 1988; 10. ‘Inflationary consequences

of uncertain macroeconomic policy’ (with E. Helpman), *REStud*, 57, Jan. 1990; 11. ‘Threshold externalities in economic development’ (with C. Azariadis), *QJE*, 105, May 1990; 12. ‘Why are stabilizations delayed?’ (with A. Alesina), *AER*, 81, Dec. 1991; 13. ‘Trigger points and budget cuts: explaining the effects of fiscal austerity’ (with G. Bertola), *AER*, 83, March 1993; 14. ‘The benefits of crises for economic reform’ (with V. Grilli), *AER*, 83, June 1993; 15. ‘Seniority rules and the persistence of unemployment’ (with N. Gottfries), *OEP*, 46, April 1994; 16. ‘Credibility of policies versus credibility of policymakers’ (with P. Masson), *QJE*, 109, Aug. 1994; 17. ‘Capital account liberalization as a signal’ (with L. Bartolini), *AER*, 87, March 1997; 18. ‘When liberal policies reflect external shocks, what do we learn?’ (with L. Bartolini), *J Int E*, 42, May 1997; 19. ‘Do crises induce reforms? Some empirical tests of conventional wisdom’ (with W. Easterly), *Econ. and Polit.*, 13, July 2001.

Principal Contributions In my first published paper, I showed how human capital accumulation can change basic Ricardian equivalence results and was one of the first to study hysteresis in factor accumulation. E. Helpman and I presented a framework for studying how expected future policies affect current macroeconomic dynamics and showed how uncertainty about how budget deficits will be closed in the future may yield no simple correlation between deficits and inflation even when the latter drives the former. With G. Bertola I extended this argument in one of the original papers showing how fiscal contraction can be expansionary. With C. Azariadis I was one of the first to consider the effect of human capital in formal growth models and show how externalities in the process of human capital accumulation can lead to multiple equilibria in the growth process. With N.

Gottfries I presented the first dynamic insider–outsider model of unemployment. My main area of research over the past decade has been in political economy. With co-authors, I introduced the war of attrition model as a way to model the failure to adopt economic reform; presented the first formal model of the benefit of crises for economic reform as well as tests of the argument re-examined the relation between credibility and reputation; and considered several models and implications of policy as signals of policymaker intentions or constraints. This work has been applied in international macroeconomics. I summarized much of the work in political economy in macroeconomics in my 2000 book, considered by many the leading graduate text in political economy.

DREW, James Howard

Born 1950, Margaretville, NY, USA.

Current Posts Principal Mem. Tech. Staff, Verizon Labs, Waltham, MA, USA, 1981–; Adjunct Asst Prof., Worcester Polytech. Inst., Worcester, MA, USA, 1997–.

Past Post Asst Prof., Pan Amer. Univ., 1976–78.

Degrees BA (Maths and Philo.) Williams Coll., 1972; Dip Math Stats Cambridge Univ., 1976; PhD (Stats) Iowa State Univ., 1981.

Offices and Honours Chartered Stat., RSS, 1993; GTE Chairman’s Leadership Award, 1997; Warner Award for Tech. Innovation, 1999; Verizon Excellence Award, 2002.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; M3 Marketing and Advertising.

Publications Articles: 1. ‘A longitudinal analysis of the impact of service changes on customer attitudes’ (with R.

Bolton), *J. Marketing*, 55, 1991; 2. ‘A multistage model of customers’ assessments of service quality and value’ (with R. Bolton), *J. Consumer Res.*, 17, 1991; 3. ‘Mitigating the effect of service encounters’ (with R. Bolton), *Marketing Letters*, 3, 1992; 4. ‘Linking customer satisfaction to operations and outcomes’ (with R. Bolton), in *Service Quality: New Directions in Theory and Practice* (Sage Publications, 1994); 5. ‘Quality management for services: issues in using customer input’ (with C. Castrogiovanni), *J. Quality Eng.*, 7, 1995; 6. ‘Linking customer intelligence to service operations’ (with R. Bolton), in *Advances in Services Marketing and Management*, Vol. 4 (JAI Press, 1995); 7. ‘Effective partnering with internal customers’ (with T. Fussell), *Quality Progress*, 31, Oct. 1996; 8. ‘Patterns of customer exit behavior in a contract-based subscription service’ (with D.R. Mani, P. Datta, A. Betz), *J. Customer Satisfaction, Dissatisfaction and Complaining Behav.*, 13, 2000; 9. ‘Amalgamation of statistics and data mining techniques: exploration in customer lifetime value modeling’ (with D.R. Mani, A. Betz, P. Datta), in *Knowledge Discovery for Business Information Systems* (Kluwer Acad., 2001); 10. ‘Targeting customers with statistical and data mining techniques’ (with D.R. Mani, A. Betz, P. Datta), *J. Service Res.*, 3, 2001.

Principal Contributions My co-authors and I have attempted to link concepts in survey sampling, quality management, customer behaviour and data mining to improve operational efficiencies in telecommunications companies. R. Bolton and I developed some early longitudinal models in services marketing, and these were later incorporated into quality improvement models. With other colleagues, customer lifetime value models were developed and customer segmentation schemes were created using a mix-

ture of data mining and classical statistical techniques.

DUFFIE, Durrell n.e.

DUFOUR, Jean-Marie n.e.

DUMAS, Bernard n.e.

DUNCAN, Greg John

Born 1948, St. Paul, MN, USA.

Current Post Edwina S. Tarry Prof. Educ. and Social Pol., Northwestern Univ., Evanston, IL, USA, 1995–.

Past Posts Res. Scientist, Disting. Res. Scientist, Survey Res. Center, Univ. Michigan, 1985–93, 1993–95; Prof., Dept Econ., Univ. Michigan, 1987–95.

Degrees BA Grinnell Coll., 1970; PhD Univ. Michigan, 1974.

Offices and Honours Doctor (*hc*) Univ. Essex, 1999; Fell., AAAS, 2001–.

Principal Fields of Interest I3 Welfare and Poverty; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications Books: 1. *Years of Poverty, Years of Plenty: The Changing Economic Fortunes of American Workers and Families* (with others), (Inst. Social Res., 1984); 2. *Panel Surveys* (ed. with G. Kalton, D. Kasprzyk, M.P. Singh), (John Wiley, 1989); 3. *The Consequences of Growing Up Poor* (ed. with J. Brooks-Gunn), (Russell Sage, 1997); 4. *Neighborhood Poverty: Context and Consequences for Children* (ed. with J. Brooks-Gunn, J.L. Aber), (Russell Sage, 1997); 5. *For Better and for Worse: Welfare Reform and the Well-Being of Children and Families* (ed. with L. Chase-Lansdale), (Russell Sage, 2001).

Articles: 1. 'A longitudinal analysis of the wages of white women' (with M. Corcoran, M. Ponza), *JHR*, 18, Fall 1983; 2. 'Using sample survey weights to compare various linear regression models' (with W. DuMouchel), *JASA*, 78, Sept. 1983; 3. 'A reconsideration of the economic consequences of marital dissolution' (with S.D. Hoffman), *Demography*, 22, Nov. 1985; 4. 'Welfare dependence within and across generations' (with M. Hill, S. Hoffman), *Sc.*, 239, Jan. 1988; 5. 'Welfare benefits, economic opportunities and out-of-wedlock births among black teenage girls' (with S. Hoffman), *Demography*, 27, Nov. 1990; 6. 'Economic deprivation and early-childhood development' (with J. Brooks-Gunn, P. Klebanov), *Child Devlp.*, 65, April 1994; 7. 'Evidence on the validity of cross-sectional and longitudinal labor market data' (with J. Bound, C. Brown, W. Rodgers), *J Lab E*, 12, July 1994; 8. 'How much does childhood poverty affect the life chances of children?' (with J. Brooks-Gunn, W.-J.J. Yeung, J. Smith), *Amer. Sociological Rev.*, 63, June 1998; 9. 'The structure of achievement and behavior across middle childhood' (with L. Kowaleski-Jones), *Child Devlp.*, 70, July/Aug. 1999; 10. 'Work-based anti-poverty programs for parents can enhance the school performance and social behavior of children' (with A.C. Huston, R. Granger, J. Bos, V. McLoyd, R. Mistry, D. Crosby, C. Gibson, K. Magnuson, J. Romich, A. Ventura), *Child Devlp.*, 72, Jan./Feb. 2001; 11. 'Urban poverty and juvenile crime: evidence from a randomized housing-mobility experiment' (with J. Ludwig, P. Hirschfield), *QJE*, 116, May 2001; 12. 'Sibling, peer, neighbor and schoolmate correlations as indicators of the importance of context for adolescent development' (with K.M. Harris, J. Boisjoly), *Demography*, 38, Aug. 2001; 13. 'Effects of participation in the WIC program on birth weight: evidence from

NLSY children' (with L. Kowaleski-Jones), *Amer. J. Public Health*, 92, May 2002.

Principal Contributions Much of my career has been spent at the University of Michigan working on and ultimately directing the Panel Study of Income Dynamics (PSID) data collection project. The PSID has conducted annual interviews with a large and representative set of US families for over 30 years. The enormous utility of the longitudinal economic and social data from its national sample of families has made PSID one of the most widely used social science data sets in the world. I have also helped start similar panel studies in Germany, the United Kingdom, and other European Community countries. My own research has focussed on issues of economic mobility both within and across generations. My 1984 book *Years of Poverty, Years of Plenty*, documented the surprising degree of economic mobility in the United States. More recently, I have studied the impact of economic deprivation, welfare reform and residential mobility programs on children's development.

DURLAUF, Steven Neil

Born 1958, Los Angeles, CA, USA.

Current Post Kenneth J. Arrow Prof. Econ., Univ. Wisconsin, Madison, WI, USA, 2002–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Stanford Univ., 1986–91, 1991–93; Assoc. Prof. Econ., Prof. Econ., Univ. Wisconsin, 1993–96, 1996–2002.

Degrees BA Harvard Univ., 1980; MA, MPhil, PhD Yale Univ., 1986, 1986, 1986.

Offices and Honours Econ. Program Dir., Santa Fe Inst., 1995–97; Fell., Em Soc, 1997; Chaired Professorship, Univ. Wisconsin, 2002.

Editorial Duties Co-Ed., *JAE*, 1996–;

Ed., *New Palgrave Dictionary of Economics and Finance*, 2003–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; C1 Econometric and Statistical Methods: General; O0 Economic Development, Technological Change, and Growth: General.

Publications *Articles*: 1. 'Multiple time series regression with integrated processes' (with P. Phillips), *REStud*, 53, Aug. 1986; 2. 'Trends versus random walks in time series analysis' (with P. Phillips), *Em*, 56, Nov. 1988; 3. 'Output persistence, economic structure and the choice of stabilization policy', *BPEA*, 2, 1989; 4. 'Testing the positive theory of government finance' (with D. Bizer), *JME*, 26, Aug. 1990; 5. 'Compositional effects of government spending in a two-country two-sector production model' (with R. Staiger), *J Int E*, 28, Nov. 1990; 6. 'Multiple equilibria and persistence in aggregate fluctuations', *AER*, 81, May 1991; 7. 'Spectral based testing of the Martingale hypothesis', *J Em*, 50, Dec. 1991; 8. 'Time series properties of aggregate output fluctuations', *J Em*, 56, March 1993; 9. 'Nonergodic economic growth', *ReStud*, 60, April 1993; 10. 'Spillovers, stratification, and inequality', *Europ ER*, 38, May 1994; 11. 'Convergence of international output movements' (with A. Bernard), *JAE*, 10, April–June 1995; 12. 'Measuring noise in inventory models' (with L. Maccini), *JME*, 36, Aug. 1995; 13. 'Multiple regimes and cross-country growth behavior' (with P. Johnson), *JAE*, 10, Oct.–Dec. 1995; 14. 'Interpreting tests of the convergence hypothesis' (with A. Bernard), *J Em*, 71, March 1996; 15. 'A theory of persistent income inequality', *JEG*, 1, March 1996; 16. 'A formal model of theory choice in science' (with W. Brock), *ET*, 17, 1999; 17. 'Discrete choice with social interactions' (with W. Brock), *ReStud*, 68, April 2001; 18. 'The local Solow growth model'

(with A. Kourtellos, A. Minkin), *Europ ER*, 45, May 2001; 19. 'Growth empirics and reality' (with W. Brock), *WBER*, 15, Aug. 2001; 20. 'Bowling alone: a review essay', *JEBO*, 47, March 2002.

Principal Contributions My most important research lies in the area of social interactions and economic behavior. In this work, I have attempted to integrate substantive ideas from sociology into formal economic models. Specifically, this work has involved the modeling of the influences of group memberships on individual outcomes. Groups can affect individuals via peer group influences, role model effects, information flows via social networks, etc. Examples of such group memberships include residential neighborhoods, schools, and ethnicity. Social interactions generate both income inequality and incentives for economic segregation. Hence much of my research has been involved in developing a 'memberships theory of poverty'. A key prin-

ciple in much of my research has been the integration of theoretical modeling with econometric analysis. This has meant that when possible, I have endeavored to develop theoretical models that in principle are readily estimable using available econometric techniques. This idea has meant that much of my recent research has focussed on questions of identification of social interactions. Issues concerning the identification of spillover effects have also animated much of my research on economic growth. An additional aspect of my work on interactions has been the effort to employ complex systems methods to model economic systems. The mathematics of complex systems is a useful language in describing populations of heterogeneous interacting agents. As such, these methods have proven very useful in the formal study of social interactions. One aspect of this work has been the introduction of techniques from statistical mechanics into social science.

E

EASLEY, David Alan

Born 1952, Lexington, KY, USA.

Current Posts Prof. Econ. and Henry Scarborough Prof. Social Sc., Dept Econ., Cornell Univ., Ithaca, NY, USA, 1989–, 1996–.

Past Posts Instr., Northwestern Univ., 1978–79; Asst Prof. Econ., Assoc. Prof. Econ., Cornell Univ., 1979–84, 1984–89; Vis. Assoc. Prof., California Inst. Tech., 1985–86; Overseas Fell., Churchill Coll., Cambridge Univ., 1993–94.

Degrees BA Univ. Kentucky, 1974; MA, PhD Northwestern Univ., 1975, 1979.

Offices and Honours Chair, Dept Econ., Cornell Univ., 1987–93; Fell., Em Soc, 1997.

Editorial Duties Assoc. Ed., *JET*, 1991–, *Em*, 1993–96.

Principal Fields of Interest D0 Microeconomics: General; D8 Information and Uncertainty; G1 General Financial Markets.

Publications Articles: 1. ‘Learning to be rational’ (with L. Blume), *JET*, 26, April 1982; 2. ‘Price, trade size, and information in securities markets’ (with M. O’Hara), *J Fin E*, 19, Sept. 1987; 3. ‘Controlling a stochastic process with unknown parameters’ (with N. Kiefer), *Em*, 56, Sept. 1988; 4. ‘Time and the process of security price adjustment’ (with M. O’Hara), *J Fin*, 47, June 1992; 5. ‘Evolution and market behavior’ (with L. Blume), *JET*, 58, Oct. 1992; 6. ‘Market statistics and technical analysis: the role of volume’ (with L. Blume, M. O’Hara), *J Fin*, 49, March 1994; 7. ‘Liquidity, information and infrequently traded stocks’ (with N. Kiefer, M. O’Hara, J. Paperman), *J Fin*, 51, Sept. 1996; 8. ‘One day in the life of a common stock’ (with N. Kiefer, M. O’Hara), *Rev. Fin. Stud.*, 10, Fall 1997; 9.

‘Rational expectations and rational learning’ (with L. Blume), in M. Majumdar (ed.), *Organizations with Incomplete Information: Essays in Honour of Roy Radner* (CUP, 1998); 10. ‘Choice without beliefs’ (with A. Rustichini), *Em*, 67, Sept. 1999; 11. ‘Information and asset pricing’ (with S. Hvidjaer, M. O’Hara), *J Fin*, 57, Oct. 2002; 12. ‘Optimality and natural selection in markets’ (with L. Blume), *JET*, 107, Nov. 2002.

Principal Contributions I work in both finance and microeconomic theory. In economic theory my research, joint with Larry Blume, has focussed on learning and evolution in markets. Our early work was among the first to explain the difficulty of learning rational expectations. Our more recent research has explored the potential for wealth dynamics to yield rational expectations equilibria in markets with some non-rational agents. In our most recent research we have shown that if asset markets are dynamically complete, then rational traders are selected for and prices converge to their rational expectations equilibrium values. In related work, Blume and I have also shown that a retained earnings dynamic selects for firms that act as if they are rational profit maximizers. My research in finance, joint with Maureen O’Hara, is in the area of market microstructure. We were among the first to analyze how market makers set security prices in the presence of differential information. More recently we have developed theoretical microstructure models of the dynamics of bids, asks and prices and empirically implemented and tested these models. Our most recent work has examined whether market microstructure has implications for asset pricing. We have found both theoretically and empirically that it does; differential information generates a bid–ask spread in markets and its presence leads to significant differences in required rates of returns on assets.

EASTERLY, William n.e.

EATON, Jonathan

Born 1950, Los Angeles, CA, USA.

Current Post Prof. Econ., Dept Econ., NYU, New York, NY, USA, 2002–.

Past Posts Asst Prof. Econ., Princeton Univ., 1976–81; Assoc. Prof. Econ., Yale Univ., 1981–84; Prof. Econ., Univ. Virginia, 1984–90; Prof. Econ., Boston Univ., 1990–2002.

Degrees AB Harvard Coll., 1972; MA Yale Univ., 1973; PhD Yale Univ., 1976.

Offices and Honours Res. Assoc., NBER, 1984; Fell., Em Soc, 1995.

Editorial Duties Assoc. Ed., *J Int E*, 1984–87, 1996, *J. Fin. Intermediation*, 1989–95; Co-Ed., *JEMS*, 1991–96, *J Int E*, 1997–2001; Ed. Bd, *WBER*, 1993–96; Ed. Advisory Bd, *J. Econ. Geography*, 2000–, *J Int E*, 2001–.

Principal Fields of Interest F1 Trade; O4 Economic Growth and Aggregate Productivity; F2 International Factor Movements and International Business.

Publications *Articles*: 1. ‘Taxation, human capital, and uncertainty’ (with H.S. Rosen), *AER*, 70, Sept. 1980; 2. ‘Debt with potential repudiation: theoretical and empirical analysis’ (with M. Gersovitz), *REStud*, 48, April 1981; 3. ‘Fiscal policy, inflation, and the accumulation of risky capital’, *REStud*, 48, July 1981; 4. ‘Covered interest parity, uncovered interest parity, and exchange rate dynamics’ (with S.J. Turnovsky), *EJ*, 93, Sept. 1983; 5. ‘Agency, delayed compensation, and the structure of executive compensation’ (with H.S. Rosen), *J Fin*, 38, Dec. 1983; 6. ‘A theory of expropriation and deviations from perfect capital mobility’ (with M. Gersovitz), *EJ*, 94, March 1984; 7. ‘Product line rivalry’ (with J.A. Brander), *AER*, 74, June 1984; 8. ‘Optimal and time-consistent exchange rate management in an

overlapping generations economy’, *JIMF*, 4, March 1985; 9. ‘Optimal trade and industrial policy under oligopoly’ (with G.M. Grossman), *QJE*, 101, May 1986; 10. ‘Lending with costly enforcement of repayment and potential fraud’, *J Bank Fin*, 10, June 1986; 11. ‘The pure theory of country risk’ (with M. Gersovitz, J.E. Stiglitz), *Europ ER*, 30, June 1986; 12. ‘Public debt guarantees and private capital flight’, *WBER*, 1, May 1987; 13. ‘Foreign-owned land’, *AER*, 78, March 1988; 14. ‘Intertemporal price competition’ (with M. Engers), *Em*, 58, May 1990; 15. ‘Sanctions’ (with M. Engers), *JPE*, 100, Oct. 1992; 16. ‘Trade in ideas: patenting and productivity in the OECD’ (with S. Kortum), *J Int E*, 40, May 1996; 17. ‘Cities and growth: theory and evidence from France and Japan’ (with Z. Eckstein), *RSUE*, 27, 1997; 18. ‘International technology diffusion: theory and measurement’ (with S. Kortum), *IER*, 40, Aug. 1999; 19. ‘Trade in capital goods’ (with S. Kortum), *Europ ER*, 45, June 2001; 20. ‘Technology, geography, and trade’ (with S. Kortum), *Em*, forthcoming.

Principal Contributions My first major research project, with Mark Gersovitz, concerned developing country external borrowing. We sought to provide a framework to analyze theoretically and empirically the market for sovereign debt. The self-enforcing nature of sovereign debt contracts generated an interest in how governments achieve objectives beyond their jurisdictions more generally, which led to work with Maxim Engers on sanctions. During the 1980s international economists began to apply game theory to study trade policy. An influential paper suggested that countries could achieve strategic benefits by subsidizing exports. Gene Grossman and I showed that the direction of intervention depended very much on aspects of market structure that policy makers were unlikely to know about. An implica-

tion of this work was that the nature of competition among rivals really matters. Engers and I explored competition between duopolists in a dynamic setting that provided insight into issues of timing in price setting. Another topic of interest is economic growth, which I explored in my dissertation. Sam Kortum and I have since returned to this topic, seeking to quantify the contributions of innovation and diffusion to world growth. Kortum and I also examine the role of technology in trade. Our work examines how the competing forces of technology and geography shape production and trade patterns in manufacturing. Kortum and I, along with Andy Bernard and Brad Jensen, have applied this work to examine the productivity and export behavior of individual US manufacturing plants. Another interest has been on the role of cities in growth. Zvi Eckstein and I examined the evolution of urban agglomerations in France and Japan over the periods of their industrialization, finding remarkable stability in relative size and ranking. We offered as an explanation a dynamic model of cities as locations where workers acquire and use city-specific skills.

EDWARDS, Sebastian

Born 1953, Santiago, Chile.

Current Post Henry Ford II Prof. Intl Econ., Anderson Grad. Sch. Mgmt, UCLA, Los Angeles, CA, USA, 1991–.

Past Post Chief Econ. Latin Amer. and Caribbean, World Bank, 1993–96.

Degrees Lic. Econ. Univ. Católica de Chile, 1975; MA, PhD Univ. Chicago, 1978, 1981.

Offices and Honours World Econ. Lecture, Nottingham Univ., 1999; Vice-Pres., Pres., Latin Amer. and Caribbean Econ. Assoc. (LACEA), 2001–02, 2002–03.

Editorial Duties Co-Ed., *JDE*, 1992–2001; Assoc. Ed., several journals.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance; O1 Economic Development.

Publications *Books*: 1. *Real Exchange Rates, Devaluation and Adjustment: Exchange Rate Policy in Developing Countries* (MIT Press, 1989); 2. *Monetarism and Liberalization: The Chilean Experiment* (with A.C. Edwards), (UCP, 1991); 3. *Crisis and Reform in Latin America: From Despair to Hope* (OUP for World Bank, 1995).

Articles: 1. 'Floating exchange rates, expectations and new information', *JME*, 11, May 1983; 2. 'LDCs' foreign borrowing and default risk: an empirical investigation, 1976–1980', *AER*, 74, Sept. 1984; 3. 'Money, the rate of devaluation and interest rates in a semi-open economy: Colombia 1968–1982', *JMCB*, 17, Feb. 1985; 4. 'The welfare effects of trade and capital market liberalization' (with S. van Wijnbergen), *IER*, 27, Feb. 1986; 5. 'The pricing of bonds and bank loans in international markets: an empirical analysis of developing countries' foreign borrowing', *Europ ER*, 30, June 1986; 6. 'Are devaluations contractionary?', *REStat*, 68, Aug. 1986; 7. 'Real and monetary determinants of real exchange rate behavior: theory and evidence from developing countries', *JDE*, 29, Nov. 1988; 8. 'Macroeconomic populism' (with R. Dornbusch), *JDE*, 32, April 1990; 9. 'Terms of trade disturbances, real exchange rates and welfare: the role of capital controls and labor market distortions' (with J.D. Ostry), *OEP*, 44, Jan. 1992; 10. 'Seigniorage and political instability' (with A. Cukierman, G. Tabellini), *AER*, 82, June 1992; 11. 'Trade orientation, distortions and growth in developing countries', *JDE*, 39, July 1992; 12. 'Openness, trade liberalization, and growth in developing countries', *JEL*, 31,

Sept. 1993; 13. 'Trade policy, growth and income distribution', *AER*, 87, May 1997; 14. 'Openness, productivity and growth: what do we really know?', *EJ*, 108, March 1998; 15. 'How effective are capital controls?', *JEP*, 13, Fall 1999; 16. 'Dollarization: myths and realities', *J. Pol. Modeling*, 23, April 2001; 17. 'Interest rate volatility in emerging countries' (with R. Susmel), *REStat*, forthcoming 2003.

Principal Contributions My research has focussed on macroeconomic policy in developing and transition economies. Most of my work is applied. I have focussed mostly on four areas. (a) Exchange rates economics, including issues related to detecting 'misalignment', and the choice of exchange rate regime. (b) International trade and openness reforms. Here I have worked both on the opening of the trade account as well as on the opening of the capital account. Recent work has dealt with the effectiveness of capital controls. During the 1980s I did work on the optimal sequencing of reform which later became quite central in discussion on the transformation of the former communist economies. (c) Inflation and stabilization policies, including crisis prevention. My work on the topic has emphasized the political economy of inflation, and the use of exchange rate as anchors during stabilization programs. I have analyzed in detail the experiences of Latin American and Asian countries. (d) Broad issues related to economic reform and economic growth. Here my work has dealt with a number of case studies. My 1991 book on Chile focussed on an early case of a profound market-oriented reform. My 1995 book on Latin America documented, evaluated and assessed the economic reform process in that part of the world during the 1982–95 period. The analysis in that book spans from the debt crisis of 1982 to the Mexican currency crisis of 1994. Much of my research has implied fieldwork. I have done research

in Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Egypt, El Salvador, Guatemala, Honduras, Indonesia, Korea, Mexico, Morocco, New Zealand, Nicaragua, Tanzania and Venezuela. I have been a consultant to a number of governments, multilateral institutions, international banks and multinational companies.

EHRENBERG, Ronald G.

Born 1946, New York City, NY, USA.

Current Posts Irving M. Ives Prof. Ind. and Labor Relations and Econ., Cornell Univ., Ithaca, NY, USA, 1985–; Dir., Cornell Higher Educ. Res. Inst., 1998–.

Past Posts Instr., Northwestern Univ., 1970; Staff Econ., US President's Council Econ. Advisers, Washington, DC, 1970; Asst Prof., Loyola Univ., Chicago, 1970–71; Assoc. Prof., Univ. Massachusetts, 1971–75; Assoc. Prof., Prof., Cornell Univ., 1975–85; Vis. Scholar, NBER, 1980; Vis. Prof., Tel Aviv Univ., 1980, 1986; Res. Assoc., NBER, 1981–; Vice-Pres., Acad. Programs, Planning and Budgeting, Cornell Univ., 1995–98.

Degrees BA Harpur Coll., SUNY, 1966; MA, PhD Northwestern Univ., 1970, 1970.

Offices and Honours NDEA Fell., 1966–69; Woodrow Wilson Fell., 1969–70; Exec. Comm., AEA, 1996–99; Pres., Soc. Labor Econ., 2002; Nat. Assoc., NAS, 2002.

Editorial Duties Ed., *Res. Labor Econ.*, 1977–94; Ed Bds, *J. Econ. Bus.*, 1975–79, *ILRR*, 1977–, *Econ. Letters*, 1974–93, *AER*, 1981–84, *Econ. Educ. Rev.*, 1994; Co-Ed., *JHR*, 1994–.

Principal Fields of Interest I2 Education; J0 Labor and Demographic Economics: General; L3 Nonprofit Organizations and Public Enterprise.

Publications Books: 1. *The Regulatory Process and Labor Earnings* (Acad. Press,

1979); 2. *Longer Hours or More Jobs?* (with P. Schumann), (ILR Press, 1982); 3. *Advance Notice Provisions in Plant Closing Legislation* (with G. Jakubson), (Upjohn, 1988); 4. *Do Compensation Policies Matter?* (ILR Press, 1988); 5. *Economic Challenges in Higher Education* (with C. Clotfelter *et al.*), (UCP, 1991); 6. *Labor Markets and Integrating National Economies* (Brookings, 1994); 7. *The American University: National Treasure or Endangered Species?* (Cornell Univ. Press, 1997); 8. *Modern Labor Economics: Theory and Public Policy* (with R. Smith), (Addison-Wesley, 8th edn 2003); 9. *Tuition Rising: Why College Costs So Much* (HUP, 2003); 10. *Governing Academia* (Cornell Univ. Press, 2003).

Articles: 1. 'Absenteeism and the overtime decision', *AER*, 60, June 1970; 2. 'The demand for state and local government employees', *AER*, 63, June 1973; 3. 'Household allocation of time and church attendance' (with C. Azzi), *JPE*, 83, Feb. 1975; 4. 'Unemployment insurance, duration of unemployment and subsequent wage gains' (with R. Oaxaca), *AER*, 66, Dec. 1976; 5. 'The costs of defined benefit plans and firm adjustments' (with B. Barnow), *QJE*, 83, Nov. 1979; 6. 'Optimal financial aid policies for a selective university' (with D. Sherman), *JHR*, 18, Spring 1984; 7. 'Do tournaments have incentive effects?' (with M. Bognanno), *JPE*, 98, Dec. 1990; 8. 'Institutional responses to increased external support for graduate students' (with others), *REStat*, 75, Nov. 1993; 9. 'Do economics departments with lower tenure probabilities pay higher faculty salaries?' (with others), *REStat*, 80, Nov. 1998; 10. 'Studying ourselves: the academic labor market', *J Lab E*, 21, April 2003.

Principal Contributions Early in my career my interests focussed on the interaction of government and the labor market. One strand of research was directed

towards public-sector labor markets *per se* and addressed issues such as the demand for labor, the effects of unions on wages and productivity, compensating wage differentials for fringe benefits and the effects of public-sector dispute resolution procedures. Throughout this research program I stressed the applicability of maximizing models to the government sector and the value of using sophisticated econometric methods. A second strand of research focussed on evaluating the effects of labor market programs, legislation and institutions on labor market outcomes, with the goal of providing information that would be useful to policymakers. Among the topics I have studied here are minimum wage laws, the overtime pay premium, the unemployment insurance system, pension reform legislation, the effects of regulation on labor earnings and comparable worth. My research led naturally to the writing of two labor economics and labor relations texts oriented towards the use of economics in policy analysis. Over the last 20 years my research interests shifted first to analyses of the incentive effects of compensation policies and then to resource allocation issues in education. The years I spent as a Cornell Vice-President led me to my current focus on the economics of higher education.

EHRlich, Isaac

Born 1938, Tel Aviv, Israel.

Current Posts Melvin H. Baker Prof. Amer. Enterprise, Chair Dept Econ., Disting. Prof., SUNY, Buffalo, NY, USA, 1981–, 1996–, 2002–.

Past Posts Instr., Asst Prof., Assoc. Prof. Bus. Econ., Univ. Chicago, 1969–70, 1971–74, 1974–77; Lect. Econ., Tel Aviv Univ., 1971–72; Vis. Assoc. Prof. Law and Econ., Univ. Virginia, 1973;

Prof., Leading Prof. Econ., SUNY, Buffalo, 1978–85, 1985–; Vis. Prof. Econ., Hong Kong Univ. Sc. Tech., 1992–94.

Degrees BA (Econ. and Hist. Muslim Peoples, *cl*) Hebrew Univ., Jerusalem, 1964; PhD (Distinction) Columbia Univ., 1970.

Offices and Honours Ford Foundation Doctoral Fell., 1965–67; Res. Assoc., Sr Res. Assoc., NBER, 1970–77; Mem., US Presidential Transition Team on Health Pol., 1980–81; Dir., Inst. Study Free Enterprise Systems, SUNY, 1987–91; Mem., Hong Kong Govt Health Service Comm., 1993–94; Assoc. Mem., Inst. Pol. Analysis, Univ. Toronto, 1992–; Res. Award, Chair Health Econ., Inst. d'Études Polit. de Paris, 1997; Erhard Foundation Doctoral Fellowship, 1997–98; Mem., Mont Pellerin Soc., 1998–; Custodian of Goodyear Chair Econ., 1998–; Hon. Prof., City Univ. Hong Kong, 1999–; Hon. Docteur (*hc*), Univ. Orleans, France, 2002.

Principal Fields of Interest K4 Legal Procedure, the Legal System, and Illegal Behavior; D8 Information and Uncertainty; I0 Health, Education, and Welfare: General.

Publications *Book*: 1. *National Health Policy: What Role for Government?* (ed.), (Hoover Inst. Press, 1982).

Articles: 1. 'Market insurance, self-insurance and self-protection' (with G.S. Becker), *JPE*, 80, July–Aug. 1972, repr. in G. Dionne, S.E. Harrington (eds), *Foundations of Insurance Economics* (Kluwer, 1992); 2. 'Participation in illegitimate activities – a theoretical and empirical investigation', *JPE*, 81, May–June 1973, repr. in L.R. McPheters, W.B. Strange (eds), *The Economics of Crime and Law Enforcement* (C.C. Thomas, 1974), and I. Taylor (ed.), *Crime and Political Economy*, *International Library of Criminology, Criminal Justice and Penology* (Ashgate, 1998); 3. 'The deterrent effect of capital punishment – a question of life and death',

AER, 65, June 1975, repr. in M.B. Koosed (ed.), *Controversies on Constitutional Law, Capital Punishment Series* (Garland, 1996); 4. 'Asset management, allocation of time and returns to savings' (with U. Ben-Zion), *EI*, 14, Dec. 1976; 5. 'Capital punishment and deterrence: some further thoughts and additional evidence', *JPE*, 84, Aug. 1977, repr. in R.E. Messinger, L. Bittner (eds), *Criminology Review Yearbook* (Sage, 1979); 6. 'On the usefulness of controlling individuals: an economic analysis of rehabilitation, incapacitation and deterrence', *AER*, 71, June 1981; 7. 'The derived demand for advertising: a theoretical and empirical investigation' (with L. Fisher), *AER*, 72, June 1982; 8. 'On the economics of compliance with the minimum wage laws' (with Y.M. Chang), *JPE*, 93, 1985; 9. 'The demand for longevity and the value of life extension' (with H. Chuma), *JPE*, 98, Oct. 1990; 10. 'Intergenerational trade, longevity, and economic growth' (with F. Lui), *JPE*, 99, Oct. 1991; 11. 'Productivity growth and firm ownership: an analytical and empirical investigation' (with G. Gallais-Hamonno, R. Lutter, Z. Liu), *JPE*, 102, Oct. 1994; 12. 'Optimal portfolio and consumption decisions in a stochastic environment with pre-commitment' (with W.A. Hamlen, Jr), *JEDC*, 19, 1995; 13. 'Crime, punishment, and the market for offences', *JEP*, 10, Winter 1996, repr. in G. Fiorentini, S. Zamagni (eds), *The Economics of Corruption and Illegal Markets, The International Library of Critical Writings in Economics* (Edward Elgar, 2000); 14. 'The problem of population and growth: a survey of the literature from Malthus to models of endogenous populations and endogenous growth' (with F. Lui), *JEDC*, 21, 1997; trans. and repr. (earlier version), *Quadernos Economicos*, 1994; 15. 'Social security, the family, and the real economy: an inquiry into some neglected issues' (with J. Zhong), *AER*,

36, May 1998; 16. 'Social security, the family, and economic growth' (with F.T. Lui), *EI*, 88, July 1998; 17. 'Sensitivity analyses of the deterrence hypothesis: let's keep the econ in econometrics' (with Z. Liu), *J LawE*, 42, April 1999; 18. 'Bureaucratic corruption and endogenous economic growth' (with F.T. Lui), *JPE*, 107, Dec. 1999, repr. in G. Fiorentini, F. Zamagni (eds), *The Economics of Corruption and Illegal Markets, The International Library of Critical Writings in Economics* (Edward Elgar, 2000); also, an earlier version trans. and repr. as 'Corrupcion burocratica y crecimiento economico endogeno', and repr. in *Revista de Economia del Rosario*, 2, June 1999; 19. 'Uncertain lifetime, life protection, and the value of life saving', *JHE*, 19, May 2000.

Principal Contributions Applications of general economic theory to study diverse human behavior and social institutions, with particular emphasis on the role of human capital, time, information, and uncertainty. The most provocative illustration concerns participation in illegitimate activities and the development of a 'market model' of crime. Use of optimization and equilibrium analysis along with econometric methodology to explain variations in the incidence of crime and law enforcement across place and time has challenged received theories in criminology, and opened up a new research frontier. Work on behavior under uncertainty has provided a new framework for studying the joint demand for market insurance, self-insurance, and self- and life-protection. Work on asset management focusses on the micro-foundations of efficient capital markets by allowing for the role of information production in the management of risk and portfolio selection. Work on advertising links advertising and other selling efforts by firms to the demand for information by consumers, and

to the division of labor between buyers and sellers in information production. Work on health and longevity views length, or quantity of life, as a distinct good, along with quality of life, recognizing the uncertainty of life span. It analyzes investment in health and longevity as integral parts of both human capital theory and behavior toward risk. Insights concern both the trend and significant diversities in life expectancies and in private assessments of 'value-of-life-saving' across population groups. Recent work on endogenous economic growth applies human capital theory to explain the process of growth and development. The work highlights the role of intergenerational links within families and firms in human capital formation, and the contribution of specific motivating and institutional forces in influencing the diversity and pace of productivity growth. It also links economic growth with the aging of the population, and assesses the incentive effects of conventional social insurance plans on the economy's growth path.

EICHENBAUM, Martin n.e.

EICHENGREEN, Barry

Born 1952, Berkeley, CA, USA.

Current Posts George C. Pardee and Helen N. Pardee Prof. Econ. and Polit. Sc., Univ. California, Berkeley, CA, USA, 1999–; Res. Fell., CEPR, 1984–; Res. Assoc., NBER, Cambridge, MA, USA, 1986–.

Past Posts Faculty Res. Fell., NBER, 1981–86; Asst Prof. Econ., Assoc. Prof. Econ., Harvard Univ., 1980–86; Prof. Econ., John L. Simpson Prof. Econ. and Prof. Polit. Sc., Univ. California, Berkeley, 1986–94, 1994–99; Sr Pol. Advisor, IMF, 1997–98.

Degrees MA, MPhil, MA (Hist.), PhD Yale Univ., 1976, 1977, 1978, 1979.

Offices and Honours Fulbright-Hayes Scholarship, 1979–80; SSRC Intl Doctoral Res. Fellowship, 1979–80; Vis. Comm., Econ. Dept, Yale Univ., 1984; French Natl Fellowship for Sc. Collaboration, 1984–85; Arthur Cole Prize Comm., EHA, 1985–87; Convener, Dissertation Session, EHA, 1987, Study Group on US–Europ. Econ. Relations, Council on Foreign Relations, 1994–96; Area Res. Dir. (Debt, Monetary Regimes and Monetary Inst.), CEPR, 1988–90; Intl Advisory Bd, Fernand Brandel Inst. World Econ., São Paulo, Brazil, 1988–92; Nominating Comm., EHA, 1989–90, 1995–96, AEA, 2000; Comm. on Contrib. Behav. and Social Sc. to Prevention of Nuclear War, NAS, 1989–91; Foreign Pol. Stud. Comm., SSRC, 1990–91; Acad. Cons. Panel, Bd Governors, Fed. Reserve System, 1991, Assoc. for Monetary Union of Europe, 1993; Advisory Comm., German Marshall Fund Fellowship Competition, 1991, 1994, 1996, 1997; Trustee, Cliometric Soc., 1991–95, EHA, 1996–99, Centre Francois Simiand, École Normale Supérieure, Paris, 1999–; Advisory Bd, Project on Effects of Recent Changes in Eastern Europe on Europ. Stud. in US, SSRC, 1992, Reinventing Bretton Woods Comm., 1994–, Reuters/Carnegie Endowment for Intl Peace Public Pol. series, 1999–, Wissenschaftskolleg zu Berlin (Inst. Adv. Study), Berlin, 1999–2000, Global Economy Network, LSE, 2000–; Fell., Inst. Adv. Study, Berlin, 1992–93, Center Adv. Study in Behav. Sc., 1997, AAAS, 1997–; Joint Comm. on Western Europe, SSRC and ACLS, 1992–96; Mem., BPEA, 1993–94, Council on Foreign Relations, 1995–, Bellagio Group, 1995–; First Recipient, DAAD–Amer. Inst. Contemporary German Stud. Award for Disting. Scholarship, 1994; Council on Foreign Relations and Bertelsman Foundation, 1994–95; Program Comm., AEA, 1995; Econ. Panel,

NSF, 1995–96; Acad. Council, Amer. Inst. Contemporary German Stud., 1996–98; Rev. Comm., Econ. Res. Centers, Danish Natl Res. Foundation, 1997; Witness, Special Commission on Europ. Monetary Unification, Finnish Prime Minister’s Office, 1997; Comm. Adv. Ind. Econ., SSRC, 1997–99; Advisory Bd and Steering Comm., P.J. Hoenmans Program on Econ. Pol. Issues in Germany, Europe and Transatlantic Relations, Amer. Inst. Contemporary German Stud., 1997–2001; Intl Sc. Advisory Bd, Vienna Inst. Intl Econ. Stud., 1998–; Sc. Advisory Bd, Centre de Recerca en Economia International, Univ. Pompeu Fabra, Barcelona, 1998–; Council on Foreign Relations Task Force on Strengthening Intl Fin. Architecture, 1999; Forum Fell., Davos World Econ. Forum, 1999; Guggenheim Fell., 1999–2000; Advisory Bd Mem., Trustee, All-Univ. California Econ. Hist. Group, 1999–; Advisor, Zentrum für Europäische Integrationsforschung Project on Europ. Fiscal Federalism, 1999–; Bd Dirs (representing AEA), SSRC, 2000–, Econ. Inst., 2000–01; Hon. Fell., Foreign Pol. Assoc., 2000–02; Sc. Comm., Intl Triffin Foundation, 2001–, Intl Center Monetary and Banking Stud., Univ. Geneva, 2001–; Bretton Woods Comm., 2001–; Bd Acad. Advisors, Econ. Inst., Boulder, CO, 2001–; Louise and Goran Ehrnrooth Prize, Ehrnrooth Foundation, Finland, 2002; Felix Neuburgh Prize, Univ. Gothenberg, 2002; Intl Res. Fell., Kiel Inst. World Econ., 2002–; Advisory Comm., Inst. Intl Econ., 2002–.

Editorial Duties Book Rev. Ed., *J Int E*, 1986–92; Bd Eds, *Explor. in Econ. Hist.*, 1986–92, *JEH*, 1987–91, *Ricerche Economiche*, 1991–, *Jahrbuch für Wirtschaftsgeschichte*, 1991–, *Fin. Hist. Rev.*, 1992–, *Intl Org.*, 1992–96, *Investment Pol. Magazine*, 1999–; Cons. Ed., *Encyclopedia of Business Cycles*, 1986–96; Corres., *Revue Intl de Polit. Sociale*, 1989–90; Assoc. Ed., *JMCB*, 1993–; Bd

Advisors, *Intl J. Fin. Econ.*, 1994–; Ed. Advisory Bd, *Comparative Stud. in Polit. Economy and Public Pol.*, 1995–, *Pacific Econ. Rev.*, 1996–, *Intl Econ. Abstracts*, 1996–, *Econ. and Bus. Hist. Abstracts*, 1996–, *Intl Fin.*, 1997–, *WBER*, 1997–, *Public Pol. and Inst.* series, Amer. Inst. Contemporary German Stud., 1997–, *German Econ. Stud.*, 1998–, *Michigan Stud. in Intl Econ.*, 1998–; Intl Advisory Bd, WA, 1995–; Ed. Bds, *World Polit.*, 1999–2002, *Intl Hist. Rev.*, 2000–, *J. Pol. Modeling*, 2001–02, *J. Econ. Integration*, 2001–, *J. Intl Econ. and Econ. Pol.*, 2002–.

Principal Fields of Interest F2 International Factor Movements and International Business; F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Books*: 1. *Golden Fetters: The Gold Standard and the Great Depression, 1919–39* (OUP, 1992, 1995; trans., Italian, 1994); 2. *Reconstructing Europe's Trade and Payments: The European Payments Union* (Manchester Univ. Press, 1993; Univ. Michigan Press, 1994); 3. *International Monetary Arrangements for the 21st Century* (Brookings Inst., 1994; trans., Japanese, 1997); 4. *Crisis? What Crisis? Orderly Workouts for Sovereign Debtors* (with R. Portes), with contribs by F. Cornelli, L. Felli, J. Franks, C. Greenwood, H. Mercer, G. Vitale (CEPR, 1995); 5. *Globalizing Capital: A History of the International Monetary System* (Princeton Univ. Press, 1996, 1998; trans., French, 1997, Italian, 1998, Japanese, 1999, Portuguese, 1999, Spanish, 2000, German, 2000); 6. *European Monetary Unification: Theory, Practice, Analysis* (MIT Press, 1997); 7. *Toward a New International Financial Architecture: A Practical Post-Asia Agenda* (Inst. Intl Econ., 1999; trans., Chinese, 1999, Spanish, 2000, Japanese, 2001, Italian, 2001); 8. *An Independent and Accountable IMF* (with J. De Gregorio, T. Ito, C. Wyplosz),

(CEPR, 1999; trans., Spanish, 2000, Westview Press, 2002).

Articles: 1. 'What problems can dollarization solve?', *J. Pol. Modeling*, 24, 2001; 2. 'The currency composition of foreign exchange reserves: retrospect and prospect' (with D. Mathieson), in C. Wyplosz (ed.), *The Impact of EMU on Europe and the Developing Countries* (OUP, 2001); 3. 'Bail-ins, bailouts and borrowing costs' (with A. Mody), *IMF Staff Papers*, 48, 2001; 4. 'Greek banking at the dawn of the new millennium' (with H.D. Gibson), in R.C. Bryant, N.C. Gargana, G.S. Tavlás (eds), *Greek Economic Performance and Prospects* (Brookings Inst., 2002); 5. 'The market and the Marshall Plan', in M. Schain (ed.), *The Marshall Plan: Fifty Years After* (Palgrave, 2002); 6. 'When to dollarize', *JMCB*, 34, 2002; 7. 'The European payments union: history and implications for the evolution of the international financial architecture' (with J.B. de Macedo), in A. Lamfallussy, B. Snoy, J. Wilson (eds), *The Fragility of the International Financial System* (P. Lang Publ., 2002); 8. 'Capital account liberalization: what do cross country studies tell us?', *WBER*, 16, 2002; 9. 'International monetary options for the 21st century', *Annals of Amer. Acad. Polit. and Social Sc.*, 2002; 10. 'Hedge fund leverage before and after the crisis' (with B. Park), *J. Econ. Integration*, 17, 2002; 11. 'Between meltdown and moral hazard: the international monetary and financial policies of the Clinton administration' (with B. DeLong), in J. Frankel, P. Orzag (eds), *US Economic Policies in the 1990s* (MIT Press, 2002); 12. 'Global financial crisis resolution: issues and options', Res. Report No. 5, *Swedish Sch. Econ. and Bus. Admin.*, 2002.

Principal Contributions My research shows how elements of international finance and economic history can be combined to shed light on questions of his-

torical, theoretical and policy relevance. My book *Golden Fetters: The Gold Standard and the Great Depression 1919–1939* (1992) analyzed the role of the international monetary and financial system in the onset and spread of the slump of the 1930s, developing what is now known as the international explanation for the Great Depression. That book considered the gold standard as a transmission and propagation mechanism, emphasizing the role of democratic politics in eroding the credibility of gold standard commitments and international political conflicts in limiting the scope for international cooperation. *Globalizing Capital: A History of the International Monetary System* (1996) showed how the same approach, combining elements of international finance and economic history, could be used to shed light on the long-term development of the international monetary system. My more recent work has focussed on the causes of financial crises and policy responses to contain their repercussions. *Toward a New International Financial Architecture* (1999) identified structural weaknesses in the international financial system and helped to set the official reform agenda. *Financial Crises and What to Do About Them* (OUP, 2002) identified shortcomings of that agenda and evaluated progress in implementing it. Among the concepts and literatures with which I am associated are the international interpretation of the Depression (in *Golden Fetters*), the bipolar view of sustainable exchange rate regimes (first articulated in *International Monetary Arrangements for the 21st Century*, Brookings Inst., 1994), and the cross-country empirical literature on the causes of speculative attacks (pioneered in collaborative work with Andrew Rose and Charles Wyplosz).

EISENBERG, Theodore n.e.

ELHAUGE, Einer R. n.e.

ELLICKSON, Robert C. n.e.

ELLISON, Glenn

Born 1965, New Haven, CT, USA.

Current Post Prof. Econ., MIT, Cambridge, MA, USA, 2001–.

Past Posts Asst Prof. Econ., Harvard Univ., 1992–94; Ford Career Devlp. Assoc. Prof. Econ., Prof. Econ., Prof. Econ. and Assoc. Dept Head, MIT, 1994–97, 1997–2000, 2000–01.

Degrees AB (Maths, *scl*) Harvard Coll., 1987; MPhil Cambridge Univ., 1988; PhD MIT, 1992.

Editorial Duties Ed., *RandJE*, 1995–99, *Em*, 2000–.

Principal Fields of Interest L0 Industrial Organization: General; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. ‘Learning, local interaction and coordination’, *Em*, 61, 1993; 2. ‘Rules of thumb for social learning’ (with D. Fudenberg), *JPE*, 101, 1993; 3. ‘Theories of cartel stability and the joint executive committee’, *RandJE*, 25, 1994; 4. ‘Cooperation in the prisoner’s dilemma with anonymous random matching’, *REStud*, 61, 1994; 5. ‘Word of mouth communication and social learning’ (with D. Fudenberg), *QJE*, 110, 1995; 6. ‘Learning from personal experience: one rational guy and the justification of myopia’, *Games and Econ. Behav.*, 19, 1997; 7. ‘Geographic concentration in US manufacturing industries: a dartboard approach’ (with E.L. Glaeser), *JPE*, 105, 1997; 8. ‘Risk taking by mutual funds as a response to incentives’ (with J. Chevalier), *JPE*, 105, 1997; 9. ‘The geographic concentra-

tion of industry: does natural advantage explain agglomeration?’ (with E.L. Glaeser), *AER Papers and Proceedings*, 89, 1999; 10. ‘Career concerns of mutual fund managers’ (with J. Chevalier), *QJE*, 114, 1999; 11. ‘Are some mutual funds better than others? Cross-sectional patterns in behavior and performance’ (with J. Chevalier), *J Fin*, 54, 1999; 12. ‘Basins of attraction, long-run equilibria, and the speed of step-by-step evolution’, *REStud*, 67, 2000; 13. ‘A simple framework for nonparametric specification testing’ (with S.F. Ellison), *J Em*, 96, 2000; 14. ‘Learning purified mixed equilibria’ (with D. Fudenberg), *JET*, 90, 2000; 15. ‘The Neo-Luddite’s lament: excessive upgrades in the software industry’ (with D. Fudenberg), *RandJE*, 31, 2000; 16. ‘Geographic concentration as a dynamic process’ (with G. Dumais, E.L. Glaeser), *REStat*, 84, 2002; 17. ‘Evolving standards for academic publishing: a $q-r$ theory’, *JPE*, 110, 2002; 18. ‘The slowdown of the economics publishing process’, *JPE*, 110, 2002.

Principal Contributions n.e.

ENGEL, Charles

Born 1956, Houston, TX, USA.

Current Post Prof. Econ., Dept Econ., Univ. Wisconsin, Madison, WI, USA, 2000–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Dept Econ., Univ. Virginia, 1982–91; Assoc. Prof., Prof. Econ., Dept Econ., Univ. Washington, 1991–2000.

Degrees AB Univ. North Carolina, Chapel Hill, 1977; PhD Univ. California, Berkeley, 1983.

Editorial Duties Ed., *J Int E*, 2001–.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance.

Publications Articles: 1. ‘Why interest

rates react to money announcements: an explanation from the foreign exchange market’ (J.A. Frankel), *JME*, 13, 1984; 2. ‘Do asset-demand functions optimize over the mean and variance of real returns? A six-currency test’ (J.A. Frankel), *J Int E*, 17, 1984; 3. ‘Testing for the absence of expected real profits from forward market speculation’, *J Int E*, 17, 1984; 4. ‘Reliability of policy announcements and the effects of monetary policy’, *Europ ER*, 29, 1985; 5. ‘Saving and investment in an open economy with non-traded goods’ (K.M. Kletzer), *IER*, 30, 1989; 6. ‘Tariffs and saving in a model with new generations’ (K.M. Kletzer), *J Int E*, 28, 1990; 7. ‘Long swings in the dollar: are they in the data and do markets know it?’ (with J. Hamilton), *AER*, 80, 1990; 8. ‘On the foreign exchange risk premium in a general equilibrium model’, *J Int E*, 32, 1992; 9. ‘Real exchange rates and relative prices: an empirical investigation’, *JME*, 32, 1993; 10. ‘Can the Markov Switching Model forecast exchange rates?’, *J Int E*, 36, 1994; 11. ‘How wide is the border?’ (with J.H. Rogers), *AER*, 86, 1996; 12. ‘Accounting for US real exchange rate changes’, *JPE*, 107, 1999; 13. ‘The long-run US/UK real exchange rate’ (with C.-J. Kim), *JMCB*, 31, 1999; 14. ‘Long-run PPP may not hold after all’, *J Int E*, 51, 2000; 15. ‘Local-currency pricing and the choice of exchange-rate regime’, *Europ ER*, 44, 2000; 16. ‘Violating the law of one price: should we make a federal case out of it?’ (with J.H. Rogers), *JMCB*, 33, 2001; 17. ‘Optimal exchange rate policy: the influence of price-setting and asset markets’, *JMCB*, 33, 2001; 18. ‘Deviations from the purchasing power parity: causes and welfare costs’ (with J.H. Rogers), *J Int E*, 55, 2001; 19. ‘Exchange rate pass-through, exchange rate volatility, and exchange rate disconnect’ (with M.B. Devereux), *JME*, 49, 2002; 20. ‘Exchange rate pass-through and the welfare

effects of the euro' (with M.B. Devereux, C. Tille), *IER*, 44, 2003.

Principal Contributions n.e.

ENGLE, Robert F.

Born 1942, Syracuse, NY, USA.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 1977–.

Past Posts Assoc. Prof. Econ., MIT, 1969–74; Chair, Univ. San Diego, 1990–94; Chancellor's Assoc. Chair Econ., 1993–; Assoc. Prof., Univ. California, San Diego, 1975–77.

Degrees BS (Physics, Highest Hons) Williams Coll., 1964; MS (Physics) PhD (Econ.), Cornell Univ., 1966, 1969.

Offices and Honours Excellence in Teaching, MIT Grad. Econ. Assoc., 1974–75; Mem., Econ. Panel, NSF, 1979–81; Fell., Em Soc, 1981, AAAS, 1995; NBER Res. Assoc., 1987–; Chair, Mem., Em Soc Fells Nominating Comm., 1988, 1987 and 1992; Roger F. Murray Prize Competition, Inst. Quant. Res. Fin., 1991; Mem., Em Soc Council, 1994.

Editorial Duties Assoc. Ed., *Em*, 1975–81, *J Reg S*, 1978–, *J. Forecasting*, 1985–, *REStat*, 1992; Advisory Ed., *Empirical Fin.*, 1992; Assoc. Ed., Co-Ed., *JAE*, 1988–, 1985–89.

Principal Fields of Interest C4 Econometric and Statistical Methods: Special Topics; G1 General Financial Markets.

Publications *Books*: 1. *Long Run Economic Relations: Readings in Cointegration* (ed. with C.W.J. Granger), (OUP, 1991); 2. *Handbook of Econometrics*, Vol. IV (ed. with D. McFadden), (N-H, 1994); 3. *ARCH: Selected Readings* (OUP, 1995).

Articles: 1. 'Autoregressive conditional heteroskedasticity with estimates of the variance of UK inflation', *Em*, 50, 1982; 2. 'Exogeneity' (with D.F. Hendry, J.-F. Richard), *Em*, 51, 1983; 3. 'Estimation of time varying risk premia in the term struc-

ture: the ARCH-M model' (with D. Lilien, R. Robins), *Em*, 55, 1987; 4. 'Co-integration and error correction: representation, estimation and testing' (with C.W.J. Granger), *Em*, 55, 1987; 5. 'Meteor showers or heat waves? Heteroskedastic intradaily volatility in the foreign exchange market' (with T. Ito, W.L. Lin), *Em*, 58, 1990; 6. 'Semi-parametric ARCH models' (with G. Gonzalez), *JBES*, 9, 1991; 7. 'Hourly volatility spillovers between international equity markets' (with R. Susmel), *JIMF*, 13, 1994; 8. 'Forecasting volatility and option prices of the S&P 500 Index' (with J. Noh, A. Kane), *J. Derivatives*, 2, 1994; 9. 'Forecasting the frequency of changes in quoted foreign exchange prices with the ACD model' (with J.R. Russell), *J. Empirical Fin.*, 1995; 10. 'The econometrics of ultra-high frequency data', Fisher-Schultz Lecture, *Em*, 67, 1999.

Principal Contributions My research has introduced some of the most influential concepts in modern econometrics: ARCH/GARCH models, cointegration, weak exogeneity, band spectrum regression, and most recently the autoregressive conditional duration (ACD) model. In well over 100 academic journal articles and three books, I have applied these methods to analyze equities, options, currencies, and interest rates and am now studying empirical market microstructure.

EPPLE, Dennis Norbert

Born 1946, Perry County, IN, USA.

Current Post Thomas Lord Prof. Econ., Carnegie-Mellon Univ., Pittsburgh, PA, USA, 1996–.

Past Posts Asst Prof., Carnegie-Mellon Univ., 1974–84; Natl Fell., Hoover Inst., Stanford Univ., 1984–94; Gary Rosenberg Prof. Fin., Econ. and Real Estate, Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1994–95.

Degrees BS (Aeronautical Eng.) Purdue Univ., 1968; MPA, PhD Princeton Univ., 1971, 1975.

Editorial Duties Co-Ed., *AER*, 1994–99; Assoc. Ed., *AER*, 1999–, *QJE*, 2001–, *J Pub E*, 2001–; Bd Eds, *Econ. and Geography*, 2000, *BE-Js EAP*, 2001–.

Principal Fields of Interest H7 State and Local Government; Intergovernmental Relations; H0 Public Economics: General; L0 Industrial Organization: General.

Publications *Articles*: 1. ‘Product safety: liability rules, market structure and imperfect information’ (with A. Raviv), *AER*, 68, March 1978; 2. ‘A search for testable implications of the Tiebout Hypothesis’ (with M. Visscher, A. Zelenitz), *JPE*, 86, June 1978; 3. ‘The implications of competition among jurisdictions: does Tiebout need politics?’ (with A. Zelenitz), *JPE*, 89, Dec. 1981; 4. ‘Equilibrium among local jurisdictions: toward an integrated treatment of voting and residential choice’ (with R. Filimon, T. Romer), *J Pub E*, 24, Aug. 1984; 5. ‘Linear-quadratic duopoly models of resource depletion’ (with L. Hansen, W. Roberds), in T.J. Sargent (ed.), *Energy, Foresight, and Strategy* (Resources for the Future, 1985); 6. ‘Hedonic prices and implicit markets: estimating demand and supply functions for differentiated products’, *JPE*, 95, Feb. 1987; 7. ‘The persistence and transfer of learning in industrial settings’ (with L. Argote, S. Beckman), *Mgmt Sc.*, 36, Feb. 1990; 8. ‘Learning curves in manufacturing’ (with L. Argote), *Sc.*, 247, Feb. 1990; 9. ‘Mobility and redistribution’ (with T. Romer), *JPE*, 99, 4, Aug. 1991; 10. ‘The acquisition, transfer and depreciation of knowledge in service organizations: productivity in franchises’ (with L. Argote, E. Darr), *Mgmt Sc.*, 41, Nov. 1995; 11. ‘Public provision of private goods’ (with R. Romano), *JPE*, 104, Feb. 1996; 12. ‘Ends against the middle: determining public provision when there are private alternatives’ (with

R. Romano), *J Pub E*, 62, Oct. 1996; 13. ‘Equilibrium and local redistribution in an urban economy when households differ by preferences and income’ (with G. Platt), *JUE*, 43, Jan. 1998; 14. ‘Competition between private and public schools, vouchers and peer group effects’ (with R. Romano), *AER*, 88, March 1998; 15. ‘Rent control with reputation: theory and evidence’, *RSUE*, 28, Nov. 1998; 16. ‘Estimating equilibrium models of local jurisdictions’ (with H. Sieg), *JPE*, 107, Aug. 1999; 17. ‘Interjurisdictional sorting and majority rule: an empirical analysis’ (with T. Romer, H. Sieg), *Em*, 69, Nov. 2001; 18. ‘Ability tracking, school competition, and the distribution of educational benefits’ (with E. Newlon, R. Romano), *J Pub E*, 83, Jan. 2002; 19. ‘On the demographic composition of colleges and universities in market equilibrium’ (with R. Romano, H. Sieg), *AER Papers and Proceedings*, 92, May 2002; 20. ‘Stratification and peer effects in education: evidence using within-school and between-school variation in data’ (with D. Figlio, R. Romano), *J Pub E*, forthcoming.

Principal Contributions My research interests are in the areas of public economics and industrial organization. One focus of my research is on understanding population sorting and its consequences. We observe people sorting by income and demographic characteristics across neighborhoods, schools, municipalities, and colleges and universities. The groupings that arise affect outcomes via spillover effects in neighborhoods, peer effects in schools and colleges, and collective choice of tax and expenditure policies in municipalities. My colleagues and I have developed models to explain sorting and to investigate its consequences. For example, in the case of primary and secondary schools, we have investigated how the distribution of educational achievement and household welfare differ under various organizational

structures, including neighborhood public schools, open-enrollment public schools, and voucher-supported private schools. In the case of municipalities, we have developed models to understand sorting into jurisdictions and voting over policy alternatives within jurisdictions. In the case of colleges and universities, we have developed a model of quality competition and associated implications for admission and financial aid policies. We have also investigated how admission and financial aid policies are affected by preferences for racial and economic diversity. Our empirical research has provided evidence in various contexts, including municipalities, secondary schools, and colleges and universities. Another research focus is learning by doing. Arguably the most important manifestation of changing knowledge in firms is changing productivity. Hence, our goal has been to understand how productivity improvements relate to an organization's own past production experience as well as the experience of related organizations. By estimating cost and production functions that incorporate the interdependencies among producing organizations, we have developed methods for quantifying the rate of knowledge acquisition and the extent to which knowledge is retained and transferred. We have applied these methods in franchises, in multi-shift plants, and in multi-plant production programs.

EPSTEIN, Larry G.

Born 1947, Linz, Austria.

Current Post Elmer B. Milliman Prof. Econ., Univ. Rochester, Rochester, NY, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Prof., Univ. Toronto, 1977–80, 1980–83, 1983–94, 1995–98.

Degrees BSc (Maths) Univ. Manitoba,

Winnipeg, Canada; MA (Maths) Hebrew Univ., Jerusalem, 1970; PhD UBC, 1977.

Offices and Honours Fell., Em Soc, 1989–, Royal Soc. Canada, 1994–; Frisch Medal, Em Soc, 1994; John Rae Award for Outstanding Res., CEA, 1994; Mem., Fellows' Nominating Comm., Em Soc, 1995.

Editorial Duties Ed. Bd, *CJ*, 1982–85; Assoc. Ed., *JRU*, 1988–, *Em*, 1991–, *JET*, 1991–, *ET*, 1993–, *Macroecon. Dynamics*, 1998–2002.

Principal Fields of Interest D8 Information and Uncertainty; D9 Intertemporal Choice and Growth; C6 Mathematical Methods and Programming.

Publications *Articles*: 1. 'Stationary cardinal utility and optimal growth under uncertainty', *JET*, 31, 1983; 2. 'The rate of time preference and dynamic economic analysis' (with A. Hynes), *JPE*, 91, 1983; 3. 'The global stability of efficient intertemporal allocations', *Em*, 55, 1987; 4. 'Risk aversion and asset prices', *JME*, 22, 1988; 5. 'Substitution, risk aversion and temporal behaviour of consumption and asset returns: a theoretical framework' (with S. Zin), *Em*, 57, 1989; 6. 'Substitution, risk aversion and temporal behaviour of consumption and asset returns: an empirical analysis' (with S. Zin), *JPE*, 99, 1991; 7. 'Stochastic differential utility' (with D. Duffie), *Em*, 60, 1992; 8. 'Quadratic social welfare functions' (with U. Segal), *JPE*, 100, 1992; 9. 'Behaviour under risk: recent developments in theory and applications', in J.J. Laffont (ed.), *Advances in Economic Theory – Sixth World Congress of Econometric Society*, Vol. II (CUP, 1992); 10. 'Intertemporal asset pricing under Knightian uncertainty' (with T. Wang), *Em*, 62, 1994; 11. 'Beliefs about beliefs without probabilities' (with T. Wang), *Em*, 64, 1996; 12. 'A definition of uncertainty aversion', *REStud*, 66, 1999; 13. 'A revelation principle for competing mechanisms' (with M. Peters),

JET, 88, 1999; 14. 'Are probabilities used in markets?', *JET*, 91, 2000; 15. 'Subjective probabilities on subjectively unambiguous events' (with J. Zhang), *Em*, 69, 2001; 16. 'Sharing ambiguity', *AER*, 91, 2001; 17. 'The core of large differentiable TU games' (with M. Marinacci), *JET*, 100, 2001; 18. 'The independence axiom and asset returns' (with S. Zin), *J Empirical Fin.*, 8, 2001; 19. 'Ambiguity, risk and asset returns in continuous time' (with Z. Chen), *Em*, 70, 2002; 20. 'A two-person dynamic equilibrium under ambiguity' (with J. Miao), *JEDC*, forthcoming.

Principal Contributions My research has focused on the modelling of intertemporal preferences. Early work considered nonstochastic settings, while more recently I have focused on environments with risk or uncertainty. The model of preference over intertemporal consumption programmes that is standard in dynamic economic analysis corresponds to the expected-additive-discounted-utility functional form. I have concentrated on the formulation of generalized models, called 'recursive utility', that make a difference. By the latter I mean that recursive utility delivers either (1) added analytical power and therefore new theoretical insights, or (2) new testable implications regarding market behaviour (in asset markets, for example). Examples of the former include clarification of (i) the role of endogenous time preference as a factor in the long-run distribution of wealth across households; (ii) the separate roles played by the degree of intertemporal substitutability in consumption as opposed to the degree of risk aversion as determinants of the structure of asset returns in equilibrium; and (iii) the implications for asset pricing of aversion to 'Knightian uncertainty' or ambiguity, as opposed to risk. One example of new testable empirical implications is the two-factor (consumption growth and the market return) model

of asset returns delivered by a suitable parametric specialization of recursive utility. My work beginning in the mid-1980s was stimulated in large part by developments in decision theory that were in turn driven by the need to explain the paradoxes of Allais and Ellsberg, two glaring descriptive failures of the expected utility model. My research differed from the bulk of this decision theory literature through its focus on standard market-based questions, rather than behaviour in the laboratory, as the principal driving force behind the formulation and evaluation of generalized models of preference.

EREV, Ido n.e.

ERICSSON, Neil Reinhard

Born 1954, Chicago, IL, USA.

Current Post Econ., Trade and Fin. Stud. Section, Div. Intl Fin., Bd Governors Fed. Reserve System, Washington, DC, USA, 1983–.

Past Posts Res. Officer, Nuffield Coll., Oxford Univ., UK, 1983; Vis. Cons., Bank of Norway, 1990, 1995–97, Reserve Bank Australia, 1993–94, 1998; Cons., IMF, 1995–, World Bank, 1999; Adjunct Prof., Dept Econ., George Washington Univ., 1996, 1997, 1999.

Degrees BA Yale Univ., 1976; MSc (Em. and Math. Econ.), PhD LSE, 1978, 1982.

Offices and Honours Program Comm., Em Soc European Meetings, 1988, 1989, 1991, 1992, 1994, 1998, 1999, 2001, 2002, 2003; Bd Mem., Washington Stat. Assoc. 1989–91; Program Comm., Em Soc World Congress 1995; Scholarship Comm., Amer. Friends of LSE Mem., Chair, 1995–98, 1999–2001; Program Chair, Bus. and Econ. Stats Section, ASA, 1998; PhD Examiner, George Washington Univ., 1998,

2002; Erskine Res. Fell., Dept Econ., Univ. Canterbury, New Zealand, 1998; Tenure Examiner, Bilkent Univ., 1999, Univ. Missouri, 1999; External Examiner, Swarthmore Coll., 2001.

Editorial Duties Assoc. Ed., *JBES*, 1992–98, *Em. Revs.*, 1995–2001, *JAE*, 1996–2001, *REStat*, 1996–2002, *Empirical Econ.*, 2000–.

Principal Fields of Interest C5 Econometric Modeling; E4 Money and Interest Rates; E3 Prices, Business Fluctuations, and Cycles.

Publications *Books*: 1. *PcNaive: An Interactive Program for Monte Carlo Experimentation in Econometrics* (with D.F. Hendry, A.J. Neale), (Oxford Inst. Econ. Stats, 1990); 2. *Testing Exogeneity* (ed. with J.S. Irons), (OUP, 1994); 3. *Understanding Economic Forecasts* (ed. with D.F. Hendry), (MIT Press, 2001); 4. *Readings on General-to-Specific Modeling* (with J. Campos, D.F. Hendry), (Edward Elgar, forthcoming); 5. *Empirical Modeling of Economic Time Series* (OUP, forthcoming).

Articles: 1. ‘The economic feasibility of shale oil: an activity analysis’ (with P. Morgan), *Bell JE*, 9, Spring 1978; 2. ‘Asymptotic properties of instrumental variables statistics for testing non-nested hypotheses’, *REStud*, 50, April 1983; 3. ‘PC-GIVE and David Hendry’s econometric methodology’ (with J. Campos, H.-A. Tran), *Revista de Econometria*, 10, April 1990; 4. ‘An econometric analysis of UK money demands, in *Monetary Trends in the United States and the United Kingdom* by Milton Friedman and Anna J. Schwartz,’ (with D.F. Hendry), *AER*, 81, March 1991; 5. ‘Modeling the demand for narrow money in the United Kingdom and the United States’ (with D.F. Hendry), *Europ ER*, 35, May 1991; 6. ‘Monte Carlo methodology and the finite sample properties of instrumental variables statistics for testing nested and non-nested hypoth-

eses’, *Em*, 59, Sept. 1991; 7. ‘Cointegration, exogeneity, and policy analysis: an overview’, *J. Pol. Modeling*, 14, June 1992; 8. ‘The power of cointegration tests’ (with J.J.M. Kremers, J.J. Dolado), *OBES*, 54, Aug. 1992; 9. ‘Encompassing the forecasts of US trade balance models’ (with J. Marquez), *REStat*, 75, Feb. 1993; 10. ‘The Lucas critique in practice: theory without measurement’ (with J.S. Irons), in K.D. Hoover (ed.), *Macroeconometrics: Developments, Tensions, and Prospects* (Kluwer, 1995); 11. ‘Modeling inflation in Australia’ (with G. de Brouwer), *JBES*, 16, Oct. 1998; 12. ‘Constructive data mining: modeling consumers’ expenditure in Venezuela’ (with J. Campos), *Em. J.*, 2, 1999; 13. ‘Output and inflation in the long run’ (with J.S. Irons, R.W. Tryon), *JAE*, 17, May/June 2001; 14. ‘Distributions of error correction tests for cointegration’ (with J.G. MacKinnon), *Em. J.*, 5, 2002; 15. ‘Dollarization in post-hyperinflationary Argentina’ (with S.B. Kamin), *JIMF*, 22, April 2003.

Principal Contributions My research focusses on the empirical modeling of macroeconomic time series. There are three main strands in this work: analysis and development of econometric tools for empirical modeling, substantive empirical applications, and pedagogical exposition of these tools. My research is in the spirit of the LSE or Hendry econometric methodology, and several contributions are in collaboration with David Hendry. The first strand of my research includes tests of non-nested hypotheses, error-correction tests of cointegration, cointegration tests in the presence of structural breaks, tests of parameter constancy, forecast comparisons, forecast encompassing tests, measures of forecast uncertainty, comparison of models with seasonally adjusted versus seasonally unadjusted data, comparison of models with original versus phase-averaged data averaged over phases of the

business cycle, conditional subsystem modeling, tests of rational expectations, and constructive algorithmic data mining. Analyses of these techniques use analytical asymptotic and finite sample approximations, Monte Carlo simulation, and empirical evidence. The second strand includes detailed empirical econometric modeling of US, UK, Greek, and Argentine money demand, the US trade balance, the G-10 trade-weighted dollar exchange rate, Venezuelan consumers' expenditure, Australian inflation, the UK housing market, and output and inflation for the G-7 countries. The third strand includes extended expository reviews of the LSE econometric methodology, cointegration, distributed lags, model evaluation and design, exogeneity, forecasting, the Lucas critique, monetary conditions indexes, and Monte Carlo simulation. This work has arisen out of and has contributed to courses that I have taught at George Washington University, University of Maryland, University of Pennsylvania, Federal University of Rio de Janeiro, University of São Paulo, the International Monetary Fund, and several foreign central banks. My current research concentrates on monetary policy, models of inflation and of monetary aggregates, convergence across countries, and empirical model design, the last particularly with computer-assisted model simplification procedures.

ERIKSON, Robert S. n.e.

ESKRIDGE, Jr, William N. n.e.

EUBANK, R.L. n.e.

EVANS, Charles L.

Born 1958, Greenville, SC, USA.

Current Posts Vice Pres. and Econ. Advisor, FRB, Chicago, IL, USA, 1991–.

Past Posts Asst Prof., Univ. South Carolina, 1988–91.

Degrees BA Univ. Virginia, 1980; MS, PhD Carnegie-Mellon Univ., 1985, 1989.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E4 Money and Interest Rates; F4 Macroeconomic Aspects of International Trade and Finance.

Publications Articles: 1. 'Productivity shocks and real business cycles', *JME*, 29, April 1992; 2. 'Some empirical evidence on the effects of monetary policy shocks on exchange rates' (with M. Eichenbaum), *QJE*, 110, Nov. 1995; 3. 'The effects of monetary policy shocks: some evidence from the flow of funds' (with L. Christiano, M. Eichenbaum), *REStat*, 78, Feb. 1996; 4. 'Sticky price and limited participation models of money: a comparison' (with L. Christiano, M. Eichenbaum), *Europ ER*, 41, June 1997; 5. 'Seasonal Solow residuals and Christmas: a case for labor hoarding and increasing returns' (with R. Braun), *JMCB*, 30, Aug. 1998; 6. 'Monetary policy and the term structure of nominal interest rates: evidence and theory' (with D. Marshall), *C-RPP*, 49, Dec. 1998; 7. 'Monetary shocks: what are they and what do they do?' (with L. Christiano, M. Eichenbaum), in *The Handbook of Macroeconomics* (Elsevier Sc., 1999); 8. 'Money, sticky wages, and the Great Depression' (with M. Bordo, C. Erceg), *AER*, 90, Dec. 2000.

Principal Contributions Most of my research is in the field of monetary economics. Christiano, Eichenbaum, Marshall and I have worked to quantify the effects of exogenous monetary policy shocks on economic activity and financial markets in the post-war period. Building on these

empirical findings, we have investigated the roles of alternative nominal rigidities in accounting for these conditional moments within dynamic general equilibrium models. In related work on the Great Depression, Bordo, Erceg and I have found evidence that monetary contractions accounted for about half of the US economic downturn from 1929–33. I have also made empirical contributions to the literature on productivity fluctuations.

EVANS, George William

Born 1949, New York City, NY, USA.

Current Post Prof., John B. Hamacher Chair of Econ., Univ. Oregon, Eugene, OR, USA, 1994–.

Past Posts Lect., Dept Econ., Univ. Stirling, 1978–81; Asst Prof., Dept Econ., Stanford Univ., 1981–87; Lect., Sr Lect., Reader, Dept Econ., LSE, 1984–85 and 1987–89, 1989–1992, 1992; Vis. Prof., Sch. Bus., Univ. California, 1991–92; Prof., George Watson's and Daniel Stewart's Chair Polit. Econ., Univ. Edinburgh, 1993–94.

Degrees BA (PPE) Balliol Coll., Oxford Univ., 1972; BA (Maths), (Phi Beta Kappa), MA (Stats), PhD Univ. California, Berkeley, 1974, 1976, 1980.

Editorial Duties Bd Ed., *AER*, 1991–94; Bd Advisors, *J. Econ. Surveys*, 1995–; Assoc. Ed., *JEDC*, 1995–, *Macroecon. Dynamics*, 1996–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Book*: 1. *Learning and Expectations in Macroeconomics* (with S. Honkapohja), (Princeton Univ. Press, 2001).

Articles: 1. 'Bottlenecks and the Phillips curve: a disaggregated Keynesian model of inflation, output and unemployment',

EJ, 95, June 1985; 2. 'Expectational stability and the multiple equilibria problem in linear rational expectations models', *QJE*, 100, Nov. 1985; 3. 'A complete characterization of ARMA solutions to linear rational expectations models' (with S. Honkapohja), 53, April 1986; 4. 'Selection criteria for models with non-uniqueness', *JME*, 18, Sept. 1986; 5. 'A test for speculative bubbles in the sterling-dollar exchange rate: 1981–84', *AER*, 76, Sept. 1986; 6. 'Output and unemployment dynamics in the United States: 1950–1985', *JAЕ*, 4, July/Sept. 1989; 7. 'The fragility of sunspots and bubbles', *JME*, 23, 1989; 8. 'Pitfalls in testing for explosive bubbles in asset prices', *AER*, 81, Sept. 1991; 9. 'On the robustness of bubbles in linear RE models' (with S. Honkapohja), *IER*, 33, Feb. 1992; 10. 'Expectation calculation and macroeconomic dynamics' (with G. Ramey), *AER*, 82, March 1992; 11. 'Rationalizability, strong rationality and expectational stability' (with R. Guesnerie), *Games and Econ. Behav.*, 5, Oct. 1993; 12. 'Information, forecasts and measurement of the business cycle' (with L. Reichlin), *JME*, 33, 1994; 13. 'On the stability of sunspot equilibria under adaptive learning rules' (with S. Honkapohja), *JET*, 64, Oct. 1994; 14. 'Local convergence of recursive learning to steady states and cycles in stochastic nonlinear models' (with S. Honkapohja), *Em*, 63, 1995; 15. 'Economic dynamics with learning: new stability results' (with S. Honkapohja), *REStud*, 65, 1998; 16. 'Calculation, adaptation and rational expectations' (with G. Ramey), *Macroecon. Dynamics*, 2, June 1998; 17. 'Growth cycles' (with S. Honkapohja, P. Romer), *AER*, 88, June 1998; 18. 'Convergence in monetary inflation models with heterogeneous learning rules' (with S. Honkapohja, R. Marimon), *Macroecon. Dynamics*, 5, Feb. 2001; 19. 'Expectations and the stability problem for optimal monetary policies'

(with S. Honkapohja), *REStud*, forthcoming.

Principal Contributions I have investigated a number of theoretical and empirical topics in macroeconomics including tests for speculative bubbles, the effect of sectoral imbalance on unemployment, the decomposition of aggregate output into trend and cycle, and the formulation of theoretical models of endogenous fluctuations. The work on 'rational bubbles' has examined the statistical evidence for the presence of bubbles in foreign exchange rates and in stock prices. Econometric work on business cycles showed how to extract the cyclical component of GDP using multivariate forecasting methods. My greatest interest, however, has been in the formulation and study of expectational stability and learning in stochastic, dynamic models with multiple equilibria. In these models, economic agents are typically assumed to have bounded rationality in making forecasts – e.g., to use simple or sophisticated extrapolative rules. Because agents learn and adapt to forecast errors, they may, in the long run, approximate full rationality. The techniques developed are used, in particular, to determine when the economy can become trapped into cycles, 'sunspot equilibria' or hyperinflationary paths, and how macroeconomic policy can steer the economy away from these inefficient outcomes. Related recent research has included the study of how complementarities can lead to 'growth cycles' generated by self-fulfilling fluctuations in business confidence and investment, the effects of fiscal restrictions on inflation and monetary stability, and the role of expectations and learning in optimal monetary policy design.

EVANS, Paul

Born 1946, Pocatello, ID, USA.

Current Post Prof., Ohio State Univ., Columbus, OH, USA, 1987–.

Past Posts Asst Prof., Stanford Univ., 1976–84; Assoc. Prof., Univ. Houston, 1984–87; Assoc. Prof., Ohio State Univ., 1987–90.

Degrees SB (Chemistry) MIT, 1969; MS (Chemistry), PhD Univ. Chicago, 1971, 1976.

Offices and Honours Bd Acad. Advisors, Buckeye Inst. for Public Pol. Solutions, Columbus, OH, 2001–.

Editorial Duties Assoc. Ed., *EI*, 1990–97; Ed., *JMCB*, 1992–.

Principal Fields of Interest C1 Econometrics and Statistical Methods: General; C5 Econometric Modeling; D9 Intertemporal Choice and Growth.

Publications *Articles*: 1. 'Time-series analysis of the German hyperinflation', *IER*, 19, Feb. 1978; 2. 'The effects of general price controls on the US during World War II', *JPE*, 90, Oct. 1982; 3. 'The effects of price-level instability on output', *EI*, 21, April 1983; 4. 'The effects on output of money-growth and interest-rate volatility in the United States', *JPE*, 92, April 1984; 5. 'Do large deficits produce high interest rates?', *AER*, 75, March 1985; 6. 'Is the dollar high because of large budget deficits?', *JME*, 18, Nov. 1986; 7. 'Interest rates and expected future budget deficits in the United States', *JPE*, 95, Feb. 1987; 8. 'Do budget deficits raise nominal interest rates? Evidence from six countries', *JME*, 20, Sept. 1987; 9. 'Are consumers Ricardian? Evidence for the United States', *JPE*, 96, Oct. 1988; 10. 'Are government bonds net wealth? Evidence for the United States', *EI*, 26, Oct. 1988; 11. 'Test of steady-state government-debt neutrality', *EI*, 27, Jan. 1989; 12. 'Is Ricardian equivalence a good approximation?', *EI*, 29, Oct. 1991; 13. 'Finite horizons, infinite hori-

zons, and the real interest rate', *EI*, 30, Jan. 1992; 14. 'Are government activities productive? Evidence from a panel of US states' (with G. Karras), *REStat*, 76, Feb. 1994; 15. 'Using cross-country variances to evaluate growth theories', *JEDC*, 20, 1996; 16. 'Convergence revisited' (with G. Karras), *JME*, 37, April 1996; 17. 'Do economies converge? Evidence from a panel of US states' (with G. Karras), *REStat*, 78, Aug. 1996; 18. 'How fast do economies converge?', *REStat*, 36, May 1997; 19. 'Using panel data to evaluate growth theories', *IER*, 39, May 1998; 20. 'Consumer behavior in the United States: implications for social security reform', *EI*, 39, Oct. 2001.

Principal Contributions In my research, I use econometrics to address questions in macroeconomics. Early on, I investigated the effects of monetary policy on inflation and output. In the 1980s, my research largely focused on estimating the effects of budget deficits. The resulting articles found no evidence of large effects. More recently, I have attempted to evaluate growth theories empirically, finding little support for those that predict appreciable endogeneity of growth rates either across countries or over time.

EVANS, William N. n.e.

F

FAFCHAMPS, Marcel

Born 1955, Liège, Belgium.

Current Posts Reader, Dept Econ., Professorial Fell., Mansfield Coll., Oxford, UK, 1999–; Dep. Dir., Centre Study African Econ., Oxford Univ., Oxford, UK, 1999–.

Past Posts Assoc. Expert, ILO, 1981–85; Asst Prof., Stanford Univ., 1989–99.

Degrees Licence in Law, Licence in Econ., Catholic Univ., Louvain-la-Neuve, 1978, 1980; PhD (Agric. and Resource Econ.) Univ. California, Berkeley, 1989.

Offices and Honours Outstanding PhD Thesis Award, AA, 1990; Vis. Asst Prof., Dept Econ., Univ. Chicago, 1995; Vis. Res. Fell., Dept Res., World Bank, 1998–99.

Editorial Duties Ed., *J. African Econ.*, 1999–; Assoc. Ed., *AJAE*, 1999–, *EJ*, 2000–, *Berkeley J. Econ. and Growth of Devlp. Areas*, 2001–.

Principal Fields of Interest D1 Household Behavior; O1 Economic Development; D2 Production and Organizations.

Publications *Books*: 1. *Rural Poverty, Risk, and Development* (Edward Elgar, 2003); 2. *Market Institutions in Africa* (MIT Press, forthcoming 2004).

Articles: 1. ‘Peasant household behavior with missing markets: some paradoxes explained’ (with A. de Janvry, E. Sadoulet), *EJ*, 101, Nov. 1991; 2. ‘Cash crop production, food price volatility and rural market integration in the Third World’, *AJAE*, 74, Feb. 1992; 3. ‘Solidarity networks in preindustrial societies: rational peasants with a moral economy’, *EDCC*, 41, Oct. 1992; 4. ‘Sequential labor decisions under uncertainty: an estimable household model of West African farmers’, *Em*, 61, Sept. 1993; 5. ‘Local demand, investment multipliers and indus-

trialization’ (with B. Helms), *JDE*, 49, April 1996; 6. ‘Sovereign debt, structural adjustment, and conditionality’, *JDE*, 50, Nov. 1996; 7. ‘Precautionary saving, credit constraints, and irreversible investment: theory and evidence from semi-arid India’ (with J. Pender), *JBES*, 15, April 1997; 8. ‘Mobile capital, location externalities and industrialization’, *J Comp E*, 25, Dec. 1997; 9. ‘Drought and saving in West Africa: are livestock a buffer stock?’ (with K. Czukas, C. Udry), *JDE*, 55, April 1998; 10. ‘Social heterogeneity and wasteful lobbying’ (with A. de Janvry, E. Sadoulet), *Public Choice*, 98, Jan. 1999; 11. ‘Human capital, productivity, and labor allocation in rural Pakistan’ (with A. Quisumbing), *JHR*, 34, Spring 1999; 12. ‘Ethnicity and credit in African manufacturing’, *JDE*, 61, Jan. 2000; 13. ‘Inventories and risk in African manufacturing’ (with J.W. Gunning, R. Oostendorp), *EJ*, 110, Oct. 2000; 14. ‘Property rights in a flea market economy’ (with B. Minten), *EDCC*, 49, Jan. 2001; 15. ‘Returns to social network capital among traders’ (with B. Minten), *OEP*, 54, April 2002; 16. ‘Insurance market efficiency and crop choices in Pakistan’ (with T. Kurosaki), *JDE*, 67, April 2002; 17. ‘Spontaneous market emergence’, *Topics in Theoretical Econ.*, 2, June 2002; 18. ‘Social roles, human capital, and the intrahousehold division of labor: evidence from Pakistan’ (with A. Quisumbing), *OEP*, 55, 2003.

Principal Contributions My work to date has reverted around risk coping and market institutions, with a focus on Africa and South Asia. Ten years of empirical research on agricultural and manufacturing markets in Africa are summarized in my forthcoming book on market institutions in Africa. The book shows that, contrary to common perceptions, community-based sanctions for breach of contract are weak or inexistent. Interpersonal trust, and hence networks, play a key role

in contracting. Much of the often observed importance of ethnicity in business communities can be ascribed to network effects. Breach of contract is common but seldom leads to the end of a commercial relationship. Negotiation is the primary mode of resolution for contractual disputes. Debt recovery is achieved through harassment. Courts and laws only play a marginal role. My work on risk shows that concerns about flexibility explain why farmers work little, that African livestock are not used as a buffer against shocks, that risk sharing takes the form of transfers and personal loans among family and friends, that firms accumulate inventories as protection against failed supplies, and that wealth accumulation by the poor to finance profitable but non-divisible investment is extremely difficult. I have also made contributions to our understanding of spatial issues, most notably how mobile capital affects the location of economic activity and how local pecuniary externalities can shape village life.

FAMA, Eugene F.

Born 1939, Boston, MA, USA.

Current Post Robert R. McCormick Disting. Service Prof. Fin., Grad. Sch. Bus., Univ. Chicago, USA, 1993–.

Past Posts Asst Prof., Assoc. Prof., Prof. Fin., Theodore O. Yntema Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1963–65, 1966–68, 1968–73, 1973–84; Vis. Prof., Catholic Univ. Leuven and Europ. Inst. Adv. Stud. Mgmt, Belgium, 1975–76; Vis. Prof., Anderson Grad. Sch. Mgmt, UCLA, 1982–95; Bd Dirs, Dimensional Fund Advisers, 1982–, Theodore O. Yntema Disting. Service Prof. Fin., Grad. Sch. Bus., Univ. Chicago. 1984–93.

Degrees BA Tufts Univ., 1960; MBA, PhD Univ. Chicago, 1963, 1964.

Offices and Honours Soc. of Schol-

ars; Phi Beta Kappa; Omicron Chi Epsilon; Class of 1958 Prize Scholar, Tufts Univ., 1959; Beta Gamma Sigma, Univ. Chicago; Fell., Em Soc, 1989–, AAAS, 1989–, AFA, 2001–; Chaire Francqui, 1982; DLitt, Univ. Rochester, 1987, DePaul Univ., 1989; Smith-Breeden Prize (with co-auth. K.R. French), 1992; Dr (*hc*) Catholic Univ. Leuven, 1995; DSc (*hc*) Tufts Univ., 2002.

Editorial Duties Assoc. Ed., *J Fin*, 1971–73, 1977–80, *AER*, 1975–77, *JME*, 1984–96; Advisory Ed., *J Fin E*, 1974–.

Principal Field of Interest G0 Financial Economics: General.

Publications *Books*: 1. *The Theory of Finance* (with M. Miller), (Holt, Rinehart & Winston, 1972); 2. *Foundations of Finance* (Basic Books, 1976).

Articles: 1. ‘Business cycles and the behavior of metals prices’ (with K.R. French), *J Fin*, 61, Dec. 1988; 2. ‘Contract costs and financing decisions’, *J Bus*, 63, Jan. 1990; 3. ‘Time, salary, and incentive payoffs in labor contracts’, *J Lab E*, 9, Jan. 1991; 4. ‘Transitory variation in investment and GNP’, *JME*, 30, Dec. 1992; 5. ‘Common risk factors in the returns on stocks and bonds’ (with K.R. French), *J Fin E*, 33, Feb. 1993; 6. ‘Size and book-to-market factors in earnings and returns’ (with K.R. French), *J Fin*, 50, March 1995; 7. ‘Multifactor explanations of asset pricing anomalies’ (with K.R. French), *J Fin*, 51, March 1996; 8. ‘Discounting under uncertainty’, *J Bus*, 69, Oct. 1996; 9. ‘The CAPM is wanted, dead or alive’ (with K.R. French), *J Fin*, 5, Dec. 1996; 10. ‘Industry costs of equity’ (with K.R. French), *J Fin E*, 43, Feb. 1997; 11. ‘Taxes, financing decisions, and firm value’ (with K.R. French), *J Fin*, 53, June 1998; 12. ‘Value versus growth: the international evidence’ (with K.R. French), *J Fin*, 53, Dec. 1998; 13. ‘The corporate cost of capital and the return on corporate investment’ (with K.R. French), *J Fin*, 54,

Dec. 1999; 14. 'Characteristics, covariances, and average returns: 1929–1997' (with J.L. Davis, K.R. French), *J Fin*, 55, Feb. 2000; 15. 'Forecasting profitability and earnings' (with K.R. French), *J Bus*, 72, April 2000; 16. 'Disappearing dividends: changing firm characteristics or lower propensity to pay' (with K.R. French), *J Fin E*, 60, April 2001; 17. 'The equity premium' (with K.R. French), *J Fin*, 57, April 2002; 18. 'Testing tradeoff and pecking order predictions about dividends and debt' (with K.R. French), *Rev. Fin. Stud.*, 15, Spring 2002.

Principal Contributions n.e.

FAN, Jianqing n.e.

FARBER, Henry S. n.e.

FÄRE, Rolf G.

Born 1942, Lund, Sweden.

Current Post Prof., Oregon State Univ., OR, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Southern Illinois Univ., 1978–98.

Degrees Filosofie kand, Filosofie Licentiat, Docent Lund, Univ. Lund, Sweden, 1969, 1971, 1976.

Offices and Honours Fell., Centre Econ. Stud., Univ. Munich, 1995.

Editorial Duties Ed., *J. Productivity Analysis*, 1986–95; Assoc. Ed., *ZN*, 1988–, *IJIO*, 2002–; Ed. Bd, *Pacific ER*, 1995–.

Principal Fields of Interest C6 Mathematical Methods and Programming; D2 Production and Organizations; O3 Technological Change.

Publications *Books*: 1. *Laws of Diminishing Returns* (S-V, 1980); 2. *Dynamic Theory of Production Correspondences* (with R.W. Shephard), (Verlag Anton Hain, 1980); 3. *The Measurement of the*

Efficiency of Production (with S. Grosskopf, C.A.K. Lovell), (Kluwer-Nijhoff, 1985); 4. *Application of Modern Production Theory: Efficiency and Productivity* (with A. Dogramaci), (Kluwer-Nijhoff, 1988); 5. *Cost and Revenue Constrained Production* (with S. Grosskopf), (S-V, 1994); 6. *Production Frontiers* (with S. Grosskopf, C.A.K. Lovell), (CUP, 1994); 7. *Multi-Output and Duality: Theory and Applications* (with D. Primont), (Kluwer Acad., 1995); 8. *Intertemporal Production Frontiers* (with S. Grosskopf), (Kluwer Acad., 1996); 9. *Index Numbers: Essays in Honour of Sten Malmquist* (ed. with S. Grosskopf, R.R. Russell), (Kluwer, 1998).

Articles: 1. 'Ray-homothetic production functions' (with R.W. Shephard), *Em*, 45, 1977; 2. 'Measuring the technical efficiency of production' (with C.A.K. Lovell), *JET*, 19, 1978; 3. 'Congestion of production factors' (with L. Svensson), *Em*, 48, 1980; 4. 'The rate-of-return regulated firm: cost and production duality' (with J. Logan), *Bell JE*, 14, 1983; 5. 'Measuring plant capacity utilization and technical change: a nonparametric approach' (with S. Grosskopf, E. Kokkelenberg), *IER*, 30, 1989; 6. 'A distance function approach to price efficiency' (with S. Grosskopf), *J Pub E*, 43, 1990; 7. 'Productivity growth, technical progress, and efficiency change in industrialized countries' (with S. Grosskopf, M. Norris, Z. Zhang), *AER*, 84, 1994; 8. 'Hicks' neutrality and trade-biased growth: a taxonomy' (with R. Chambers), *JET*, 64, 1994; 9. 'Nonparametric tests of regularity Farrell efficiency and goodness-of-fit' (with S. Grosskopf), *J Em*, 69, 1995; 10. 'Benefit and distance functions' (with R. Chambers, Y. Chung), *JET*, 70, 1996; 11. 'Using dominance in forming bounds on DEA modules' (with R.G. Chambers, E. Jaenicke, E. Lichtenberg), *J Em*, 85, 1998.

Principal Contributions The theoretical contribution consists of axiomatic developments of production. The empirical contribution consists of developing activity analysis models for estimating efficiency and productivity.

FARMER, Roger Edward Alfred

Born 1955, Enfield, England.

Current Posts Fell. Commoner, Churchill Coll., Cambridge, UK, 1988–; Prof. Econ., UCLA, CA, USA, 1991–; Res. Fell., CEPR, London, UK, 1996–.

Past Posts Lect. Econ., Univ. Toronto, 1980–82; Res. Asst, Inst. Pol. Analysis, Toronto, Canada, 1981–83; Asst Prof. Econ., Univ. Toronto, 1982–83; Asst Prof. Econ., Univ. Pennsylvania, 1983–88; Assoc. Prof. Econ., UCLA, 1988–91; Vis. Prof., Innocenzo Gaspirini Inst., Milan, Italy, 1995; Assoc. Dir., Dir., Program Dynamic Econ., UCLA, 1996–97, 1998–99; Prof. Econ., Europ. Univ. Inst., Florence, Italy, 1998–2000.

Degrees BA (1st Class Hons), MA Manchester Univ., 1976, 1977; PhD Univ. Western Ontario, 1982.

Offices and Honours Cobden Prize, Manchester Univ., 1976; Sir Arthur Currie Memorial Scholarship, 1978, 1979; Univ. Helsinki Medal, 2000.

Editorial Duties Assoc. Ed., *Macroecon. Dynamics*, 1997–, *JEG*, 1998–, *Econ. Bull.*, 2000–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles; D9 Intertemporal Choice and Growth.

Publications *Books*: 1. *The Macroeconomics of Self-Fulfilling Prophecies* (MIT Press, 1993, 1998); 2. *Macroeconomics* (Southwestern Coll. Publ., 1998, 2001; trans., Italian, 1999).

Articles: 1. 'A new theory of aggregate

supply', *AER*, 74, Dec. 1984; 2. 'Implicit contracts with asymmetric information and bankruptcy; the effect of interest rates on layoffs', *REStud*, 52, July 1985; 3. 'Deficits and cycles', *JET*, 40, Oct. 1986; 4. 'Profecias que se autorrealizan y el ciclo economico' (with M. Woodford), *Cuadernos Economicos de ICE*, 35, Feb. 1987; trans., English, *Macroecon. Dynamics*, 1, Dec. 1997; 5. 'Money and contracts', *REStud*, 55, July 1988; 6. 'What is a liquidity crisis?', *JET*, 46, Oct. 1988; 7. 'Rince preferences', *QJE*, 105, Feb. 1990; 8. 'The Lucas critique, policy invariance and multiple equilibria', *REStud*, 58, April 1991; 9. 'Sticky prices', *EJ*, 101, Nov. 1991; 10. 'Indeterminacy and increasing returns' (with J. Benhabib), *JET*, 63, June 1994; 11. 'Real business cycles and the animal spirits hypothesis' (with J.T. Guo), *JET*, 63, June 1994; 12. 'The econometrics of indeterminacy' (with J.T. Guo), *C-RPP*, 43, Dec. 1995; 13. 'Indeterminacies and sector specific externalities' (with J. Benhabib), *JME*, 37, June 1996; 14. 'Money in a real business cycle model', *JMCB*, 29, Nov. 1997; 15. 'Indeterminacy and sunspots in macroeconomics' (with J. Benhabib), in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 1999); 16. 'Two new Keynesian theories of sticky prices', *Macroecon. Dynamics*, 4, March 2000; 17. 'Indeterminacy with non-separable utility' (with R. Bennett), *JET*, 93, July 2000; 18. 'The monetary transmission mechanism' (with J. Benhabib), *Rev. Econ. Dynamics*, 3, July 2000.

Principal Contributions For a period of forty years, following the publication of Keynes's *General Theory of Employment, Interest and Money*, the dominant paradigm in macroeconomics was based on Keynesian theory. The *General Theory* has two principal themes. The first is that the operation of the market system can lead to a highly inefficient allocation of

resources; the Great Depression is the leading example. The second is that market economies are frequently in a situation of 'disequilibrium', that is, the wage at which labour is traded in the market is not one at which demand equals supply. To describe this possibility Keynes coined the term 'involuntary unemployment'. Generations of economists, following Keynes, saw macroeconomics as distinct from microeconomics in part because macroeconomics dealt with the consequences of trading at disequilibrium prices. In the 1970s the rational expectations revolution, initiated by R.E. Lucas, Jr, T.J. Sargent and others, introduced the assumption that markets are always in equilibrium. In standard equilibrium models, efficiency and equilibrium go hand in hand. During the Great Depression, 25 per cent of the labour force became unemployed in the space of three years and, since this situation is difficult to envisage as efficient, many macroeconomists rejected the use of equilibrium models. My research has its roots in the 'rational-expectations revolution' but it goes considerably beyond the vision of the initial rational-expectations economists. I work with general equilibrium models in which equilibria are inefficient. My principal focus has been on dynamic general equilibrium models that display 'indeterminacy' as vehicles for quantitative assessments of macroeconomic policy. These models make small departures from the assumptions of standard general equilibrium theory but they lead to very different conclusions. My 1993 book on self-fulfilling prophecies showed how to use models with indeterminate equilibria to explain quantitatively how beliefs (self-fulfilling prophecies) can independently cause business fluctuations.

FARRELL, Joseph

Born 1954, Cambridge, England.

Current Posts Prof. Econ. and Chair of Competition Pol. Center, Univ. California, Berkeley, CA, USA, 1990–, 1999–.

Past Posts Asst Prof., MIT, 1980–85; Principal Mem., Tech. Staff, GTE Labs, 1985–87; Chief Econ., FCC, 1996–97; Dep. Asst Attorney General, US Dept of Justice, 2000–01.

Degrees MSc (Maths), PhD Oxford Univ., 1976, 1981.

Offices and Honours Pres., Ind. Org. Soc., 1996; Vice-Chair, Antitrust Section, Amer. Bar Assoc., 2001; Bd Mem., Computer Sc. and Telecommunications, NAS, 2001–, Fell. Em Soc, 2003.

Editorial Duties Ed., *J Ind E*, 1995–2000.

Principal Fields of Interest n.e.

Publications *Articles*: 1. 'Standardization, compatibility and innovation' (with G. Saloner), *RandJIE*, 16, Spring 1985; 2. 'Installed base and compatibility: innovation, product preannouncements, and predation' (with G. Saloner), *AER*, 76, Dec. 1986; 3. 'Cheap talk, coordination and entry', *RandJIE*, 18, 1987; 4. 'Information and the Coase theorem', *JEP*, 1, 1987; 5. 'Coordination through committees and markets' (with G. Saloner), *RandJIE*, 19, Summer 1988; 6. 'Optimal contracts with lock-in' (with C. Shapiro), *AER*, 79, March 1989; 7. 'Cheap talk with two audiences' (with R. Gibbons), *AER*, 79, Dec. 1989; 8. 'Renegotiation in repeated games' (with E. Maskin), *Games and Econ. Behav.*, 1, Dec. 1989; 9. 'Horizontal mergers: an equilibrium analysis' (with C. Shapiro), *AER*, 80, March 1990; 10. 'Decentralization, duplication, and delay' (with P. Bolton), *JPE*, 98, Aug. 1990; 11. 'Meaning and credibility in cheap-talk games', *Games and Econ. Behav.*, 5, Oct. 1993; 12. 'Choosing how to compete: strategy and tactics in standardization' (with S.M.

Besen), *JEP*, 8, Spring 1994; 13. 'Cheap talk' (with M. Rabin), *JEP*, 10, Summer 1996; 14. 'The vertical structure of industry: systems competition versus component competition' (with H. Monroe, G. Saloner), *JEMS*, 7, Summer 1998; 15. 'The effects of antitrust and intellectual property law on compatibility and innovation' (with M. L. Katz), *Antitrust Bull.*, 43, Fall/Winter 1998; 16. 'Do investors forecast fat firms? Diagnosing profit dissipation from stock market values of gold mining firms' (with S. Borenstein), NBER Working Paper, 7075, April 1999; 17. 'Using cost-cutting announcements to diagnose X-inefficiency' (with S. Borenstein), *AER*, 90, May 2000; 18. 'Innovation, rent extraction, and integration in systems markets' (with M.L. Katz), *J Ind E*, 48, Dec. 2000; 19. 'Competition in telecommunications', *AER Papers and Proceedings*, May 2003; 20. 'Coordination and lock-in: competition with switching costs and network effects' (with P. Klemperer), in M. Armstrong, R. Porter (eds), *Handbook of Industrial Organization*, Vol. 3 (Elsevier, forthcoming).

Principal Contributions Network effects and lock-in; communication and coordination. Since the early 1980s I have worked on the dynamics and welfare economics of decentralized collective and long-run technology choice: decentralized because choices emerge from choices by individual agents, but collective and long run because of switching costs and economies of agglomeration (network effects). See Farrell and Klemperer, above (article 20). Coordination of choices in game theory has also been a (closely related) research interest. In standard game theory the entire problem is viewed as one of unilateral incentives; but in general coordination issues arise. This can make cheap talk important, even though in a narrow sense it cannot affect incentives (article 13). Coordination of actions toward a bet-

ter (subgame) equilibrium also raises issues of renegotiation in dynamic games (article 9). Other main research interests have included telecommunications, productive efficiency and complementarities.

FEARON, James Dana

Born 1962, Princeton, NJ, USA.

Current Post Prof. Polit. Sc., Stanford Univ., Stanford, CA, USA, 1998–.

Past Posts Asst Prof. Polit. Sc., Assoc. Prof. Polit. Sc., Univ. Chicago, 1991–98.

Degrees MA (Polit. Sc.), MA (Econ. Theory), PhD (Polit. Sc.) Univ. California, Berkeley, 1987, 1991, 1992.

Offices and Honours Helen Dwight Reid Award for best doctoral dissertation in intl relations, law, and pol., 1993; Heinz Eulau Award for best article (with D. Laitin), *Amer. Polit. Sc. Rev.*, 1997; Gregory Luebbert Award for best article (with D. Laitin), *Comparative Polit.*, 1997; Karl Deutsch Award, Intl Stud. Assoc., 1999; Fell., Center Adv. Study in Behav. Sc., 1999–2000, AAAS, 2002–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'International financial institutions and economic policy reform in sub-Saharan Africa', *J. Modern African Stud.*, 26, March 1988; 2. 'Counterfactuals and hypothesis testing in political science', *World Polit.*, 43 Jan. 1991; 3. 'Signaling versus the balance of power and interests', *J. Conflict Resolution*, 38, June 1994; 4. 'Domestic political audiences and the escalation of international disputes', *Amer. Polit. Sc. Rev.*, 88, Sept. 1994; 5. 'Rationalist explanations for war', *Intl Org.*, 49, Summer 1995; 6. 'Explaining interethnic cooperation' (with D. Laitin), *Amer. Polit. Sc. Rev.*, 90, Dec. 1996; 7. 'Signaling foreign policy interests: tying hands versus sinking costs', *J.*

Conflict Resolution, 41, Feb. 1997; 8. 'Bargaining, enforcement, and international cooperation', *Intl Org.*, 52, Spring 1998; 9. 'Violence and the social construction of ethnic identity' (with D. Laitin), *Intl Org.*, 54, Autumn 2000; 10. 'Selection effects and deterrence', *Intl Interactions*, 28, Jan. 2002; 11. 'Ethnicity, insurgency, and civil war' (with D. Laitin), *Amer. Polit. Sc. Rev.*, 97, Feb. 2003.

Principal Contributions I have used tools from microeconomic and game theory to study some prominent questions in the political science field of international relations, such as (1) What explains 'the democratic peace' (the fact that democracies fight hardly at all against each other but often against nondemocracies)? (2) Under what conditions do efforts to deter foreign attack succeed or fail? (3) What is the full set of explanations for interstate war that assume rational states? (4) How do intermingled ethnic groups manage to maintain peaceful everyday relations in weak states, and when do such arrangements break down?

FEENSTRA, Robert C. n.e.

FEHR, Ernst n.e.

FELDMAN, Maryann P. n.e.

FELDMAN, Roger Dean

Born 1945, Janesville, WI, USA.

Current Post Blue Cross Prof. Health Insurance, Div. Health Services Res., and Pol., Univ. Minnesota, Minneapolis, MN, USA, 1995–.

Past Posts Res. Fell., Natl Center for Health Services Res., 1974–75; Vis. Lect., Asst Prof., Univ. North Carolina, Chapel

Hill, 1975–76, 1976–78; Asst Prof., Assoc. Prof., Prof., Univ. Minnesota, 1978–81, 1981–85, 1985–95; Sr Econ., US President's Council Econ. Advisers, 1984–85; Vis. Prof., Univ. Carlos III, Madrid, 1993.

Degrees BS Univ. Wisconsin, 1963; MSc LSE, 1969; PhD Univ. Rochester, 1976.

Honours Marshall Scholar, 1967–69; Best Papers, Acad. Health Services Res. and Health Pol., 1993, 2000.

Editorial Duties Ed. Bds, *Q. Rev. Econ. Fin.*, 1988–, *Inquiry*, 1991–, *Intl J. Health Financing and Econ.*, 2000–.

Principal Fields of Interest I1 Health; L0 Industrial Organization: General; J0 Labor and Demographic Economics: General.

Publications Book: 1. *Competitive Pricing for Medicare* (with B. Dowd, J. Christianson), (AEI for Public Pol. Res., 1996).

Articles: 1. 'The effects of advertising restrictions: lessons from optometry' (with J. Begun), *JHR*, 13, suppl., 1978; 2. 'Competition among physicians' (with F. Sloan), in W. Greenberg (ed.), *Competition in the Health Care Sector: Past, Present, and Future* (Aspen Systems, 1978); 3. 'Simulation of a health insurance market with adverse selection' (with B. Dowd), *OR*, 30, Nov.–Dec. 1982; 4. 'The welfare cost of quality changes due to professional regulation' (with J. Begun), *J Ind E*, 34, Sept. 1985; 5. 'Health status and medical care', in *Economic Report of the President, 1985* (US Govt Printing Office, 1985); 6. 'The demand for employment-based health insurance plans' (with M. Finch, B. Dowd, S. Cassou), *JHR*, 24, Winter 1989; 7. 'Effects of HMOs on the creation of competitive markets for hospital services' (with H.C. Chan, J. Kralewski, B. Dowd, J. Shapiro), *JHE*, 9, Sept. 1990; 8. 'Health plan choice and the utilization of health care services' (with B. Dowd,

S. Cassou, M. Finch), *REStat*, 73, Feb. 1991; 9. 'A new estimate of the welfare loss of excess health insurance' (with B. Dowd), *AER*, 81, March 1991; 10. 'Effect of HMOs on premiums in employment-based health plans' (with G. Gifford, B. Dowd), *Health Services Res.*, 27, Feb. 1993; 11. 'What does the demand curve for medical care measure?' (with B. Dowd), *JHE*, 12, July 1993; 12. 'The welfare economics of a health plan merger', *J. Regulatory Econ.*, 6, 1994; 13. 'The effect of market structure on HMO premiums' (with D. Wholey, J. Christianson), *JHE*, 14, May 1995; 14. 'Scale and scope economies among health maintenance organizations' (with D. Wholey, J. Christianson, J. Engberg), *JHE*, 15, Dec. 1996; 15. 'The role of government in competitive health insurance markets with adverse selection' (with C. Escribano, L. Pellisé), *Health Econ.*, 7, Dec. 1998; 16. 'Managed care and risk segmentation: problem or solution?' (with B. Dowd), *JHE*, 19, July 2000; 17. 'The effects of medical group practice and physician payment methods on costs of care' (with J. Kralewski, E. Rich, B. Dowd, T. Bernhardt, C. Johnson, W. Gold), *Health Services Res.*, 35, Aug. 2000; 18. 'A tale of four cities: medicare reform and competitive pricing' (with B. Dowd, R. Coulam), *Health Affairs*, 19, Sept./Oct. 2000; 19. 'Do HMOs have monopsony power?' (with D. Wholey), *Intl J. Health Care Fin. and Econ.*, 1, March 2001.

Principal Contributions My principal contribution to economics is in the application of microeconomic theory to problems in the organization, delivery and financing of health care services. Much of this research has focussed on employment-based health insurance, where I have conducted studies of employees' demand for health insurance options in multiple-choice programs. This research established

that employees are quite sensitive to the out-of-pocket premiums of the various choices and that total premiums generally are lower in firms that pay a defined contribution to the health insurance premium. I used these results to investigate the potential anti-competitive effects of health plan mergers. A separate strand of my research has focussed on the US Medicare program. From 1995 to 2000, I assisted the Centers for Medicare and Medicaid Services (CMS) in designing a demonstration of competitive pricing for Medicare health plans. I have been involved in public service on the staff of the President's Council of Economic Advisers and as a consultant for numerous federal and state health care agencies.

FELDSTEIN, Martin Stuart

Born 1939, New York, NY, USA.

Current Posts George F. Baker Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1969–; Pres., NBER, Cambridge, MA, USA, 1977–.

Past Posts Oxford Res. Fell., Official Fell., Nuffield Coll., Oxford Univ., 1964–65, 1965–67; Lect. Public Fin., Oxford Univ., 1965–67; Asst Prof., Assoc. Prof., Prof., Harvard Univ., 1967–68, 1968–69, 1969–77; Chairman, US President's Council Econ. Advisers, 1982–84.

Degrees BA Harvard Univ., 1961; BLitt, MA, DPhil Oxford Univ., 1963, 1964, 1967.

Offices and Honours Fell., Em Soc, 1970, AAAS, 1977, Natl Assoc. Bus. Econ., 1980; Mem., Inst. Medicine, NAS, 1971, Amer. Philo. Soc., 1989; John Bates Clark Medal, 1977; Fisher–Schultz Lecture, Em Soc, 1980; Mem., Trustee, Council on Foreign Relations, 1980–, 1999–; Exec. Comm., Vice Pres., Pres., AEA, 1980–82, 1988–89, 2004; Corp. Dir., Amer. Econ. Group, 1981, Hospital Corp.

of Amer., 1998, Eli Lilly, 2001; Disting. Service Award, Tax Foundation, 1983, 1999; Mem., Exec. Comm., Trilateral Commission, 1984, 1994–; Robeco Bernhard Harms Prize, Weltwirtschafts Inst., Germany, 1988; Advisory Bd, CBO, 1989, FRB, NY, 1990, Daimler Chrysler Corp., 1990, FRB, Boston, 1995, Kiel Inst., 2001; Tinbergen Lecture, Netherlands Royal Econ. Soc., 1992; Schumpeter Lecture, Europ. Econ. Assoc., 1994; Richard Ely Lect., 1996; Corres. Fell., BA, 1998; Hon. Fell., Nuffield Coll., Oxford, 1998.

Editorial Duties Ed. Bds, *AER*, *JPE*, *REStud*, *Public Interest*, *Natl Interest*, various years; Bd Contrib., *Wall Street J*.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; H3 Fiscal Policy and Behavior of Economic Agents; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Economic Analysis for Health Service Efficiency: Econometric Studies of the British National Health Service* (N-H, 1967); 2. *Hospital Costs and Health Insurance* (HUP, 1981); 3. *Capital Taxation* (HUP, 1981); 4. *Inflation, Tax Rules and Capital Formation* (UCP, 1981); 5. *Economic and Financial Crises in Emerging Market Countries* (UCP, 2003).

Articles: 1. 'Corporate taxation and dividend behavior', *REStud*, 37, 1970; 2. 'Hospital cost inflation: a study of non-profit price dynamics', *AER*, 61, Dec. 1971; 3. 'The welfare loss of excess health insurance', *JPE*, 1973; 4. 'Social security, induced retirement and aggregate capital accumulation', *JPE*, 82, 1974; 5. 'Unemployment compensation: adverse incentives and distributional anomalies', *NTJ*, 27, June 1974; 6. 'Personal taxation and portfolio composition: an econometric analysis', *Em*, 44, 1976; 7. 'The welfare cost of capital income taxation', *JPE*, 86, 1978; 8. 'The effect of the capital

gains tax on the selling and switching of common stock' (with S. Yitzhaki), *JPE*, 86, 1978; 9. 'Domestic savings and international capital flows' (with C. Horioka), *EJ*, 90, 1980; 10. 'The effect of marginal tax rates on taxable income: a panel study of the 1986 tax reform act', *JPE*, 103, 1995; 11. 'Tax avoidance and the dead-weight loss of the income tax', *REStat*, 81, 1999; 12. 'Potential effects of two percent personal retirement accounts' (with A. Samwick), *Tax Notes*, 1998; 13. 'Individual risk in an investment-based social security system' (with E. Rangelova), *AER*, 91, 2001.

Principal Contributions Quantitative studies in public economics, including tax, transfer and spending programs. Studies of social insurance programs (social security pensions, unemployment insurance, health insurance). Analyses of the interaction between fiscal structure and macroeconomic policy. Studies of capital formation. Effects of these programs on capital formation and employment.

FERNANDEZ, Raquel n.e.

FERRIER, Gary Donald

Born 1958, Green Bay, WI, USA.

Current Posts Assoc. Prof. Econ. and Holder of Lewis E. Epley, Jr Professorship, Univ. Arkansas, Fayetteville, AR, USA, 1993–.

Past Posts Asst Prof. Econ., Southern Methodist Univ., Dallas, 1987–93.

Degrees BA Univ. Wisconsin, 1980; PhD Univ. North Carolina, 1988.

Offices and Honours Fulbright Res. Fell., 1992.

Principal Fields of Interest D2 Production and Organizations; L2 Firm Objectives, Organization, and Behavior; C4

Econometric and Statistical Methods: Special Topics.

Publications Articles: 1. 'Measuring cost efficiency in banking: econometric and linear programming evidence' (with C.A.K. Lovell), *J Em*, 46, Oct./Nov. 1990; 2. 'The productive efficiency of US milk processing cooperatives' (with P.K. Porter), *J. Agric. Econ.*, 42, May 1991; 3. 'Measures of climate control efficiency' (with J.G. Hirschberg), *Energy J.*, 1992; 4. 'The efficiency of financial institutions: comments on Pi and Timme, Grabowski et al., and Färe and Primont', *J Bank Fin*, 17, April 1993; 5. 'Economies of diversification in the banking industry: a frontier approach' (with S. Grosskopf, K.J. Hayes, S. Yaisawarng), *JME*, 31, April 1993; 6. 'Global optimization of statistical functions with simulated annealing' (with W. Goffe, J. Rogers), *J Em*, 60, Jan.–Feb. 1994; 7. 'Technical efficiency of the vacuum-pan sugar industry in India: an application of a stochastic frontier production function using panel data' (with M.J. Ferrantino), *Europ. J. OR*, 80, 1995; 8. 'A switching frontier model for imperfect sample separation information – with an application to constrained labor supply' (with K.M. Conway, S.M. Douglas), *IER*, 36, May 1995; 9. 'Organizational form and productive efficiency: evidence from Indian sugar manufacturing' (with M.J. Ferrantino, C.B. Linvill), *J Comp E*, 21, Aug. 1995; 10. 'Rural hospital performance and its correlates' (with V. Valdmanis), *J. Production Analysis*, 7, March 1996; 11. 'Best-practice technology in an adverse environment' (with M.J. Ferrantino), *JEBO*, 29, May 1996; 12. 'Scale economies, cost efficiencies and technological change in Federal Reserve payments processing' (with P.W. Bauer), *JMCB*, 28, Nov. 1996; 13. 'Bootstrapping confidence intervals for linear programming efficiency scores: with an illustration using Italian banking data' (with J.G.

Hirschberg), *J. Production Analysis*, 8, March 1997; 14. 'Consistency conditions for regulatory analysis of financial institutions: a comparison of frontier efficiency methods' (with P.W. Bauer, A.N. Berger, D.B. Humphrey), *J. Bus. Econ.*, 50, March/April 1998; 15. 'The choice of a technical efficiency measure on the free disposal hull reference technology: a comparison using US banking data' (with B. DeBorger, K. Kerstens), *Europ. J. OR*, 105, 1998; 16. 'The efficiency of TVA power distributors' (with T. Claggett), *Managerial Decision Econ.*, 19, Sept. 1998; 17. 'Static and dynamic productivity among Yugoslav enterprises: components and correlates' (with M. Klinedinst, C.B. Linvill), *J Comp E*, 26, Dec. 1998; 18. 'Can we bootstrap DEA scores?' (with J. Hirschberg), *J. Production Analysis*, 11, Feb. 1999; 19. 'Mutual funds and institutional investments: what is the most efficient way to set up individual accounts in a social security system' (with E. James, J. Smalhout, D. Vittas), in J.B. Shoven (ed.), *Administrative Costs and Social Security Privatization* (UCP, 2000); 20. 'Exploring psychiatric hospital performance using data envelopment analysis and cluster analysis' (with V. Valdmanis), *J. Économie Médicale*, 20, 2002.

Principal Contributions Most of my work has related to the calculation and explanation of cost economies, and efficiency and productivity using frontier production and cost functions. Contributions include the development of new frontier models (e.g., a switching frontier model), extensions of existing frontier models (e.g., the bootstrapping of confidence intervals for DEA efficiency scores), and comparisons of competing frontier models. In addition, my work has examined the consistency of frontier efficiency scores with other measures of firm performance. My work has helped to advance our understanding of the determinants of

efficiency and productivity by examining the effects of ownership, strategic choices, human resource management practices, market structure and other firm characteristics on both static and dynamic performance. Much of my work has used financial institutions, especially commercial banks, and hospitals for their empirical applications.

FERSHTMAN, Chaim n.e.

FERSON, Wayne E.

Born 1951, Middleboro, MA, USA.

Current Posts John L. Collins S.J. Prof. Fin., Carroll Sch. Mgmt, Boston Coll., Chestnut Hill, MA, USA, 2002–; Res. Assoc., NBER, USA, 2002–

Past Posts Manufacturing Engineer, Martin Marietta Corp., 1972–73; Instr. Stats and Mgmt Sc., Sch. Bus., Univ. Texas at Arlington, 1974–75; Lect., Grad. Sch. Bus., Univ. Santa Clara, 1978–79; Asst Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1981–85; Asst Prof. Fin., Assoc. Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1983–92; Vis. Asst Prof. Fin., Grad. Sch. Bus., Stanford Univ., 1987–88; Pigott-Paccar Prof. Fin., Sch. Bus., Univ. Washington, 1992–2001; Vis. Scholar, Arizona State Univ., 1994, 1995, 1998, Univ. South Carolina, 1998, Univ. Miami, 1998, Inst. Adv. Stud./Univ. Vienna, 1996, 1999.

Degrees BS (Ind. Eng.) MBA Southern Methodist Univ., 1972, 1974; MA, PhD (Fin.) Grad. Sch. Bus., Stanford Univ., 1979, 1982.

Offices and Honours Program Comm., Western Fin. Assoc., 1988–2000, FMA, 1992–94, 1996–97, Utah Winter Fin. Conf., 1993–2001, AFA, 1995, 1999, 2001, Conf. Fin. Econ. and Accounting, 1996, NBER, 1998, Nippon Fin. Assoc./APFA, 1998; Graham and Dodd Scroll,

1991; NY Stock Exchange award for the best paper on equity trading, 1993; Dir., Vice-Pres., Pres., Western Fin. Assoc., 1993–96, 1998–99, 2000–01; Nominations Comm., AFA, 1996, Western Fin. Assoc., 1999–; Cons., Frank Russell Co., 1996–; Dir., AFA, 1997–; Dean's Res. Award, Univ. Washington, 1997; Exec. Comm., Europ. Fin. Assoc., 1999–, Bernstein Fabozzi/Jacobs Levy Award, 2000.

Editorial Duties Assoc. Ed., *Rev. Quant. Fin. and Accounting*, 1990–, *Rev. Fin. Stud.*, 1992–94, *JFQA*, 1992–, *Mgmt Sc.*, 1992–, *Seoul Bus. J.*, 1996–, *J. Intl Fin. Markets, Inst and Money*, 1996–, *J. Fin. Res.*, 2000–; Ed., *Rev. Fin. Stud.*, 1996–99.

Principal Fields of Interest H0 Public Economics: General; E0 Macroeconomics and Monetary Economics: General; M5 Personnel Economics.

Publications *Articles*: 1. 'Time non-separability in aggregate consumption: international evidence' (with P. Braun, G. Constantinides), *Europ ER*, 37, June 1993; 2. 'The risk and predictability of international equity returns' (with C.R. Harvey), *Rev. Fin. Stud.*, 6, 1993; 3. 'An exploratory investigation of the fundamental determinants of international equity market returns' (with C.R. Harvey), in J.A. Frankel (ed.), *Internationalization of Equity Markets* (UCP, 1994); 4. 'Sources of risk and expected returns in global equity markets' (with C.R. Harvey), *J Bank Fin*, 18, 1994; 5. 'Finite sample properties of the generalized methods of moments tests of conditional asset pricing models' (with S.R. Foerster), *J Fin E*, 36, 1994; 6. 'Theory and empirical testing of asset pricing models', in Jarrow, Maksimovic, Ziemba (eds), *Finance, Handbooks in Operations Research and Management Science* (Elsevier, 1995); 7. 'Further results on the small-sample properties of the generalized method of moments: tests of la-

tent variable models' (with S.R. Foerster), *Res. in Fin.*, 13, 1995; 8. 'Predictability and time-varying risk in world equity markets' (with C.R. Harvey), *Res. in Fin.*, 13, 1995; 9. 'Do arbitrage pricing models explain the predictability of stock returns?' (with R.A. Korajczyk), *J Bus.*, 68, July 1995; 10. 'Warning: attribute-sorted portfolios can be hazardous to your research', in S. Saitou, K. Sawaki, K. Kubota (eds), *Modern Finance Theory and its Applications* (Center Acad. Soc., 1996); 11. 'Econometric evaluation of asset pricing models' (with R. Jagannathan), in G.S. Maddala, C.R. Rao (eds), *Handbook of Statistics: Vol. 14: Statistical Methods in Finance* (N-H, 1996); 12. 'Measuring fund strategy and performance in changing economic conditions' (with R.W. Schadt), *J Fin.*, 51, 1996; 13. 'Evaluating fund performance in a dynamic market' (with V.A. Warther), *Fin. Analysts J.*, 52, 1996; 14. 'Fundamental determinants of national equity market returns: a perspective on conditional asset pricing' (with C.R. Harvey), *J Bank Fin.*, 21, 1997; 15. 'Conditional measures of performance and persistence for pension funds' (with J.A. Christopherson, D.A. Glassman), *Res. in Fin.*, 16, 1998; 16. 'Cost of capital estimation without CAPM: analysis of sources of error' (with D.H. Locke), *Mgmt Sc.*, 44, April 1998; 17. 'Conditioning manager alphas on economic information: another look at the persistence of performance' (with J.A. Christopherson, D.A. Glassman), *Rev. Fin. Stud.*, 11, 1998; 18. 'The alpha factor asset pricing model: a parable' (with S. Sarkissian, T. Simin), *J. Fin. Markets*, 2, Feb. 1999; 19. 'Conditioning variables and cross-section of stock returns' (with C.R. Harvey), *J Fin.*, 54, 1999; 20. 'The efficient use of conditioning information in portfolios' (with A.F. Siegel), *J Fin.*, 56, June 2001.

Principal Contributions n.e.

FISCHER, Stanley

Born 1943, Lusaka, Zambia.

Current Posts Pres., Citigroup Intl, and Vice-Chairman, Citigroup Inc., Washington, DC, USA, 2001–.

Past Posts Post-doctoral Fell., Asst Prof., Univ. Chicago, 1969–70; Vis. Lect., Vis. Prof., Hebrew Univ. Jerusalem, 1973, 1984; Assoc. Prof., Prof. Econ., MIT, 1973–77, 1977–94; Fell., Inst. Adv. Stud., Hebrew Univ., 1976–77; Vis. Scholar, Hoover Inst., Stanford Univ., 1981–82; Vice-Pres. and Chief Econ., World Bank, 1988–90; First Dep. Manag. Dir., IMF, 1994–2001.

Degrees BSc, MSc Univ. London, 1965, 1966; PhD MIT, 1969.

Offices and Honours Fell., Em Soc, AAAS; Guggenheim Fell., Mem., Council Foreign Relations; Vice-Pres., AEA, 1995.

Editorial Duties Former Assoc. Ed., *JET*, *JMCB*, *JEL*, *JME*; Assoc. Ed., *Em*; Ed. Bd, *JME*; Ed., *NBER Macroecon. Annual*, 1986–94.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; F3 International Finance; E3 Prices, Business Fluctuations, and Cycles.

Publications *Books*: 1. *Macroeconomics* (with R. Dornbusch, R. Startz), (McGraw-Hill, 1978, 1981, 1984, 1987, 1990, 1994, 1998; trans., Japanese, 1978, Spanish, 1980, 1981, Portuguese, 1979, 1981, Italian, Il Mulino, 1980; Canadian edn with G. Sparks, McGraw-Hill, Ryerson, 1982); 2. *Rational Expectations and Economic Policy* (ed.), (UCP, 1980); 3. *Economics* (with R. Dornbusch), (McGraw-Hill, 1983; with D. Begg, McGraw-Hill, 1984); 4. *Indexing, Inflation, and Economic Policy* (MIT Press, 1986); 5. *Lectures in Macroeconomics* (with O. Blanchard), (MIT Press, 1989).

Articles: 1. 'Stochastic simulation of monetary rules in two macroeconomic models' (with J.P. Cooper), *JASA*, 67, Dec. 1972; 2. 'Money and the production function', *EI*, 12, Dec. 1974; 3. 'The demand for index bonds', *JPE*, 83, June 1975; 4. 'Long-term contracts, rational expectations and the optimal money supply rule', *JPE*, 85, Feb. 1977; 5. 'Comparative advantage, trade and payments in a Ricardian model with a continuum of goods' (with R. Dornbusch, P.A. Samuelson), *AER*, 67, Dec. 1977; 6. 'Towards an understanding of the real effects and costs of inflation' (with F. Modigliani), *WA*, 114, 1978; 7. 'Seigniorage and the case for a national money', *JPE*, 90, April 1982; 8. 'Moderate inflation' (with R. Dornbusch), *WBER*, Jan. 1993; 9. 'The role of macroeconomic factors in growth', *JME*, Dec. 1993; 10. 'Modern central banking', in F. Capie *et al.* (eds), *The Future of Central Banking* (CUP, 1994). 11. 'How far is Eastern Europe from Brussels?' (with R. Sahay, C. Végh), in H. Siebert (ed.), *Quo Vadis Europe?* (J.C.B. Mohr, 1997); 12. 'On the need for an international lender of last resort', *JEP*, 13, Fall 1999; 13. 'Exchange rate regimes: is the bipolar view correct?', *JEP*, 15, Spring 2001.

Principal Contributions Analysis of the actual and potential roles of activist policy in stabilizing the economy. Early research (with J.P. Cooper) examined the effects of lags and uncertainty on the effectiveness of policy; subsequent research has concentrated on the role of policy when expectations are rational but prices not immediately flexible. In this context, I developed a simple macro model with long-term nominal labor contracts that generate price-stickiness, giving short-term Keynesian results and long-term classical results. Analysis of the effects of, and reasons for, the presence or absence of indexation of wages and asset returns. Showed that indexation of wages is stabi-

lizing for output when shocks are nominal but not when they are real; have analyzed the view that indexing is itself inflationary, first with exogenous policy, later through its effects on the choice of policy. Showed how index bonds would be priced if they were introduced, and examined welfare economics of their introduction. Analysis of the real effects and costs of inflation (research started jointly with F. Modigliani), showing the role of slowly changing institutions in making inflation costly. Analysis of seigniorage and reasons for use of a national currency. Analysis of stabilization programs; and of the transformation of the formerly socialist economies. Education of MIT graduate students and, through *Macroeconomics* (book 1), many undergraduates.

FISHBURN, Peter C.

Born 1936, Philipsburg, PA, USA.

Current Post Retired.

Past Posts Tech. Staff, Res. Analysis Corp., McLean, VA, 1964–70; Vis. Lect., Tech. Univ., Denmark, 1967; Mem., Inst. Adv. Study, Princeton, NJ, 1970–71; Res. Prof. Mgmt Sc., Pennsylvania State Univ., 1971–78; Tech. Staff, Info. Sc. Res. Center, AT&T Labs, Florham Park, NJ, 1978–2001.

Degrees BA (Ind. Eng.) Pennsylvania State Univ., 1958; PhD (OR) Case Inst. Tech., 1962.

Offices and Honours Intl Educ. Award, Amer. Soc. Tool Eng., 1957; Lanchester Prize, ORSA, 1970; Fell., Em Soc, 1974, Inst. Math. Stats, 1984; Ramsey Medal, ORSA, 1987; von Neumann Theory Prize, INFORMS, 1996.

Editorial Duties Ed. Bds, *Em*, 1972–78, *OR*, 1974–78, *Annals Stats*, 1974–80, *Theory and Decision*, 1974–, *Math. OR*, 1975–, *SIAM J. Apl. Maths*, 1976–83, *J. Math. Psychology*, 1977–, *Discrete Apl.*

Maths, 1978–, *JET*, 1978–93, *Math. Social Sc.*, 1979–, *Order*, 1982–, *Social Choice and Welfare*, 1982–, *Naval Res. Logistics*, 1982–, *Annals OR*, 1983.

Principal Fields of Interest D0 Microeconomics: General; D7 Analysis of Collective Decision-Making; D8 Information and Uncertainty.

Publications *Books*: 1. *Decision and Value Theory* (Wiley, 1964); 2. *Utility Theory for Decision Making* (Wiley, 1970); 3. *Mathematics of Decision Theory* (Mouton, 1972); 4. *The Theory of Social Choice* (Princeton Univ. Press, 1973); 5. *The Foundations of Expected Utility* (Reidel, 1982); 6. *Approval Voting* (with S.J. Brams), (Birkhauser, 1983); 7. *Interval Orders and Interval Graphs* (Wiley, 1985); 8. *Nonlinear Preference and Utility Theory* (JHUP, 1988).

Articles: 1. 'Independence in utility theory with whole product sets', *OR*, 13, 1965; 2. 'Utility theory', *Mgmt Sc.*, 14, 1968; 3. 'A study of independence in multivariate utility theory', *Em*, 37, Jan. 1969; 4. 'Intransitive indifference with unequal indifference intervals', *J. Math. Psychology*, 7, 1970; 5. 'Arrow's impossibility theorem: concise proof and infinite voters', *JET*, 2, March 1970; 6. 'The theory of representative majority decision', *Em*, 39, March 1971; 7. 'Lexicographic orders, utilities and decision rules: a survey', *Mgmt Sc.*, 20, 1974; 8. 'Unbounded expected utility', *Annals Stats*, 3, 1975; 9. 'Ordinal preferences and uncertain lifetimes', *Em*, 46, July 1978; 10. 'Continua of stochastic dominance relations for unbounded probability distributions', *J Math E*, 7, 1980.

Principal Contributions My early work focused on expected utility theory (von Neumann and Morgenstern, Savage) and decision theory, including axiomatisations, analyses with incomplete information, and multivariate models. This led naturally to social choice theory in the

late 1960s, and during the 1970s my research was divided about evenly between individual decision theory and social choice theory. These interests continue today, and the early 1980s saw concentrated efforts on new nonlinear utility theories and the practical assessment of alternative election schemes. Concurrently, I have become more interested in several areas of discrete mathematics, including partially ordered sets, graph theory and combinatorial geometry.

FLOOD, Jr, Robert P.

Born 1949, Syracuse, NY, USA.

Current Post Sr Econ., IMF, Washington, DC, USA, 1989–.

Past Posts Asst Prof. Econ., Univ. Virginia, 1976–83; Econ., Bd Governors, Fed. Reserve System, 1980–82; Prof. Econ., Northwestern Univ., 1983–89.

Degrees BA Wake Forest Univ., 1970; MA, PhD Univ. Rochester, 1974, 1977.

Offices and Honours Norman Kaplan Prize, Univ. Rochester, 1984; Columbia Futures Center Fell., 1984.

Editorial Duties Co-Ed., *J Int E*, 1983–88; Assoc. Ed., *AER*, 1989–92; Ed., *IMF Staff Papers*, 1999–.

Principal Fields of Interest E4 Money and Interest Rates; F3 International Finance.

Publications *Book*: 1. *Speculative Bubbles, Speculative Attacks and Policy Switching* (ed. with P. Garber), (MIT Press, 1994).

Articles: 1. 'Exchange rate expectations in dual exchange markets', *J Int E*, 8, Feb. 1978; 2. 'An economic theory of monetary reform' (with P. Garber), *JPE*, 88, Feb. 1980; 3. 'Market fundamentals versus price level bubbles: the first tests' (with P. Garber), *JPE*, 88, Aug. 1980; 4. 'The transmission of disturbances under alternative exchange-rate regimes' (with

N. Marion), *QJE*, 97, Feb. 1982; 5. 'A model of stochastic process switching' (with P. Garber), *Em*, 51, May 1983; 6. 'Gold monetization and gold discipline' (with P. Garber), *JPE*, 92, Feb. 1984, repr. in R. Aliber (ed.), *The Reconstruction of International Monetary Arrangements* (Macmillan, 1987); 7. 'Collapsing exchange rate regimes: some linear examples' (with P. Garber), *J Int E*, 17, Aug. 1984; 8. 'An evaluation of recent evidence on stock market bubbles' (with R. Hodrick, P. Kaplan), in *Speculative Bubbles, Speculative Attacks and Policy Switching* (ed. with P. Garber), (MIT Press, 1994).

Principal Contributions At the outset of the rational expectations revolution, Lucas pointed out that crucial estimated parameters would be predicted to change with government policy change. Much of my work has been devoted to exploring this insight. In particular, in work with Peter Garber, I have explored theory and econometrics involving agents' anticipations of dramatic future policy changes – regime switches. This work began when I studied the German hyperinflation in which reform was anticipated strongly during the final months of the experience. This policy switching work naturally extended to the study of the anticipated attacks on price-fixing regimes, such as fixed exchange rates, a fixed currency price of gold and the fixed currency price of a bank deposit. Anticipations of dramatic events often seem to be based not on typical current fundamentals. Price movements based on such anticipations therefore look very similar to price bubbles since their movement need not match current movements in typical fundamentals. The work on anticipated policy switching naturally led to the study of price bubbles. My work in international finance consists, in part, in applying the policy switching insights to the open economy

business cycle and optimal currency area literature and in bringing rational expectations to the study of two-tier foreign exchange markets. More recently, my research has involved identifying and studying the market structural shifts that seem to accompany exchange-rate-regime changes.

FOGEL, Robert William

Born 1926, New York City, NY, USA.

Current Posts Charles R. Walgreen Disting. Service Prof. Amer. Insts, and Prof. Econ., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1981–; Dir., Walgreen Foundation, and Dir., Center Pop. Econ., Univ. Chicago, Chicago, IL, USA, 1981–.

Past Posts Instr., Johns Hopkins Univ., 1958–59; Asst Prof., Univ. Rochester, 1960–64, 1968–75; Assoc. Prof., Prof., Univ. Chicago, 1964–65, 1965–75; Prof., Harvard Univ., 1975–81.

Degrees BA Cornell Univ., 1948; MA Columbia Univ., 1960, Univ. Cambridge, 1975, Harvard Univ., 1976; PhD Johns Hopkins Univ., 1963.

Offices and Honours Mem., Chairman, Hist. Advisory Comm. Math. Social Sc. Bd, 1965–72; Assoc. Columbia Univ. Seminar Econ. Hist. 1969–; Mem., Bd Trustees, Pres., EHA, 1972–, 1977–78, Chairman Ad Hoc Comm. Quant. Methods Hist., Univ. Chicago, 1974–75; Res. Assoc., Program Dir., NBER, 1978–; NAS Comm. Ageing, 1978–81; Pres., Social Sc. Hist. Assoc., 1980–81; Nobel Prize in Econ., 1990.

Editorial Duties Ed. Bds, *Explor. Econ. Hist.*, 1970–, *Social Sc. Hist.*, 1976–80, *Southern Stud.*, 1977–; General Ed., *Princeton Series Quant. Stud. in Hist.*, 1971–76; General Ed. (with S. Thernstrom), CUP *Interdisciplinary Perspectives in Modern Hist.* series, 1979–.

Principal Field of Interest N0 Economic History: General.

Publications *Books*: 1. *The Union Pacific Railroad: A Case in Premature Enterprise* (JHUP, 1960); 2. *Railroads and American Economic Growth: Essays in Econometric History* (JHUP 1964; trans., Spanish, 1972); 3. *The Reinterpretation of American Economic History* (with S.L. Engerman *et al.*), (Harper & Row, 1971; trans., Italian, 1975); 4. *Time on the Cross: The Economics of American Negro Slavery* (with S.L. Engerman), (Little, Brown, 1974; trans., Braille, 1974, Italian, 1978, Japanese, 1980, Spanish, 1981); 5. *Scientific History and Traditional History* (with G.R. Elton), (YUP, 1982); 6. *Without Consent or Contract: The Rise and Fall of American Slavery* (W.W. Norton, 1989).

Principal Contributions The application of economic models and statistical methods to the analysis of long-term trends in economic development. Much of the research has focused on the retrieval of data capable of illuminating the relationship between the current and past behaviour of households. Data sets linking together up to ten generations have been constructed to analyse the interaction of economic and cultural factors on such variables as the savings rate, the female participation rate, fertility and mortality rates, economic and social mobility, and migration rates.

FORMBY, John Paul

Born 1940, Carrollton, GA, USA.

Current Post James Patrick and Elizabeth Brannan Hayes Prof. Econ., Univ. Alabama, AL, USA, 1989–.

Past Posts Asst Prof., Univ. Arkansas, 1965–66; Asst Prof., Assoc. Prof., Prof., Univ. North Carolina-Greensboro, 1966–83; Sr Econ., Regulatory Analysis Rev. Group, Council on Wage and Price Sta-

bility, Exec. Office of the President, 1979–80; Prof. and Dept Head, Univ. Alabama, 1982–87; Sr Assoc. Dean Acad. Affairs, Coll. Commerce and Bus. Admin., Univ. Alabama, 1987–89; Res. Fell., East-West Center, Honolulu, 1989, Inst. South East Asian Stud., Singapore, 1990; Vis. Scholar, Sun Yat-Sen Inst. Social Sc. and Philo., Taipei, 1992, Natl Sc. Council of Taiwan, 1995.

Degrees BA Colorado Coll., 1962; PhD Univ. Colorado, 1965.

Offices and Honours Hon. Woodrow Wilson Fell., 1962; NDEA Fell., 1962–65; Fell., Fulbright–Hayes Award, 1989–90; Excellence Fund Res. Award, Univ. Alabama, 1990–91; Burlington Northern Scholarly Achievement Award, Univ. Alabama, 1991; Alumni Outstanding Commitment to Teaching Award, Univ. Alabama, 1992; Burnum Disting. Faculty Award, Univ. Alabama, 1996.

Principal Fields of Interest D0 Microeconomics: General; D3 Distribution; D6 Welfare Economics.

Publications *Books*: 1. *The Political Economy of Income Distribution and Growth* (with J. Bishop), (Sejong Inst., Seoul, 1992); 2. *The Economics of the Firm* (with A. Thompson), (Prentice-Hall, 6th edn 1993).

Articles: 1. 'Output changes under third degree price discrimination: a re-examination' (with W.J. Smith), *SEJ*, 48, July 1981; 2. 'A comparison of two new measures of tax progressivity' (with T. Seaks, W.J. Smith), *EJ*, 91, Dec. 1981; 3. 'Price discrimination, adjusted concavity, and output under conditions of constant elasticity' (with W.J. Smith, S. Layson), *EJ*, 93, Dec. 1983; 4. 'On the measurement and trend of inequality: a reconsideration' (with T. Seaks, W.J. Smith), *AER*, 79, March 1989; 5. 'Output and welfare effects of optimal price discrimination in markets segmented at the initiative of the seller' (with E. Millner), *Europ ER*, 33,

July 1989; 6. 'The average tax burden and the welfare implications of global tax progressivity' (with P. Thistle, W.J. Smith), *Public Fin. Q.*, 18, Jan. 1990; 7. 'Lorenz dominance and welfare: changes in the US income distribution, 1967–1986' (with J. Bishop, W.J. Smith), *REStat*, 73, Feb. 1991; 8. 'Convergence of south and non-south income distributions, 1969–1979' (with J. Bishop, P. Thistle), *AER*, 82, March 1992; 9. 'Convergence and divergence of regional income distributions and welfare' (with J. Bishop, P. Thistle), *REStat*, 76, May 1994; 10. 'Testing for marginal changes in income distributions with Lorenz and concentration curves' (with J. Bishop, K. Chow), *IER*, 35, May 1994; 11. 'The impact of food stamps on US poverty in the 1980s: a marginal dominance analysis' (with J. Bishop, L. Zeager), *Ec*, 63, suppl., 1996; 12. 'Statistical inference and the Sen index of poverty' (with J. Bishop, B. Zheng), *IER*, 38, May 1997; 13. 'Inference tests for Gini-based tax progressivity indices' (with J. Bishop, B. Zheng), *JBES*, 16, May 1998; 14. 'The distribution of the burden of German unification on western households: a dynamic panel analysis' (with J. Bishop, L. Zeager), *J. Econ. Transition*, 9, July 2001; 15. 'Envy, malice and Pareto efficiency: an experimental examination' (with S. Beckman, W.J. Smith, B. Zheng), *Social Choice Welfare*, 19, April 2002.

Principal Contributions Much of my early work focussed on price discrimination and its effects on output and welfare. A number of joint contributions have been made to the measurement and understanding of overall tax progression and the vertical equity effects of government-induced redistributions. A series of recent related papers additively decompose what is widely interpreted as 'vertical equity' into vertical equity and vertical inequity components. Together, vertical equity and inequity sum to 'net vertical equity'. Much

of the so-called 'reranking term' in tax-induced income rerankings, which is often interpreted as a measure of horizontal inequity, is in fact vertical inequity. Perhaps my most important work, joint with John Bishop, Paul Thistle, W. James Smith, Buhong Zheng, Hoseong Kim and others, involves using dominance methods and distribution free statistical inference procedures to evaluate welfare, inequality, poverty and mobility. A series of papers related to this work demonstrates that regional income distributions in the United States changed dramatically in the 1970s. Historically, the US South had smaller absolute incomes (after adjusting for differences in the cost of living) and more unequal relative incomes than the rest of the country. In the 1970s both the relative and absolute income distributions of the US South converged to the Non-South, with the degree of convergence being sensitive to the equivalence scale used to adjust for household size and composition. At the same, the three regions that make up the Non-South (North, West and Midwest) diverged from one another. Most recently, my research has focussed on poverty, low-wage work and labor market policies designed to improve the well-being of low-income working families. This work has been supported by grants from the Employment Policy Institute and W.E. Upjohn Institute for Employment Research. Each of these organizations plan to publish the results of this work.

FORSYTHE, Robert

Born 1949, Pittsburgh, PA, USA.

Current Posts Prof. Econ., Leonard A. Hadley Chair in Leadership, Sr Assoc. Dean, Harry B. Tippie Coll. Bus., Univ. Iowa, IA, USA, 1986–, 1992–, 1994–.

Past Posts OR Analyst, PPG Ind. Inc., 1970–72; Inst., Carnegie-Mellon Univ.,

1975; Asst Prof. Bus. Econ. and Mgmt, California Inst. Tech., 1975–81; Assoc. Prof. Econ., Coll. Bus. Admin. and Adjunct Assoc. Prof., Iowa Univ. Sch. Law, 1981–86; Dept Exec. Officer, Dept Econ., Coll. Bus. Admin., Univ. Iowa, 1990–94; Cedar Rapids Area Bus. Chair, Coll. Bus. Admin., Univ. Iowa, 1992–2000.

Degrees BS (Quant. Bus. Analysis) Pennsylvania State Univ., 1970; MS (Stats), MS, PhD Carnegie-Mellon Univ., 1972, 1974, 1975.

Offices and Honours Alexander Henderson Award for Excellence in Econ. Theory, 1975; Univ. Faculty Scholar, Univ. Iowa, 1985–88; Mem., Bd Advisors *Artificial Intelligence*, 1990–93; Pres., Econ Sc. Assoc., 1993–95; Regents Award for Faculty Excellence, Univ. Iowa, 2002.

Editorial Duties Assoc. Ed., *JEBO*, 1996–97, *J. Experimental Econ.*, 1997–; Ed. Bd, *Rev. Accounting Stud.*, 1995–.

Principal Fields of Interest G1 General Financial Markets; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Articles*: 1. ‘Models of the firm and international trade under uncertainty’ (with D.P. Baron), *AER*, 69, 1979; 2. ‘Asset valuation in an experimental market’ (with T.R. Palfrey, C.R. Plott), *Em*, 50, May 1982, repr. in V. Smith (ed.), *Experimental Economics* (Edward Elgar, 1990) and M. Blaug, D. Pearce (eds), *Information, Finance and General Equilibrium: Collected Papers on the Experimental Foundations of Economics and Political Science* (Edward Elgar, 2001); 3. ‘Futures markets and informational efficiency: a laboratory test’ (with T.R. Palfrey, C.R. Plott), *J Fin*, 39, 1984, repr. in M. Blaug, D. Pearce (eds), *Information, Finance and General Equilibrium: Collected Papers on the Experimental Foundations of Economics and Political Science* (Edward Elgar, 2001); 4. ‘The methodology of laboratory markets and

its implications for agency research in accounting and auditing’ (with D.V. DeJong, W.C. Uecker), *J. Accounting Res.*, 23, 1985; 5. ‘A laboratory investigation of the moral hazard problem in an agency relationship’ (with D.V. DeJong, W.C. Uecker), *J. Accounting Res.*, 23, 1985; 6. ‘Theories and tests of “blind bidding” in sealed bid auctions’ (with R.M. Isaac, T.R. Palfrey), *RandJE*, 20, Summer 1989; 7. ‘Communication in battle-of-the-sexes games: some experimental results’ (with R. Cooper, D.V. DeJong, T.W. Ross), *RandJE*, 20, 1989; 8. ‘Selection criteria in coordination games: some experimental results’ (with R. Cooper, D.V. DeJong, T.W. Ross), *AER*, 80, March 1990, repr. in J.D. Hey, G. Loomes (eds), *Recent Developments in Experimental Economics* (Edward Elgar, 1993); 9. ‘Information aggregation in an experimental market’ (with R.J. Lundholm), *Em*, 58, March 1990, repr. in J.D. Hey, G. Loomes (eds), *Recent Developments in Experimental Economics* (Edward Elgar, 1993); 10. ‘An experimental analysis of bargaining and strikes with one-sided private information’ (with J. Kennan, B. Sopher), *AER*, 81, March 1991; 11. ‘Communication in coordination games’ (with R. Cooper, D.V. DeJong, T.W. Ross), *QJE*, 107, 1992, repr. in J. Shogren (ed.), *Experiments in Environmental Economics* (Ashgate, 1993); 12. ‘Anatomy of an experimental political stock market’ (with R. Nelson, G. Neumann, J. Wright), *AER*, 82, 1992; 13. ‘An experiment on coordination in multi-candidate elections: the importance of polls and election histories’ (with R. Myerson, T. Rietz, R. Weber), *Social Choice and Welfare*, 10, 1993; 14. ‘Forward induction in the battle of the sexes games’ (with R. Cooper, D.V. DeJong, T.W. Ross), *AER*, 83, 1993; 15. ‘Fairness in simple bargaining experiments’ (with J. Horowitz, N.E. Savin, M. Sefton), *Games and Econ. Behav.*, 6, 1994; 16.

'Using market prices to predict election results: the 1993 UBC election stock market' (with M. Frank, V. Krishnamurthy, T.W. Ross), *CJ*, 28, 1995; 17. 'An experimental study of voting rules and polls in three-way elections' (with R. Myerson, T. Rietz, R. Weber), *Intl J. Game Theory*, 25, 1996; 18. 'Cooperation without reputation: experimental evidence from prisoner's dilemma games' (with R. Cooper, D.V. DeJong, T.W. Ross), *Games and Econ. Behav.*, 12, 1996; 19. 'Cheap talk, fraud and adverse selection in experimental markets: some experimental evidence' (with R. Lundholm, T. Rietz), *Rev. Fin. Stud.*, 12, 1999; 20. 'Wishes, expectations and actions: a survey on price formation in election stock markets' (with T. Rietz, T. Ross), *JEBO*, 39, 1999.

Principal Contributions My early work focussed on how the stock market affected the decisions made by firms. While at Cal Tech, I became interested in experimental methods and how the laboratory could be used as the natural place to test and refine economic theories. Much of what we do and believe as economists still remains untested and I became (and remain) excited by the potential of experiments to remedy this. My experimental work has largely centered on two areas: examining theories of asset valuation and testing alternative selection criteria in experimental games. After some initial laboratory studies, my work on asset valuation led me to be one of the founders of the Iowa Electronic Market (IEM). This is the only real-moneyed futures market operated by an educational institution in the world. It provides classes around the world with an experimental learning opportunity while at the same time serving as our research laboratory. With it we can not only look at a market's ability to predict decidedly non-market events such as elections, but we can also use it to study individual trading behavior. I continue to be

fascinated by how the unique data generated by this large-scale field experiment can be used to give fresh insights. My work on examining selection criteria in experimental games has led me to consider a variety of games. Bargaining games, coordination games and battle-of-the-sexes games all have multiple Nash equilibria, and we have been able to identify a number of these strategic settings where players are unable to successfully coordinate their actions in order to reach a mutually advantageous equilibrium. Most of this work has focussed on identifying the underlying cause of these coordination failures as well as looking at the potential of alternative institutions, such as preplay communication and forward induction, to overcome them.

FOSTER, Andrew D. n.e.

FOSTER, F. Douglas n.e.

FRANK, Richard Gabriel

Born 1952, Boston, MA, USA.

Current Posts Margaret T. Morris Prof. Health Econ., Dept Health Care Pol., Harvard Univ. Medical Sch., USA, 1999–; Res. Assoc., NBER, Cambridge, MA, USA, 1997–.

Past Posts Peace Corps Volunteer, Republic of Botswana, 1975–76; Teaching Fell., Dept Econ., Boston Univ., 1977–79; Econ., Div. Biometry and Epidemiology, NIMH, Rockville, 1979–80; Sr Fell. and Vis. Asst Prof. Econ., Asst Prof. Psychiatry, Univ. Pittsburgh, 1980–81, 1981–84; Faculty Res. Fell., NBER, 1983–87; Asst Prof., Assoc. Prof., Prof., Dept Health Pol. and Mgmt, Sch. Hygiene and Public Health, Johns Hopkins Univ., 1984–86, 1986–91, 1991–94; Commissioner, Health

Services Cost Review Commission, State of Maryland, 1989–94; Dep. Dir., Center on Org. and Financing of Care for Severely Mentally Ill, 1990–94; Staff Mem., President's Task Force on Health Care Reform, 1993; Prof. Health Econ., Dept Health Care Pol., Harvard Univ. Medical Sch., 1994–99; Mem., Substance Abuse and Mental Health Service Admin. Advisory Council, US Dept Health and Human Services, 1996–2000.

Degrees BA Bard Coll., 1974; PhD Boston Univ., 1982.

Offices and Honours Dissertation Award, Pharmaceutical Manufacturers' Assoc., 1979; Hon. Mention, Abt Econ. Pol. Essay Competition, 1979; New Investigator Res. Award, NIMH, 1986; Delta Omega (Public Health Hon. Soc.), 1988; Georgescu-Roegen Award (with D.S. Salkever), SEA, 1993; Fell., Assoc. Health Services Res., 1996; Mem., Inst. Medicine, 1997; Carl A. Taube Award, Amer. Public Health Assoc., 1998; Emily Mumford Medal, Dept Psychiatry, Columbia Univ., 2001; John Eisberg Mentorship Award, Natl Res. Service Awards, 2002.

Editorial Duties Currently serving: Assoc. Ed., *JHE*; Ed. Bds, *J. Mental Health Admin.*, *J. Mental Health Pol. and Econ.*, *Health Affairs*, *Health Services Res.*

Principal Fields of Interest H5 National Government Expenditures and Related Policies; I1 Health.

Publications *Book*: 1. *Economics and Mental Health* (ed. with W.G. Manning), (JHUP, 1992).

Articles: 1. 'Quality, quantity and total expenditures on publicly provided goods: the case of public mental hospitals' (with M.S. Kamlet), *J Pub E*, 29, April 1986; 2. 'The effect of benefit design on the length of stay of Medicaid psychiatric patients' (with J.R. Lave), *JHR*, 23, Summer 1986; 3. 'Regulatory policy and information deficiencies in the market for mental health

services', *J. Health Polit., Pol. and Law*, 14, 1989; 4. 'A comparison of hospital responses to reimbursement policies for Medicaid psychiatric patients' (with J.R. Lave), *RandJE*, 20, 1989; 5. 'Market forces and the public good: competition among hospitals and provision of indigent care' (with D.S. Salkever, J. Mitchell), in L. Rossiter, R. Scheffler (eds), *Advances in Health Economics and Health Services Research* (JAI Press, 1990); 6. 'The supply of charity services by non-profit hospitals: motives and market structure' (with D.S. Salkever), *RandJE*, 22, 1991; 7. 'A model mental health benefit' (with H.H. Goldman, T.G. McGuire), *Health Affairs*, 11, 1992; 8. 'Pricing, patent loss and the market for pharmaceuticals' (with D.S. Salkever), *SEJ*, 59, 1992; 9. 'The role of nonprofit firms in the health sector' (with D.S. Salkever), in C. Clolfelter (ed.), *Who Benefits: The Distributional Consequences of the Nonprofit Sector* (UCP, 1992); 10. 'The impact of measurement error on estimates of pollution effects in health production functions' (with S. Klepper, M.S. Kamlet), *JEEM*, 24, 1993; 11. 'Organizational failure and government transfers: evidence from an experiment in the financing of mental health care' (with M.S. Gaynor), *JHR*, 29, 1994; 12. 'Nonprofit organizations in the health sector' (with D.S. Salkever), *JEP*, 8, 1994, repr. in *Problemi Di Amministrazione Pubblica* as 'Le organizzazioni non-profit del settore sanitario', Anno XX, 4, 1995; 13. 'Generic entry and the pricing of pharmaceuticals' (with D.S. Salkever), *JEMS*, 6, 1997; 14. 'The impact of psychiatric disorder on labor market outcomes' (with S.L. Ettner, R.C. Kessler), *ILRR*, 51, 1997; 15. 'Measuring prices and quantities for treatment of depression' (with S.H. Busch, E.R. Berndt), *AER*, 88, 1998; 16. 'Measuring adverse selection in managed health care' (with J. Glazer, T.G. McGuire), *JHE*,

19, 2000; 17. 'Economics and mental health' (with T.G. McGuire), in J.P. Newhouse, A. Cuyler (eds), *Handbook of Health Economics* (N-H, 2000); 18. 'Creating price indexes for measuring productivity in mental health care' (S.H. Busch, E.R. Berndt), in A. Garber (ed.), *Frontiers of Health Policy*, Vol. 4 (UCP for NBER, 2001); 19. 'The medical treatment of depression, 1991–1996: productive inefficiency, expected outcome variations, and price indexes' (with E.R. Berndt, A. Bir, S.H. Busch, S.-L.T. Normand), *JHE*, 21, 2002.

Principal Contributions My work in health economics has concentrated on three topic areas: (1) economics and mental health, (2) the economics of the pharmaceutical industry and (3) the role of non-profits in health care. My work in economics and mental health has focussed on the design of insurance and regulation of insurance for mental health care. This has included work on issues of adverse selection and use of benefit mandates, and the structure and incentives in managed care for controlling moral hazard (with Thomas McGuire). I have also worked on issues related to productivity in mental health care through construction of price indexes for treatment of depression (with Ernst Berndt). We found that prices for treating depression that take into account quality of care were declining through the 1990s. My work on prescription drugs (with David Salkever) developed a model explaining why brand-name drug prices rise in response to competition from generic products. I have conducted empirical work examining the empirical parameters of the theoretical work. The analysis offered an explanation that was based on market dynamics and not conspiratorial conduct. I have recently completed research on the impact of direct to consumer advertising of drugs on demand for drugs. My work on non-profits has developed and tested models of the

supply of social goods by non-profit hospitals (with David Salkever). That work showed that pure altruism is not what drives hospital behavior. The results indicated that reputation and getting credit in the donor community matters in determining the supply of social goods.

FRANK, Robert Harris

Born 1945, Coral Gables, FL, USA.

Current Post H.J. Louis Prof. Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., Ithaca, NY, USA, 2002–.

Past Posts High Sch. Maths and Sc. teacher, Peace Corps, Sanischare, Nepal, 1966–68; Chief Econ., Civil Aeronautics Bd, Washington, DC, 1978–80; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Goldwin Smith Prof. Econ., Ethics, and Public Pol., Dept Econ., Prof. Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., 1978, 1978–85, 1985–90, 1990–2002, 1990–2002; Fell., Center Adv. Study in Behav. Sc., Stanford, 1992–93; French-Amer. Foundation Prof. Amer. Civilization, École des Hautes Études en Sc. Sociales, Paris, 2000–01.

Degrees BS (Maths) Georgia Tech., 1966; MS (Stats), PhD Univ. California, Berkeley, 1971, 1972.

Offices and Honours Andrew W. Mellon Foundation Professorship, Cornell Univ., 1987–90; Book-of-the-Year Award, McGraw-Hill, 1991; Disting. Teacher Citation, Cornell Merrill Scholars Program, 1991; Best Conference Paper, Soc. Advancement of Socioecon. Annual Meetings, 1992; Enterprise Award, William R. Kenan Jr Charitable Trust, 1993; Disting. Guest Lect., SEA, 1995; Notable Book of Year, *New York Times*, 1995; Ten Best Books, *Bus. Week*, 1995; Critics Choice Award, *San Francisco Rev. Books*, 1995; Top Ten Books, *China Times*, 1996; Best Books of Year List, *The London Observer*,

1996; Georgescu-Roegen Prize for best article publ. in 1996, *SEJ*, 1997; Knight-Ridder Best Books citation, 1999; Pres., EEA, 1999–2000.

Editorial Duties Ed. Bd, *JEBO*, 1995–2000.

Principal Fields of Interest D1 Household Behavior; D3 Distribution; D6 Welfare Economics.

Publications *Books*: 1. *Choosing the Right Pond: Human Behavior and the Quest for Status* (OUP, 1985); 2. *Passions Within Reason: The Strategic Role of the Emotions* (W.W. Norton, 1988); 3. *Microeconomics and Behavior* (McGraw-Hill, 1991, 1994, 1997, 2000, 2003); 4. *The Winner-Take-All Society* (with P.J. Cook), (Martin Kessler Books at Free Press, 1995); 5. *Luxury Fever: Money and Happiness in an Era of Excess* (Free Press, 1999); 6. *Principles of Economics* (with B.S. Bernanke), (McGraw-Hill, 2001).

Articles: 1. ‘Family location constraints and the geographic distribution of female professionals’, *JPE*, 86, Feb. 1978; 2. ‘How long is a spell of unemployment?’, *Em*, 46, March 1978; 3. ‘Why women earn less: the theory and estimation of differential overqualification’, *AER*, 68, June 1978; 4. ‘Are workers paid their marginal products?’, *AER*, 74, Sept. 1984; 5. ‘Interdependent preferences and the competitive wage structure’, *RandJE*, 15, Winter 1984; 6. ‘The demand for unobservable and other nonpositional goods’, *AER*, 75, March 1985; 7. ‘If *homo economicus* could choose his own utility function, would he want one with a conscience?’, *AER*, 77, Sept. 1987; 8. ‘Frames of reference and the quality of life’, *AER Papers and Proceedings*, 79, May 1989; 9. ‘Does studying economics inhibit cooperation?’ (with T. Gilovich, D. Regan), *JEP*, 7, Spring 1993; 10. ‘The evolution of one-shot cooperation’ (with T. Gilovich, D. Regan), *Ethology and Sociobiology*, 14, July 1993; 11. ‘What price the moral high

ground?’, *SEJ*, 63, July 1996; 12. ‘The frame of reference as a public good’, *EJ*, 107, Nov. 1997; 13. ‘Why is cost–benefit analysis so controversial?’, *J. Legal Stud.*, 29, June 2000; 14. ‘Cost–benefit analysis and relative position’ (with C. Sunstein), *Univ. Chicago Law Rev.*, Spring 2001.

Principal Contributions Standard utility functions assume that people care only about present and future consumption in absolute terms. I have attempted to expand this list of concerns in a principled way, adding other motives that can be shown to facilitate resource acquisition in competitive environments. One strand of my work has focussed on the strategic role of emotions. Although self-interest models predict that people will not donate anonymously to charities, vote in presidential elections, risk injury to help strangers, or cooperate in one-shot prisoners’ dilemmas, people routinely engage in such behaviors, often at considerable personal cost. The sentiments that motivate these behaviors facilitate solution of social dilemmas and a variety of other commitment problems, provided these sentiments can be discerned by others. For example, if sympathy motivates cooperation in one-shot prisoners’ dilemmas, then sympathetic individuals who are able to identify similar others are able to reap the gains of mutual cooperation. This strand of my work suggests that markets often yield better results than predicted by standard models. A second strand of my work has focussed on how concerns about relative position alter the conclusions of standard models. Such models hold, for example, that wages in competitive labor markets mirror individual productivity, but the distribution of wages is more compressed than that if workers care about intra-firm relative income. Standard models similarly suggest that individuals spend their incomes in ways that maximize welfare. But if utility depends

not just on absolute consumption, but also on relative consumption, individual spending decisions yield an excess of goods for which positional effects are strong (such as housing, cars, and clothing), and a deficit of goods for which positional effects are weak (such as safety, leisure, and environmental amenities). This strand of my work suggests that markets often yield worse results than predicted by standard models.

FRANKEL, Jeffrey Alexander

Born 1952, San Francisco, CA, USA.

Current Posts Dir., Intl Fin. and Macroecon., NBER, Cambridge, MA, USA, 1993–; Mem. NBER Bus. Cycle Dating Comm., 1993–; James W. Harpel Prof. Capital Formation and Growth, Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1999–.

Past Posts Econ. Cons., IMF, 1975, 1996, Bank of Portugal, Lisbon, 1976; Vis. Scholar, Intl Fin. Div., FRB, Washington, DC, 1977, 1979, 1981, 1986; Asst Prof., Univ. Michigan, 1978–79; Cons., Asia and Pacific, Ford Foundation, 1978; Asst Prof., Acting Assoc. Prof., Assoc. Prof., Univ. California, Berkeley, 1979–80, 1980–83, 1984–87; Vis. Asst Prof., Yale Univ., 1980; Sr Staff Econ., US President's Council Econ. Advisers, Exec. Office of President, Washington, DC, 1983–84; Vis. Fell., Inst. Intl Econ., Washington, DC, 1984, 1990–91, 1993, 1994–96; Cons., Country Pol. Div., World Bank, 1984–86; Vis. Scholar, Res. Dept, IMF, Washington, DC, 1985, 1986, 1989, 1992, 1993; Prof. Econ., Univ. California, Berkeley, 1987–99; Vis. Prof. Public Pol., Kennedy Sch. Govt, Harvard Univ., 1988–89; Vis. Scholar, FRB, San Francisco, 1990–96; Chief Econ., Mem., Council Econ. Advisers, Exec. Office of President, Washington, DC, USA, 1996–97, 1997–

99; New Century Chair, Brookings Inst., 1999.

Degrees BA (High Hons) Swarthmore Coll., 1974; PhD MIT, 1978.

Offices and Honours Phi Beta Kappa, 1974; NSF Fellowship, MIT, 1974–77; Principal Investigator, NSF Grants, 1980–86; Alfred P. Sloan Res. Fellowship, 1986–88; Assoc. Mem., Center for Pacific Basin Monetary and Econ. Stud., FRB, San Francisco, 1990–; Dir., Colloquium for Res. in Intl Pol. Econ., Inst. Intl Stud., Univ. California, Berkeley, 1990–96; Principal Investigator, Japan–US Friendship Commission Grants, US Govt, Washington, DC, 1990–96; First Prize, AMEX Bank Rev. Awards, 1991; Dir., Center for Intl and Devlp. Econ. Res., Univ. California, Berkeley, 1991–; Co-investigator, Ford Foundation Initiative in Intl Econ. and Devlp., 1991–97; Mem., Panel on Foreign Trade Stats, Comm. on Nat Stats, NRC, NAS, 1992–94; Co-Chairman, Intl Seminar on Macroecon., Europ. Econ. Assoc., and NBER, 1994–; Mem., Presidential Econ. Pol. Advisory Bd, Washington, DC, 1994–; Special Prize, 10th Annual Masayoshi Ohira Memorial Prize, Foundation for Adv. Info. and Res., 1994; Mem., Council on Foreign Relations, New York, 1995–; Graham Lecture, Princeton Univ., 1999; Advisor, FRB, Boston, 1999–; Mem., Advisory Comm., Inst. Intl Econ., Washington, DC, 1999–; Faculty Assoc., Weatherhead Center Intl Affairs, Harvard Univ., 1999–; Affiliate, Center Bus. and Govt, Harvard Univ., 1999–; Faculty Fell., Environmental Econ. Program, Harvard Univ., 2000–; Faculty Fell., Center Intl Devlp., Harvard Univ., 2000–; Faculty Affiliate, Belfer Center Sc. Intl Affairs, Harvard Univ., 2000–.

Editorial Duties Assoc. Ed., *JMCB*, 1982–93, *JIMF*, 1989–, *J. Japan and Intl Econ.*, 1994–, *Rev. Intl Econ.*, 1995–; Advisory Ed., *Intl J. Fin. and Econ.*, 1995–; Sr Advisor, *Brookings Trade Forum*,

1999–; Advisory Bd, Social Sc. Electronic Publ., 1999–, *Intl Fin. J.*, 2002–, *J. Econ. Integration*, 2002–.

Principal Fields of Interest F0 International Economics: General; E0 Macroeconomics and Monetary Economics: General; G0 Financial Economics: General.

Publications *Books*: 1. *The Yen/Dollar Agreement: Liberalizing Japanese Capital Markets, Policy Analyses in International Economics*, No. 9 (MIT Press, 1984; trans., Japanese, Nomura Res., 1985); 2. *World Trade and Payments* (with R. Caves, R. Jones), (Harper Collins, 5th edn 1990, 6th edn 1993, 7th edn 1996, 8th edn 1999, 9th edn 2002; trans., Chinese and Japanese, forthcoming 2003); 3. *Regionalism and Rivalry: Japan and the United States in Pacific Asia* (ed. with M. Kahler), (UCP, 1993); 4. *On Exchange Rates* (MIT Press, 1993); 5. *Does Foreign Exchange Intervention Work?* (with K. Dominguez), (Inst. Intl Econ., 1993); 6. *Financial Markets and Monetary Policy* (MIT Press, 1995); 7. *Regional Trading Blocs* (Inst. Intl Econ., 1997); 8. *American Economic Policy in the 1990s*, (ed. with P. Orszag), (MIT Press, 2002; trans., Chinese, forthcoming 2003).

Articles: 1. ‘The diversifiability of exchange risk’, *J Int E*, 9, Aug. 1979; 2. ‘On the mark: a theory of floating exchange rates based on real interest differentials’, *AER*, 69, Sept. 1979; 3. ‘In search of the exchange risk premium: a six-currency test assuming mean-variance optimization’, *JIMF*, 1, Dec. 1982; 4. ‘Using survey data to test standard propositions regarding exchange rate expectations’ (with K. Froot), *AER*, 77, March 1987; 5. ‘International macroeconomic policy coordination when policy-makers do not agree on the model’ (with K. Rockett), *AER*, 78, June 1988; 6. ‘Forward discount bias: is it an exchange risk premium?’ (with K. Froot), *QJE*, 104, Feb. 1989; 7. ‘Does foreign exchange intervention mat-

ter? The portfolio effect’ (with K. Dominguez), *AER*, 83, Dec. 1993; 8. ‘The stabilizing properties of a nominal GNP rule’, *JMCB*, 27, May 1995; 9. ‘Trading blocs and the Americas: the natural, the unnatural, and the supernatural’ (with E. Stein, S.J. Wei), *JDE*, 47, June 1995; 10. ‘The endogeneity of the optimum currency area criterion’ (with A. Rose), *EJ*, 108, July 1998; 11. ‘Does trade cause growth?’ (with D. Romer), *AER*, 89, 3, June 1999; 12. ‘An estimate of the effect of common currencies on trade and income’ (with A. Rose), *QJE*, May 2002.

Principal Contributions Developed empirical models of exchange rate determination – of the conventional monetary variety as well as less-conventional models of chartists and fundamentalists. Found some evidence of effects of intervention in the foreign exchange market, using daily data. Pointed out that common failures to detect reversion to purchasing power parity were attributable to low power. Performed various tests of international integration of financial markets and good markets, in both cases emphasizing long time series or a wide cross-section. Studied financial liberalization and currency regimes in Japan, emerging market economies of East Asia, and Latin America; including early papers with country fund data and on early-warning crisis indicators. Introduced the use of survey data to measure expectations of participants in the foreign exchange market. Substantiated (in three ways) skepticism that bias in the forward exchange rate is to be attributed to a time-varying exchange risk premium. One method of attack was the survey data. Another was a theoretical argument that much of exchange risk is diversifiable, and therefore requires no compensation. A third econometric technique, used to test the risk premium hypothesis, turned out to have widespread application for testing whether investors

determine their asset demands from principles of optimal diversification (the technique of constrained asset share estimation). Applied the overshooting model to agricultural and mineral commodity price determination. Developed two measures of market perceptions of monetary policy: real commodity prices and a measure of steepness of the interest rate yield curve. Showed how model uncertainty is an obstacle to international policy coordination. Helped popularize use of the gravity model of bilateral trade, including (1) to estimate whether regional integration exceeds the 'natural' level, and (2) to test effects of globalization on (a) growth and (b) the environment. Explored endogeneity of the optimum currency area criteria (i.e., of trade and cyclical symmetry).

FRANSES, Philip Hans

Born 1963, Wageningen, The Netherlands.

Current Posts Prof. Apl. Em., Em. Inst., Erasmus Univ., Rotterdam, The Netherlands, 1998–; Prof. Marketing Res., Dept Marketing and Org., Erasmus Univ., 1999–; Adjunct Prof., Dept Econ., Univ. Western Australia, Perth, Western Australia, 2001–.

Past Posts Asst Prof. Em., Assoc. Prof. Em., Erasmus Univ., 1991, 1996–98; Res. Fell., Royal Netherlands Acad. Arts and Sc. (KNAW), 1991–96; Dir., Rotterdam Inst. Bus. Econ. Stud., 1996–98, Erasmus Res. Inst. Mgmt, 1999.

Degrees MSc Univ. Groningen, 1987; PhD (Em.) Erasmus Univ., 1991.

Offices and Honours Fellowship, KNAW, 1991–96; Johannes Cornelis Ruijgrok Award, Netherlands Acad. Sc., Haarlem, 1993; Res. Fell., Tinbergen Inst., 1993–, Erasmus Res. Inst. Mgmt, 1999–; Mem., Intl Stat. Inst., 1996–, Holland Soc. Arts and Sc., 2001–; Erasmus Univ. Res.

Award, 1998; Teacher of Year, Sch. Econ., Erasmus Univ., 2000–01.

Editorial Duties Assoc. Ed., *J. Econ. Surveys*, 1996–, *Environmental Modelling and Software*, 1997–, *Macroecon. Dynamics*, 1997–, *Intl J. Forecasting*, 1997–, *Statistica Neerlandica*, 1997–2000, *JAE*, 2000–, *Em. Revs*, 2001–, *Stud. Nonlinear Dynamics and Em.*, 2002–, *Quant. Marketing and Econ.*, 2003–; Ed., special issue (with J. de Gooijer), *Intl J. Forecasting*, 1997, special issue, *Statistica Neerlandica*, 1998, special issue (with T. Terasvirta), *Macroecon. Dynamics*, 2001, special issue (with R. Eisinga), *Statistica Neerlandica*, 55, 2001, special issue (with M. McAleer), *JAE*, 2002; Ed.-in-Chief, *Statistica Neerlandica*, 2001–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; M3 Marketing and Advertising; G1 General Financial Markets.

Publications *Books*: 1. *Periodicity and Stochastic Trends in Economic Time Series* (OUP, 1996); 2. *Time Series Models for Business and Economic Forecasting* (CUP, 1998); 3. *Nonlinear Time Series Models in Empirical Finance* (with D. van Dijk), (CUP, 2000); 4. *Quantitative Models in Marketing Research* (with R. Paap), (CUP, 2001).

Articles: 1. 'The primary demand for beer in the Netherlands; an application of ARMAX model specification', *J. Marketing Res.*, 28, 1991; 2. 'A multivariate approach to modeling univariate seasonal time series', *J Em*, 63, 1994; 3. 'The effects of additive outliers on tests for unit roots and cointegration' (with N. Haldrup), *JBES*, 12, 1994; 4. 'Periodic cointegration – representation and inference' (with H.P. Boswijk), *REStat*, 77, 1995; 5. 'Multiple unit roots in periodic autoregression' (with H.P. Boswijk, N. Haldrup), *J Em*, 80, 1997; 6. 'On Phillips–Perron type tests for seasonal unit roots' (with J. Breitung), *ET*, 14, 1998; 7. 'On seasonal cycles, unit

roots and mean shifts' (with T.J. Vogelsang), *REStat*, 80, 1998; 8. 'Outlier detection in cointegration analysis' (with A. Lucas), *JBES*, 16, 1998; 9. 'Testing for smooth transition nonlinearity in the presence of outliers' (with D. van Dijk, A. Lucas), *JBES*, 17, 1999; 10. 'Testing for ARCH in the presence of additive outliers' (with D. van Dijk, A. Lucas), *JAE*, 14, 1999; 11. 'Asymptotically perfect and relative convergence of productivity' (with B. Hobijn), *JAE*, 15, 2000; 12. 'SETS, arbitrage activity, and stock price dynamics' (with N. Taylor, D. van Dijk, A. Lucas), *J Bank Fin*, 24, 2000; 13. 'Censored latent effects autoregression, with an application to US unemployment' (with R. Paap), *JAE*, 17, 2002; 14. 'A nonlinear long memory model, with an application to US unemployment' (with D. van Dijk, R. Paap), *J Em*, 110, 2002.

Principal Contributions n.e.

FREEMAN, Richard B.

Born 1945, Newburgh, NY, USA.

Current Post Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1979–

Past Posts n.e.

Degrees BA Dartmouth Coll., 1964; PhD Harvard Univ., 1969.

Office Dir. Labor Stud., NBER.

Principal Fields of Interest J4 Particular Labor Markets; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications *Books*: 1. *The Market for College-trained Manpower* (HUP, 1971); 2. *Black Elite* (McGraw-Hill, 1976); 3. *The Over-educated American* (Acad. Press, 1976); 4. *The Youth Labor Market Problem* (ed. with D. Wise), (UCP, 1981); 5. *What Do Unions Do?* (with J. Medoff), (Basic Books, 1984); 6. *The Black Youth Employment Crisis* (ed. with H. Holzer), (UCP, 1985).

Articles: 1. 'Supply and salary adjustments to the changing science manpower market: physics, 1948–1975', *AER*, 65, March 1975; 2. 'Individual mobility and union voice in the labor market', *AER*, 66, May 1976; 3. 'The exit–voice trade off in the labor market, unionism, job tenure, quits and separations', *QJE*, 94, June 1980; 4. 'Union wage practices and wage dispersion with establishments', *ILRR*, 35, Oct. 1980; 5. 'Analyzing trade union effects with longitudinal data', *J Lab E*, 2, Jan. 1984.

Principal Contributions Empirical findings: students' supply responsiveness is very sizable; high-level job markets are subject to cobweb-type fluctuations; return to college training in the West has dropped in era of educational expansion; minorities have progressed in era of anti-bias activity in US; slow economic progress of blacks in US is due to loss of voting rights and consequent governmental discrimination at turn of century; trade unions have a sizable non-wage effect, best analysed in 'exit–voice' framework (effects include reduced turnover, greater fringe benefits, reduced inequality); measurement error in longitudinal data biases estimates considerably; unions reduce profits of concentrated industries; and decline of union representation in US due to severe management opposition.

FRENCH, Kenneth R. n.e.

FREY, Bruno S.

Born 1941, Basel, Switzerland.

Current Posts Asst Prof. Econ., Univ. Basel, Basel, Switzerland, 1969–; Prof. Econ., Univ. Zurich, Zurich, Switzerland, 1977–.

Past Posts Vis. Lect., Wharton Sch., Univ. Pennsylvania, 1967–68; Assoc. Prof., Univ. Basel, 1969–70; Prof. Univ.

Konstanz, Germany, 1970–77; Vis. Prof., Univ. Stockholm, 1982, Kiel Univ., 1987, Valencia Univ., 1992, Groningen Univ., 1993, Inst. Sc. Polit. de Paris, 1993–, Univ. Venice, 1994–; Vis. Fell., Inst. Intl Econ. Stud., Stockholm, 1982, All Souls Coll., Oxford, 1983; Guest Prof., Inst. Adv. Stud., Vienna, 1983; Fell., Inst. Adv. Stud., Berlin, 1984–85; Vis. Res. Prof., Grad. Sch. Bus., Univ. Chicago, 1990; Vis. Scholar, Hoover Inst., Stanford Univ., 1991.

Degrees Licentiatu Rer. Pol., Dr Rer. Pol., Habilitation Univ. Basel, 1964, 1965, 1969.

Offices and Honours Pres., Theoretical Study Group, Swiss Soc. Econ. and Stats, 1972–82; Mem., Steering Comm., Intl Seminar Public Econ., 1976–80; Mem., Exec. Comm. Europ. Public Choice Soc., 1977–; Mem. Council, Europ. Econ. Assoc., 1990–95; Mem., Exec. Bd, Assoc. Cultural Econ. Intl, 1993–; Vernon Prize, Assoc. Public Pol. and Mgmt, USA, 1996; Fell., Amer. Public Choice Soc., 1998; Hon. Dr Univ. St. Gallen, Switzerland, 1998, Univ. Gothenburg, Sweden, 1998; Res. Fell., CESifo Res. Network, 1999.

Editorial Duties Managing Ed., *Kyk*, 1979–; Ed. Bds, *Public Choice*, 1986–, *Rationality and Soc.*, 1989–, *World Econ.*, 1989–, *J. Socio-Econ.*, 1989–, *Staatswissenschaft und Staatspraxis*, 1990–, *J. Écon. et Études Humaines*, 1990–, *Europ. J Law E*, 1993–, *J. Cultural Econ.*, 1993–, *J. Risk, Decision and Pol.*, 1996–, *Intl J. Cultural Property*, 1997–, *J. Inst. Innovation and Transition*, 1997–, *J. Econ. Methodology*, 1998–, *Perspektiven der Wirtschaftspolitik*, 2000–, *EJPE*, 2000–, *PPE*, 2000–, *Mind and Soc.*, 2001–, *J. Theoretical Polit.*, 2001–.

Principal Fields of Interest A0 General Economics and Teaching: General; D7 Analysis of Collective Decision-Making; Z1 Cultural Economics.

Publications *Books*: 1. *Umweltökonomie*

(Vaudenhoeck & Ruprecht, 1972, 3rd edn 1992); 2. *Modern Political Economy* (Martin Robertson, 1978, 1980, Halsted-Wiley, 1978; trans., German, Vahlen, 1977, Japanese, Diamond, 1980, Portuguese, Zahar, 1983, French, PUF 1984); 3. *Democratic Economic Policy. A Theoretical Introduction* (Martin Robertson, 1983, St. Martin's Press, 1983; trans., German, Vahlen, 1981, Japanese, Diamond, 1984, French, Bonnet, 1984, Spanish, Alianza, 1984); 4. *Schattenwirtschaft* (with H. Weck, W.W. Pommerehne), (Vahlen 1984); 5. *International Political Economy* (Blackwell, 1984; trans., German, Vahlen, 1985, Italian, Angeli, 1987, Japanese, Bunshindo, 1988); 6. *Die heimliche Wirtschaft* (with H. Weck, W.W. Pommerehne), (Haupt, 1986); 7. *Muses and Markets: Explorations in the Economics of the Arts* (with W.W. Pommerehne), (Blackwell, 1989; trans., Italian, Il Mulino, 1991, French, Plon, 1993, German, Vahlen, 1993); 8. *Economics as a Science of Human Behaviour: Towards a New Social Science Paradigm* (Kluwer, 1992, 2nd edn 1999; trans., German, Vahlen, 1990); 9. *Not Just for the Money. An Economic Theory of Personal Motivation* (Edward Elgar, 1997; trans., German, Vahlen, 1997); 10. *The New Democratic Federalism for Europe. Functional, Overlapping and Competing Jurisdictions* (with R. Eichenberger), (Edward Elgar, 1999); 11. *Arts and Economics. Analysis and Cultural Policy* (Springer, 2000); 12. *Successful Management by Motivation. Balancing Intrinsic and Extrinsic Incentives* (with M. Osterloh), (Springer, 2001); 13. *Inspiring Economics: Human Motivation in Political Economy* (Edward Elgar, 2001); 14. *Happiness and Economics: How the Economy and Institutions Affect Human Well-Being* (with A. Stutzer), (Princeton Univ. Press, 2002).

Articles: 1. 'An empirical study of po-

litico-economic interaction in the United States' (with F. Schneider), *REStat*, 60, May 1978; 2. 'American and European economics and economists', *JEP*, 7, Fall 1993; 3. 'Direct democracy: politico-economic lessons from Switzerland', *AER*, 84, 1994; 4. 'A constitution for knaves crowds out civic virtues', *EJ*, 107, July 1997; 5. 'The cost of price incentives. An empirical analysis of motivation crowding-out' (with F. Oberholzer-Gee), *AER*, 87, Sept. 1997; 6. 'What can economists learn from happiness research?', *JEL*, 40, June 2002.

Principal Contributions Early work was in the then fashionable fields of economic growth and income distribution. Since the late 1960s I have increasingly become interested in the application of the economic approach to new fields, among them environmental economics. My main research area has been modern political economy (public choice). I have constructed theoretical models of the interactions of the economy and politics (politico-economic models, sometimes called political business-cycle models), and have econometrically tested them for various representative (US, UK, Germany) and direct (Switzerland) democracies. In addition to voters, government and public bureaucracy, the Central Bank's behaviour has also been taken into account. The research has now shifted to integrating and measuring the shadow (or hidden) economy; to the study of the (far-reaching) consequences of public choice for the theory of economic policy; and to the application of public choice to international problems (international political economics). Among the other 'non-market' areas, I have contributed to the economics of the arts. While I am convinced that the economic model of behaviour is superior to most others, I endeavour to improve its performance (in collaboration with psychologists and sociologists) by

taking new aspects of human behaviour into account.

FREY, William H. n.e.

FRIEDEN, Jeffry Alan

Born 1953, Louisville, KY, USA.

Current Post Prof., Dept Govt, Harvard Univ., Cambridge, MA, USA, 1995–.

Past Posts Asst Prof., Assoc. Prof., Prof., Dept Polit. Sc., UCLA, 1983–95.

Degrees BA (Polit. Sc.), PhD Columbia Univ., 1979, 1984.

Editorial Duties Ed. Bds, *Rev. Intl Polit. Econ.*, 1991–, *Intl Org.*, 1992–97, 1999–; Intl Ed. Bd, *EU Polit.*, 1999–.

Principal Fields of Interest F4 Macroeconomic Aspects of International Trade and Finance; P1 Capitalist Systems; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *Banking on the World: The Politics of American International Finance* (Harper & Row, 1987); 2. *Debt, Development, and Democracy: Modern Political Economy and Latin America, 1965–1985* (Princeton Univ. Press, 1991); 3. *Monetary and Fiscal Policy in an Integrated Europe* (with B. Eichengreen, J. von Hagen), (S-V, 1995); 4. *Forging an Integrated Europe* (with B. Eichengreen), (Univ. Michigan Press, 1998); 5. *Joining Europe's Monetary Club: The Challenges for Smaller Member States* (with E. Jones, F. Torres), (St. Martin's Press, 1998); 6. *International Political Economy: Perspectives on Global Power and Wealth* (with D.A. Lake), (St. Martin's Press, 4th edn 2000); 7. *Modern Political Economy and Latin America: Theory and Policy* (with M. Pastor, M. Tomz), (Westview Press, 2000); 8. *The Currency Game: Exchange Rate Politics in Latin America* (with E. Stein), (JHUP, 2001); 9. *The Political Economy of Euro-*

pean Monetary Unification (with B. Eichengreen), (Westview Press, 2nd edn 2001).

Articles: 1. 'Third world indebted industrialization: international finance and state capitalism in Mexico, Brazil, Algeria, and South Korea', *Intl Org.*, 35, Summer 1981; 2. 'Sectoral conflict and US foreign economic policy, 1914–1940', *Intl Org.*, 42, Winter 1988; 3. 'The economics of intervention: American overseas investments and relations with underdeveloped areas, 1890–1950', *CSSH*, 31, January 1989; 4. 'Invested interests: the politics of national economic policies in a world of global finance', *Intl Org.*, 45, Autumn 1991; 5. 'Exchange rate politics: contemporary lessons from American history', *Rev. Intl Polit. Econ.*, 1, Spring 1994; 6. 'International investment and colonial control: a new interpretation', *Intl Org.*, 48, Autumn 1994; 7. 'The impact of goods and capital market integration on European monetary politics', *Comparative Polit. Stud.*, 29, April 1996; 8. 'Monetary populism in nineteenth-century America: an open economy interpretation', *JEH*, 57, June 1997; 9. 'The political economy of international monetary relations' (with J.L. Broz), *Annual Rev. Polit. Sc.*, 4, 2001; 10. 'Real sources of European currency policy: sectoral interests and European monetary integration', *Intl Org.*, 56, Fall 2002.

Principal Contributions Political economy of international monetary and financial relations. Political economy of international banking and finance, both contemporary and historical. Political economy of international monetary policy, especially exchange rate policy. Work on the gold standard, European monetary integration, contemporary exchange rate policy.

FRIEDMAN, Benjamin M.

Born 1944, Louisville, KY, USA.

Current Post William Joseph Maier Prof. Polit. Econ., Harvard Univ., Cambridge, MA, USA, 1989–.

Past Posts Econ., Morgan Stanley & Co., New York City, 1971–72; Asst Prof., Assoc. Prof. Econ., Prof. Econ., Harvard Univ., 1972–76, 1976–80, 1980–89; Chairman, Dept Econ., Harvard Univ., 1991–94.

Degrees BA, MA, PhD Harvard Univ., 1966, 1969, 1971; MSc King's Coll., Cambridge, 1970.

Offices and Honours Marshall Scholar, 1966–68, Jr Fell., Soc. Fells, Harvard Univ., 1968–71; Horowitz Prize, Bank Israel, 1982; Trustee, Coll. Retirement Equities Fund, 1978–82; Program Dir., Fin. Markets and Monetary Econ., NBER, 1978–93; Eccles Prize, Columbia Univ., 1989.

Editorial Duties Assoc. Ed., *JME*, 1977–95.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; H6 National Budget, Deficit, and Debt; E4 Money and Interest Rates.

Publications *Books:* 1. *Economic Stabilization Policy: Methods in Optimization* (N-H, 1975); 2. *The Changing Roles of Debt and Equity in Financing US Capital Formation* (UCP, 1982); 3. *Corporate Capital Structures in the United States* (UCP, 1985); 4. *Financing Corporate Capital Formation* (UCP, 1986); 5. *Day of Reckoning: The Consequences of American Economic Policy Under Reagan and After* (Random House, 1988); 6. *Handbook of Monetary Economics* (with F.H. Hahn), (N-H, 1990); 7. *Does Debt Management Policy Matter?* (with J. Agell, M. Perrson), (OUP, 1992).

Articles: 1. 'Targets, instruments and indicators of monetary policy', *JME*, 1,

Oct. 1975; 2. 'Financial flow variables and the short-run determination of long-term interest rates', *JPE*, 85, Aug. 1977; 3. 'The inefficiency of short-run monetary targets for monetary policy', *BPEA*, 2, 1977; 4. 'Crowding out or crowding in? The economic consequences of financing government deficits', *BPEA*, 3, 1978; 5. 'Optimal expectations and the extreme information assumptions of "rational expectations" macromodels', *JME*, 5, Jan. 1979; 6. 'Post-war changes in the American financial markets', in M.S. Feldstein (ed.), *The American Economy in Transition* (UCP, 1980); 7. 'The roles of money and credit in macroeconomic analysis', in J. Tobin (ed.), *Macroeconomics, Prices, and Quantities: Essays in Memory of Arthur M. Okun* (Brookings Inst., 1983); 8. 'Monetary policy without quantity variables', *AER*, 78, May 1988; 9. 'Implications of corporate indebtedness for monetary policy', *Group of Thirty Occasional Papers*, 29, 1990; 10. 'Money, income, prices and interest rates' (with K.N. Kuttner), *AER*, 82, June 1992; 11. 'Why does the paper-bill spread predict real economic activity?' (with K.N. Kuttner), in J. Stock, M. Watson (eds), *New Research on Business Cycles, Indications and Forecasting* (UCP, 1993); 12. 'The role of judgment and discretion in the conduct of monetary policy', in *Changing Capital Markets: Implications for Monetary Policy* (FRB, Kansas City, 1993); 13. 'The future of monetary policy: the central bank as an army with only a signal corps?', *Intl Fin.*, 2, Nov. 1999.

Principal Contributions The principal goal of most of my research has been to further understanding of how financial markets work and why what happens in financial markets matters for nonfinancial economic activity, and to seek ways of exploiting that understanding for improved policy decisionmaking. The central principle that has influenced my approach has

been that economic behaviour in general and financial behaviour in particular depend importantly on prevailing institutional structures, including legal and regulatory restrictions as well as aspects of business organisation and practice in the broadest sense. As a result, many familiar classical propositions, describing the functioning of perfect markets populated exclusively by atomistic traders possessing full information, no longer apply. My earliest work focused explicitly on aspects of monetary and fiscal policies consistent with this central line of thinking. I next devoted a substantial part of my work to studying the determination of asset returns, especially returns on long-term debt instruments. I also examined the portfolio behaviour of risk-averse investors and borrowers that underlies the determination of asset returns. I then returned to a more direct focus on fiscal and monetary policies, and my work included a book on the Reagan era US fiscal policy followed by a series of papers on specific monetary policy issues, including the shortcomings of price or inflation targeting as a guideline for the conduct of monetary policy, contradictions inherent in the familiar call for increased transparency in monetary policy, and the threat to monetary policy from the electronic revolution in banking. In an entirely different area of inquiry, I have just completed a book on 'the moral consequences of economic growth'. The question that this book explores is whether – and if so, under what circumstances and via what mechanisms – rising living standards foster such tendencies as openness of opportunity, tolerance, social mobility, commitment to fairness, and either the creation of democratic political institutions or the strengthening of these institutions where they already exist. The hypothesis that economic growth (rather than the level of income) nurtures these positive developments has a number of im-

portant implications, among them that the market mechanism, left unimpeded, will systematically under-provide economic growth so that there is a resulting role for public policy to stimulate growth beyond the market-determined rate of increase.

FRIEDMAN, Daniel

Born 1947, Oakland, CA, USA.

Current Post Prof. Econ., Univ. California, Santa Cruz, CA, USA, 1985–.

Past Posts Sr Fin. Cons., Bank Amer., San Francisco, 1977–79; Asst Prof., UCLA, 1979–85.

Degrees BS (Maths) Reed Coll., 1969; MA (Maths), PhD (Maths) Univ. California, Santa Cruz, 1973, 1977.

Offices and Honours Univ. California, Santa Cruz Alumni Favorite Prof. Award, 1991; RES prize for best 1996 *EJ* paper; Dept Chair, Univ. California, Santa Cruz, 1998–2001.

Editorial Duties Ed. Bds, *J. Evolutionary Econ.*, 1997–, *Experimental Econ.*, 1998–, *AER*, 2001–, *Games and Econ. Behav.*, 2001–.

Principal Fields of Interest D4 Market Structure and Pricing; C7 Game Theory and Bargaining Theory; B4 Economic Methodology.

Publications *Books*: 1. *The Double Auction Market: Institutions, Theories and Evidence* (with J. Rust), Santa Fe Inst. Proceedings, Vol. XIV (Addison-Wesley, 1993); 2. *Experimental Methods: A Primer for Economists* (with S. Sunder), (CUP, 1994; trans., Japanese, 1999).

Articles: 1. ‘Money mediated disequilibrium processes in a pure exchange economy’, *J Math E*, 6, 1979; 2. ‘Short-run fluctuations in foreign exchange rates: evidence from the data, 1973–79’ (with S. Vandersteel), *J Int E*, 13, 1982; 3. ‘Effective scoring rules for probabilistic forecasts’, *Mgmt Sc.*, 29, April 1983; 4. ‘On

the efficiency of double auction markets’, *AER*, 74, March 1984; 5. ‘The informational efficiency of experimental asset markets’ (with G.W. Harrison, J.W. Salmon), *JPE*, 92, June 1984; 6. ‘Producers’ markets: a model of oligopoly with sales costs’, *JEBO*, 11, May 1989; 7. ‘The S-shaped value function as a constrained optimum’, *AER*, 79, Dec. 1989; 8. ‘Models of decision making given multiple sources of information’ (with D. Massaro), *Psychological Rev.*, 97, April 1990; 9. ‘A simple testable model of double auction markets’, *JEBO*, 15, Jan. 1991; 10. ‘Partial revelation of information in experimental asset markets’ (with T.E. Copeland), *J Fin*, 46, March 1991; 11. ‘Evolutionary games in economics’, *Em*, 59, May 1991, repr. in E. Maskin (ed.), *Recent Developments in Game Theory, The International Library of Critical Writings in Economics* series (Edward Elgar, 1999); 12. ‘Privileged traders and asset market efficiency: a laboratory study’, *JFQA*, 28, Dec. 1993; 13. ‘Why voters vote for incumbents but against incumbency: a rational choice explanation’ (with D. Wittman), *J Pub E*, 57, 1995; 14. ‘Competitiveness in auction markets: an experimental and theoretical investigation’ (with J. Ostroy), *EJ*, 105, Jan. 1995; 15. ‘Equilibrium in evolutionary games: some experimental results’, *EJ*, 106, Jan. 1996; 16. ‘International trade and the internal organization of firms: an evolutionary approach’ (with K.C. Fung), *J Int E*, 41, Aug. 1996; 17. ‘Price formation in single call markets’ (with T. Cason), *Em*, 65, March 1997; 18. ‘Monty Hall’s three doors: construction and deconstruction of a choice anomaly’, *AER*, 88, Sept. 1998.

Principal Contributions I explore the boundaries of the economics discipline marked by the three (unrealistic but useful) assumptions of selfish preferences, optimization, and equilibrium. The evolutionary games articles relax the equilib-

rium assumption and emphasize the new applications in international trade and industrial organization. The psychology articles relax the optimality assumption and point to new economic applications in institutional economics. Work in progress on other regarding preferences will open new perspectives on labor economics and contracting theory. Laboratory methods are quite useful in all these activities.

FRIEDMAN, Milton

Born 1912, Brooklyn, NY, USA.

Current Post Sr Res. Fell., Hoover Inst., Stanford, CA, USA, 1977–.

Past Posts Assoc. Econ., Natl Resources Comm., Washington, DC, 1935–37; Part-time Lect., Columbia Univ., 1937–40; Res. Staff, NBER, 1937–40, 1948–81; Vis. Prof., Univ. Wisconsin, 1940–41; Principal Econ., Div. Tax Res., US Dept Treasury, 1941–43; Assoc. Dir., Stat. Res. Group, Div. War Res., Columbia Univ., 1943–45; Assoc. Prof., Univ. Minnesota, 1945–46; Assoc. Prof., Prof., Paul Snowden Russell Disting. Service Prof., Prof., Univ. Chicago, 1946–48, 1948–63, 1963–76, 1977–; Cons., EEC, Paris, 1950; Vis. Fulbright Lect., Univ. Cambridge, 1953–54; Cons., Intl Co-op. Admin., India, 1955; Wesley Clair Mitchell Vis. Res. Prof., Columbia Univ., 1964–65; Columnist, Contrib. Ed., *Newsweek*, 1966–84; Vis. Prof., UCLA, 1967, Univ. Hawaii, 1972; Vis. Scholar, FRB, San Francisco, 1977.

Degrees BA Rutgers Univ., 1932; AM Univ. Chicago 1933; PhD Columbia Univ., 1946.

Offices and Honours John Bates Clark Medal, Exec. Comm., Pres., AEA, 1951, 1955–57, 1967; Fell., Center Adv. Study Behav. Sc., Stanford, 1957–58; Amer. Secretary, Mem. Council, Vice-Pres., Pres., Vice-Pres., Mont Pelerin Soc., 1957–62,

1962–65, 1967–70, 1970–72, 1972–80; Ford Faculty Res. Fell., 1962–63; Hon. LLD, St Paul's Univ., Tokyo, 1963, Kalamazoo Coll., 1963, Rutgers Univ., 1968, Lehigh Univ., 1969, Loyola Univ., Chicago, 1971, Univ. New Hampshire, 1975, Harvard Univ., 1979, Brigham Young Univ., 1980, Dartmouth Coll., 1980, Gonzaga Univ., 1981; Bd Trustees, Philadelphia Soc., 1965–67, 1970–72, 1976–78; Hon. LHD, Rockford Coll., 1969, Roosevelt Univ., 1975, Hebrew Union Coll., LA, 1981, Jacksonville Univ., 1993; Hon. LittD, Bethany Coll., 1971; Hon. DSc, Univ. Rochester, 1971; Chicagoan of Year, Chicago Press Club, 1972; Educator of Year, Chicago United Jewish Fund, 1973; Mem., NAS, 1973–; Nobel Prize in Econ., 1976; Scopus Award, Amer. Friends of Hebrew Univ., 1977; Hon. PhD, Hebrew Univ., Jerusalem, 1977; Hon. Dr (Ciencias Sociales), Francisco Marroquin Univ., Guatemala, 1978; Gold Medal, Nat. Inst. Social Sc., 1978; Private Enterprise Exemplar Medal, 1978; Valley Forge Hon. Certificate, 1978; George Washington Honor Medal, Freedoms Foundation at Valley Forge, 1978, 1980; Tuck Media Award Econ. Understanding, Amos Tuck Sch. Bus. Admin., Dartmouth Coll., 1981; New Perspectives Award, Touche Ross & Co., Ohio State Award for 'Free to Choose' TV Series, 1981; Statesman of the Year Award, Sales and Marketing Exec. Intl, 1981; Vice-Pres., Pres., WEA, 1982–83; 1984–85; Grand Cordon of First Class Order of Sacred Treasure, Japanese Govt, 1986; Natl Medal of Sc., US, 1988; Presidential Medal of Freedom, US, 1988; Inst. World Capitalism Prize, Jacksonville Univ., 1993; Goldwater Award, Goldwater Inst., 1997; Robert Maynard Hutchins Hist. Maker Award for Distinction in Educ., Chicago Hist. Soc., 1997; Source Award for Lifetime Achievement, *The Primary Source*, Tufts Univ., 1997; Templeton Honor Rolls

Lifetime Achievement Award, 1997; Dr (Econ., hc), Univ. Prague, 1997.

Editorial Duties Ed. Bds, *AER*, 1951–53, *Em*, 1957–69.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; N1 Macroeconomics and Monetary Economics; Growth and Fluctuations; D0 Microeconomics: General.

Publications *Books*: 1. *Essays in Positive Economics* (UCP, 1953; trans., Spanish, Editorial Gredos, 1967, Japanese, Fuji Shobo, 1977); 2. *A Theory of the Consumption Function* (Princeton Univ. Press, 1957; trans., Japanese, Ganshodo, 1961); 3. *Capitalism and Freedom* (UCP, 1962; trans., Spanish, Ediciones Rialp, 1966, Italian, Vallecchi Editore, 1967 and Edizioni Studio Tesi, 1987, French, Édns Robert Laffont, 1971, German, Seewald Verlag, 1971, Deutscher Taschenbuch Verlag, 1976, Swedish, A Bonniers Forlag, 1972, Japanese, McGraw-Hill Kogakusha, 1975, Hebrew, Adam Publishers, 1978, Icelandic, Almenna Bokafelagid og Felag Frjalsyggjumanna, 1982, Russian, Khronika Press, Chalidze Publications, 1982, Portuguese, Abril Cultural, 1984, 1985, Arabic, Jordon Book Centre, 1987, Chinese, Varity Pub., 1993, Czech, Liberalni Inst., 1993, Polish, Centrim Adama Smitha & Rzeczpospolita, 1993, Hungarian, Akademiai Kiado and MET Pub., 1996, Estonian, Eesti Avatud Uhiskonna Inst., 1994, Serbo-Croatian, Globus Nakladni Zavod Sholska Knjiga, 1992, Greek, Helliniki Euroekdotiki, 1994); 4. *A Monetary History of the United States, 1867–1960* (with A.J. Schwartz), (Princeton Univ. Press, 1963; trans., Italian, Unione Tipografico Editrice Torinese, 1979); 5. *The Optimum Quantity of Money and Other Essays* (Aldine, 1969; trans., German, Verlag Moderne Industrie, Wolfgang Dummer, 1970, Fischer Taschenbuch Verlag, 1976, Chinese, Wu-Nan Book, 1996); 6. *Milton*

Friedman's Monetary Framework: A Debate with his Critics (with others), ed. R.J. Gordon (UCP, 1974; trans., Japanese, McGraw-Hill Kogakusha, 1978, Spanish, Premia Editora, 1978); 7. *Price Theory* (Aldine, 1976; trans., German, Verlag Moderne Industrie Wolfgang Dummer, 1977, French, Economica, 1983, Chinese, Bus. Press, 1994); 8. *Free to Choose* (with R. Friedman), (Harcourt Brace Jovanovich, 1980, Avon Books, 1981; trans., French, Pierre Belfond, 1980, German, Ullstein, 1980, Japanese, Nihon Keizai Shimbun, 1980, Norwegian, NA Forlag, 1980, Spanish, Ediciones Grijalbo, 1980, Swedish, Liber Laromedel, 1980, Danish, GEC Gads Forlag, 1981, Italian, Longanesi, 1981, Portuguese, Editora Record, 1981, Finnish, Otava, 1982, Chinese, Bus. Press, 1982, Hebrew, 1988, Polish, Wydawnictwo Panta, 1994, Czech, Liberalni Inst., 1992, Estonian, Olion, 1992); 9. *Monetary Trends in the United States and the United Kingdom* (with A.J. Schwartz), (UCP, 1982); 10. *Money Mischief* (Harcourt Brace Jovanovich, 1992, Harvest Book edn 1994; trans., French, Dunod, 1993, German, ECON Verlag, 1992, Italian, Garzanti Editora, 1992, Japanese, Mita, 1993, Korean, 1992, Polish, Wvdawnictwo, Lodzkie, 1994, Portuguese, Publicações Europa-América, 1994 and Editora Record, 1994, Spanish, Grijalbo, 1992).

Articles: 1. 'The use of ranks to avoid the assumption of normality implicit in the analysis of variance', *JASA*, 32, Dec. 1937; 2. 'The utility analysis of choices involving risk' (with L.J. Savage), *JPE*, 56, Aug. 1949; 3. 'The expected utility hypothesis and the measurement of utility' (with L.J. Savage), *JPE*, 60, Dec. 1952; 4. 'Choice, chance and the personal distribution of income', *JPE*, 61 Aug. 1953; 5. 'Leon Walras and his economic system', *AER*, 45, Dec. 1955; 6. 'The relative stability of monetary velocity and the

investment multiplier in the United States, 1897–1958' (with D. Meiselman), *Stabilization Policies, Commission on Money and Credit* (Prentice-Hall, 1963); 7. 'Myths that keep people hungry', *Harper's Magazine*, April 1967; 8. 'The role of monetary policy', *AER*, 58, March 1968; trans., Spanish, *CEMLA Boletín Mensual* (Mexico), 15, April 1969, *Información Comercial Española* (Madrid), 425, June 1969, *Revista del Banco Hipotecario de El Salvador*, 6, Jan.–March 1971, Italian, *Economia Internazionale*, 22, Feb. 1969, and repr. in *Il battito sulla moneta*, ed. G. Bellone (Soc. Editrice il Mulino, 1972), Japanese, *Nihon Keizai Shimbunsha*, 1972, German, *Geldtheorie*, ed. K. Brunner *et al.* (Kiepenheuer & Witsch, 1974); 9. 'Inflation and unemployment', *JPE*, 85, June 1977 and in *Les Prix Nobel* (Nobel Foundation, 1977); trans., Spanish, *Economicas y Empresariales en la Universidad Nacional de Educación a Distancia* (Madrid), 3, 1976, *Paro e inflación* (Union Editorial, 1977), *Los premios Nobel de economía* (Banco de Mexico, Fondo de Cultura Económica, 1978), Italian, *Il Politico* (Padua), 43, March 1978, Japanese, *Infureshon to shitsugyo* (McGraw-Hill Kogakusha, 1978); 10. 'Monetary policy for the 1980s', in J. Moore (ed.), *To Promote Prosperity: US Domestic Policy in the Mid-1980s* (Hoover Inst. Press, 1984).

Principal Contributions Methodology of positive economics; permanent income theory of consumption; understanding the role of money in determining the course of events, in particular the monetary source of the US Great Depression; analysis of inflation, its sources, consequences, and possible cures, concept of natural rate of unemployment and accelerationist theory of Phillips curve; role and operation of monetary policy; theory of capital; demonstration that Gibson paradox is of very limited applicability and is to be

explained much more along the lines of Irving Fisher than of John Maynard Keynes; and derivation of a stable demand curve for money covering more than a hundred years and applicable to the US and the UK.

FROOT, Kenneth A.

Born 1957, New York, NY, USA.

Current Post André R. Jakurski Prof. Bus. Admin., Grad. Sch. Bus., Harvard Univ., Cambridge, MA, USA, 1999–.

Past Posts Asst Prof. Apl. Econ., Ford Intl Devlp. Chair Prof., Assoc. Prof. Mgmt, Sloan Sch. Mgmt, MIT, 1986–87, 1987–90, 1991–92; Vis. Asst Prof. Bus. Admin., Thomas Henry Carroll-Ford Vis. Prof. Bus. Admin., Ind. Bank Japan Prof. Fin., Dir. Res., Grad. Sch. Bus., Harvard Univ., 1989–90, 1991–93, 1995–99, 1996–2000.

Degrees BA Stanford Univ., 1980; PhD Univ. California, Berkeley, 1986.

Offices and Honours Stanford Univ. Meinecke Fell., West Berlin, 1979–80; Alfred P. Sloan Doctoral Dissertation Fell., 1985–86; Ford Intl Career Devlp. Chair, MIT, 1987–90; John Olin Fell., NBER, 1988–89; Term Mem., Council on Foreign Relations, 1991–96.

Principal Fields of Interest G0 Financial Economics: General; F3 International Finance.

Publications Book: 1. *The Financing of Catastrophe Risk* (ed.), (UCP, 1999).

Articles: 1. 'Using survey data to test standard propositions regarding exchange rate expectations' (with J. Frankel), NBER Working Paper, 1972; revised in *AER*, 77, March 1987; 2. 'Exchange-rate dynamics under stochastic regime shifts: a unified approach' (with M. Obstfeld), NBER Working Paper, 2835, Feb. 1989; revised in *J Int E*, 31 Nov. 1991; 3. 'Forward discount bias: is it an exchange risk pre-

- mium?' (with J. Frankel), *QJE*, 104, Feb. 1989; revision of 'Findings of forward discount bias interpreted in light of exchange rate survey data', NBER Working Paper, 1963, and Sloan Working Paper, 1906–87, Aug. 1987, repr. in R. Thaler (ed.), *Advances in Behavioral Finance* (Russell Sage Foundation, 1993), and M. Taylor, L. Gallagher (eds), *Speculation and Financial Markets* (Edward Elgar, 2001); 4. 'Exchange rates and foreign direct investment: an imperfect capital markets approach' (with J. Stein), NBER Working Paper, 2914, March 1989; revised in *QJE*, 106, Nov. 1991; 5. 'New hope for the expectations hypothesis of the term structure of interest rates', NBER Working Paper, 2363; revised in *J Fin*, 44, June 1989, repr. in H. Shefrin (ed.), *Behavioral Finance*, in *The International Library of Critical Writings in Financial Economics* series (ed. R. Roll), (Edward Elgar, 2000); 6. 'Consistent covariance matrix estimation with cross-sectional dependence and heteroskedasticity in cross-sectional financial data', NBER Tech. Working Paper, 62; revised in *JFQA*, 24, Sept. 1989; 7. 'Herd on the street: informational inefficiencies in a model with short-term speculation' (with D. Scharfstein, J. Stein), NBER Working Paper, 3250, Feb. 1990; revised in *J Fin*, 47, Sept. 1992; 8. 'Chartists, fundamentalists, and trading in the foreign exchange market' (with J. Frankel), *AER*, 80, May 1990, repr. in L. Sarno, M. Taylor (eds), *New Developments in Exchange Rate Economics* (Edward Elgar, 2001), and M. Taylor, L. Gallagher (eds), *Speculation and Financial Markets* (Edward Elgar, 2001); 9. 'Anomalies: foreign exchange' (with R. Thaler), *JEP*, 4, Summer 1990, repr. in L. Goldberg, M. Klein (eds), *Current Issues in the International Economy: A Reader* (Harper Collins, 1992), and M. Taylor, L. Gallagher (eds), *Speculation and Financial Markets* (Edward Elgar, 2001); 10. 'Intrinsic bubbles: the case of stock prices' (with M. Obstfeld), NBER Working Paper, 3091; revised in *AER*, 81, Dec. 1991, repr. in M. Taylor, L. Gallagher (eds), *Speculation and Financial Markets* (Edward Elgar, 2001); 11. 'Shareholder trading practices and corporate investment horizons' (with A. Perold, J. Stein), *Continental Bank J. Apl. Corp. Fin.*, 5, Summer 1992; 12. 'Risk management: coordinating corporate investment and financing decisions' (with D. Scharfstein, J. Stein), NBER Working Paper, 4084, Feb. 1993; revised in *J Fin*, 48, Dec. 1993, repr. in M.J. Brennan, *The Theory of Corporate Finance, The International Library of Critical Writings in Financial Economics* series (ed. R. Roll), (Edward Elgar, 1995), and M. Miller, C. Culp (eds), *Corporate Hedging in Theory and Practice: Lessons from Metallgesellschaft* (Risk Books, 1999); 13. 'A framework for risk management' (with D. Scharfstein, J. Stein), *Harvard Bus. Rev.*, 72, Sept.–Oct. 1994; revised from 'Developing a risk management strategy', Harvard Bus. Sch. Working Paper, 95021, repr. in *J. Apl. Corporate Fin.*, 7, Fall 1994, and *ViewPoint*, 24, Spring 1995, repr. in G. Brown, D. Chew (eds), *Corporate Risk: Strategies and Management* (Risk Books, 1999); 14. 'Perspectives on PPP and long-run real exchange rates' (with K. Rogoff), Harvard Bus. Sch. Working Paper, 95038, in *Handbook of International Economics* (Elsevier Sc., N-H, 1995); 15. 'Risk management, capital budgeting and capital structure policy for financial institutions: an integrated approach' (with J. Stein), *J Fin E*, 47, Jan. 1998; revised from NBER Working Paper, 5403; 16. 'A new approach to capital budgeting for financial institutions' (with J. Stein), *J. Apl. Corp. Fin.*, 11, Summer 1998; 17. 'How are stock prices affected by the location of trade?' (with E. Dabora), *J Fin E*, 53, 1999; 18. 'The portfolio flows of international investors' (with

P. O'Connell, M. Seasholes), NBER Working Paper, 6687; revised in *J Fin E*, 59, 2001; summarized in *NBER Reporter*, 2000; 19. 'The market for catastrophe risk: a clinical examination', NBER Working Paper, 8110, Feb. 2001; revised in *J Fin E*, 60, 2001.

Principal Contributions n.e.

FUDENBERG, Drew

Born 1957, New York, USA.

Current Post Prof., Harvard Univ., Cambridge, MA, USA, 1993–.

Past Posts Asst Prof., Assoc. Prof., Univ. California, Berkeley, 1981–85, 1985–87; Prof., MIT, 1987–93; Vis. Asst Prof., Stanford Grad. Sch. Bus., 1984; Vis. Assoc. Prof., MIT, 1985.

Degrees AB Harvard Univ., 1978; PhD MIT, 1981.

Offices and Honours Sloan Foundation Fell., 1984–85, Fell., Em Soc, 1987; Guggenheim Foundation Fell., 1990.

Editorial Duties Assoc. Ed., *JET*, 1984–96, *QJE*, 1984–89, *Em*, 1985–96, *Games and Econ. Behav.*, 1988–93; Ed., *Em*, 1996–; Foreign Ed., *REStud*, 1993–96.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D2 Production and Organizations; D8 Information and Uncertainty.

Publications *Books*: 1. *Dynamic Models of Oligopoly* (with J. Tirole), (Harwood Acad., 1986; trans., Italian by G. Martini as *Modelli Dinamici di Oligopolio*, ed. A. Giuffrè, Testi Scelti di Econ., 1994); 2. *Game Theory* (with J. Tirole), (MIT Press, 1991); 3. *The Theory of Learning and Evolution in Games* (with D. Levine), (MIT Press, 1998).

Articles: 1. 'Subgame-perfect equilibria of finite and infinite horizon games' (with D. Levine), *JET*, 31, 1983; 2. 'Preemption and rent equalization in the adoption of new technology' (with J. Tirole), *REStud*,

52, 1985; 3. 'The folk theorem for repeated games with discounting or with incomplete information' (with E. Maskin), *Em*, 54, 1986; 4. 'On the robustness of equilibrium refinements' (with D. Kreps, D. Levine), *JET*, 44, 1988; 5. 'Reputation and equilibrium selection in games with a single long-run player' (with D. Levine), *Em*, 57, 1989; 6. 'Evolution and cooperation in noisy repeated games' (with E. Maskin), *AER*, 80, 1990; 7. 'Commitment and cooperation in long-term relationships', in J.J. Laffont (ed.), *Advances in Economic Theory*, Sixth World Congress (CUP, 1993); 8. 'Self-confirming equilibrium' (with D. Levine), *Em*, 61, 1993; 9. 'The folk theorem in repeated games with imperfect public information' (with D. Levine, E. Maskin), *Em*, 62, 1994; 10. 'Learning in extensive games, I: self-confirming equilibria' (with D. Kreps), *Games and Econ. Behav.*, 8, 1995.

Principal Contributions Much of my early work focused on the application of game theory to problems in industrial organization, as reflected in the monograph *Dynamic Models of Oligopoly*. Since then I have focused on more abstract issues in game theory. In the mid to late 1980s I worked on the possibilities that repeated play offers for maintaining reputations and for allowing 'cooperative' equilibria; this and related work is summarized in my essay in the Laffont volume. Since then much of my work has been concerned with the learning-theoretic foundations of equilibrium in games and the related question of the role of learning in the diffusion of innovations.

FUHRER, Jeffrey C.

Born 1957, New Rochelle, NY, USA.

Current Posts Sr Vice Pres. and Dir. Res., FRB, Boston, MA, USA, 2002–.

Past Posts Sr Econ, Asst Vice Pres.

and Econ., Vice Pres. and Econ., Sr Vice Pres. and Monetary Pol. Advisor, FRB, Boston, 1992, 1993, 1995, 2001; Econ., Sr Econ., Fed. Reserve Board, Washington, DC, 1985–91, 1991–92.

Degrees BA (*scl*) Princeton Univ., 1979; MA, PhD Harvard Univ., 1984, 1985.

Honours Phi Beta Kappa, Princeton Univ., 1979; Allyn Young Teaching Prize, Harvard Univ., 1985.

Editorial Duties Ed. Bd, *AER*, 1998–.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; E3 Prices, Business Fluctuations, and Cycles; C5 Econometric Modeling.

Publications *Articles*: 1. ‘Monetary policy rules and the indicator properties of asset prices’ (with G. Moore), *JME*, 29, 1992; 2. ‘Learning about monetary regime shifts in an overlapping wage contract economy’ (with M. Hooker), *JEDC*, 17, 1993; 3. ‘Does consumer sentiment forecast household spending? If so, why?’ (with C. Carroll, D. Wilcox), *AER*, 84, Dec. 1994; 4. ‘A comparison of GMM and maximum-likelihood estimates of quadratic cost inventory models’ (with G. Moore, S. Schuh), *JME*, 35, Feb. 1995; 5. ‘Inflation persistence’ (with G. Moore), *QJE*, 110, Feb. 1995; 6. ‘Monetary policy trade-offs and the correlation between nominal interest rates and real output’ (with G. Moore), *AER*, 85, March 1995; 7. ‘Forward-looking behavior and the stability of a conventional monetary policy rule’ (with G. Moore), *JMCB*, 27, Nov. 1995; 8. ‘Monetary policy shifts and long-term interest rates’, *QJE*, 111, Nov. 1996; 9. ‘Inflation/output variance trade-offs and optimal monetary policy’, *JMCB*, 29, May 1997; 10. ‘The (un)importance of forward-looking behavior in price specifications’, *JMCB*, 29, Aug. 1997; 11. ‘Monetary policy when interest rates are bounded at zero’ (with B. Madigan), *REStat*, 79, Nov.

1997; 12. ‘Towards a compact, empirically-verified rational expectations model for monetary policy analysis’, *C-RPP*, 47, Dec. 1997; 13. ‘Habit formation in consumption and its implications for monetary policy models’, *AER*, 90, June 2000; 14. ‘Monetary policy in a low-inflation environment’ (with M. Sniderman), proceedings of a joint Federal Reserve System conference, *JMCB*, 32, Nov. 2000; 15. ‘Dynamic inconsistencies: counterfactual implications of a class of rational expectations models’ (with A. Estrella), *AER*, 92, June 2002; 16. ‘Monetary policy shifts and the stability of monetary policy models’ (with A. Estrella), *REStat*, 2002.

Principal Contributions The overarching focus of my work has been the desire to develop structural representations of the macroeconomy that are suitable for monetary policy analysis. I began this course in the late 1980s with George Moore (deceased), then at the Federal Reserve Board of Governors. We discovered what we viewed to be serious deficiencies in the prevailing models of price-setting that rendered them useless for monetary policy analysis. Since that time, my work has explored the interactions among inflation, output, and interest rates – the minimal set of variables required to describe the interaction between monetary policy and the macroeconomy. After a series of papers that explored the importance of inflation persistence in the data and its implications for structural models, I examined the relationship between monetary policy and interest rates, and monetary policy and consumption/investment decisions. Throughout, I have benefited from my earlier professional association with George Moore, who taught me a tremendous amount about the application of rigorous methods for solving and estimating dynamic rational expectations models.

FUJITA, Masahisa

Born 1943, Yamaguchi Prefecture, Japan.

Current Post Prof., Inst. Econ. Res., Kyoto Univ., Kyoto, Japan, 1995–.

Past Posts Asst Prof., Assoc. Prof., Prof., Regional Sc. Dept, Univ. Pennsylvania, 1976–81, 1981–86, 1986–94; Prof., Econ. Dept, Univ. Pennsylvania, 1994–95.

Degrees BS (Eng.) Kyoto Univ., 1966; PhD (Regional Sc.) Univ. Pennsylvania, 1972.

Offices and Honours First Erik Kempe Prize in Memory of Tord Palander, Univ. Umeå, 1983; Walter Isard Award in Regional Sc., North Amer. Regional Sc. Council, 1998; Pres., Apl. Regional Sc. Assoc. (Japan), 1999–2001; Nikkei Prize for Excellent Books in Econ. Sc., 2000; First Alonso Prize in Regional Sc., North Amer. Regional Sc. Council, 2001.

Principal Fields of Interest R1 General Regional Economics; O4 Economic Growth and Aggregate Productivity; F1 Trade.

Publications *Books*: 1. *Spatial Development Planning: A Dynamic Convex Programming Approach* (N-H, 1978); 2. *Urban Economic Theory* (CUP, 1989); 3. *The Spatial Economy: Cities, Regions, and International Trade* (with P. Krugman, A.J. Venables), (MIT Press, 1999; trans., Spanish, 2000, Japanese, 2000); 4. *Economics of Agglomeration* (with J.-F. Thisse), (CUP, 2002).

Articles: 1. 'A long-run economic effect analysis of alternative transportation facility plans: regional and national', *J Reg S*, 10, 1970; 2. 'Duality and maximum principle in multi-period convex programming', *J Math E*, 4, 1975; 3. 'Spatial patterns of urban growth: optimum and market', *JUE*, 3, 1976; 4. 'Equilibrium land use patterns in a nonmonocentric city' (with H. Ogawa), *J Reg S*, 20, 1980; 5.

'Multiple equilibria and structural transition of nonmonocentric urban configuration' (with H. Ogawa), *RSUE*, 12, 1982; 6. 'Optimal location of public facilities: area dominance approach', *RSUE*, 16, 1986; 7. 'Spatial competition with a land market: von Thunen and Hotelling unified' (with J.F. Thisse), *REStud*, 53, 1986; 8. 'Existence of continuous residential land-use equilibria' (with T. Smith), *RSUE*, 17, 1987; 9. 'A monopolistic competition model of spatial agglomeration: differentiated product approach', *RSUE*, 18, 1988; 10. 'Product variety, Marshallian externalities, and city size' (with H. Abdel-Rahman), *J Reg S*, 30, 1990; 11. 'On the foundations of land use theory: discrete versus continuous populations' (with Y. Asami, T. Smith), *RSUE*, 20, 1991; 12. 'A rational expectations equilibrium model of urban growth and land markets', *J. Real Estate Fin. and Econ.*, 4, 1991; 13. 'Alonso's discrete population model of land use: efficient allocations and competitive equilibria' (with M. Berliant), *IER*, 33, 1992; 14. 'When is the economy monocentric? Von Thunen and Chamberlin unified' (with P. Krugman), *RSUE*, 25, 1995; 15. 'Structural stability and evolution of urban systems' (with T. Mori), *RSUE*, 27, 1997; 16. 'On the evolution of hierarchical urban systems' (with P. Krugman, T. Mori), *Europ ER*, 43, 1999.

Principal Contributions Most of my work has related to the fields of spatial economics, including location theory, urban economics, regional development, international trade, economic geography and regional science. My first book examined the optimal growth in multi-regional and multi-sector economies, including the cases with increasing returns. My second book developed a unified theory of urban land use and city size by using the bid rent approach. My third book with Krugman and Venables represents the first synthesis of the so-called new economic

geography, showing how a common general equilibrium approach that emphasizes the three-way interaction among increasing returns, transportation costs, and the movement of productive factors can be applied to a wide range of issues in urban, regional and international economics. My fourth book with Thisse combines the traditional location theory, models of systems of cities, micro-foundations of urban structure, and monopolistic competition models from the new economic geography, and presents a unified theory of spatial economics involving the agglomeration of economic activities.

FULLERTON, Don

Born 1953, Stuttgart, Germany.

Current Post Addison Baker Duncan Centennial Prof. Econ., Univ. Texas, Austin, TX, USA, 1994–.

Past Posts Asst Prof. Econ. and Public Affairs, Princeton Univ., 1978–84; John Stauffer Natl Fell. Public Pol., Hoover Inst., Stanford Univ., 1983–84; Assoc. Prof., Prof. Econ., Univ. Virginia, 1984–88, 1988–94; Dep. Asst Secretary (Tax Analysis), US Treasury Dept, 1985–87; Olin Sr Fell., NBER, 1988–89; Vis. Prof., Prof. Econ. and Public Pol., H. John Heinz III Sch. Public Pol. and Mgmt, Carnegie-Mellon Univ., 1991–93, 1993–94.

Degrees BA (Distinction in all subjects) Cornell Univ., 1974; MA, PhD Univ. California, Berkeley, 1976, 1978.

Offices and Honours Phi Beta Kappa, Cornell Univ., 1974; First prize, Outstanding Doctoral Dissertation Award, NTA, 1979; Faculty Res. Fell., Res. Assoc., NBER, 1979–83, 1983–; Vis. Scholar, AEI, 1984–85; Meritorious Service Award, US Treasury Dept, 1987; Non-resident Sr Fell., Brookings Inst., 1987–97; Disting. Prof. Award, for outstanding teaching, Undergrad. Econ. Club, Univ. Virginia,

1988; Dir., AEA Summer Minority Program, 1995–2000.

Editorial Duties Ed. Advisory Bd, *NTJ*, 1984–98; Ed. Bd, *AER*, 1995–2001; Assoc. Ed., *JEEM*, 1997–99; Ed., *BE-Js EAP*, 2001–.

Principal Fields of Interest D0 Microeconomics: General; H2 Taxation, Subsidies, and Revenue; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *The Taxation of Income from Capital: A Comparative Study of the US, UK, Sweden and West Germany* (ed. with M.A. King), (UCP, 1984); 2. *A General Equilibrium Model for Tax Policy Evaluation* (ed. with C.L. Ballard, J.B. Shoven, J. Whalley), (UCP, 1985); 3. *Compendium of Tax Research 1987* (ed. with T. Neubig), (US Treasury Dept, 1987); 4. *Who Bears the Lifetime Tax Burden?* (with D.L. Rogers), (Brookings Inst., 1993); 5. *Footing the Bill for Superfund Cleanups: Who Pays and How?* (with K.N. Probst, R.E. Litan, P.R. Portney), (Brookings Inst. and Resources for the Future, 1995); 6. *The Economics of Household Garbage and Recycling Behavior* (ed. with T. Kinnaman), (Edward Elgar, 2002).

Articles: 1. ‘Corporate tax integration in the United States: a general equilibrium approach’ (with A.T. King, J.B. Shoven, J. Whalley), *AER*, 71, Sept. 1981; 2. ‘On the possibility of an inverse relationship between tax rates and government revenues’, *J Pub E*, 19, Oct. 1982; 3. ‘Transition losses of partially mobile industry-specific capital’, *QJE*, 98, Feb. 1983; 4. ‘Replacing the US income tax with a progressive consumption tax: a sequenced general equilibrium approach’ (with J.B. Shoven, J. Whalley), *J Pub E*, 20, Feb. 1983; 5. ‘A disaggregate equilibrium model of the tax distortions among assets, sectors, and industries’ (with Y.K. Henderson), *IER*, 30, May 1989; 6. ‘Rec-

onciling recent estimates of the marginal welfare cost of taxation', *AER*, 81, March 1991; 7. 'A general equilibrium model of housing, taxes, and portfolio choice' (with J. Berkovec), *JPE*, 100, April 1992; 8. 'Distortionary taxes and the provision of public goods' (with C.L. Ballard), *JEP*, 6, Summer 1992; 9. 'Garbage, recycling and illicit burning or dumping' (with T. Kinnaman), *JEEM*, 29, July 1995; 10. 'Household responses to pricing garbage by the bag' (with T. Kinnaman), *AER*, 86, Sept. 1996; 11. 'Environmental levies and distortionary taxation: comment', *AER*, 87, March 1997; 12. 'Garbage and recycling with endogenous local policy' (with T. Kinnaman), *JUE*, 48, Nov. 2000; 13. 'Environmental controls, scarcity rents, and pre-existing distortions' (with G. Metcalf), *J Pub E*, 80, May 2001; 14. 'Can taxes on cars and on gasoline mimic an unavailable tax on emissions?' (with S. West), *JEEM*, 43, Jan. 2002.

Principal Contributions In early work with Shoven and Whalley, a computable general equilibrium (CGE) model of the US tax system is used to evaluate efficiency and distributional effects of reforms such as integration of personal and corporate taxes or the switch to a consumption tax. I also use the model to find the peak of the Laffer curve and how that peak relates to assumptions about elasticities. With King, I calculate marginal effective tax rates, accounting for statutory rules, depreciation allowances, investment tax credits, and other policies. These cost-of-capital calculations are then incorporated into the CGE model and used for policy simulations. Later, with Diane Rogers, life-cycle decision making is used to calculate the lifetime incidence and distributional effects of each different US tax instrument. In environmental economics, Tom Kinnaman and I develop a theory of optimal pricing of garbage and recycling, and proceed to measure the elastic-

ity of demand for collection of garbage and curbside recycling. One paper uses a sample of households in one town before and after the implementation of a price per bag of garbage, while another paper uses a sample of cities with and without a price per bag. Other environmental work includes toxic waste cleanup costs, the sulfur dioxide compliance of regulated utilities, a theory of green design for less packaging and more recyclability, second-best pollution taxes that raise revenue while correcting externalities, and calculation of tax and subsidy rates on car characteristics and gasoline that best substitute for the ideal but unavailable Pigovian tax on car emissions. Finally, with Julia Coronado, I am working on the lifetime distributional effects of US Social Security taxes and benefits, accounting for the cap on the wage tax, the spousal and survivor provisions, income sharing within the household, and income-differentiated mortality.

FURSTENBERG, Frank F.

Born 1940, Baltimore, MD, USA.

Current Post Zellerbach Family Prof. Sociology, Univ. Pennsylvania, Philadelphia, PA, USA, 1967–.

Past Posts Instr., Dept Sociology, Columbia Univ., 1965; Res. Assoc., Sch. Social Work, Columbia Univ., 1966–67; Researcher, Public Opinion of Criminal Justice System, Natl Inst. Law Enforcement and Criminal Justice, 1969–70.

Degrees BA (Sociology) Haverford Coll., 1961; PhD (Sociology) Columbia Univ., 1967.

Offices and Honours Vis. Fell., Russell Sage Foundation, 1988–89, Center for Adv. Study in Behav. Sc., 1993–94, 1997–98, LSE, 1997, ANU, 1997; Mem., AAAS, 1994, Inst. Medicine, NAS, 1996; Fell., Amer. Acad. Polit. and Social Sc., 2001;

Section on Family Award for Disting. Scholarship, Amer. Sociological Assoc., 2001.

Editorial Duties Ed. Rev. Bd, *Contexts*, 2002–.

Principal Fields of Interest D1 Household Behavior; I2 Education, I3 Welfare and Poverty.

Publications *Books*: 1. *Unplanned Parenthood: The Social Consequences of Teenage Childbearing* (Free Press, 1976); 2. *Adolescent Mothers in Later Life* (with J. Brooks-Gunn, S.P. Morgan), (CUP, 1987); 3. *Divided Families: What Happens to Children when Parents Part* (with A.J. Cherlin), (HUP, 1991); 4. *Managing to Make It: Urban Families in High-Risk Neighborhoods* (with T. Cook, J. Eccles, G.H. Elder, Jr, A. Sameroff), (UCP, 1999); 5. *Looking at Lives: American Longitudinal Studies of the Twentieth Century* (ed. with E. Phelps, A. Colby), (Russell Sage Foundation, 2002).

Articles: 1. ‘Stepfamilies in the United States: a reconsideration’ (with A.J. Cherlin), *Annual Rev. Sociology*, 10, 1994; 2. ‘Social capital and successful development among at-risk youth’ (with M.E. Hughes), *J. Marriage and Family*, 57, 1995; 3. ‘The future of marriage’, *Amer. Demographics*, 18, June 1996; 4. ‘State-family alliances and children’s welfare: a research agenda’, *Childhood*, 4, 1997; 5. ‘Paternal involvement with adolescents in intact families: the influence of fathers over the life course’ (with K.M. Harris,

J.K. Marmer), *Demography*, 35, 1999; 6. ‘How much do we count? Interpretation and error-making in the 1990 census’ (with R.R. Iversen, A.A. Belzer), *Demography*, 36, 1999; 7. ‘Adolescent females: their sexual partners and fathers of their children’ (with I.T. Elo, R.B. King), *J. Marriage and Family*, 61, 1999; 8. ‘The modern family: a threat to children’s health?’, *Soc.*, 1, 1999; 9. ‘Intergenerational transmission of fathering roles in at-risk families’ (with C.C. Weiss), *Marriage and Family Rev.*, 29, 2000; 10. ‘The sociology of adolescence and youth in the 1990s’, *J. Marriage and Family*, 62, 2000; 11. ‘The family in the city’, *Urbana*, 5, 2000; 12. ‘Delayed parental divorce: how much do children benefit?’ (with K. Kiernan), *J. Marriage and Family*, 63, 2001; 13. ‘Life course reflections’, *Marriage and Family Rev.*, 32, 2001; 14. ‘Managing to make it: afterthoughts’, *J. Family Issues*, 22, 2001; 15. ‘Changes in adolescents’ interpersonal experiences: are they being prepared for adult relationships in the 21st century?’ (with R.W. Larson, S. Wilson, B.B. Brown, S. Verma), *J. Res. Adolescents*, 12, 2002.

Principal Contributions My work has primarily concerned the welfare of children and families. My work on teenage childbearing examines the consequences of early parenting over the life course of young mothers and their children. My book on the impact of neighborhoods and family strategies examines how local contexts influence family decision making.

G

GAFNI, Amiran n.e.

GALE, Douglas Maxwell

Born 1950, Ottawa, Canada.

Current Post Prof. Econ., NYU, New York City, NY, USA, 1996–.

Past Posts Jr Res. Fell., Churchill Coll., Cambridge, 1975–78; Lect. Econ., Reader Econ., Prof. Econ., LSE, 1978–81, 1981–85, 1985–86; Vis. Econ., Univ. Pennsylvania, 1984–85, 1994; Assoc. Prof. Econ., Prof. Econ., Univ. Pennsylvania, 1985–87, 1987–88; Prof. Econ., Univ. Pittsburgh, 1986–90; Vis. Prof. Econ., MIT, 1989–90; Prof. Econ., Boston Univ., 1990–96.

Degrees BSc Univ. Trent, 1970; MA Carleton Univ., 1972; PhD Univ. Cambridge, 1975.

Offices and Honours Res. Fell., CEPR, 1984–87; Mem., NBER Working Group, Fin. Markets and Econ. Fluctuations 1986–88; Fell., Em Soc, 1987; Mem., Econ. Advisory Panel, NSF, 1991–92; Chairman, Program Comm., N. Amer. Summer Meetings, Em Soc (Boston Univ., June 1993), 1992–93; Disting. Vis., Fin. Markets Group, LSE, 1992–95; Churchill Lect., Econ. Theory, 1997; Salomon Brothers, Smith Barney Prize (for ‘Optimal Fin. Crises’), Amer. Social Sc. Assoc. Meetings, Chicago, 1998; Sr Fell., Wharton Fin. Insts Center, 1998–.

Editorial Duties Ed. Bd, Asst Ed., *REStud*, 1979–88, 1980–83; Assoc. Ed., *JET*, 1986–92, 1997–2001, *J Math E*, 1988–92, *Em*, 1990–92, *ET*, 1992–95, *Ricerche Econ.*, 1997–; Co-Ed., *ET*, 1990–92, 1996–97, *Em*, 1992–96; Advisory Ed., *Macroecon. Dynamics*, 1997–.

Principal Fields of Interest D5 General Equilibrium and Disequilibrium; G0

Financial Economics: General; C7 Game Theory and Bargaining Theory.

Publications Books: 1. *Money in Equilibrium* (CUP, 1982); 2. *Money in Disequilibrium* (CUP, 1983); 3. *Economic Analysis of Markets and Games: Essays in Honor of Frank Hahn* (with P. Dasgupta, O. Hart, E. Maskin), (MIT Press, 1992); 4. *Financial Innovation and Risk Sharing* (with F. Allen), (MIT Press, 1994); 5. *Comparing Financial Systems* (with F. Allen), (MIT Press, 2000); 6. *Strategic Foundations of General Equilibrium: Dynamic Matching and Bargaining Games* (CUP, 2000).

Articles: 1. ‘The core of monetary economy without trust’, *JET*, 21, Dec. 1978; 2. ‘Money, information and equilibrium’, *JET*, 23, 1980; 3. ‘Incentive-compatible debt contracts’ (with M. Hellwig), *REStud*, 52, 1985; 4. ‘Bargaining and competition’, *Em*, 54, 1986; 5. ‘Optimal security design’ (with F. Allen), *Rev. Fin. Stud.*, 1, 1988; 6. ‘Dynamic coordination games’, *ET*, 5, 1995; 7. ‘Optimal financial crises’ (with F. Allen), *J Fin*, 53, 1998; 8. ‘Experimentation, imitation, and strategic stability’ (with R. Rosenthal), *JET*, 84, 1999; 9. ‘Financial contagion’ (with F. Allen), *JPE*, 108, 2000; 10. ‘Optimal currency crises’ (with F. Allen), *C-RPP*, 53, 2000; 11. ‘Monotone games’, *Games and Econ. Behav.*, 37, 2001.

Principal Contributions Cooperative and non-cooperative game-theoretic foundations of monetary equilibrium; the budget constraint of the firm as an optimal debt contract and developed implications for investment behavior; equivalence between competitive equilibria and subgame perfect equilibria of dynamic matching and bargaining games; models of general equilibrium with incomplete information; optimal design of securities in general equilibrium; dynamic coordination games; models of social learning; model of liquidity preference and asset

price volatility; comparative study of financial systems; financial crises and contagion; monotone games; money and asset prices; complexity and competitive equilibrium.

GALE, William G.

Born 1959, Alexandria, VA, USA.

Current Posts Sr Fell., and Arjay and Frances Fearing Miller Chair in Fed. Econ. Pol., Brookings Inst., Washington, DC, USA, 2001–; Dep. Dir., Econ. Stud. Program, Brookings Inst., Washington, DC, USA, 2002–; Co-Dir., Urban-Brookings Tax Pol. Center, Washington, DC, USA, 1995–2002–.

Past Posts Asst Prof., Dept Econ., UCLA, 1987–91; Sr Staff Econ., US President's Council Econ. Advisers, 1991–92; Res. Assoc. and Joseph A. Pechman Fell., Brookings Inst., 1992–94; Sr Fell. and Joseph A. Pechman Fell., Brookings Inst., 1995–2001.

Degrees AB Duke Univ., 1981; PhD Stanford Univ., 1987.

Editorial Duties Co-Ed., Brookings-Wharton Papers on Urban Affairs, 2000–.

Principal Fields of Interest H0 Public Economics: General; E2 Consumption, Saving, Production, Employment, and Investment.

Publications Books: 1. *Economic Effects of Fundamental Tax Reform* (ed. with H. Aaron), (Brookings, 1996); 2. *Rethinking Estate and Gift Taxation* (ed. with J. Hines, J. Slemrod), (Brookings, 2001).

Articles: 1. 'Federal lending and the market for credit', *J Pub E*, 42, July 1990; 2. 'Economic effects of federal credit programs', *AER*, 81, March 1991; 3. 'Do savings incentives work?' (with E. Engen, J.K. Scholz), *BPEA*, 1994; 4. 'Intergenerational transfers and the accumulation of wealth' (with J.K. Scholz), *JEP*, 8, Fall 1994; 5. 'IRAs and household sav-

ing' (with J.K. Scholz), *AER*, 84, Dec. 1994; 6. 'Distributional effects of fundamental tax reform' (with S. Houser, J.K. Scholz), in H. Aaron, W. Gale (eds), *Economic Effects of Fundamental Tax Reform* (Brookings, 1996); 7. 'The illusory effects of savings incentives on saving' (with E. Engen, J.K. Scholz), *JEP*, 10, Fall 1996; 8. 'Consumption taxes and saving: the role of uncertainty in tax reform' (with E. Engen), *AER*, 87, May 1997; 9. 'The effects of pensions on household wealth: a reevaluation of theory and evidence', *JPE*, 106, Aug. 1998; 10. 'Perspectives on the household saving rate' (with J. Sabelhaus), *BPEA*, 1999; 11. 'The required tax rate in a national retail sales tax', *NTJ*, 52, Sept. 1999; 12. 'The adequacy of household saving' (with E. Engen, C. Uccello), *BPEA*, 1999; 13. 'Perspectives on the budget surplus' (with A. Auerbach), *NTJ*, 53, Sept. 2000; 14. 'Does the estate tax reduce saving?' (with M. Perozek), in W. Gale, J. Hines, J. Slemrod (eds), *Rethinking Estate and Gift Taxation* (Brookings, 2001); 15. 'Rethinking estate and gift taxation: overview' (with J. Slemrod), in W. Gale, J. Hines, J. Slemrod (eds), *Rethinking Estate and Gift Taxation* (Brookings, 2001); 16. 'The role of administrative factors in tax reform: simplicity, compliance, and administration' (with J. Holtzblatt), in G. Zodrow, P. Mieszkowski (eds), *United States Tax Reform in the Twenty-First Century* (CUP, 2002); 17. 'An economic evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2002' (with S. Potter), *NTJ*, 55, March 2002; 18. 'The individual alternative minimum tax: problems and partial solutions' (with L. Burman, J. Rohaly, B. Harris), *NTJ*, 55, Sept. 2002.

Principal Contributions My current research focusses on taxation, budget and fiscal issues, and pensions and saving behavior. My tax research has focussed on fundamental tax reform, the estate tax,

tax simplification, tax-deferred saving plans and the effects of aggregate tax cuts. My work on budget and fiscal issues has examined ways to improve the measurement of the federal government's fiscal status and the implications of those adjustments for fiscal policy. My studies of private saving behavior and pensions have examined the extent to which contributions to pensions and other tax-deferred saving plans represent an increase in net national saving, the adequacy of personal saving for retirement, the measurement and interpretation of aggregate saving measures, and the role of intergenerational transfers in aggregate capital accumulation. Earlier in my career, I also researched the effects of federal credit subsidies.

GALI, Jordi n.e.

GALLANT, A. Ronald

Born 1942, San Diego, CA, USA.

Current Posts Henry A. Latane Disting. Prof. Econ. and Adjunct Prof. Stats, Univ. North Carolina, Chapel Hill, NC, USA, 1993–; Res. Prof. Econ., Duke Univ., Durham, NC, USA, 1983–.

Past Posts Asst Prof., Assoc. Prof., Prof., Drexel Prof. Stats and Econ., North Carolina State Univ., 1971–93; Vis. Positions, Univ. Chicago, 1977–78, 1987–88, Duke Univ., 1979–80, Northwestern Univ., 1982–83.

Degrees AB (Maths) San Diego State Univ., 1965, MBA (Marketing) UCLA, 1967; PhD (Stats) Iowa State Univ., 1971.

Offices and Honours Fell., ASA, 1983, Em Soc, 1985; Bd Dirs, ASA, 1987–88, NBER, 1990–; Bd Trustees, Natl Inst. Stat. Sc., 1991–97.

Editorial Duties Ed., *JBES*, 1986–89; Co-Ed., *J Em*, 1991–.

Principal Fields of Interest C1 Econo-

metric and Statistical Methods: General; C5 Econometric Modeling; G0 Financial Economics: General.

Publications Articles: 1. 'Fitting segmented polynomial regression models whose join points have to be estimated' (with W.A. Fuller), *JASA*, 68, 1973; 2. 'Statistical inference in an implicit nonlinear, simultaneous equation model in the context of maximum likelihood estimation' (with A. Holly), *Em*, 48, 1980; 3. 'On the bias in flexible functional forms and an essentially unbiased form: the Fourier flexible form', *J Em*, 15, 1981; 4. 'On unification of the asymptotic theory of nonlinear econometric models' (with J.F. Burguete, G. Souza), *Em. Rev.*, 1, 1982; 5. 'An elasticity can be estimated consistently without a prior knowledge of functional form' (with I. Elbadawi, G. Souza), *Em*, 51, 1983; 6. 'Semi-nonparametric maximum likelihood estimation' (with D.W. Nychka), *Em*, 55, 1987; 7. 'Seminonparametric estimation of conditionally constrained heterogeneous processes: asset pricing applications' (with G. Tauchen), *Em*, 57, 1989; 8. 'Using conditional moments of asset payoffs to infer the volatility of intertemporal marginal rates of substitution' (with L.P. Hansen, G.E. Tauchen), *J Em*, 45, 1990; 9. 'On learning the derivatives of an unknown mapping with multilayer feedforward networks' (with H.L. White, Jr), *Neural Networks*, 5, 1992; 10. 'Stock prices and volume' (with P.E. Rossi, G.E. Tauchen), *Rev. Fin. Stud.*, 5, 1992; 11. 'Finding chaos in noisy systems' (with D.W. Nychka, S.P. Ellner, D.F. McCaffrey), *JASA*, 54, 1992; 12. 'The nonlinear mixed effects model with a smooth random effects density' (with M. Davidian), *Biometrika*, 80, 1993; 13. 'Nonlinear dynamic structures' (with P.E. Rossi, G.E. Tauchen), *Em*, 61, 1993; 14. 'Convergence rates for single hidden layer feedforward networks' (with D.F. McCaffrey), *Neural Networks*, 7, 1994;

15. 'Which moments to match?' (with G. Tauchen), *ET*, 12, 1996; 16. 'Estimating stochastic differential equations efficiently by minimum chi-squared' (with J.R. Long), *Biometrika*, 84, 1997; 17. 'Re-projecting partially observed systems with application to interest rate diffusions' (with G. Tauchen), *JASA*, 93, 1998; 18. 'Using daily range data to calibrate volatility diffusions and extract the forward integrated variance' (with C.T. Hsu, G. Tauchen), *REStat*, 81, 1999; 19. 'Quadratic term structure models: theory and evidence' (with D.-H. Ahn, R.F. Dittmar), *Rev. Fin. Stud.*, 15, 2002; 20. 'Numerical techniques for maximum likelihood estimation of continuous-time diffusion processes' (with G.B. Durham), *JBES*, 20, 2002.

Principal Contributions I am interested in fitting models from the sciences to data for the purpose of statistical inference. Typically these models will involve a nonlinear parametric component that describes features of the model where the underlying scientific theory is explicit and a nonparametric component that accounts for features where the scientific theory is vague. Appropriate statistical methods for these problems are usually computationally intensive. Methodological interests are in developing statistical methods and numerical algorithms for fitting these models. Theoretical interests are in deriving the statistical properties of proposed methods, particularly the asymptotic properties of estimators of functionals of the nonparametric component. Applied interests are primarily within economics and finance.

GALOR, Oded

Born year of birth not known, Jerusalem, Israel.

Current Posts Prof. Econ., Brown

Univ., Providence, RI, USA, 1990–; Chilewicz Prof. Econ., Hebrew Univ., Jerusalem, Israel, 1996–; Dir., Minerva Centre for Macroecon. and Growth, 1999–; Core Faculty, Pop. and Training Center, Brown Univ., 2000–.

Past Posts Asst Prof., Assoc. Prof., Brown Univ., 1984–85, 1986–90; Res. Assoc., Center for Pop. Stud., Harvard Univ., 1987–89; Vis. Prof., Hebrew Univ., Jerusalem, 1987–88, 1995, CORE, Univ. Catholique de Louvain, 1994, Univ. Copenhagen, 1997, Univ. Autonoma de Barcelona, 1998; Vis. Fell., Intl Inst. Econ. Stud., Stockholm Univ., 1999.

Degrees BA, MA Hebrew Univ., 1978, 1980; PhD Columbia Univ., 1984.

Offices and Honours Res. Fell., CEPR, 1995–; Co-Dir., NBER Res. Group on Income Distribution and Macroecon., 1995–; Res. Assoc., Center for Japan–US Bus. and Econ. Stud., NYU, 1996–. Bd Dirs, Falk Inst. Econ. Res., 2000–; Sr Res. Fell., AcademicLine, 2001–.

Editorial Duties Ed., *JEG*, 1995–; Ed. Council, *Rev. Intl Econ.*, 1995–99; Ed. Bds, *Rev. Devlp. Econ.*, 1996–99, *Econ. and Human Biology*, 2002–, *J. Econ. Equality*, 2003–; Advisory Bd, *J. Econ. Res.*, 1997–; Assoc. Ed., *Macroecon. Dynamics*, 2000–.

Principal Fields of Interest Economic Development, Technological Change, and Growth; General; J1 Demographic Economics.

Publications *Articles*: 1. 'Time preference and international labor migration', *JET*, 38, Feb. 1986; 2. 'Intertemporal equilibrium and the transfer paradox' (with H. Polemarchakis), *REStud*, 54, Jan. 1987; 3. 'Existence, uniqueness and stability of equilibrium in an overlapping-generations model with productive capital' (with H.E. Ryder), *JET*, 49, Dec. 1989; 4. 'A theory of career mobility' (with N. Sicherman), *JPE*, 98, Feb. 1990; 5. 'A two-sector overlapping-generations model', *Em*, 60, Nov.

1992; 6. 'Income distribution and macroeconomics' (with J. Zeira), *REStud*, 60, Jan. 1993; 7. 'The gender gap, fertility, and growth' (with D. Weil), *AER*, 86, June 1996; 8. 'Convergence? Inferences from theoretical models', *EJ*, 106, July 1996; 9. 'Technological progress, mobility, and economic growth' (with D. Tsiddon), *AER*, 87, June 1997; 10. 'From Malthusian stagnation to modern growth' (with D. Weil), *AER*, 89, May 1999; 11. 'Ability-biased technological change, wage inequality and economic growth' (with O. Moav), *QJE*, 115, May 2000; 12. 'Population, technology, and growth: from the Malthusian regime to the demographic transition and beyond' (with D. Weil), *AER*, 90, Sept. 2000; 13. 'Natural selection and the origin of economic growth' (with O. Moav), *QJE*, 117, Nov. 2002.

Principal Contributions My most significant contributions to economics have been in the fields of: income distribution and macroeconomics, the transition from stagnation to growth, and evolution and growth. In addition I have contributed to population economics, and the study of migration, technology and wage inequality, and poverty traps. *Income Distribution and Growth*: The traditional viewpoint about the relationship between income distribution and economic growth suggests that income distribution has no significant effect on macroeconomic activities and economic growth. I challenged the traditional viewpoint and argued that in the presence of credit markets imperfections and non-convexities in the production of human capital, income distribution plays an important role in the determination of aggregate economic activity and economic growth. *From Stagnation to Growth*: The understanding of the long transition from Malthusian stagnation to sustained economic growth is currently viewed as one of the most significant research challenges facing econo-

mists interested in growth and development. The inconsistency of exogenous as well endogenous growth models with the evolution of economies throughout most human history has led me recently to the development of unified endogenous growth models in which the evolution of population, technology, and output growth is consistent with the process of development in the last millennia. I propose a theory that generates an endogenous take-off from a Malthusian regime, through a Post-Malthusian regime, to a demographic transition and a sustained growth regime. *Evolution and Growth*: This research develops an evolutionary growth theory concerning the interplay between the evolution of mankind and economic growth since the emergence of the human species. The theory suggests that the struggle for survival that had characterized most of human existence generated an evolutionary advantage to human traits that were complementary to the growth process, triggering the take-off from an epoch of stagnation to sustained economic growth.

GALSTER, George Charles

Born 1948, Toledo, OH, USA.

Current Post Clarence Hilberry Prof. Urban Affairs, Coll. Urban, Labor and Metropolitan Affairs, Wayne State Univ., Detroit, MI, USA, 1996–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Coll. Wooster, 1974–80, 1980–86, 1986–94; Vis. Scholar, Harvard Univ., 1981–82, Univ. California, Berkeley, 1986–87; Principal Res. Assoc. and Dir. Housing Res., Urban Inst., 1992–96; Dir. Europ. Urban Term, Great Lakes Colls Assoc., 1993, 1977; Vis. Prof. Planning, Univ. North Carolina, Chapel Hill, 1994–95.

Degrees BA Wittenberg Univ., 1970;

BS (Org. Sc.) Case Western Reserve Univ., 1971; PhD MIT, 1974.

Offices and Honours Consumer Advisory Council, Bd Governors, Fed. Reserve System, 1990–92; Governing Bd, Urban Affairs Assoc., 1993–99; Advisory Bd, Fair Housing Legal Support Center, John Marshall Law Sch., 1993–96; Bd Dirs, Inst. Race and Poverty, Univ. Minnesota, 1995–; Advisory Panel on Intergroup Relations, Leadership Conf. Educ. Fund, 1995–96; Floyd McKissick Disting. Scholar, Univ. North Carolina, Chapel Hill, 1998; Fell., Homer Hoyt Inst. Adv. Real Estate Stud., 1998; Best Analytical Paper Award (with P. Tatian), Assoc. Collegiate Schs Planning Conf., 1998; Best Paper Award (with R. Quercia), Assoc. Collegiate Schools Planning Conf., 1999; Intl Assoc., ESRC Centre for Neighbourhood Res., 2001–.

Editorial Duties Ed. Bds, *Urban Affairs Q.*, 1989–92, *J. Urban Affairs*, 1989–99, *Social Indicators Res.*, 1991–, *Housing Stud.*, 1995–, *Urb Stud*, 1996–, *J. Housing Res.*, 1997–, *Housing Pol. Debate*, 1997–, *J. Amer. Planning Assoc.*, 2000–; Sage *Cities and Planning* series, 1996–, Wayne State Univ. Press, 1997–2000.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; R2 Household Analysis; J7 Discrimination.

Publications *Books*: 1. *Homeowners and Neighborhood Reinvestment* (Duke Univ. Press, 1987); 2. *The Dynamics of Neighborhood Change and Decline* (with W. Grigsby, D. Maclennan, M. Baratz), (Pergamon, 1987); 3. *The Maze of Urban Housing Markets: Theory, Evidence and Policy* (with J. Rothenberg, R. Butler, J. Pitkin), (UCP, 1991); 4. *The Metropolis in Black and White: Place, Power and Polarization* (ed. with E. Hill), (Rutgers Univ./Center for Urban Pol. Res. Press, 1992); 5. *Reality and Research: Social*

Science and US Urban Policy Since 1960 (ed.), (Urban Inst. Press, 1996); 6. *An Econometric Model of the Urban Opportunity Structure* (Fannie Mae Foundation, 1998); 7. *Testing for Discrimination in Home Insurance* (with D. Wissoker, W. Zimmermann), (Urban Inst. Press, 1998).

Articles: 1. 'A bid-rent analysis of housing market discrimination', *AER*, 67, March 1977; 2. 'Black and white preferences for neighborhood racial composition', *Amer. Real Estate and Urban Econ. J.*, 10, Spring 1982; 3. 'What is neighborhood? An externality space approach', *Intl J. Urban and Regional Res.*, 10, June 1986; 4. 'Residential segregation and interracial economic disparities: a simultaneous equations approach', *JUE*, 21, Jan. 1987; 5. 'Race, residence, discrimination, and economic opportunity' (with M. Keeney), *Urban Affairs Q.*, 24, Sept. 1988; 6. 'Neighborhood racial change, segregationist sentiments, and affirmative marketing policies', *JUE*, 10, May 1990; 7. 'Housing discrimination and poverty of urban African-Americans', *J. Housing Res.*, 2, Fall 1991; 8. 'The geography of metropolitan opportunity: a reconnaissance and conceptual framework' (with S. Killen), *Housing Pol. Debate*, 6, 1995; 9. 'Will dispersed housing programs reduce social costs in the US?' (with A. Zobel), *Housing Stud.*, 13, Sept. 1998; 10. 'The impact of neighbors who use section 8 certificates on property values' (with R. Smith, P. Tatian), *Housing Pol. Debate*, 10, 1999; 11. 'Assessing the property value impacts of the dispersed subsidized housing program in Denver' (with A. Santiago, P. Tatian), *J. Pol. Analysis and Mgmt*, 20, Winter 2001; 12. 'On the nature of neighborhood', *Urb Stud*, 38, Nov. 2001; 13. 'Wrestling sprawl to the ground' (with R. Hanson, M. Ratcliffe, H. Wolman, S. Coleman, J. Freihage), *Housing Pol. Debate*, 12, 2001.

Principal Contributions My work

focusses on urban housing markets, especially their structure, class and racial dimensions, neighborhood dynamics, and welfare implications. It is characterized by multi-disciplinary perspectives and an eye for policy applicability. With J. Rothenberg I developed a submarket model of metropolitan housing markets and showed how it could explain housing problems and neighborhood dynamics, and inform policy interventions. Other major strands of my housing-related work: (1) developed and tested a model of how neighborhood social interactions affect the maintenance behavior of homeowners; (2) explored theoretically and empirically the nature, causes, dynamics and consequences of neighborhood change; (3) created the concept of 'urban opportunity structure' to understand behavioral impacts and welfare implications of intrametropolitan variations in neighborhood; and (4) evaluated the efficiency and equity of a variety of housing policies, including home repair subsidies, public housing desegregation, first-time homeownership assistance, tenant rental subsidies, neighborhood racial integration maintenance and scattered-site public housing. A second ongoing theme in my work relates to racial-ethnic discrimination, segregation and interracial economic disparities. My work was the first to model these phenomena as part of a simultaneous-equation system whose parameters could be estimated. Other research investigated discrimination in housing, mortgage, and home insurance markets using a variety of different techniques, including paired testing. More recently, I have been engaged in an ongoing study to measure the dimensions of metropolitan sprawl and relate these to various economic and social outcomes.

GARFINKEL, Irwin

Born 1943, Pittsburgh, PA, USA.

Current Post Mitchell I. Ginsberg Prof. Contemporary Urban Problems, Sch. Social Work, Columbia Univ., New York City, NY, USA, 1990–.

Past Posts Prof. Social Work and Inst. Res. on Poverty, Univ. Wisconsin, 1970–90; Res. Cons., Pol. Res. Div., Office of Econ. Opportunity, 1971–72; Dir., Inst. Res. on Poverty, 1975–80; Vis. Econ., Office of Asst Secretary for Planning and Evaluation, US Dept of Health and Human Services, Washington, DC, 1980–81; Res. Fell., Russell Sage Foundation, 1989, Centre for Res. Social Exclusion, LSE, 1998, Center Adv. Study in Behav. Sc., 2001–02; John L. Weinberg/Goldman Sachs Vis. Prof., Woodrow Wilson Sch. Public and Intl Affairs, Princeton Univ., 1993.

Degrees BA (Hist.) Univ. Pittsburgh, 1965; MA (Social Work) Univ. Chicago, 1967; PhD (Social Work and Econ.) Univ. Michigan, 1970.

Principal Fields of Interest I0 Health, Education, and Welfare: General; I3 Welfare and Poverty; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Estimating Labor Supply Effects of Income Maintenance Alternatives* (with S. Masters), (Acad. Press, 1978); 2. *Earnings Capacity, Poverty, and Inequality* (with R. Haveman), (Acad. Press, 1978); 3. *Income Tested Transfer Programs: The Case For and Against* (Acad. Press, 1982); 4. *Single Mothers and Their Children: A New American Dilemma?* (with S. McLanahan), (Urban Inst. Press, 1986); 5. *Assuring Child Support* (Russell Sage Foundation, 1992); 6. *Social Policies for Children* (with J. Hochschild, S. McLanahan), (Brookings Inst., 1996); 7. *Fathers Under Fire* (with S. McLanahan, D. Meyer, J. Seltzer), (Russell Sage Foundation, 1998).

Articles: 1. 'Equal access, minimum provision and efficiency in financing medical care', *JHR*, 7, Spring 1972; 2. 'Is in-kind redistribution efficient?', *QJE*, 87, May 1973; 3. 'A skeptical comment on the optimality of wage subsidy programs', *AER*, 63, June 1973; 4. 'The effects of welfare on experimental response', *JHR*, 9, Fall 1974; 5. 'Earnings capacity and its utilization' (with R. Haveman), *QJE*, 92, Aug. 1978; 6. 'Professor Friedman meet Lady Rhys-Williams: NIT vs. CIT' (with J. Kesselman), *J Pub E*, 10, Oct. 1978; 7. 'The quality of education and cohort variation in black-white earnings differentials', *AER*, 70, March 1980; 8. 'Budget size effects on the optimal linear income tax' (with K. Moreland, E. Sadke), *SEJ*, 53, July 1986; 9. 'The Wisconsin child support assurance system: estimated effects on participants' (with P. Robins, P. Wong, D. Meyer), *JHR*, 24, Dec. 1989; 10. 'The child support revolution', *AER*, 84, May 1994; 11. 'The impact of percentage-expressed child support orders on payments over time' (with J. Bartfeld), *JHR*, 31, Fall 1996; 12. 'Child support: can fathers afford to pay more?' (with C. Miller, S. McLanahan), *RIW*, 43, Sept. 1997; 13. 'Assortative mating among unmarried parents: implications for child support enforcement' (with D. Gleib, S. McLanahan), *J. Pop. Econ.*, 15, Fall 2002.

Principal Contributions Nearly all of my work involves estimating the benefits and costs of social welfare policies. My most important general work involves investigations of the efficiency and social effects of income testing benefits. Much of my research has focussed on single mothers and their children. Twenty years ago, my research on income testing and single mothers and their children led me to develop a proposal for a new child support assurance system (CSAS). CSAS was designed to aid single mothers outside the welfare system. I have been conducting

research on the old and newly emerging child support assurance systems ever since. The CSAS proposal helped shape Wisconsin's pioneering child support reforms, which in turn helped shape the Child Support Act of 1984, the Family Support Act of 1988 and the Personal Responsibility and Work Opportunity Act of 1996. I am currently the co-principal investigator (with Sara McLanahan) of the Fragile Families and Child Well-Being Study, a longitudinal survey of 4700 (mostly) unwed parents and their children.

GARRETT, Geoffrey n.e.

GEANAKOPOLOS, John n.e.

GELFAND, Alan E. n.e.

GEORGE, Edward I. n.e.

GERONIMUS, Arline T. n.e.

GEROSKI, Paul Andrew

Born 1952, New Rochelle, NY, USA.

Current Post Dep. Chairman, Competition Commission, London, UK, 2000–; Prof. Econ., London Bus. Sch., London, UK, 1991–.

Past Posts Lect., Sr. Lect., Univ. Southampton, 1977–87, 1987–89; Assoc. Prof., London Bus. Sch., 1989–91.

Degrees BA Bard Coll., NY, 1974; MA, PhD Univ. Warwick, 1975, 1978.

Offices and Honours Joint Co-ordinator, Ind. Econ. Study Group, 1984–93; Chairman, Programme Comm., RES meetings, 1995; Pres., EARIE, 1995–97; Res. Fell., CEPR, 1995–97; Non-Exec.

Dir., Greater London Enterprises, 1990–92, Graseby plc, 1995–97; Dean, MBA Programme, London Bus. Sch., 1995–98; Council Mem., RES, 1996–; Commissioner, Monopolies and Mergers Commission, 1998–.

Editorial Duties Assoc. Ed., Joint Managing Ed., *Intl J. Ind. Econ.*, 1982–95; Ed., Joint Managing Ed., *Bus. Strategy Rev.*, 1990–94; Ed. Bds, *Econ. Innovation and New Tech.* 1988–, *Europ ER*, 1991–97, *IJEB*, 1992–, *Empirica*, 1993–, *New Econ.*, 1993–98, *Econ. Pol.*, 1995–96.

Principal Fields of Interest L0 Industrial Organization: General; M0 Business Administration and Business Economics; Marketing; Accounting: General.

Publications *Books*: 1. *Market Dynamics and Entry* (Blackwell, 1991); 2. *Market Structure, Corporate Performance and Innovative Activity* (OUP, 1994); 3. *Coping with Recession* (with P. Gregg), (CUP, 1998); 4. *In the Beginning: The Early Evolution of Markets* (OUP, forthcoming 2003).

Articles: numerous journal publications.

Principal Contributions Applied industrial organization, and, in particular, empirical studies of the causes and the consequences of entry, the determinants of innovation, the effects of market structure on price dynamics, the effect of innovation on productivity growth, the relationship between corporate performance (profits, growth, productivity growth, stock market evaluation) and innovation, and the effects of recessions on corporate performance.

GERTLER, Mark n.e.

GERTLER, Paul J. n.e.

GERTNER, Robert H. n.e.

GHYSELS, Eric

Born 1956, Brussels, Belgium.

Current Posts Bernstein Disting. Prof. Econ., Univ. North Carolina, Chapel Hill, NC, USA, 2000–; Prof. Fin., Kenan-Flagler Sch. Bus., Univ. North Carolina, Chapel Hill, NC, USA, 2000–; Fell., CIRANO, Montreal, Canada, 1994–.

Past Posts Assoc. Prof. Econ., Univ. Montreal, 1985–96; Prof. Econ., Pennsylvania State Univ., 1996–2000.

Degrees BA Univ. Brussels, 1979; MA Northwestern Univ., 1982; PhD Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1985.

Offices and Honours Fulbright Fell., Hoover Foundation (Belgium–Amer. Educ. Foundation), 1980; ASA/NSF/Census Fell., 1985; Chair, Bus. and Econ. Stats Section, ASA, 1999; Western Fin. Assoc. Award, 1999; Fell., *J Em*, 2001, ASA, 2001.

Editorial Duties Assoc. Ed., *REStat*, 1996–, *JASA*, 1997–2000, *J. Empirical Fin.*, 1999–, *J Fin E*, 2001–; Ed., *JBES*, 2001–03.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; G1 General Financial Markets.

Publications *Book*: 1. *The Econometric Analysis of Seasonal Time Series* (with D. Osborn), (CUP, 2001).

Articles: 1. ‘A study towards a dynamic theory of seasonality for economic time series’, *JASA*, 83, March 1988; 2. ‘A test for structural stability of Euler conditions parameters estimated via the generalized method of moments estimator’ (with A. Hall), *IER*, 31, 1990; 3. ‘The effect of seasonal adjustment filters on tests for a unit root’ (with P. Perron), *J Em*, 55, 1993; 4. ‘On the economics and econometrics of seasonality’, invited paper, 1990 World Congress, Em Soc, Aug. 1990, in C.A. Sims (ed.), *Advances in Econometrics*, Vol. I (CUP, 1994); 5. ‘Changes in sea-

sonal patterns: are they cyclical?' (with F. Canova), *JEDC*, 18, 1994; 6. 'Testing for unit roots in seasonal time-series – some theoretical extensions and a Monte-Carlo investigation' (with H.S. Lee, J. Noh), *J Em*, 62, 1994; 7. 'Stochastic volatility' (with A. Harvey, E. Renault), in G.S. Maddala, C.R. Rao (eds), *Handbook of Statistics 14, Statistical Methods in Finance* (N-H, 1995); 8. 'On stable factor structures in the pricing of risk: do time-varying betas help or hurt?', *J Fin*, 53, 1998; 9. 'Price discovery without trading: the case of the NASDAQ pre-opening' (with C. Cao, F. Hatheway), (NY Stock Exchange Best Paper Award, Western Fin. Assoc. Meetings, 1999), *J Fin*, 55, 2000; 10. 'A study towards a unified approach to the joint estimation of objective and risk neutral measures for the purpose of options valuation' (with M. Chernov), *J Fin E*, 56, 2000.

Principal Contributions Early research focused primarily on the questions pertaining to modelling seasonal economic time series. The book recently published by CUP, co-authored with Denise Osborn, provides details of various contributions in this area. In recent years I have focused my research on empirical asset pricing questions. Various contributions were made ranging from modelling the dynamics of betas, modelling of market volatility, to estimation of risk neutral and objective probability measures in the context of continuous time asset pricing models.

GIBBONS, Robert Scott

Born 1958, Palo Alto, CA, USA.

Current Posts Sloan Disting. Prof. Org. Econ. and Strategy, Sloan Sch. Mgmt and Dept Econ., MIT, Cambridge, MA, USA, 2001–.

Past Posts Asst Prof., Pentti J.K. Kouri Career Devlp. Assoc. Prof., Dept Econ.,

MIT, 1985–90, 1990–91; Vis. Asst Prof., Ind. Relations Section and Dept Econ., Princeton Univ., 1988–89; Assoc. Prof., Prof., Charles Dyson Prof. Mgmt, Johnson Grad. Sch. Mgmt, Cornell Univ., 1991–93, 1993–95, 1995–97; Prof. Org. Econ. and Bus. Strategy, Sloan Disting. Prof. Mgmt, Sloan Sch. Mgmt, MIT, 1997–98, 1998–2001.

Degrees AB (Apl. Maths) Harvard Univ., 1980; MPhil Univ. Cambridge, 1981; PhD (Decision Sc.) Grad. Sch. Bus., Stanford Univ., 1985.

Offices and Honours Faculty Res. Fell., Res. Assoc., NBER, 1987–92, 1992–; Grad. Student Council Teaching Award, Econ. Dept, MIT, 1987; Teacher of Year, Econ. Dept, MIT, 1988; Olin Fell., NBER, 1990–91; Alfred P. Sloan Res. Fell., 1990–92; H. Gregg Lewis Prize for best article, *J Lab E* during 1990 and 1991, 1992; Fell., Center Adv. Study in Behav. Sc., Stanford, CA, 1994–95; Advisory Bd, Citicorp Behav. Sc. Res. Council, 1994–2000; Grad. Student Council Teaching Award, Sloan Sch. Mgmt, MIT, 1998; Bd Trustees, Center Adv. Study in Behav. Sc., Stanford, CA, 2000–.

Editorial Duties Co-Ed, *J Lab E*, 1993–96; Assoc. Ed., *JEP*, 1994–98, *QJE*, 1990–98.

Principal Fields of Interest D2 Production and Organizations; L1 Market Structure, Firm Strategy, and Market Performance; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *Game Theory for Applied Economists* (Princeton Univ. Press, 1992; also as *A Primer in Game Theory*, Harvester-Wheatsheaf; trans., Spanish, Antoni Bosch, 1993, Italian, Prentice-Hall Int., 1994, Japanese, Sobun Sha, 1995); 2. *Organizational Economics* (Princeton Univ. Press, forthcoming 2004).

Articles: 1. 'Piece-rate incentive schemes', *J Lab E*, 5, 1987; 2. 'Layoffs and lemons' (with L. Katz), *J Lab E*, 9,

1991; 3. 'Optimal incentive contracts in the presence of career concerns: theory and evidence' (with K.J. Murphy), *JPE*, 100, 1992; 4. 'Does unmeasured ability explain inter-industry wage differences?' (with L. Katz), *REStud.*, 59, 1992; 5. 'Subjective performance measures in optimal incentive contracts' (with G. Baker, K.J. Murphy), *QJE*, 109, 1994; 6. 'Learning and wage dynamics' (with H. Farber), *QJE*, 111, 1996; 7. 'A theory of wage and promotion dynamics inside firms' (with M. Waldman), *QJE*, 114, 1999; 8. 'Careers in organizations: theory and evidence' (with M. Waldman), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3 (N-H, 1999); 9. 'Taking Coase seriously', *Admin. Sc. Q.*, 44, 1999; 10. 'Informal authority in organizations' (with G. Baker, K.J. Murphy), *JLEO*, 15, 1999; 11. 'Firms (and other relationships)', in P. DiMaggio (ed.), *The Twenty-First Century Firm: Changing Economic Organization in International Perspective* (Princeton Univ. Press, 2001); 12. 'Bringing the market inside the firm?' (with G. Baker, K.J. Murphy), *AER*, 91, 2001; 13. 'Relational contracts and the theory of the firm' (with G. Baker, K.J. Murphy), *QJE*, 117, 2002; 14. 'Comparative advantage, learning, and sectoral wage differences' (with L. Katz, T. Lemieux, D. Parent), NBER Working Papers, 8889, 2002; 15. 'Relational contracts in strategic alliances' (with G. Baker, K.J. Murphy), MIT Working Papers, 30, 2002.

Principal Contributions As a graduate student at Stanford Business School, I studied game theory and agency theory, hoping to apply them to life inside organizations (articles 1, 3, 5). This applied attitude towards theory motivated my first book, *Game Theory for Applied Economists*. As an assistant professor at MIT, I encountered serious empirical work for the first time. Because there was little data on life inside organizations, I focussed on

labor economics, collaborating with empirically oriented colleagues (such as Larry Katz and Hank Farber) to build and test theoretical models (articles 2, 4, 6, 14). I tried to encourage such combinations of theory and evidence as co-editor of the *Journal of Labor Economics*. Returning to a business school (at Cornell) renewed my exposure to those interested in organizations. My work in labor economics (with Mike Waldman) focussed on careers in organizations (articles 7, 8) and I began to try to explain organizational economics to organizational researchers outside economics (articles 6, 11). Since returning to MIT, my research (with George Baker and Kevin J. Murphy) has focussed on 'relational contracts' (i.e., informal agreements that are so dependent on the parties' shared experience that the agreement cannot be enforced by a court, but may be enforced by the parties' concerns for their reputations). I see relational contracts as widespread, both within and between firms, and as a crucial determinant of organizational performance (articles 5, 10, 11, 12, 13, 15). I am now trying to foster the development of organizational economics, by creating new doctoral courses at MIT and a new Working Group on Organizational Economics at the National Bureau of Economic Research, and by writing a second book, *Organizational Economics*.

GILBOA, Itzhak

Born 1963, Tel Aviv, Israel.

Current Posts Prof. Econ. Berglas Sch. Econ., Tel Aviv Univ., Israel, 1997–; Fell., Cowles Foundation, Yale Univ., New Haven, CT, USA, 2002–.

Past Posts Asst Prof., Assoc. Prof., F.E. Nemmers Disting. Prof. Decision Sc., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1987–90, 1990–92, 1992–97; Vis.

Prof. Econ., Univ. Pennsylvania, Philadelphia, 1995–97; Prof. Econ., Boston Univ., MA, USA, 1997–99.

Degrees BSc (Maths and Computer Sc., *mcl*), BA (*mcl*), MA (*scl*), PhD Tel Aviv Univ., 1982, 1982, 1984, 1987.

Offices and Honours Joseph Buchmann Scholarship, 1984–86; Alfred P. Sloan Res. Fellowship, 1992–94; Sidney J. Levy Teaching Award, 1992–93.

Editorial Duties Assoc. Ed., *Games and Econ. Behav.*, 1991–, *JET*, 1992–, *Intl J. Game Theory*, 1996–, *Em*, 2001–.

Principal Fields of Interest D8 Information and Uncertainty; C7 Game Theory and Bargaining Theory; D1 Household Behavior.

Publications *Articles*: 1. ‘Expected utility with purely subjective non-additive probabilities’, *J Math E*, 16, 1987; 2. ‘Maxmin expected utility with a non-unique prior’ (with D. Schmeidler), *J Math E*, 18, 1989; 3. ‘Nash and correlated equilibria: some complexity considerations’ (with E. Zemel), *Games and Econ. Behav.*, 1, 1989; 4. ‘Expectation and variation in multi-period decisions’, *Em*, 57, 1989; 5. ‘Social stability and equilibrium’ (with A. Matsui), *Em*, 59, 1991; 6. ‘Aggregation of semi-orders: intransitive indifference makes a difference’ (with R. Lapson), *ET*, 5, 1995; 7. ‘Case-based decision theory’ (with D. Schmeidler), *QJE*, 110, 1995; 8. ‘Case-based optimization’ (with D. Schmeidler), *Games and Econ. Behav.*, 15, 1996; 9. ‘Act similarity in case-based decision theory’ (with D. Schmeidler), *ET*, 9, 1997; 10. ‘Cumulative utility consumer theory’ (with D. Schmeidler), *IER*, 38, 1997.

Principal Contributions Most of my work deals with what is commonly viewed as less-than-‘perfect’ rationality. In decision under uncertainty, I first worked on non-additive probabilities, introduced by David Schmeidler. Together we developed the related model of maxmin expected utility with respect to a set of priors. The

main motivation was a decision maker’s inability to specify a prior over a state space in the absence of statistical data. More recently, we introduced case-based decision theory, suggesting that, when even the state space is hard to formulate, people make decisions mostly by analogies to past cases. The theory gives rise to the notions of satisficing behavior and aspiration levels. In game theory, I studied the computational complexity of solution concepts. In particular, in a joint work with Eitan Zemel, we showed that Nash equilibria are hard to compute. Examining the foundations of the equilibrium concept, Akihiko Matsui and I suggested best-response dynamics in large populations and developed a set-valued solution concept based on it. This concept assumes that agents are myopic and respond optimally to the current environment. Such behavior may or may not yield convergence to Nash equilibria. Other works dealt with individual decision making with imperfect discernibility. The work with Robert Lapson showed that choice data actually available contain more information than is typically assumed. Thus, one may behaviorally define cardinal utility, as well as derive additively separable functionals from conceptually weak axioms. More recent research topics include repeated consumer choices, as well as descriptive and normative implications of satisficing behavior.

GILCHRIST, Simon n.e.

GILSON, Stuart Clayton

Born 1958, Winnipeg, Manitoba, Canada.

Current Post Steven R. Fenster Prof. Bus. Admin., Harvard Bus. Sch., Boston, MA, USA, 1991–.

Past Posts Res. Econ., Bank Canada, Ottawa, 1981–83; Prof., Fin. Dept, Grad. Sch. Bus., Univ. Texas, Austin, TX, USA, 1988–91.

Degrees BA Univ. Manitoba, 1980; MA UBC, 1981; MSc (Fin.), PhD (Fin.) Univ. Rochester, 1985, 1988.

Offices and Honours Outstanding Paper in Fin. Mgmt, FMA, 1991; Graham and Dodd Award, Assoc. Investment Mgmt and Res., 1995; John M. Olin Vis. Prof. Fellowship, Univ. Virginia Law Sch., 1997; Advisory Bd, Bankruptcy, Reorg. and Creditors' Rights Abstracts, 1997–, Turnaround Mgmt Assoc., 2000–.

Editorial Duties Assoc. Ed., *Fin. Mgmt*, 1995–, *J. Corp. Fin.*, 2002–.

Principal Field of Interest G3 Corporate Finance and Governance.

Publications *Book*: 1. *Creating Value Through Corporate Restructuring: Case Studies in Bankruptcies, Buyouts, and Breakups* (Wiley, 2001).

Articles: 1. 'Management turnover and financial distress', *J Fin E*, 25, 1989; 2. 'Bankruptcy, boards, banks, and blockholders: evidence on changes in corporate ownership and control when firms default', *J Fin E*, 26, 1990; 3. 'Troubled debt restructurings: an empirical study of private reorganization of firms in default' (with K. John, L.H.P. Lang), *J Fin E*, 26, 1990; 4. 'Managing default: some evidence on how firms choose between workouts and Chapter 11', *J. Apl. Corp. Fin.*, 4, 1991; 5. 'CEO compensation in financially distressed firms: an empirical analysis' (with M.R. Vetsuypens), *J Fin*, 43, 1993; 6. 'Creating pay-for-performance in financially troubled companies' (with M.R. Vetsuypens), *J. Apl. Corp. Fin.*, 6, Winter 1994; 7. 'The collapse of first executive corporation: junk bonds, adverse publicity, and the "run on the bank" phenomenon' (with H. DeAngelo, L. DeAngelo), *J Fin E*, 36, 1994; 8. 'Some methodological issues in cross-country comparisons of com-

mercial bankruptcy law', in J.S. Ziegel (ed.), *International and Comparative Corporate Insolvency Law* (OUP, 1994); 9. 'Creditor control in financially distressed firms: the empirical evidence' (with M.R. Vetsuypens), *Washington Univ. Law Q.*, 72, 1994; 10. 'Investing in distressed situations: a market survey', *Fin. Analysts J.*, 51, Nov./Dec. 1995; 11. 'Perceptions and the politics of finance: junk bonds and the regulatory seizure of First Capital Life' (with H. DeAngelo, L. DeAngelo), *J Fin E*, 41, 1996; 12. 'Transactions costs and capital structure choice: evidence from financially distressed firms', *J Fin*, 52, 1997; 13. 'Valuation of bankrupt firms' (with E. Hotchkiss, R. Ruback), *Rev. Fin. Stud.*, 13, 2000; 14. 'Analysts and information gaps: lessons from the UAL buyout', *Fin. Analysts J.*, 56, Nov./Dec. 2000; 15. 'Analyst specialization and conglomerate stock breakups' (with P. Healy, C. Noe, K. Palepu), *J. Accounting Res.*, 39, 2001.

Principal Contributions Most of my work focusses on how financial distress, and legal processes for dealing with financial distress, affect the management, governance, financing, and valuation of corporate enterprises. In several studies I show that the US Chapter 11 bankruptcy process is associated with extremely high job turnover and reputational losses for CEOs and directors. In related research, M. Vetsuypens and I show that financial distress also results in large compensation losses for CEOs, as well as a marked shift away from cash-based compensation to strong equity-based compensation. In other research with K. John and L.H.P. Lang, I analyze how distressed companies choose between filing for Chapter 11 and informally restructuring their debt out of court. I have also shown that debt levels in financially distressed companies typically remain very high even after these companies restructure their debt, although the reduction in debt is relatively much

greater when firms restructure in Chapter 11 (as opposed to privately settling with creditors out of court). In research with E. Hotchkiss and R. Ruback, I analyze how companies are valued by competing financial claimholders in Chapter 11, and show that values presented in court are often significantly biased in favor of influential claimholders or senior executives. In a couple of clinical studies with H. DeAngelo and L. DeAngelo, I analyze the factors that led to the bankruptcy of two large insurance companies that invested heavily in high-yield ('junk') bonds. I have studied the activities and strategies of so-called 'vulture investors' who specialize in buying and selling the financial claims of bankrupt or distressed companies. In joint work with P. Healy, C. Noe and K. Palepu, I have also shown that conglomerate firms attract better coverage by financial analysts when they break themselves apart through corporate spin-offs, improving the efficiency of capital markets.

GLAESER, Edward Ludwig

Born 1967, New York, NY, USA.

Current Post Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1998–.

Past Posts Asst Prof., Paul Sack Assoc. Prof. Polit. Econ., Harvard Univ., 1992–96, 1996–98.

Degrees AB Princeton Univ., 1988; PhD Univ. Chicago, 1992.

Offices and Honours Arch W. Shaw Natl Fell., Hoover Inst., Stanford Univ., 1994–95; John M. Olin Fell. Law and Econ., Univ. Chicago Law Sch., 1998; Vis. Fell., Brookings Inst., 2000–01.

Editorial Duties Ed., *QJE*, 1998–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; K0 Law and Economics: General.

Publications *Articles*: 1. 'Growth in cit-

ies' (with H. Kallal, J. Scheinkman, A. Shleifer), *JPE*, 100, 1992; 2. 'Economic growth in a cross-section of cities' (with J. Scheinkman, A. Shleifer), *JME*, 36, 1995; 3. 'Trade and circuses: explaining urban giants' (with A. Ades), *QJE*, 110, 1995; 4. 'Crime and social interactions' (with B. Sacerdote, J. Scheinkman), *QJE*, 111, 1996; 5. 'Information technology and the future of cities' (with J. Gaspar), *JUE*, 43, 1997; 6. 'Are ghettos good or bad?' (with D. Cutler), *QJE*, 112, 1997; 7. 'Geographic concentration in US manufacturing industries: a dartboard approach' (with G. Ellison), *JPE*, 105, 1997; 8. 'Are cities dying?', *JEP*, 12, 1998; 9. 'Learning in cities', *JUE*, 46, 1999; 10. 'Incentives and social capital: are homeowners better citizens?' (with D. DiPasquale), *JUE*, 45, 1999; 11. 'The rise and decline of the American ghetto' (with D. Cutler, J. Vigdor), *JPE*, 107, 1999; 12. 'Why is there more crime in cities?' (with B. Sacerdote), *JPE*, 107, 1999; 13. 'Measuring trust' (with D. Laibson, J. Scheinkman, C. Soutter), *QJE*, 115, 2000; 14. 'Consumer city' (with J. Kolko, A. Saiz), *J. Econ. Geography*, 1, 2001; 15. 'Not-for-profit entrepreneurs' (with A. Shleifer), *J Pub E*, 81, 2001; 16. 'Cities and skills' (with D. Mare), *J Lab E*, 19, 2001; 17. 'Decentralized employment and the transformation of the American city' (with M. Kahn), *Brookings-Wharton Papers on Urban Affairs*, 2, 2001; 18. 'Coase vs. the Coasians' (with S. Johnson, A. Shleifer), *QJE*, 116, 2001; 19. 'Legal origins' (with A. Shleifer), *QJE*, 117, Nov. 2002.

Principal Contributions n.e.

GLEWWE, Paul William

Born 1958, St. Paul, MN, USA.

Current Post Assoc. Prof., Dept Apl. Econ., Univ. Minnesota, Minneapolis, MN, USA, 1999–.

Past Posts Asst Prof., Dept Agric. Econ. and Rural Sociology, Pennsylvania State Univ., 1985–86; Res. Econ., World Bank, Washington, DC, 1986–99.

Degrees BA Univ. Chicago, 1979; PhD Stanford Univ., 1985.

Principal Fields of Interest O1 Economic Development; I2 Education.

Publications *Books*: 1. *Household Welfare and Vietnam's Transition to a Market Economy* (ed. with D. Dollar, J. Litvack), (World Bank, 1998); 2. *The Economics of School Quality Investments in Developing Countries: An Empirical Study of Ghana* (Macmillan, 1999); 3. *Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Standards Development Study* (ed. with M. Grosh), (OUP Press for World Bank, 2000).

Articles: 1. 'The distribution of income in Sri Lanka in 1969–70 and 1980–81: a decomposition analysis', *JDE*, 24, Dec. 1986; 2. 'The willingness to pay for education in developing countries: evidence from rural Peru' (with P. Gertler), *J Pub E*, 42, Aug. 1990; 3. 'Student achievement and schooling choice in low income countries: evidence from Ghana' (with H. Jacoby), *JHR*, 29, Summer 1994; 4. 'An economic analysis of delayed primary school enrollment in a low income country: the role of early childhood nutrition' (with H. Jacoby), *REStat*, 77, Feb. 1995; 5. 'The relevance of standard estimates of rates of return to schooling for education policy: a critical assessment', *JDE*, 51, Dec. 1996; 6. 'Why does mother's schooling raise child health in developing countries? Evidence from Morocco', *JHR*, 34, Winter 1999; 7. 'Early childhood nutrition and academic achievement: a longitudinal analysis' (with H. Jacoby, E. King), *J Pub E*, 81, Sept. 2001; 8. 'Schools and skills in developing countries: education policies and socioeconomic outcomes', *JEL*, 40, June 2002.

Principal Contributions My initial research interest was economic growth and inequality in developing countries, with particular interest in inequality. My research using household survey data from Sri Lanka brought to my attention the strong influence of education on income and, more generally, on inequality. My position at the World Bank provided the opportunity to assist in the design of household surveys, and I took advantage of this to learn more about survey design and to collect data that focuses on the role of education in developing countries, such as Ghana, Jamaica, the Philippines and Kenya. Much of my research now focuses on the impact of education policies on student academic achievement, and the impact of that achievement on income and other outcomes (e.g., child health). Difficulty in estimating the impact of education policies on achievement has led me in the late 1980s to participate in a few randomised trials of education policies (e.g., Kenya and Honduras).

GLOMM, Gerhard

Born 1957, Gerstetten, Germany.

Current Post Prof. Econ., Indiana Univ., Bloomington, IN, USA, 2000–.

Past Posts Asst Prof., Univ. Virginia, 1987–94; Assoc. Prof., Michigan State Univ., 1994–2000.

Degrees BA Kansas Univ., 1981; PhD Univ. Minnesota, 1988.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; H0 Public Economics: General; H5 National Government Expenditures and Related Policies.

Publications *Articles*: 1. 'Public vs. private investment in human capital: endogenous growth and income inequality', *JPE*, 100, 1992; 2. 'Optimal intertemporal consumption decisions under the threat

of starvation' (with M. Palumbo), *JDE*, 42, 1993; 3. 'Flat-rate taxes, government spending on education, and growth' (with B. Ravikumar), *Rev. Econ. Dynamics*, 1, 1998; 4. 'A dynamic Tiebout theory of public vs. private provision of collective goods' (with R. Lagunoff), *REStud*, 66, 1999; 5. 'Why poor countries rely mostly on redistribution in-kind' (with P. Bearse, E. Janeba), *J Pub E*, 76, 2000; 6. 'On the political economy of means tested education vouchers' (with P. Bearse, B. Ravikumar), *Europ ER*, 44, 2000; 7. 'Long-run growth and welfare effects of public policies' (with S. Baier), *JEDC*, 24, 2001; 8. 'Composition of government budget, non-single peakedness and majority voting' (with P. Bearse, E. Janeba), *J. Public Econ. Theory*, 3, 2001.

Principal Contributions Most of my work is related to economic growth and how economic growth is influenced by public policies and public institutions. In joint work with B. Ravikumar and S. Baier, we found that changes in public expenditures or in public institutions may have larger growth effects than changes in taxation. My recent work has focussed on political economy of education reform. In joint work with B. Ravikumar and P. Bearse, we found that education vouchers may garner enough political support to beat public provision of education if vouchers are means tested. In models calibrated to the US we found that adopting vouchers may impart substantial welfare losses to the poor and potentially large welfare gains to the rich.

GLOSTEN, Lawrence R.

Born 1951, Eugene, OR, USA.

Current Post S. Sloan Colt Prof. Banking and Intl Fin., Columbia Bus. Sch., Columbia Univ., New York, NY, USA, 1996–.

Past Posts Sr Analyst, DRI, 1979–80; Asst Prof., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1980–89; Assoc. Prof., Prof., Columbia Bus. Sch., Columbia Univ., 1989–95, 1995–96.

Degrees AB Occidental Coll., 1973; PhD (Managerial Econ. and Decision Sc.) Northwestern Univ., 1980.

Honours Smith–Breedon Prize, 1994.

Editorial Duties Ed., *Rev. Fin. Stud.*, 1996–99.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services.

Publications Articles: 1. 'Bid, ask and transaction prices in a specialist market with heterogeneously informed traders' (with P. Milgrom), *J Fin E*, 14, March 1985; 2. 'Components of the bid–ask spread and the statistical properties of transaction prices', *J Fin*, 42, Dec. 1987; 3. 'Estimating the components of the bid/ask spread' (with L. Harris), *J Fin E*, 21, May 1988; 4. 'Insider trading, liquidity and the role of the monopolist specialist', *J Bus*, 62, April 1989; 5. 'Economic significance of predictable variations in stock index returns' (with W. Breen, R. Jagannathan), *J Fin*, 44, Dec. 1989; 6. 'Entrepreneurial ability, venture investments and risk sharing' (with R. Amit, E. Muller), *Mgmt Sc.*, 36, Oct. 1990; 7. 'Relations between the expected nominal stock excess return, the volatility of the nominal excess return and the interest rate' (with R. Jagannathan, D. Runkle), *J Fin*, 48, Dec. 1993; 8. 'A contingent claim approach to performance evaluation' (with R. Jagannathan), *J. Empirical Fin.*, 1, 1994; 9. 'Is the electronic open limit order book inevitable?', *J Fin*, 49, Sept. 1994.

Principal Contributions I am principally known for my work on the operation of securities markets. My first major contribution provided an understanding of how private information comes to be

reflected in securities markets. This paper also explained how the existence of private information leads to trading frictions – namely the spread between bid and offer. Subsequent work developed the empirical implications of this theory and using intra-day data confirmed some of the predictions of the theory. Further theoretical analysis deals with the design of exchanges. A frequently cited paper establishes that a limit order book exchange, such as that seen in Paris is ‘inevitable’ in that competition would seem to lead naturally to such an exchange. I have also done work modelling the volatility of stock returns, and the model has become a standard one. Finally, I have proposed a method for evaluating hedge fund performance that has enjoyed some popularity.

GOETZMANN, William N.

Born n.e.

Current Posts Edwin J. Beinecke Prof. Fin. and Mgmt Stud., Yale Sch. Mgmt, New Haven, CT, USA, 1996–; Dir., Intl Center Fin., Yale Sch. Mgmt, 1996–.

Past Posts Writer and Producer, PBS documentaries (with T.W. Timreck), 1970–90; Field Archaeologist, Yale Univ. and Metropolitan Museum, 1978–79; Dir., Museum Western Art, Denver, 1984–85; Lect., R.G. Ibbotson Assoc., Chicago, 1989–90; Asst Prof. Fin., Columbia Bus. Sch., 1990–94; Instr., Assoc. Trainee Program, S.G. Warburg, 1993; Assoc. Prof. Fin., Yale Sch. Mgmt, 1995–96.

Degrees BA (Hons, *cl*, Art Hist., Archaeology) Yale Coll., 1978; MPPM, Yale Sch. Mgmt, 1986; MA, MPhil, PhD (OR) Yale Univ., 1989, 1989, 1991.

Offices and Honours Bates Travelling Fellowship, 1977; A. Conger Goodyear Award, 1978; Yale Univ. Fellowship, 1986–90; Carr P. Collins Award for best

non-fiction book of year, 1987; Richard and Hinda Rosenthal Prize for Innovation in Investment Mgmt, 1992; Co-winner, *Rev. Fin. Stud.* Award for best fin. article of year, 1992; Homer Hoyt Adv. Stud. Inst. and Weimar Sch. Adv. Stud. in Real Estate Award to Young Scholars in Real Estate, 1994; Natl Assoc. Realtors/Leonard Reaume Best Intl Real Estate Paper Award, 1995; Award for Best Paper, Intl Investment Forum, 1996; Outstanding Paper Award, *J. Fin. Res.*, 1997; AREUEA Best Paper Award in Real Estate Econ., 1997; Alumni Teaching Award, Yale Sch. Mgmt, 1998; Roger F. Murray Prize, Inst. Quant. Res. Fin., 1998; Smith-Breedon Disting. Paper Award, 2000; Faculty Res. Fell., NBER; Mem., AFA, Western Fin. Assoc., AEA, AREUEA, ARES, Amer. Antiquarian Soc., Connecticut Acad. Arts and Sc.; Fell., Jonathan Edwards Coll.

Editorial Duties Co-Ed., *Real Estate Econ.*, *J. Real Estate Abstracts*; Assoc. Ed., *J Fin*, *JFQA*; Ed. Bds, *J. Bus. Fin. and Accounting*, *J. Real Estate Fin. Econ.*, *J. Portfolio Mgmt*.

Principal Fields of Interest n.e.

Publications *Articles*: 1. ‘Does delisting from the S&P 500 affect stock price?’ (with M. Garry), *Fin. Analysts J.*, March/April 1986; 2. ‘Triple witching hour and stock market volatility’ (with S.P. Feinstein), *Rev. FRB Atlanta*, Sept./Oct. 1988; 3. ‘Economic forces and the Spanish stock market’ (with C. Gonzalez-Bueno, R.G. Ibbotson), *Inform. Commercial Espanola*, Dec. 1990; 4. ‘Survivorship bias in performance studies’ (with S. Brown, S. Ross, R. Ibbotson), *Rev. Fin. Stud.*, Dec. 1992, repr. in A. Lo (ed.), *Market Efficiency: Stock Market Behavior in Theory and Practice* (forthcoming); 5. ‘Patterns in three centuries of stock market prices’, *J Bus*, April 1993; 6. ‘Testing the predictive power of dividend yields’ (with P. Jorion), *J Fin*, 48, July 1993; 7.

'Short horizon inputs and long horizon portfolio choice' (with F. Edwards), *J. Portfolio Mgmt*, Summer 1994; 8. 'Do winners repeat: predicting mutual fund performance' (with R. Ibbotson), *J. Portfolio Mgmt*, Winter 1994; 9. 'Discussion: on fads, crashes and asymmetric information', in R. Sylla, M. Bordo (eds), *Anglo-American Finance Systems: Institutions and Markets in the 20th Century* (Irwin, 1995); 10. 'Performance persistence' (with S. Brown), *J Fin*, 50, June 1995; 11. 'Survival' (with S. Brown, S. Ross), *J Fin*, 50, July 1995; 12. 'A longer look at dividend yields' (with P. Jorion), *J Bus*, Oct. 1995; 13. 'Mutual fund styles' (with S. Brown), *J Fin E*, Spring 1997; 14. 'Cognitive dissonance and mutual fund investors' (with N. Peles), *J. Fin. Res.*, Summer 1997; 15. 'Do cities and suburbs cluster?' (with M. Spiegel, S. Wachter), *Cityscape*, 3, 1998; 16. 'The Dow theory: William Peter Hamilton's track record re-considered' (with S.J. Brown, A. Kumar), *J Fin*, 53, Aug. 1998; 17. 'Off-shore hedge funds: survival and performance: 1989–1995' (with S.J. Brown, R. Ibbotson), *J Bus*, forthcoming; 18. 'Monthly measurement of daily timers' (with J. Ingersoll, Z. Ivkovich), *JFQA*, forthcoming; 19. 'Two decades of commercial property returns: a NCREIF Index using independent appraisals' (with D. Geltner), *Real Estate Fin. and Econ.*, forthcoming; 20. 'Risks and incentives in underserved mortgage markets' (with B. Ambrose), *J. Housing Econ.*, forthcoming.

Principal Contributions n.e.

GOLDIN, Claudia

Born 1946, New York City, NY, USA.

Current Post Henry Lee Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1990–.

Past Posts Asst Prof. Econ., Univ. Wisconsin, Madison, 1971–73; Asst Prof. Econ., Princeton Univ., 1973–79; Vis. Lect. Econ., Harvard Univ., 1975–76; Assoc. Prof. Econ., Prof. Econ., Univ. Pennsylvania, 1979–85, 1985–90; Mem., Inst. Adv. Study, Princeton Univ., 1982–83; Vis. Fell., Ind. Relations Section, Princeton Univ., 1987–88, Brookings Inst., 1993–94; Vis. Scholar, Russell Sage Foundation, 1997–98.

Degrees BA (*mcl* with Distinction) Cornell Univ., 1967; MA, PhD Univ. Chicago, 1969, 1972.

Offices and Honours Mem., Inst. Adv. Stud., 1982–83; Trustee, Vice-Pres., Pres., EHA, 1984–88, 1988–89, 1999–2000; Guggenheim Fellowship, 1987–88; Irving Kravis Teaching Award, 1989; Vice-Pres., AEA, 1990–91; Fell., Em Soc, AAAS, 1991–, 1992–; DHL (Hon.), Univ. Nebraska, 1994; Galbraith Teaching Award, 1995; Vis. Scholar, Russell Sage Foundation, 1997–98; Bogen Vis. Prof. Econ., Hebrew Univ., Jerusalem, 1999; Professional Achievement Citation, Univ. Chicago, 2000; Bd, Comm. on Status of Women in Econ. Profession (CWSEP), AEA, 2001–03; Marshall Lect., Cambridge Univ., 2002.

Editorial Duties Ed. Bds, *Hist. Methods*, 1978–83, *JEH*, 1978–84, *Explor. in Econ. Hist.*, 1978–85; 1991–98, *AER*, 1985–91, *QJE*, 1991–, *REStat*, 1992–, *J. Interdisciplinary Hist.*, 1998–; Ed., *JEH*, 1984–88, *Long-term Trends in Amer. Econ. Hist.* series, NBER, 1990–; Advisory Bd, *JEP*, 2001–03.

Principal Fields of Interest N0 Economic History: General; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Urban Slavery in the American South, 1820 to 1860: A Quantitative History* (UCP, 1976); 2. *Understanding the Gender Gap: An Economic History of American Women* (OUP, 1990, pb, 1992); 3. *Strategic Factors in*

Nineteenth Century American Economic History (with H. Rockoff), (UCP, 1992); 4. *The Regulated Economy: A Historical Approach to Political Economy* (with G. Libecap), (UCP, 1994); 5. *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century* (with M. Bordo, E. White), (UCP, 1998).

Articles: 1. 'Monitoring costs and occupational segregation by sex: a historical analysis', *J Lab E*, 4, Jan. 1986; 2. 'Maximum hours legislation and female employment in the 1920s: a reassessment', *JPE*, 96, Feb. 1988; 3. 'Life cycle labor force participation of married women: historical evidence and implications', *J Lab E*, 7, Jan. 1989; 4. 'The role of World War II in the rise of women's employment', *AER*, 81, Sept. 1991; 5. 'The great compression: the US wage structure at mid-century' (with R. Margo), *QJE*, 107, Feb. 1992; 6. 'Career and family: college women look to the past', in F. Blau, R. Ehrenberg (eds), *Gender and Family Issues in the Workplace* (Russell Sage, 1997); 7. 'America's graduation from high school: the evolution and spread of secondary schooling in the twentieth century', *JEH*, 58, June 1998; 8. 'The origins of technology-skill complementarity' (with L. Katz), *QJE*, 113, June 1998; 9. 'The shaping of higher education: the formative years in the United States, 1890 to 1940' (with L. Katz), *JEP*, 13, Winter 1999; 10. 'Egalitarianism and the returns to education during the great transformation of American education', *JPE*, 107, Dec. 1999; 11. 'Orchestrating impartiality: the impact of blind auditions on the sex composition of orchestras' (with C. Rouse), *AER*, 90, Sept. 2000; 12. 'Education and income in the early 20th century: evidence from the prairies' (with L. Katz), *JEH*, 60, Sept. 2000; 13. 'Decreasing (and then increasing) inequality in America: a tale of two half centuries' (with L. Katz),

in F. Welch (ed.), *The Causes and Consequences of Increasing Inequality* (UCP, 2001); 14. 'The human capital century and American leadership: virtues of the past', *JEH*, 61, June 2001; 15. 'The power of the pill: oral contraceptives and women's career and marriage decisions' (with L. Katz), *JPE*, 113, Aug. 2002.

Principal Contributions My research is in the general area of American economic history and has covered topics that range widely, including slavery, emancipation, the post-bellum South, the family, women in the economy, the economic impact of war, immigration, New Deal policies, inequality, technological change, and most recently education. Most of my research interprets the 'present through the lens of the past' and explores the origins of current issues of concern, such as the reasons for immigration restriction, the causes of increased female labor force participation, the impact of technological change on the wage structure, and the role of education in ameliorating inequality. In my book, *Understanding the Gender Gap*, I explored why the female labor force increased at certain moments in US history, why women earn less than men, and why change in gender roles is often slow. More recently, I have examined the social and economic impacts of the 'pill' and, in my Marshall lectures, why the significance of gender in US history first rose and then declined. My most recent research concerns the interrelationships among education, inequality, and technological change. It investigates why educational attainment increased at certain junctures in US history, what roles were played by public and private concerns, and what impact educational advance has had on economic well-being and opportunity.

GOLDMAN, Noreen n.e.

GOLDSCHIEDER, Frances K. n.e.

GOLLIER, Christian

Born 1961, Brussels, Belgium.

Current Post Prof. Econ., Univ. Toulouse, France, 1992–.

Past Posts Vis. Lect., Univ. California, San Diego, 1988–89; Asst Prof., Hautes Études Commerciales Sch. Bus., Paris, 1989–92; Assoc. Prof., École Polytech., Paris, 1999–2002.

Degrees Civil Eng. (Apl. Maths), PhD Univ. Louvain, Belgium, 1985, 1989.

Honours Paul A. Samuelson award, 2001.

Editorial Duties Assoc. Ed., *JRU*, 1994–, *J. Risk and Insurance*, 1996–, *Mgmt Sc.*, 1999–; Ed., *Geneva Papers on Risk and Insurance Theory*, 1995–2000.

Principal Fields of Interest D8 Information and Uncertainty; D9 Intertemporal Choice and Growth; E4 Money and Interest Rates.

Publications *Book*: 1. *The Economics of Risk and Time* (MIT Press, 2001).

Articles: 1. ‘The design of optimal insurance contracts without the non-negativity constraint on claims’, *J. Risk and Insurance*, 54, June 1987; 2. ‘Increase in risk and deductible insurance’ (with L. Eeckhoudt, H. Schlesinger), *JET*, 55, Dec. 1991; 3. ‘Increases in risk and linear payoffs’ (with G. Dionne, L. Eeckhoudt), *IER*, 34, 1993; 4. ‘Risk sharing on the labour market and second-best wage rigidity’ (with J. Drèze), *Europ ER*, 37, 1993; 5. ‘Insurance and precautionary saving in a continuous-time model’, *J. Risk and Insurance*, 61, 1994; 6. ‘The risk averse (and prudent) newsboy’ (with L. Eeckhoudt, H. Schlesinger), *Mgmt Sc.*, 41, 1995; 7. ‘The comparative statics of

changes in risk revisited’, *JET*, 66, 1995; 8. ‘Demand for risky assets and the monotone probability ratio order’ (with L. Eeckhoudt), *JRU*, 11, 1995; 9. ‘Arrow’s Theorem on the optimality of deductibles: a stochastic dominance approach’ (with H. Schlesinger), *ET*, 7, 1996; 10. ‘Changes in background risk, and risk taking behaviour’ (with L. Eeckhoudt, H. Schlesinger), *Em*, 64, 1996; 11. ‘Risk vulnerability and the tempering effect of background risk’ (with J.W. Pratt), *Em*, 64, 1996; 12. ‘Decreasing absolute prudence: characterization and applications to second-best risk sharing’, *Europ ER*, 40, Dec. 1996; 13. ‘A note on portfolio dominance’, *REStud*, 64, 1997; 14. ‘Risk-taking behaviour with expected utility and limited liability: applications to the regulation of financial intermediaries’ (with P.F. Koehl, J.C. Rochet), *J. Risk and Insurance*, 64, 1997; 15. ‘Why do firms use trade credits? A signalling model’ (with B. Biais), *Rev. Fin. Stud.*, 10, 1997; 16. ‘The insurance of low probability events’ (with L. Eeckhoudt), *J. Risk and Insurance*, 66, 1999; 17. ‘Scientific progress and irreversibility: an economic interpretation of the precautionary principle’ (with N. Treich, B. Jullien), *J Pub E*, 75, 2000; 18. ‘Wealth inequality and asset pricing’, *REStud*, 68, 2001; 19. ‘Discounting an uncertain future’, *J Pub E*, 85, 2002.

Principal Contributions Most of my work up to now has been devoted to the analysis of optimal decisions under uncertainty. The time and state additivity assumptions that are classically made for the decision criterion yields a rich set of properties for optimal choices and equilibrium prices. Savings, portfolio and insurance decisions are my main points of interest. For example, with John Pratt, I determine the conditions under which the presence of a zero-mean background risk reduces the demand for an independent portfolio risk, or, with Richard Zeckhauser,

I examine the conditions under which a longer time horizon raises the demand for stock. I also examine the shape of the yield curve, the effect of information on savings, of wealth inequality on the equity premium, or of a change in the distribution of returns on the asset demand. Many of these works generate conditions on the utility function that are related to its third and fourth derivatives.

GOMPERS, Paul Alan

Born 1964, Cherry Point, NC, USA.

Current Posts Prof. Bus. Admin. and Dir. Res., Harvard Bus. Sch., Boston, MA, USA, 2000–.

Past Posts Asst Prof. Fin. and Pol., Univ. Chicago, 1993–95; Asst Prof. Bus. Admin., Assoc. Prof. Bus. Admin., Harvard Bus. Sch., 1995–98, 1998–2000.

Degrees AB (Biology, *scl*) Harvard Coll., 1987; MSc (*scl*) Oxford Univ., 1989; PhD Harvard Univ., 1993.

Offices and Honours Newcomen Bus. Hist. Paper Prize, 1994; Adv. Tech. Program, Natl Inst. Standards and Tech., 1996–97; MBA Class of 1961 Fell., 1997–98; Best Paper on Investments, Western Fin. Assoc., 1998; Smith–Breedon Disting. Paper Prize, Amer. Assoc. Individual Investors, 1998.

Editorial Duties Assoc. Ed., *Small Bus. Econ.*, 1997–, *J. Private Equity*, 1997–.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services; G3 Corporate Finance and Governance.

Publications *Books*: 1. *The Venture Capital Cycle* (with J. Lerner), (MIT Press, 1999); 2. *The Money of Invention* (with J. Lerner), (Harvard Bus. Sch. Press, 2001); 3. *Cases in Entrepreneurial Finance* (with W. Sahlman), (John Wiley, 2001).

Articles: 1. ‘Optimal investment, moni-

toring, and the staging of venture capital’, *J Fin*, 50, Dec. 1995, repr. in M. Wright, K. Robbie (eds), *Venture Capital, Intl Library of Mgmt* series (Dartmouth Publishing, 1997); 2. ‘Grandstanding in the venture capital industry’, *J Fin E*, 42, July 1996; 3. ‘The use of covenants: an empirical analysis of venture partnership agreements’ (with J. Lerner), *J Law E*, 39, Oct. 1996; 4. ‘Myth or reality? The long-run underperformance of initial public offerings: evidence from venture and nonventure capital-backed companies’ (with A. Brav), *J Fin*, 52, Dec. 1997; 5. ‘Venture capital growing pains: should the market diet?’, *J Bank Fin*, 22, Aug. 1998; 6. ‘What drives venture capital fundraising?’ (with J. Lerner), *Brookings Proceedings on Microecon. Activity*, Aug. 1998; 7. ‘Venture capital distributions: short-run and long-run reactions’ (with J. Lerner), *J Fin*, 53, Dec. 1998; 8. ‘An analysis of compensation in the US venture capital partnership’ (with J. Lerner), *J Fin E*, 51, Jan. 1999; 9. ‘Conflict of interest in the issuance of public securities: evidence from venture capital’ (with J. Lerner) *J Law E*, 43, 2000; 10. ‘Money chasing deals? The impact of fund inflows on private equity valuations’ (with J. Lerner), *J Fin E*, 55, Feb. 2000; 11. ‘Is the abnormal return following equity issuances anomalous?’ (with A. Brav, C. Geczy), *J Fin E*, 56, May 2000; 12. ‘Institutional investors and equity prices’ (with A. Metrick), *QJE*, 114, 2001; 13. ‘The venture capital revolution’ (with J. Lerner), *JEP*, 15, Spring 2001; 14. ‘Insider trading subsequent to initial public offerings: evidence from expirations of lock-up provisions’ (with A. Brav), *Rev. Fin. Stud.*, 14, Aug. 2001; 15. ‘Corporate governance and equity prices’ (with J. Ishii, A. Metrick), *QJE*, 117, Feb. 2002; 16. ‘The determinants of board structure and function in entrepreneurial firms’ (with M. Baker), *J Law E*, 45, May 2002;

17. 'The really long-run performance of initial public offerings: evidence from the pre-NASDAQ period, 1933–1972' (with J. Lerner), *J Fin*, 57, Aug. 2002.

Principal Contributions I specialize in research on financial issues related to venture capital and private equity funds as well as start-up, high growth, and newly public companies. After spending a year working as a research biochemist for Bayer Chemical AG, I attended Oxford University on a Marshall Fellowship where I received an MSc in economics, completing my PhD in Business Economics at Harvard University in 1993. I spent two years as an Assistant Professor of Finance at the Graduate School of Business, the University of Chicago, where I created a new course entitled 'Entrepreneurial Finance and Management'. My course development efforts at the Harvard Business School focus on issues affecting entrepreneurial firms and their investors, sources of financing for emerging companies, and private equity funds. My research focuses on the structure, governance, and performance of private equity funds; sources of financing, incentive design, and performance of private firms; and long-run performance evaluation for private equity investments and newly public companies. My work on private equity funds has examined the relationship between general partners and their portfolio companies. I have investigated factors affecting the structure, timing, and monitoring activities by the general partner and how these factors affect the success or failure of entrepreneurial firms. Similarly, I have examined the relationship between institutional investors and private equity fund managers. This work has examined a large collection of partnership agreements and examined issues of compensation, covenants and restrictions, as well as distribution policy and performance. I have also examined factors affecting the valuation

of private equity transactions as well as the risk and return of private equity investments. Other research efforts examine the institutional and market factors that influence the performance of newly public companies.

GONZALO, Jesús

Born 1959, Soria, Spain.

Current Post Prof. Em., Univ. Carlos III de Madrid, Spain, 2001–.

Past Posts Teaching Asst, Univ. Complutense de Madrid, 1981–85; Teaching Asst, Univ. California, San Diego, 1987–90; Asst Prof. Econ., Boston Univ., 1991–96; Vis. Prof. Em., Assoc. Prof. Em., Univ. Carlos III de Madrid, 1995–96, 1996–01.

Degrees BA Univ. Complutense de Madrid, 1981; Master (Quant. Methods), Banco de España, 1983–85; PhD Univ. California, San Diego, 1991.

Offices and Honours PhD Fellowship, Banco de España, 1985–87; PhD Fellowship, Fundación Ramón Areces, 1987–89; Res. Fellowship, Spanish Secretary Educ., 1989–91; Teaching Distinction, Univ. California, San Diego, 1988, 1989, 1990; Mem., Phi Beta Delta, Hon. Soc. Intl Scholars, 1989–; Sloan PhD Fellowship, 1990–91; Res. Award, Univ. Carlos III de Madrid, 1999–2001, 2001–03.

Editorial Duties Assoc. Ed., *Cuadernos Económicos del ICE*, 1991–, *Spanish Econ. Rev.*, 1997–2000, *JAE*, 2001–.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models; C5 Econometric Modeling.

Publications *Articles*: 1. 'Cointegration and aggregation', *Res. in Econ.*, 47, 1993; 2. 'Five alternative methods of estimating long run equilibrium relationships', *J Em*,

60, 1994; 3. 'Estimation of common long memory components in cointegrated systems' (with C. Granger), *JBES*, 13, 1995; 4. 'No lack of relative power of the D-F type tests' (with T. Lee), *J. Time Series Analysis*, 17, 1996; 5. 'P-values of non-standard distributions: the D-F case' (with J. Adda), *Econ. Letters*, 50, 1996; 6. 'Testing for multicointegration' (with T. Engsted, N. Haldrup), *Econ. Letters*, 56, 1997; 7. 'On the exact moments of non-standard asymptotic distributions in non-stationary autoregressions with dependent errors' (with J.Y. Pitarakis), *IER*, 39, 1998; 8. 'Pitfalls in testing for long run relationships' (with T. Lee), *J Em*, 86, 1998; 9. 'Specification via model selection in vector error correction models' (with J.Y. Pitarakis), *Econ. Letters*, 60, 1998; 10. 'Dimensionality effect in cointegration analysis' (with J.-Y. Pitarakis), in R. Engle, H. White (eds), *Cointegration, Causality and Forecasting* (OUP, 1999); 11. 'On the robustness of cointegration tests when series are fractionally integrated' (with T. Lee), *J. Apl. Stats*, 27, 2000; 12. 'Cointegration' (with J. Dolado, F. Marmol), in B. Baltagi (ed.), *A Companion to Theoretical Econometrics* (Blackwell, 2001); 13. 'A systematic framework for analyzing the dynamic effects of permanent and transitory shocks' (with S. Ng), *JEDC*, 25, 2001; 14. 'Estimation and model selection based inference in single and multiple threshold models' (with J.Y. Pitarakis), *J Em*, 110, 2002; 15. 'Lag length estimation in large dimensional systems' (with J.Y. Pitarakis), *J. Time Series Analysis*, 23, 2002; 16. 'A fractional Dickey-Fuller test' (with J. Dolado, L. Mayoral), *Em*, 70, 2002; 17. 'Long range dependence in Spanish political polls' (with J. Dolado, L. Mayoral), *JAE*, forthcoming 2003.

Principal Contributions The three main issues in econometric time series are related to: persistence (long-memory),

non-linearities (asymmetries) and volatility (extreme values). Until now my research has been concentrated in the first two themes producing the following contributions. On persistence/long-memory: (1) power of the Dickey-Fuller (D-F) test for a unit root is larger than the equivalent *t*-statistics for a stationary root; (2) asymptotic distributions of the principal component and canonical correlation estimators of a cointegrating vector; (3) the existence of spurious cointegration (with probability equal to one). This shows how important is to study properly the univariate properties of the time series before analysing their possible cointegration; (4) permanent-transitory decomposition of a cointegrated system, where the permanent as well as the transitory components are observable variables; (5) information criteria to detect the rank of cointegration; (6) a D-F test for fractional processes. With respect to non-linearities/asymmetries: (1) threshold models with unit roots in some regimes (TARUR models), specially designed for variables measured in rates that show certain persistency but have to be stationary; (2) stochastic unit root models where the randomness of the unit root is driven by a threshold economic variable (TARSUR models). This variable constitutes a plausible cause for the existence of that unit root; (3) information criteria to detect the number of threshold regimes to avoid the use of complicated non-standard distributions; (4) threshold moving average models (TIMA models) designed to identify shocks according their sizes; (5) subsampling confidence intervals for threshold parameters. This method makes it possible to test hypotheses on those parameters without having to solve the nuisance parameter dependency. Recently, I have been working in the last of these issues, volatility-extreme values, proposing a method to determine which extreme values are really extremes.

GOODHART, Charles A.E.

Born 1936, London, England.

Current Post Dep. Dir., Fin. Markets Group, LSE, London, UK, 1987–.

Past Posts Asst Lect., Univ. Cambridge, 1963–65; Econ. Adviser, UK Dept Econ. Affairs, 1967–68; Lect. Monetary Econ., Prof., LSE, 1967–69, 1985–2002; Adviser, Chief Adviser, External Mem., Monetary Pol., Bank of England, 1968–85, 1997–2000.

Degrees BA Univ. Cambridge, 1960; PhD Harvard Univ., 1963.

Offices and Honours Prize Fell., Trinity Coll., Cambridge, 1963; Co-founder and Dep. Dir., Fin. Markets Group, 1987–; Mem., Exchange Fund Advisory Comm., Hong Kong, 1989–97; Fell., BA, 1990; CBE for services to Monetary Econ., 1997.

Editorial Duties Treasurer, *REStud*, 1968–75.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E4 Money and Interest Rates; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Books*: 1. *The New York Money Market and the Finance of Trade, 1900–13* (HUP, 1969); 2. *The Business of Banking, 1891–1914* (Weidenfeld & Nicolson, 1972); 3. *Money, Information and Uncertainty* (Macmillan, 1975); 4. *Monetary Theory and Practice: The UK Experience* (Macmillan, 1984); 5. *The Evolution of Central Banks* (MIT Press, 1988); 6. *The Future of Central Banking* (with F. Capie, S. Fisher, N. Schnadt), (CUP, 1994); 7. *The Central Bank and the Financial System* (Macmillan, 1995); 8. *Financial Regulation: Why, How and Where Now* (Routledge, 1998); 9. *The Foreign Exchange Market* (with R. Payne), (Macmillan 2000); 10. *Financial Crises, Contagion and the Lender of Last Resort* (ed. with G. Illing), (OUP, 2002).

Articles: 1. ‘Political economy’, *Polit. Stud.*, 18, March 1970; 2. ‘The importance of money’, *Bank of England Q. Bull.*, 10, June 1970; 3. ‘Money, income and causality: the UK experience’ (with D. Williams, D.H. Gowland), *AER*, 66, June 1976; 4. ‘Why do banks need a central bank?’, *OEP*, 39, 1987; 5. ‘The foreign exchange market: a random walk with a dragging anchor’, *Ec.* 55, Nov. 1988; 6. ‘The conduct of monetary policy’, *EJ*, 99, June 1989; 7. ‘Every minute counts in financial markets’ (with L. Figliuoli), *J. IMF*, 10, March 1991; 8. ‘Can we improve the structure of financial systems?’, *Europ ER*, 37, 1993; 9. ‘One day in June 1993: a study of the working of Reuters 2000-2 Electronic Foreign Exchange System’ (with T. Ito, R. Payne), chap. 4 in J. Frankel, G. Galli, A. Giovanni (eds), *The Microstructure of Foreign Exchange Markets* (UCP, 1996); 10. ‘Whither now?’, *BNLQR*, 203, Dec. 1997.

Principal Contributions After two books on banking history (USA and UK 1890–1913), I concentrated on monetary theory, application and policy, first as an academic, then as adviser to the Bank of England. I was closely involved in formulation and implementation of UK monetary policies from 1968 until 1985; in debates on methods of monetary control I opposed monetary base control. After returning as an academic to LSE, I continued to work on monetary policy and banking issues, but also turned to studies on high-frequency foreign exchange data. I was appointed external member of the Monetary Policy Committee of the Bank of England when it was formed in 1997. Subsequently I worked on financial regulation and systemic stability. I am more widely known for two less serious pieces, first as one of the earliest researchers into the relationship between macroeconomic developments and political popularity, and second as the author of ‘Goodhart’s law’:

any statistical regularity, notably in the monetary area, will break down when pressure is placed upon it for control purposes.

GOODWIN, Barry Kent

Born 1960, Titusville, FL, USA.

Current Post Andersons Endowed Chair, Agric., Environmental and Devlp. Econ., Ohio State Univ., Columbus, OH, USA, 2001–.

Past Posts Asst Prof., Assoc. Prof., Dept Agric. Econ., Kansas State Univ., 1988–93; Assoc. Prof. Prof., Agric. and Resource Econ. Dept, North Carolina State Univ., 1993–2001.

Degrees BS Troy State Univ., 1982; MS (Agric. Econ.) Mississippi State Univ., 1984; PhD North Carolina State Univ., 1988.

Offices and Honours Disting. Professional Contrib. Award, Southern Agric. Econ. Assoc., 1988; Gamma Sigma Delta Hon. Soc., North Carolina State Univ., 1988; Outstanding Res. Poster Award, Kansas Agric. Experimental Station, 1989; Advisor, Outstanding MS Thesis Award, AA, 1991; Teaching Fell., Natl Assoc. Coll. Teachers Agric., 1995; Sigma Xi Sc. Hon. Soc., 1988–93.

Editorial Duties Assoc. Ed., *AJAE*, 1998–2001.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; C1 Econometric and Statistical Methods: General; F0 International Economics: General.

Publications *Books*: 1. *The Economics of Crop Insurance and Disaster Assistance* (with V.H. Smith), (AEI, 1995); 2. *Modeling Structural Change in the United States Textile Industry. Garland Studies on Industrial Productivity* (with S. Yang), (Garland, 2000).

Articles: 1. ‘Testing the law of one

price when trade takes time’ (with T.J. Grennes, M.K. Wohlgenant), *JIMF*, 9, 1990; 2. ‘A revised test of the law of one price using rational price expectations’ (with T.J. Grennes, M.K. Wohlgenant), *AJAE*, 72, 1990; 3. ‘An empirical analysis of the demand for multiple peril crop insurance’, *AJAE*, 75, May 1993; 4. ‘Real interest rate equalization and the integration of international financial markets’ (with T. Grennes), *JIMF*, 13, 1994; 5. ‘Human capital, producer education programs, and the adoption of forward pricing methods’ (with T.C. Schroeder), *AJAE*, 76, Nov. 1994; 6. ‘Structural change in factor demand relationships in the US food and kindred products industry’ (with G. Brester), *AJAE*, 77 Feb. 1995; 7. ‘Semi-nonparametric (distribution-free) testing of the expectations hypothesis in a parimutual gambling market’, *JBES*, 14, Oct. 1996; 8. ‘Farm income variability and the supply of off-farm labor’ (with A.K. Mishra), *AJAE*, 79, Aug. 1997; 9. ‘Nonparametric estimation of crop yield distributions: implications for rating group-risk (GRP) crop insurance contracts’ (with A.P. Ker), *AJAE*, 80, 1998; 10. ‘Spatial market integration’ (with P. Fackler), in G. Rausser, B. Gardner (eds), *Handbook of Agricultural Economics*, Vol II (Elsevier, 2001); 11. ‘Spatial market integration in the presence of threshold effects’ (with N. Piggott), *AJAE*, 83, May 2001.

Principal Contributions I have published on topics of importance to international trade, agricultural economics, and agricultural policy. My work on market integration is frequently cited. Also I have a long-standing research program investigating risk management and insurance policies in agriculture.

GORDON, Robert James

Born 1940, Boston, MA, USA.

Current Posts Stanley G. Harris Prof. Social Sc. and Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1973–; Res. Assoc., NBER, 1978–; Res. Fell., CEPR, 1983–.

Past Posts Asst Prof., Harvard Univ., 1967–68; Asst Prof., Univ. Chicago, 1968–73.

Degrees BA Harvard Univ., 1962; BA, MA Univ. Oxford, 1964, 1969; PhD MIT, 1967.

Offices and Honours Mem., Sr Adviser, Brookings Panel Econ. Activity, 1970–; Fell., Treasurer, Em Soc, 1975–; Guggenheim Foundation Fell., 1980–81; Exec. Comm., AEA, 1981–83; Mem., Advisory Commission to Study the CPI, US Senate, 1995–96; Advisory Bds, CBO, 1997–, Bureau Econ. Analysis 1999–.

Editorial Duties Co-Ed., *JPE*, 1970–73; Ed. Bd, *AER*, 1975–77.

Principal Fields of Interest P5 Comparative Economic Systems; E3 Prices, Business Fluctuations, and Cycles; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *Milton Friedman's Monetary Framework: A Debate with His Critics* (ed.), (UCP, 1974; trans., Japanese, 1978); 2. *Macroeconomics* (Little Brown, 1978, Addison-Wesley, 9th edn 2003; trans., Japanese, Italian, French, Spanish, German, Portuguese); 3. *Challenges to Interdependent Economics: The Industrial West in the Coming Decade* (with J. Pelkmans), (McGraw-Hill, 1979); 4. *The American Business Cycle: Continuity and Change* (ed.), (UCP, 1986); 5. *The Measurement of Durable Goods Prices* (UCP, 1990); 6. *The Economics of New Goods* (UCP, 1997).

Articles: 1. 'The incidence of the corporation income tax in US manufacturing', *AER*, 57, Sept. 1967; 2. '\$45 billion

of US private investment has been mislaid', *AER*, 59, June 1969; 3. 'Alternative responses of policy to external supply shocks', *BPEA*, 6, 1975; 4. 'Output fluctuations and gradual price adjustment', *JEL*, 19, June 1981; 5. 'Why US wage and employment behavior differs from that in Britain and Japan', *EJ*, 92, March 1982; 6. 'Price inertia and policy ineffectiveness in the US, 1890–1980', *JPE*, 90, Dec. 1982; 7. 'The output cost of disinflation in traditional and vector autoregressive models', *BPEA*, 13, 1982; 8. 'The estimation of prewar GNP: methodology and new results', *JPE*, 97, Feb. 1989; 9. 'Foundations of the Goldilocks economy: supply shocks and the time-varying NAIRU', *BPEA*, 29, 1998; 10. 'Does the new economy measure up to the great inventions of the past?', *JEP*, 14, 2000.

Principal Contributions Demonstrated that inflation depends both on demand pressure and supply shocks and that excess demand stems from pressures on the central bank to accommodate wage push, supply shocks and fiscal deficits. Validated the greater inertia of inflation in the postwar US than in either the prewar US or in other postwar countries (especially the UK and Japan). Developed unified theoretical and empirical analysis of why US inflation was so high in the 1970s and so low in the 1990s. Path-breaking research on price measurement for durable goods showed an upward bias in official price indexes of 3 percent per year and developed new techniques to adjust for improvements in performance and energy efficiency. Demonstrated that matched-model price indexes miss substantial components of price increases and decreases captured by hedonic indexes, implying that official price indexes are biased upward for some products and downward for others. Developed a sceptical interpretation of the late 1990s 'New Economy' and revival in productivity growth, arguing that

the former was a minor invention in historical context and that the latter was partially exaggerated by temporary cyclical effects.

GORDON, Roger Hall

Born 1949, Oak Bluffs, MA, USA.

Current Post Prof. Econ., Univ. California, San Diego, La Jolla, CA, USA, 2001–.

Past Posts Asst Prof., Princeton Univ., 1976–80; Tech. staff mem., Bell Labs, 1980–83; Prof. Econ., Reuben Kempf Prof., Univ. Michigan, Ann Arbor, 1984–97, 1997–2001.

Degrees BA (Apl. Maths, *scl*), Harvard Coll., 1972; PhD MIT, 1976.

Offices and Honours Dep. Chair Econ., Univ. Michigan, 1997–2000; Fell., Em Soc, 1996–.

Editorial Duties Assoc. Ed., *Em*, 1985–91, *J Pub E*, 1988–91, *AER*, 1995–96; Co-Ed., *AER*, 1991–95, *J Pub E*, 2002–; Ed. Bd, *ITPF*, 1992–95; Ed., *J Pub E*, 1998–2002.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; F2 International Factor Movements and International Business; P5 Comparative Economic Systems.

Publications *Articles*: 1. ‘Taxation of corporate capital income: tax revenues vs. tax distortions’, *QJE*, 100, Feb. 1985; 2. ‘An examination of multijurisdictional corporate income taxes under formula apportionment’ (with J. Wilson), *Em*, 54, Nov. 1986; 3. ‘Taxation of investment and savings in a world economy’, *AER*, 76, Dec. 1986; 4. ‘Do we collect any revenue from taxing capital income?’ (with J. Slemrod), *Tax Pol. and the Economy*, 2, 1988; 5. ‘Intergenerational risk sharing’ (with H. Varian), *J Pub E*, 37, Nov. 1988; 6. ‘Taxation of asset income in the presence of a world securities market’ (with

H. Varian), *J Int E*, 26, June 1989; 7. ‘Measuring the efficiency cost of taxing risky capital income’ (with J.D. Wilson), *AER*, 79, June 1989; 8. ‘Can capital income taxes survive in open economies?’, *J Fin*, 47, July 1992; 9. ‘Tax distortions to the choice of organizational form’ (with J. MacKie-Mason), *J Pub E*, 55, 1994; 10. ‘Why is capital so immobile internationally? Possible explanations and implications for capital income taxation’ (with A.L. Bovenberg), *AER*, 86, Dec. 1996; 11. ‘How much do taxes discourage incorporation?’ (with J. MacKie-Mason), *J Fin*, 52, June 1997; 12. ‘Tax evasion in an open economy: value-added vs. income taxation’ (with S.B. Nielsen), *J Pub E*, 66, 1997; 13. ‘Can high personal tax rates encourage entrepreneurial activity?’, *IMF Staff Papers*, 45, 1998; 14. ‘Efficiency losses from tax distortions vs. government controls’ (with C.-e. Bai, D. Li), *Europ ER*, 43, 1999; 15. ‘Do taxes affect corporate debt policy? Evidence from US corporate tax return data’ (with Y. Lee), *J Pub E*, forthcoming.

Principal Contributions Much of my research has explored various effects of the corporate income tax, for example: (1) forms of compensation change in response to corporate vs. personal tax rates; (2) firms shift between corporate vs. noncorporate form in response to rate differences; (3) firms’ financial policy changes in response to domestic vs. foreign corporate tax rates as well as domestic personal vs. corporate tax rates; (4) the mix of industries in a country changes in response to foreign vs. domestic corporate rates by industry; (5) the use of portfolio vs. direct investment responds to the corporate vs. personal tax treatment of foreign-source income; and (6) the amount of entrepreneurial activity is affected by personal vs. corporate tax rates. These effects are in addition to those on investment and savings. In fact, exist-

ing taxes on capital income appear to collect no revenue on net, relative to cash-flow taxes at the same rates. My research has also examined the optimal use of corporate tax. While the incidence of the tax falls entirely on labor in a small open economy if capital is freely mobile, results change if capital is less mobile. How they change depends on the reasons for the immobility, e.g., asymmetric information between countries, or a hedging role for domestic equity. If a country is not a price taker in the world capital market, then the corporate tax can also be used to exploit this market power. I have also examined the use of factor apportionment and border corrections to eliminate the gains from transfer pricing. Some of my research has also examined firm and government behavior in transition economies. Among the topics studied have been: productivity growth in Chinese firms; effects of the tax structure on government incentives; and effects of controls on relative wage rates on labor flows among firms.

GORTON, Gary n.e.

GOTTSCHALK, Peter n.e.

GOULDER, Lawrence H.

Born 1951, Cleveland, OH, USA.

Current Post Shuzo Nishihara Prof. Environmental and Resource Econ., Dept Econ. and Inst. Intl Stud., Stanford Univ., Stanford, CA, USA, 2001–.

Past Posts Asst Prof., Assoc. Prof., Dept Econ., Harvard Univ., 1982–86, 1986–89; Vis. Assoc. Prof., Assoc. Prof., Dept Econ., Stanford Univ., 1989–92, 1992–2001.

Degrees AB (Philo.) Harvard Univ., 1973; PhD Stanford Univ., 1982.

Offices and Honours Univ. Fell., Resources for the Future, 1993–; Erik Kempe Prize for Outstanding Paper in Environmental and Resource Econ., 1996.

Editorial Duties Ed. Bd, *J. Devlp. Areas*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; H2 Taxation, Subsidies, and Revenue; L5 Regulation and Industrial Policy.

Publications *Book*: 1. *Environmental Policy Making in Economies with Prior Tax Distortions* (Edward Elgar, 2002).

Articles: 1. ‘Tax policy, asset prices, and growth: a general equilibrium analysis’ (with L.H. Summers), *J Pub E*, 38, Sept. 1989; 2. ‘Approaches to efficient capital taxation: leveling the playing field vs. living by the Golden Rule’ (with P. Thalmann), *J Pub E*, 50, Feb. 1993; 3. ‘Environmental taxation and the “double dividend”’: a reader’s guide’, *ITPF*, 2, Aug. 1995; 4. ‘Effects of carbon taxes in an economy with prior tax distortions: an intertemporal general equilibrium analysis’, *JEEM*, 28, Oct. 1995; 5. ‘Optimal environmental taxation in the presence of other taxes: general equilibrium analyses’ (with A.L. Bovenberg), *AER*, 86, Sept. 1996; 6. ‘Costs of environmentally motivated taxes in the presence of other taxes: general equilibrium analyses’ (with A.L. Bovenberg), *NTJ*, 50, March 1997; 7. ‘Valuing ecosystem services: philosophical bases and empirical approaches’ (with D. Kennedy), in G. Daily (ed.), *Nature’s Services: Societal Dependence on Natural Ecosystems* (Island Press, 1997); 8. ‘Revenue-raising vs. other approaches to environmental protection: the critical significance of pre-existing tax distortions’ (with I. Parry, D. Burtraw), *RandJIE*, 28, Winter 1997; 9. ‘Environmental policy making in a second-best setting’, *JAЕ*, 1, Nov. 1998, repr. in R.N. Stavins (ed.), *Economics of the Environment, Selected*

Readings (W.W. Norton, 1999); 10. 'When can CO₂ abatement policies increase welfare? The fundamental role of pre-existing factor market distortions' (with I. Parry, R. Williams, III), *JEEM*, 37, Jan. 1999; 11. 'The cost-effectiveness of alternative instruments for environmental protection in a second-best setting' (with I. Parry, R. Williams, III, D. Burtraw), *J Pub E*, 72, 1999; 12. 'Induced technological change and the attractiveness of CO₂ emissions abatement policies' (with S.L. Schneider), *Resource and Energy Econ.*, 21, 1999; 13. 'Optimal CO₂ abatement in the presence of induced technological change' (with K. Mathai), *JEEM*, 39, Jan. 2000; 14. 'Valuing nature' (with D. Kennedy), in G. Ernst (ed.), *Earth Systems: Processes and Issues* (Stanford Univ. Press, 2000); 15. 'Neutralizing the adverse industry impacts of CO₂ abatement policies: what does it cost?' (with A.L. Bovenberg), in C. Carraro, G. Metcalf (eds), *Behavioral and Distributional Effects of Environmental Policies* (UCP, 2001); 16. 'Environmental taxation and regulation' (with A.L. Bovenberg), in A. Auerbach, M. Feldstein (eds), *Handbook of Public Economics*, Vol. 3 (Elsevier Press, 2002); 17. 'International approaches to reducing greenhouse gas emissions' (with B. Nadreau), in S. Schneider, A. Rosencrantz, J.O. Niles (eds), *Climate Change Policy: A Survey* (Island Press, 2002); 18. 'An eye on the future – the economists' practice of discounting' (with R.N. Stavins), *Nature*, 17, Oct. 2002; 19. 'The substantial bias from ignoring general equilibrium effects in estimating excess burden, and a practical solution' (with R.C. Williams, III), *JPE*, forthcoming.

Principal Contributions Much of my work examines the environmental and economic impacts of US and international environmental policies. I often employ a general equilibrium analytical framework that integrates the economy and the environ-

ment and links the activities of government, industry, and households. My work has helped bring out how environmental policy instruments such as pollution quotas, permits and taxes affect factor markets throughout the economy. A major theme of this work is that environmental policy instruments interact significantly with pre-existing factor taxes (such as income and sales taxes) and that, as a result, some of the most important impacts of environmental policies emerge in factor markets. This general equilibrium analysis yields very different cost estimates for various environmental policies, relative to the estimates that would emerge from sector-specific or partial equilibrium studies. In addition, the general equilibrium approach changes significantly the rankings of alternative environmental policy approaches in terms of cost-effectiveness.

GRAMLICH, Edward Martin

Born 1939, Rochester, NY, USA.

Current Post Governor, Fed. Reserve Bd, Washington, DC, USA, 1997–.

Past Posts Res. and Stats Div., Fed. Reserve Bd, Washington, DC, 1965–67; Vis. Prof., Monash Univ., Melbourne, Australia, 1970; Dir., Pol. Res. Div., US Office Econ. Opportunity, Washington, DC, 1970–73; Sr Fell., Brookings Inst., 1970–75; Vis. Prof., Cornell Univ., 1975–76; Prof. Econ. and Public Pol., Univ. Michigan, Ann Arbor, 1976–97; Dep. and Acting Dir., CBO, 1986–87.

Degrees BA Williams Coll., 1961; MA, PhD Yale Univ., 1962, 1965.

Offices and Honours Econ. Panel, NSF, 1973–75; Pol. Council, Vice-Pres., Assoc. Public Pol. and Mgmt, 1979–85, 1979–80; Vice-Pres., AEA, 1992.

Editorial Duties Ed. Bds, *NTJ*, 1970–84, *Evaluation Rev.*, 1980–84, *JEL*, 1981, *J. Pol. Analysis and Mgmt*, 1982–.

Principal Fields of Interest E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Savings Deposits, Mortgages and Housing in the FRB–MIT–Penn Econometric Model* (ed. with D.M. Jaffee), (D.C. Heath, 1972); 2. *Setting National Priorities: The 1975 Budget* (with B.M. Blechman, R.W. Hartman), (Brookings Inst., 1974); 3. *Educational Performance Contracting: An Evaluation of an Experiment* (with P.P. Koshel), (Brookings Inst., 1975); 4. *Setting National Priorities: The 1976 Budget* (with B.M. Blechman, R.W. Hartman), (Brookings Inst., 1975); 5. *Benefit–Cost Analysis of Government Programs* (Prentice-Hall, 1981, 1990, Waveland Press, 1997); 6. *Tax Reform: There Must be a Better Way* (with P.N. Courant), (Natl Pol. Exchange, 1982); 7. *Financing Federal Systems: The Selected Essays of Edward M. Gramlich* (Edward Elgar, 1997); 8. *Is It Time to Reform Social Security?* (Univ. Michigan Press, 1998).

Articles: 1. ‘The behavior and adequacy of the US federal budget, 1952–64’, *YEE*, 6, Spring 1966; 2. ‘The channels of monetary policy: a further report on the FRB–MIT econometric model’ (with F. de Leeuw), *J Fin*, 24, May 1969, repr. in *Fed. Reserve Bull.*, June 1969, W.E. Gibson, G.C. Kaufman (eds), *Monetary Economics, Readings on Current Issues* (McGraw-Hill, 1971), and T. Havrilesky (ed.), *Monetary Theory and Policy* (AHM Publ., 1976); 3. ‘State and local governments and their budget constraint’, *IER*, 10, June 1969; 4. ‘A statistical analysis of the OEO experiment in educational performance contracting’ (with I. Garfinkel), *JHR*, 8, Summer 1973, repr. in R.H. Haveman *et al.* (eds), *The 1973 Benefit Cost and Policy Analysis Annual* (Brookings Inst., 1974); 5. ‘State and lo-

cal fiscal behavior and federal grant policies’ (with H. Galper), *BPEA*, 1, 1973; 6. ‘The impact of minimum wages on other wages, employment and family incomes’, *BPEA*, 2, 1976; 7. ‘Macro policy responses to price shocks’, *BPEA*, 1, 1979; 8. ‘Public employee market power and the level of government spending’ (with P.N. Courant, D.L. Rubinfeld), *AER*, 69, Dec. 1979, repr. in W.P. Beaton (ed.), *Municipal Expenditures, Revenues, and Services* (Rutgers Univ. Press, 1984); 9. ‘Using micro data to estimate public spending demand functions and test the Tiebout and median voter hypotheses’ (with D.L. Rubinfeld), *JPE*, 90, June 1982; 10. ‘Reflections of a policy economist’, *Amer. Econ.*, Spring 1997.

Principal Contributions My early work was in macroeconomics, building a small macro model for my thesis and then being part of a project to build a large one at the Federal Reserve Board. One of the interesting projects I became involved in then was the question of how to model the fiscal behaviour of state and local governments – a framework I developed then and have used since to look at all kinds of questions regarding grant behaviour, conversion of grants to block form, public employment and swings in state and local saving. Later I became interested in questions of poverty and unemployment and took a job at the Office of Economic Opportunity. Ideas for papers on the distributional impact of the business cycle and minimum wages originated there. In addition, I was introduced to the fascinating question of programme evaluation, first with the performance contracting experiment and later continuing with my benefit–cost text. This focuses particularly on the evaluation of distributional programmes. These earlier interests continued when I moved to Michigan, and were supplemented by a new one. Tax cut fever was in the air at the time, and I began

working on the analytics of tax limitation amendment, with new colleagues Paul Courant and Daniel Rubinfeld. Later on my career was enriched by public services. I served as Deputy and Acting Director of the Congressional Budget Office in 1986–87, and working on budget deficits and national survey preoccupied me for some years later. From 1994–96 I chaired the Quadrennial Advisory Council on Social Security and these issues became important to me thereafter. In late 1997, I was appointed as a Governor of the Federal Reserve Board in Washington, DC, ironically the same agency as for my very first professional job.

GRANGER, Clive William John

Born 1934, Swansea, Wales.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 1974–.

Past Posts Asst Lect. Maths, Lect. Econ., Reader Maths, Prof. Apl. Stats and Em., Univ. Nottingham, 1955–57, 1958–63, 1964–65, 1965–74; Vis. Prof., Princeton Univ., 1959–60, Stanford Univ., 1963, ANU, 1977; Vis. Fell., All Souls Coll., Oxford, 1994; Chancellor's Assoc. Chair, 1994–; Vis. Fell., Trinity Coll., Cambridge, 1996.

Degrees BA (Maths), PhD (Stats) Univ. Nottingham, 1955, 1959.

Offices and Honours Harkness Fell., Commonwealth Fund, 1959; Guggenheim Fell., 1988; AAAS, 1994; Hon. DSc Univ. Nottingham, 1994; Dr (*hc*) Univ. Carlos III, Madrid; Fell., Council, Em Soc, 1992, 1994–; Bd Dirs, ASA, 1985–87; Frank Paish Lecture, London, 1992; A.W. Phillips Lecture, Monash Univ., 1992; Fisher–Schultz Lecture, Uppsala Univ., 1993; Marshall Lectures, Cambridge Univ., 1998; Disting. Fell., AEA, 2003–.

Editorial Duties Assoc. Ed., *Apl. Econ.*, 1973–96, *J Fin E*, 1975–79, *J Em*, 1977–

84, *JASA*, 1978–80, *J. Time Series Analysis*, 1980–96, *Energy*, 1981–83, *JBES*, 1982–85, *Communications in Stats*, 1983–85, *Spectrum*, 1984, *J. Forecasting*, 1993–96, *J. Econ. Methodology*, 1993–96, *Pakistan J. Apl. Econ.*, 1993–96; Advisory Bds, *Theoretical Em.*, 1984, *J. Econ. Surveys*, 1994–, *Apl. Em.*, 1995–.

Principal Fields of Interest C4 Econometric and Statistical Methods: Special Topics; G1 General Financial Markets; B4 Economic Methodology.

Publications *Books*: 1. *Spectral Analysis of Economic Time Series* (with M. Hatanaka), (Princeton Univ. Press, 1964, trans., French, Dunod, 1969); 2. *Predictability of Stock Market Prices* (with O. Morgenstern), (D.C. Heath, 1970); 3. *Speculation, Hedging and Forecasts of Commodity Prices* (with W.C. Labys), (D.C. Heath, 1970; trans., Japanese, 1976); 4. *Forecasting Economic Time Series* (with P. Newbold), (Acad. Press, 1977, 1986); 5. *Introduction to Bilinear Time Series Models* (ed. with A. Anderson), (Vandenhoeck & Ruprecht, 1978); 6. *Trading in Commodities* (ed. and contrib.), (Woodhead-Faulkner, 3rd edn 1983); 7. *Forecasting in Business and Economics* (Acad. Press, 1980, 1989; trans., Chinese, 1993, Japanese, 1994); 8. *Modelling Economic Series: Readings in Econometric Methodology* (OUP, 1990); 9. *Long-Run Economic Relationships: Readings in Cointegration* (ed. with R. Engle), (OUP, 1991); 10. *Modelling Nonlinear Dynamic Relationships* (with T. Teräsvirta), (OUP, 1993).

Articles: 1. 'The combination of forecasts' (with J. Bates), *OR Q.*, 20, 1969; 2. 'Spurious regressions in econometrics' (with P. Newbold), *J Em*, 2, 1974; 3. 'An introduction to long-memory time series' (with R. Joyeux), *J. Time Series Analysis*, 1, 1980; 4. 'Testing for causality, a personal viewpoint', *JEDC*, 2, 1980; 5. 'Implications of aggregation with common fac-

tors', *ET*, 3, 1987; 6. 'Dynamic model specification with equilibrium constraints: co-integration and error-correction' (with R. Engle), *Em*, 55, 1987; 7. 'Long-memory processes with attractors' (with J. Hallman), *OBES*, 53, 1991; 8. 'Forecasting stock market prices: lessons for forecasters', *Intl J. Forecasting*, 8, 1992; 9. 'Estimation of common long-memory components in co-integrated systems' (with J. Gonzalo), *JBES*, 13, Jan. 1995; 10. 'Causality in the long run' (with J.-L. Lin), *ET*, 11, 1995.

Principal Contributions I have been involved in the promotion of a number of ideas in econometrics, some of which have had an impact in mainstream economics. These include spectral analysis, an operational definition of causation, the combination of forecasts, cointegration in its various forms, fractionally integrated and bilinear processes, and the aggregation of time series with common features. More recently I have become more interested in econometric methodology and multivariate non-linear time-series analysis, with applications to macroeconomics and financial data.

GREENAWAY, David

Born 1952, Glasgow, UK.

Current Posts Prof. Econ., Dir., Leverhulme Centre Res. on Globalisation and Econ. Pol., Head Sch. Econ., Univ. Nottingham, England, 1987–, 1998–, 2002–.

Past Posts Lect. Econ., Leicester Polytech., 1975–78; Lect. Econ., Reader, Sr Lect. Econ., Prof. Intl Econ., Univ. Buckingham, 1979–83, 1983–84, 1984–86, 1986–87; Head Dept, Univ. Nottingham, 1987–91; Dir., Centre Res. Econ. Devlp. and Intl Trade, Univ. Nottingham, 1987–94; Dean, Faculty Law and Social Sc., Pro-Vice-Chancellor, Univ. Nottingham, 1991–94, 1994–2001.

Degrees BSc Univ. London, 1974; MCom Univ. Liverpool, 1975.

Offices and Honours Select Comm. Advice to House of Commons and House of Lords, 1981–93, 2001; Assoc. Dir., Maxwell Stamp plc, 1984–89; General Adviser, Macmillan Educ., 1990–99; Chairman, ESRC Intl Econ. Study Group, 1990–94; Dir., Chairman, Zeton Ltd (Univ. Nottingham Tech. Transfer Holding Co.), 1990–94, 1993–94; Mem., Council RES, 1990–97; Mem., Acad. Advisory Council, IEA, 1991–; Mem., Exec. Comm. RES, 1991–97; Mem., Chair, Standing Comm., UK Conf. of Heads of Univ. Depts Econ., 1992–94, 1994–97; Mem., Tech. Foresight Steering Group, Office Sc. and Tech., Cabinet Office, 1994–95; Non-Exec. Dir., Nottingham Health Authority, 1994–98; Vice-Chair, Chair, Res. Assessment Panel for Econ. and Em., Higher Educ. Funding Council, 1995–96, 1999–2001; Governor, NIESR, 1995–; DLitt, Univ. Nottingham, 1997; Council Mem., ESRC, 1997–2001; Mem., Armed Forces Pay Rev. Body, 1998–; Non-Exec. Dir., Queen's Medical Centre Hospital Trust, 2001–.

Editorial Duties Series Ed., *Current Issues in Economics* (Macmillan, 11 vols), 1986–94, *Case Studies in Economic Development* (Macmillan, 4 vols), 1988–99; Ed. Bds, *Apl. Econ.*, 1988–, *J. Intl Comparative Econ.*, 1990–96, *J. Intl Trade and Econ. Devlp.*, 1992–; Ed., *RES Newsletter*, 1989–95; Assoc. Ed, *EJ*, 1989–98; Joint Managing Ed., *World Econ.*, 1990–; Ed. Advisory Bd, *Rev. Intl Econ.*, 1994–97, *MS*, 1997–.

Principal Fields of Interest F1 Trade; F2 International Factor Movements and International Business; O1 Economic Development.

Publications *Books*: 1. *International Trade Policy: From Tariffs to the New Protectionism* (Macmillan, 1983); 2. *The Economics of Intra Industry Trade* (with C.R.

Milner), (Blackwell, 1986); 3. *Imperfect Competition and International Trade: The Policy Aspects of Intra-Industry Trade* (ed. with P.K.M. Tharakan), (Wheatsheaf Books, Humanities Press, 1986); 4. *Companion to Contemporary Economic Thought* (ed. with M.F. Bleaney, I.M.T. Stewart), (Routledge, 1991); 5. *Evaluating Trade Policy in Developing Countries: A Manual of Policy Analysis* (with C.R. Milner), (Macmillan, Michigan Univ. Press, 1993); 6. *Surveys in International Trade* (ed. with L.A. Winters), (Blackwell, 1994); 7. *Globalisation and Labour Markets*, Vols 1, 2 (ed. with D. Nelson), (Edward Elgar, 2001); 8. *Trade, Investment, Migration and Labour Market Adjustment* (ed. with R. Upward, K. Wakelin), (Palgrave, 2002).

Articles: 1. 'On the measurement of intra industry trade' (with C.R. Milner), *EJ*, 93, 1983; 2. 'A cross section analysis of intra industry trade in the UK' (with C.R. Milner), *Europ ER*, 25, 1984; 3. 'Trade in differentiated goods and the shifting of protection across sectors' (with C.R. Milner), *Europ ER*, 32, 1988; 4. 'Liberalization through rose coloured glasses', *EJ*, 103, 1993; 5. 'Long-run trends in the relative price of primary commodities and in the terms of trade of developing countries' (with M.F. Bleaney), *OEP*, 45, 1993; 6. 'Currency competition, network externalities and switching costs: towards an alternative view of optimum currency areas' (with K. Dowd), *EJ*, 103, 1993; 7. 'Horizontal and vertical intra-industry trade: a cross industry analysis for the UK' (with C.R. Milner, R.C. Hine), *EJ*, 105, 1995; 8. 'Modelling growth and liberalisation using smooth transitions analysis' (with S.J. Leybourne, D.R. Sapsford), *EI*, 35, 1997; 9. 'Trading preferentially: theory and policy' (with J. Bhagwati, A. Panagariya), *EJ*, 108, 1998; 10. 'An empirical assessment of the impact of trade on employment in the United Kingdom'

(with R.C. Hine, P.W. Wright), *EJPE*, 15, 1999; 11. 'The impact of terms of trade and real exchange rate volatility on investment and growth in Sub-Saharan Africa' (with M.F. Bleaney), *JDE*, 65, 2001; 12. 'Trade liberalisation and growth in developing countries' (with C.W. Morgan, P.W. Wright), *JDE*, 67, 2002.

Principal Contributions Broadly speaking my work falls into three areas: international trade, economic development and globalisation and labour market adjustment. A major research theme with respect to the first has been monopolistic competition and international trade in general and the determinants of intra-industry trade in particular. In collaboration with Chris Milner, I have contributed to the measurement and explanation of the phenomenon in the UK and elsewhere, helping to demonstrate that the growth and pattern of the phenomenon is determined by inter-country and inter-industry differences. My work on trade and development has focused principally on the structure and pattern of intervention and its impact on economic performance. As well as investigating the impact of intervention on relative incentives in a theoretical context, a range of papers have estimated the impact of intervention across a number of developing countries. These have contributed to the literature targeted at highlighting the costs of protection. Present work, supported by a Leverhulme Programme Grant, focuses on the impact of globalisation on a range of economic processes including adjustments in labour markets. Principal current interests are the characteristics of firms that enter and exit export markets and, more generally, firm level adjustment to trade and foreign direct investment.

GREENWALD, Bruce C.N.

Born 1946, New York, NY, USA.

Current Posts Heilbrunn Prof. Fin. Econ., Columbia Univ., NY, USA, 1991–.

Past Posts Lect. Econ., Wesleyan Univ., 1973–77; Tech. Staff, Bell Labs, 1977–83 (on leave 1980–82); Asst Prof., Harvard Bus. Sch., 1980–82, 1983–85; Tech. Staff, Bell Communications Res., 1985–91.

Degrees BS, PhD MIT, 1967, 1978; MS (Electrical Eng.), MPA (Public Affairs) Princeton Univ., 1969.

Principal Fields of Interest D8 Information and Uncertainty; G2 Financial Institutions and Services; D2 Production and Organizations.

Publications *Books*: 1. *Adverse Selection in the Labor Market* (Garland, 1979); 2. *Value Investing* (with J. Kakn *et al.*), (John Wiley, 2001); 3. *Towards a New Paradigm in Monetary Economics* (with J. Stiglitz), (CUP, 2002).

Articles: 1. 'Adverse selection in the market for slaves' (with R. Glasspiegel), *QJE*, 98, Sept. 1983; 2. 'General analysis of bias in least squares estimates of coefficient covariance matrices', *J Em*, 23, Sept. 1983; 3. 'Informational imperfections in capital markets and macroeconomic fluctuations' (with J. Stiglitz, A. Weiss), *AER*, 74, May 1984; 4. 'Adverse selection in the labor market', *REStud*, 51, May 1984; 5. 'Externalities in economies with imperfect information and incomplete markets' (with J. Stiglitz), *QJE*, 101, May 1986; 6. 'Information, finance constraints fluctuations' (with J. Stiglitz), in M. Kohn, S.C. Tsiang (eds), *Expectations and Macroeconomics* (OUP, 1988); 7. 'Toward a theory of rigidities' (with J. Stiglitz), *AER*, 79, May 1989; 8. 'Macroeconomic models of equity and credit rationing' (with J. Stiglitz), in R.G. Hubbard (ed.), *Asymmetric Information, Corporate Finance and Investment* (UCP, 1993); 9. 'Financial market imperfections and busi-

ness cycles' (with J. Stiglitz), *QJE*, 108, June 1993; 10. 'Imperfect information, labor market adjustments and unemployment' (with J. Stiglitz), *AER*, 85, May 1995.

Principal Contributions My work arises from the revolutionary change in economics in the late 1960s and early 1970s when economists began to look at information (who knows what?) as more than just another kind of uncertainty. By examining the consequences of the distribution of information rather than just the amount available, economists were able to substantially extend the reach of useful economic analysis, in particular this was true of situations in which some agents are better informed than others (asymmetrical information distribution). In these situations, agents' actions may reveal information to other agents that fundamentally undermines the efficacy of the original action. The action with which my research has been concerned is the simple decision to sell by a supplier with superior information. This may involve a firm deciding to sell additional equity at the going market price or an individual deciding to leave one firm for another at the wage available to him or her in the market or a wide range of insurance situations where a well-informed agent offers to sell some of the risks (and rewards) of his or her actions to a less well-informed buyer. In every case the fact of sale conveys strong negative information and this will tend to discourage both buyers and sellers. The resultant breakdowns of the markets involved either wholly or partially mean that economic prescriptions based on the assumption of free, unfettered exchange are no longer applicable. The consequences of this failure are pervasive. Most important, firms cannot in general share risks by selling appropriately designed financial instruments. They must, therefore, absorb these risks through the

cushion provided by their existing stocks of uncommitted cash flow (wealth). The greater firm wealth, the greater firm activity and the more rapidly they are prepared to take advantage of risky new opportunities. Losses in firm wealth reduce such activity leading to both amplified cyclical fluctuations in output, price rigidities and lower overall productivity growth. These phenomena also provide a new interpretation of the role and efficacy of monetary policy.

GREENWOOD, Jeremy n.e.

GREGG, Paul Anthony

Born 1960, Shrivenham, Oxfordshire, UK.

Current Posts Reader Econ, Univ. Bristol, UK, 1999–; Mem., Council Econ. Advisers, HM Treasury, UK, 1997–.

Past Posts Res. Fell., NIESR, 1987–99; Sr Res. Fell., Centre Econ. Performance, LSE, 1995–99.

Degrees BA Kent Univ., 1982; MSc (Ind. Relations) LSE, 1985.

Principal Fields of Interest J6 Mobility, Unemployment, and Vacancies; I3 Welfare and Poverty; J1 Demographic Economics.

Publications *Books*: 1. *Coping with Recession: UK Company Performance in Adversity* (with P. Geroski), (CUP, 1997); 2. *The State of Working Britain* (with J. Wadsworth), (Manchester Univ. Press, 1999).

Articles: 1. 'Unions, the demise of the closed shop and wage growth in the 1990s' (with S. Machin), *OBES*, 54, 1992; 2. 'The disappearing relationship between directors' pay and corporate performance' (with S. Machin, S. Szymanski), *BJIR*, 31, 1993; 3. 'Signals and cycles: productivity growth and changes in union status in British com-

panies, 1984–89' (with S. Machin, D. Metcalf), *EJ*, 103, 1993; 4. 'Wages councils: was there a case for abolition?' (with R. Dickens, S. Machin, A. Manning, J. Wadsworth), *BJIR*, 31, 1993; 5. 'Out for the count again! A social scientist's analysis of the unemployment statistics in the UK', *JRSS-A*, 157, 1994; 6. 'Has the decline of unions accelerated in the recession?' (with P. Geroski, T. Desjonquieres), *BJIR*, 33, 1995; 7. 'A short history of labour turnover, job tenure and job security, 1975–1993' (with J. Wadsworth), *OREP*, 11, 1995; 8. 'Taking care of business: executive compensation in the UK' (with M. Conyon, S. Machin), *EJ*, 105, 1995; 9. 'Company growth strategies and vulnerability to shocks' (with P. Geroski), *Europ ER*, 40, 1996; 10. 'How effective are state employment agencies? Job centre use and job matching in Britain' (with J. Wadsworth), *OBES*, 58, 1996; 11. 'Skill biased change, unemployment and wage inequality' (with A. Manning), *Europ ER*, 41, 1997; 12. 'Poor kids: trends in child poverty in Britain 1968–96' (with S. Harkness, S. Machin), *Fiscal Stud.*, 20, 1999; 13. 'New labour and the labour market' (with R. Dickens, J. Wadsworth), *OREP*, 16, 2000; 14. 'Poles apart: labour market performance and the distribution of work across households' (with J. Wadsworth), *World Econ.*, 1, 2000; 15. 'Mind the gap, please: the changing nature of entry jobs in Britain' (with J. Wadsworth), *Em*, 67, 2000; 16. 'The impact of youth unemployment on adult unemployment in the NCDS', *EJ*, 111, 2001; 17. 'Job tenure in the UK 1975–98' (with J. Wadsworth), *OBES*, 64, 2002; 18. 'Everything you wanted to know about workless households but were afraid to ask: worklessness and polarisation at the household level' (with J. Wadsworth), *OBES*, 64, 2002.

Principal Contributions Major contributions have been the development of

the concept and analysis of 'workless households' and showing the divergence between individual and household measures of worklessness. Most of my other research is applied analysis of developments in the UK labour market of unemployment, wages, etc. In particular the evidence of scarring effects from unemployment on people's future wages and employment chances including the cost of job loss. In a related field the rise of child poverty and the relationships between family income in childhood and child wage and other outcomes have been studied. Perhaps as important has been policy work as a member of the Council of Economic Advisers at the Treasury. Here I have worked with teams developing the New Deal programmes with a particular responsibility for the Gateway element and the extension of these programmes to lone parents, the disabled and partners of claimants. Also I have worked on the government's tax credits and welfare reform agendas. Policy advice was also influential in the development of the government's assault on child poverty and attempts to widen opportunity, including the Educational Maintenance Allowance and the Sure Start programmes.

GREGORY, Allan W. n.e.

GREGORY, Robin Scott

Born 1950, Berkeley, CA, USA.

Current Post Sr Researcher, Decision Res., Vancouver, BC, Canada and Eugene, OR, USA, 1984–.

Past Posts Program Manager, Decision Risk and Mgmt Sc., NSF, 1988–89; Vis. Prof. Decision Sc., Univ. Oregon, 1991–94.

Degrees BA Yale Univ., 1972; MA

(Natural Resource Econ.), PhD (Econ. and Psychology) UBC, 1974, 1982.

Principal Fields of Interest Q2 Renewable Resources and Conservation, Environmental Management; Q3 Nonrenewable Resources and Conservation; D7 Analysis of Collective Decision-Making.

Publications Articles: 1. 'Interpreting measures of economic loss: evidence from contingent valuation and experimental studies', *JEEM*, 13, 1986; 2. 'A review of the high-level nuclear waste repository siting analysis' (with S. Lichtenstein), *Risk Analysis*, 7, 1987; 3. 'Adapting the environmental impact statement process to inform decision makers' (with R. Keeney, D. Von Winterfeldt), *JPAM*, 11, 1992; 4. 'Assessing the quality of expressed preference measures of value' (with D. MacGregor, S. Lichtenstein), *JEBQ*, 17, 1992; 5. 'Perceived risk, dread, and benefits' (with R. Mendelsohn), *Risk Analysis*, 13, 1993; 6. 'Valuing environmental resources: a constructive approach' (with S. Lichtenstein, P. Slovic), *JRU*, 7, 1993; 7. 'Creating policy alternatives using stakeholder values' (with R. Keeney), *Mgmt Sc.*, 40, 1994; 8. 'Technological stigma' (with J. Flynn, P. Slovic), *Amer. Sc.*, 83, 1995; 9. 'Valuing risks to the environment' (with T. Brown, J. Knetsch), *Annals Amer. Assoc. Polit. and Social Sc.*, 545, 1996; 10. 'Decision pathway surveys: a tool for resource managers' (with J. Flynn, S. Johnson, T. Satterfield, P. Slovic, R. Wagner), *Land Econ.*, 73, 1997; 11. 'Valuing environmental policy options: a case-study comparison of multiattribute and contingent valuation survey methods', *Land Econ.*, 76, 2000; 12. 'Using stakeholder values to make smarter environmental decisions', *Environment*, 42, 2000; 13. 'Decision aiding, not dispute resolution: creating insights through structured environmental decisions' (with T. McDaniels, D. Fields), *JPAM*, 20, 2001; 14. 'Using decision analysis to encourage

sound deliberation: water-use planning in British Columbia, Canada' (with L. Failing), *JPAM*, 21, 2002; 15. 'Incorporating value tradeoffs into community-based environmental risk decisions', *Environmental Values*, 11, 2002; 16. 'A multi-channel stakeholder consultation process for transmission deregulation (with B. Fischhoff, S. Thorne, G. Butte), *Energy Pol.*, forthcoming.

Principal Contributions My work seeks to bring to economics a more accurate description of what people value and how they make choices under uncertainty, and then to combine this with prescriptive advice to decision makers about ways to address difficult value tradeoffs and to create policy alternatives that will best meet these personal and social objectives.

GREIF, Avner

Born 1955, Tel Aviv, Israel.

Current Post Bowman Family Endowed Prof. Humanities and Sc., Dept Econ., Stanford Univ., Stanford, CA, USA, 2001–.

Past Posts Asst Prof., Assoc. Prof. with tenure, Prof., Dept Econ., Stanford Univ., 1989–94, 1994–98, 1998–2001; Vis. Sr Lect. or Prof., Dept Econ., Tel Aviv Univ., 1993, 1995, 1997, 2000, 2002; Vis. Scholar, Dept Econ., Univ. Tokyo, 1993; Assoc. Prof. Hist., Stanford Univ., 1995.

Degrees BA (Econ. and Hist. Jewish People, *mcl*), MA (Hist. Jewish People, *scl*) Tel Aviv Univ., 1981, 1985; MA (Hons), PhD Northwestern Univ., 1987, 1989.

Offices and Honours Various Dante Lattes Scholarships, Tel Aviv Univ., Wolf Foundation Scholarship, Israel, 1981–85; Alexander Gerschenkron Prize for best dissertation in Europ. Econ. Hist., EHA, 1989–90; Natl Fellowship, Hoover Inst., Stanford Univ., 1992; Fellowship, Center

Adv. Stud. Behav. Sc., Stanford, 1993; Jr Fell., Inst. Pol. Reform, Washington, DC, 1994; Gordon and Dailey Fattee Faculty Fellowship, Stanford Univ., 1996; Charter Mem., Game Theory Soc., 1997; Faculty Fell., Center Res. Econ. Devlp. and Pol. Reform, Stanford Univ., 1998; MacArthur Foundation Fell., 1998–2003; Fell., Em Soc, 1999; Bd Dirs, Intl Soc. New Inst Econ., 2001.

Editorial Duties Ed., *JEH*, 1997–2001.

Principal Fields of Interest N0 Economic History: General; C7 Game Theory and Bargaining Theory.

Publications *Books*: 1. *Analytic Narrative* (with B. Bates, M. Levi, J.-L. Rosenthal, B. Weingast), (Princeton Univ. Press, 1998); 2. *Comparative and Historical Institutional Analysis* (CUP, forthcoming).

Articles: 1. 'Reputation and coalitions in medieval trade: evidence on the Maghribi traders', *JEH*, 49, Dec. 1989; 2. 'Institutions and international trade: lessons from the commercial revolution', *AER*, 82, May 1992; 3. 'Contract enforceability and economic institutions in early trade: the Maghribi traders' coalition', *AER*, 83, June 1993; 4. 'On the political foundations of the late medieval commercial revolution: Genoa during the twelfth and thirteenth centuries', *JEH*, 54, June 1994; 5. 'Coordination, commitment and enforcement: the case of the merchant guild' (with P. Milgrom, B. Weingast), *JPE*, 102, Aug. 1994; 6. 'Cultural beliefs and the organization of society: a historical and theoretical reflection on collectivist and individualist societies', *JPE*, 102, Oct. 1994; 7. 'Contract enforcement institutions: historical perspective and current status in Russia' (with E. Kandel), in E.P. Lazear (ed.), *Economic Transition in Eastern Europe and Russia: Realities of Reform* (Hoover Inst. Press, 1995); 8. 'Contracting, enforcement, and efficiency: economics beyond the law', in M. Bruno,

B. Fleskovic (eds), *Annual World Bank Conference on Development Economics, 1997* (World Bank, 1997); 9. 'Historical and comparative institutional analysis', *AER*, 88, May 1998; 10. 'The fundamental problem of exchange: a research agenda in historical institutional analysis', *Europ. Rev. Econ. Hist.*, 4, Dec. 2000; 11. 'Organizing violence' (with R. Bates, S. Singh), *J. Conflict Resolution*, 2002.

Principal Contributions Game theory has provided a new way to study institutions, their historical development, and their influence on economic, social, and political outcomes. It enables departing from and extending the long tradition in economics and political science of studying institutions as laws and rules specified and enforced by the state. Studying such state-mandated institutions limits our ability to study the institutional foundations of the state and non-state-mandated institutional foundations of exchange. My theoretical and empirical research has utilized this analytical framework together with primary sources to conduct a comparative analysis of institutions. I have particularly concentrated on institutional foundations of markets and states in past and contemporary societies. These analyses highlighted, in particular, the role of social norms in guiding behavior, the cultural foundations of market institutions, and institutional remedies for the ability to use coercive force to allocate resources.

GRIER, Kevin Blaine

Born 1958, Staten Island, NY, USA.

Current Post Prof. Econ., Univ. Oklahoma, Norman, OK, USA, 1999–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., George Mason Univ., 1984–91, 1991–94; Vis. Asst Prof. Econ. and Polit. Sc., California Inst. Tech., 1987–88; Res. Assoc., Center for Study of Pub-

lic Choice, 1988–94; Prof. Econ. and Polit. Econ., Murphy Inst. Polit. Econ. and Econ. Dept, Tulane Univ., 1994–97; Prof. Econ., Centro de Investigación y Docencia Económica (CIDE), México, 1997–99.

Degrees BA Cedarville Coll., 1979; MA Miami Univ., 1980; PhD Washington Univ., 1984.

Editorial Duties Assoc. Ed., *Public Choice*, 1991–96; Co-Ed., *SEJ*, 1997–2002.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; O4 Economic Growth and Aggregate Productivity; C5 Econometric Modeling.

Publications *Articles*: 1. 'Deficits, politics and money growth', *EI*, 25, April 1987; 2. 'Presidential politics and federal reserve independence: an empirical test', *SEJ*, 54, Oct. 1987; 3. 'On the existence of a political monetary cycle', *Amer. J. Polit. Sc.*, 33, May 1989; 4. 'An empirical analysis of cross-national economic growth', *JME*, 24, Sept. 1989; 5. 'Campaign spending and Senate elections, 1978–1984', *Public Choice*, 63, Dec. 1989; 6. 'Congressional influence on US monetary policy: an empirical test', *JME*, 28, Oct. 1991; 7. 'On the (mis)measurement of ideology and legislator shirking', *Public Choice*, 76, June 1993; 8. 'The effect of money shocks on interest rates in the presence of conditional heteroskedasticity', *J Fin*, 48, Sept. 1993; 9. 'The determinants of corporate political activity, 1978–1986', *Amer. Polit. Sc. Rev.*, 88, Dec. 1994; 10. 'Electoral politics and the executive veto', *EI*, 33, July 1995; 11. 'Inflation, inflation uncertainty and relative price dispersion: evidence from bivariate GARCH-M models', *JME*, 38, Oct. 1996; 12. 'Congressional influence on US monetary policy revisited', *JME*, 38, Dec. 1996; 13. 'The effect of macroeconomic fluctuations on the electoral fortunes of House incumbents', *J Law E*, 41,

April 1998; 14. 'Inflation and inflation uncertainty in the G-7 countries', *JIMF*, 17, Aug. 1998; 15. 'A political model of monetary policy with application to the real rate of interest', *J Law E*, 41, Oct. 1998; 16. 'The effects of uncertainty on macroeconomic performance: bivariate GARCH evidence', *JAE*, 15, Jan.–Feb. 2000; 17. 'Political cycles in non-traditional settings, theory and evidence for Mexico', *J Law E*, 43, April 2000; 18. 'Political regime change and the real interest rate', *JMCB*, 32, Aug. 2000; 19. 'Macroeconomic indicators, exchange rate regimes, currency depreciation and stock market performance in the crisis of 1997', *EI*, 39, Jan. 2001; 20. 'Party, incumbency and the effects of economic fluctuations on house elections, 1916–1996', *Public Choice*, 110, Jan. 2002.

Principal Contributions My research largely deals with the quantifiable relations between politics and the macro economy. One strand of this work (articles 1–3, 6, 12, 15, 17, 18) investigates the effects of political incentives on macroeconomic policymaking. Here I show that the Federal Reserve is not independent of politics. Another strand (articles 4, 8, 11, 14, 16, 19) studies the effect of government policies on the economy, including the effect of government on secular economic growth, the relationship between money growth and interest rates, and the causes and effects of inflation uncertainty. Finally I study the power of economic reasoning to explain political phenomena (articles 5, 7, 9, 10, 13, 20).

GRILLI, Vittorio n.e.

GRINBLATT, Mark n.e.

GROGGER, Jeffrey

Born 1959, Hartford, CT, USA.

Current Posts Prof. Public Pol., UCLA, Los Angeles, CA, USA, 1997–; Res. Assoc., NBER, Cambridge, MA, USA, 1998–; Res. Fell., Inst. Study of Labor, Bonn, Germany, 1999–; Res. Fell., CEPR, London, UK, 1999–.

Past Posts Sr Res. Fell., California Attorney General's Office, 1987–88; Asst Prof. Econ., Assoc. Prof. Econ., Univ. California, Santa Barbara, 1988–94, 1994–97.

Degrees BA Univ. Kansas, 1981; PhD Univ. California, San Diego, 1987.

Offices and Honours Regents Fell., Univ. California, San Diego, 1981–82.

Editorial Duties Co-Ed., *JHR*, 1996–; Assoc. Ed., *J. Pop. Econ.*, 1997–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0 Health, Education, and Welfare: General; I3 Welfare and Poverty.

Publications *Book*: 1. *Consequences of Welfare Reform: A Research Synthesis* (with L. Karoly, J. Klerman), (Rand Inst., 2002).

Articles: 1. 'The deterrent effect of capital punishment: an analysis of daily homicide counts', *JASA*, 85, June 1990; 2. 'The economic consequences of unwed motherhood: using twin births as a natural experiment' (with S. Bronars), *AER*, 84, Dec. 1994; 3. 'The effect of arrests on the employment and earnings of young men', *QJE*, 110, Feb. 1995; 4. 'Market wages and youth crime', *J Lab E*, 16, Oct. 1998; 5. 'The emergence of crack cocaine and the rise in urban crime rates' (with M. Willis), *REStat*, 82, Nov. 2000; 6. 'The effect of welfare payments on the marriage and fertility behavior of initially unwed mothers: results from a twins experiment' (with S. Bronars), *JPE*, 109, June 2001; 7. 'The effects of civil gang injunctions on reported violent crime: evidence

from Los Angeles County', *J Law E*, 45, April 2002; 8. 'The behavioral effects of welfare time limits', *AER*, 92, May 2002; 9. 'The effects of time limits, the EITC, and other policy changes on welfare use, work, and income among female-headed families', *REStat*, 70, 2003; 10. 'Welfare dynamics under time limits' (with C. Michalopoulos), *JPE*, 111, April 2003; 11. 'Time limits and welfare use', *JHR*, 38, 2003; 12. 'Why did the welfare rolls fall during the 1990s? The importance of entry' (with S. Haider, J. Klerman) *AER*, 93, May 2003.

Principal Contributions Most of my work deals with problems of the low-income population. Within this broad area, I have focussed primarily on the economics of crime; the causes and consequences of early childbearing; and most recently, US welfare reform. In the economics of crime, I have written on the effects of capital punishment; on the consequences of crack cocaine; and the effectiveness of anti-gang policies. I also pointed out that economic theory would suggest (and the data confirm) that the link between the job market and crime should work through wages, rather than unemployment, in contrast to much previous research in the area. Regarding early fertility, S. Bronars and I devised a means of using twin births to provide estimates of the effects of unwed childbearing that were not confounded by unobserved preferences for leisure. We also noted that twin births could be used to construct a natural experiment to address the contentious question of whether welfare begets welfare babies. More recently, I have focussed on the effects of welfare time limits, which are arguably the most fundamental of the welfare reforms imposed in the US during the 1990s. Theoretical and empirical work (some with C. Michalopoulos) indicates that time limits reduce welfare receipt the most among families with the youngest chil-

dren, which may have implications for the well-being of children in poor families.

GROSHEN, Erica Lynn

Born 1954, Wiesbaden, Germany.

Current Post Asst Vice Pres., Res. and Market Analysis Group, FRB, New York, NY, USA, 1984–.

Past Posts Econ. I and II, Econ. Advisor, FRB, Cleveland, 1986–91, 1991–93; Vis. Prof. Econ., Barnard Coll., Columbia Univ., 1993–94; Head Intl Res., Head Domestic Res., FRB, NY, 1994–97, 1997–99; Vis. Econ., BIS (Bank for Intl Settlements), Switzerland, 1999–2000.

Degrees BS (Econ. and Maths) Univ. Wisconsin-Madison, 1977; MA, PhD Harvard Univ., 1983, 1986.

Offices and Honours Dissertation Fellowship in Employment and Training, SSRC, 1984; Organizer (with R. Eberts), 'Changing Structure of Wages' Conf., FRB, Cleveland, 1989; Organizer (with C. Jung, J. Orr), 'Unequal Incomes, Unequal Outcomes? Economic Inequality and Measures of Well-Being' Conf., FRB, NY, 1999; Organizer (with W. Dickens), Intl Wage Flexibility Project, 2000–.

Editorial Duties Ed. Bds, *Econ. Rev. FRB–Cleveland*, 1991–93, *Econ. Pol. Rev. FRB–New York*, 2000–01; Bd Reviewers, *Ind. Relations: J. Econ. and Soc.*, 1991–; Ed., *Econ. Pol. Rev. FRB, New York*, 2001–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; E3 Prices, Business Fluctuations, and Cycles.

Publications *Books*: 1. *Structural Changes in US Labor Markets: Causes and Consequences* (with R. Eberts), (M.E. Sharpe, 1992); 2. *Small Consolation: The Dubious Benefits of Small Business for Job Growth and Wages* (with D. Belman, D. Stevens, J. Lane), (Econ. Pol. Inst. Press, 1998); 3. *How New is the 'New*

Employment Contract?' Evidence from North American Pay Practices (with D.I. Levine, D. Belman, G. Charness, K.C. O'Shaughnessy), (W.E. Upjohn Inst. Employment Res., 2002).

Articles: 1. 'Can services be a source of export-led growth?', *Econ. Rev. FRB-Cleveland*, 23, Q3 1987; 2. 'The structure of supervision and pay in hospitals' (with A. Krueger), *ILLR*, 43, Feb. 1990; 3. 'The structure of the female/male wage differential: is it who you are, what you do, or where you work?', *JHR*, 26, Summer 1991; 4. 'Sources of intra-industry wage dispersion: how much do employers matter?', *QJE*, 106, Aug. 1991; 5. 'Five reasons why wages vary among employers', *Ind. Relations*, 30, Fall 1991; 6. 'Components of the city-size wage differential, 1973-1988' (with P. Beeson), *Econ. Rev. FRB-Cleveland*, 27, Q4 1991; 7. 'White and blue-collar jobs in the recent recession and recovery: who's singing the blues?' (with D. Williams), *Econ. Rev. FRB-Cleveland*, 28, Q4 1992; 8. 'Are the great lakes cities becoming service centers?' (with L. Robertson), *Econ. Commentary FRB-Cleveland*, 15, June 1993; 9. 'Do hostile takeovers reduce extra-marginal wage payments?' (with J. Gokhale, D. Neumark), *REStat*, 78, Aug. 1995; 10. 'American employer salary surveys and labor economics research: issues and contributions', *Annales d'Écon. et de Stat.*, 41/42, 1996; 11. 'Inflation goals: guidance from the labor market?' (with M.E. Schweitzer), *Current Issues in Econ. and Fin. FRB-NY*, 3, Dec. 1997; 12. 'Macro- and microeconomic consequences of wage rigidity' (with M.E. Schweitzer), in *Handbook of Human Resource Management* (JAI, 1997); 13. 'Firms' wage adjustments: a break from the past?' (with M.E. Schweitzer), *Econ. Rev. FRB-St. Louis*, 81, May/June 1999; 14. 'Identifying inflation's grease and sand effects in the labor market' (with M.E.

Schweitzer), in M. Feldstein (ed.), *The Costs and Benefits of Price Stability* (NBER, UCP, 1999); 15. 'Understanding inflation: implications for monetary policy' (with S.G. Cecchetti), *Advances in Macroecon. Theory*, 1, 2001.

Principal Contributions My research focusses on employers in the labor market. Until the 1980s, most economics stressed the effects of demographic factors and training on wages and other outcomes. Employers were relatively neglected, both because commonly-used data sets provided little information on employers, and in perfectly competitive markets, apparent wage differences among employers are either temporary or mis-measured compensation or human capital. My research documents the extent, pervasiveness and permanence of wage variations among employers, and explores alternative explanations for their existence. I estimate that the standard deviation of wages among employers within industry is 10-15 percent of the mean - as large as industry and union/non-union wage variation. These differentials are highly persistent and linked to observable establishment characteristics (e.g., product, technology, union affiliation, and proportion of females). However, they are apparently not due to errors or sorting by measures of human capital (education, age, or tenure). This research is possible because I have acquired data gathered from employer records. While employer salary surveys have limitations, their virtues have been largely unexploited. A related paper finds that over half of the gender wage gap is due to segregation among occupations, while the rest is due to segregation among employers. Another finds that senior workers lose some of their employer-specific differentials after a hostile takeover. I also find that the 1980s increase in wage inequality was due largely to increasing occupational wage differen-

tials, not employer or individual dispersion. Another extension contrasts employer and occupational wage changes in theories of the welfare effects of inflation. Previous research suggests that low inflation rates are harmful because higher nominal wage growth adds beneficial 'grease' to relax downward nominal wage rigidity. My work supports that finding but also finds that low inflation avoids disruptive, unintended wage variations ('sand') from mistakes or symmetrical rigidities. Thus, 'grease' and 'sand' effects can offset each other at low levels of inflation.

GROSSKOPF, Shawna Patricia

Born 1950, Detroit, MI, USA.

Current Post Prof. Econ., Oregon State Univ., Corvallis, OR, USA, 1998–.

Past Posts Assoc. Prof. Econ., Prof. Econ., Southern Illinois Univ., 1977–87, 1987–98.

Degrees BA Kalamazoo Coll., 1972; MS, PhD Syracuse Univ., 1977, 1977.

Offices and Honours Mattersdorf Award, 1977; Kerstin Hesselgren Prof., Sweden, 1996; Hon. Dr, Gothenburg Univ., Sweden, 2000.

Editorial Duties Ed. Bds, *J. Productivity Analysis*, 1992–, *Health Care Mgmt Sc.*, 1997–.

Principal Fields of Interest D2 Production and Organizations; I1 Health; H7 State and Local Government; Intergovernmental Relations.

Publications *Books*: 1. *The Measurement of Efficiency of Production* (with R. Färe, C.A.K. Lovell), (Kluwer-Nijhoff, 1985); 2. *Cost and Revenue Constrained Production*, Bilkent University Lecture series (with R. Färe), (S-V, 1994); 3. *Production Frontiers* (with R. Färe, C.A.K. Lovell), (CUP, 1994); 4. *Intertemporal Production Frontiers* (with R. Färe), (Kluwer-

Nijhoff, 1996); 5. *Index Numbers: Essays in Honor of Sten Malmquist* (ed. with R. Färe, R.R. Russell), (Kluwer Acad., 1998).

Articles: 1. 'The relative performance of publicly owned and privately owned electric utilities' (with R Färe, J Logan), *J Pub E*, 26, 1985; 2. 'The role of the reference technology in measuring productive efficiency', *EJ*, 96, June 1986; 3. 'Measuring plant capacity utilization, and technical change: a nonparametric approach' (with R. Färe, E. Kokkelenberg), *IER*, 30, 1989; 4. 'Economies of scope in the provision of local public services' (with S. Yaisawarng), *NTJ*, 43, March 1990; 5. 'A distance function approach to price efficiency' (with R. Färe), *J Pub E*, 43, 1990; 6. 'Local public sector bureaucrats and their input choices' (with K. Hayes), *JUE*, 33, 1993; 7. 'Economics of diversification in the banking industry: a frontier approach' (with G. Ferrier, K. Hayes, S. Yaisawarng), *JME*, 31, 1993; 8. 'Productivity growth, technical progress and efficiency change in industrialized countries' (with R. Färe, M. Norris, Z. Zhang), *AER*, 84, March 1994; 9. 'Nonparametric tests of regularity, Farrell efficiency and goodness-of-fit' (with R. Färe), *J Em*, 69, 1995; 10. 'A comparison of shadow prices and reimbursement rates of hospital services' (with J. Clement, V. Valdmanis), *Annals OR*, 67, 1996; 11. 'Budget-constrained frontier measures of fiscal equality and efficiency in schooling' (with K. Hayes, L. Taylor, W. Weber), *REStat*, 79, Feb. 1997; 12. 'Productivity and efficiency in the US: effects of business cycles and public capital' (with D. Boisso, K. Hayes), *RSUE*, 30, 2000; 13. 'On the determinants of school district efficiency: competition and monitoring' (with K. Hayes, L. Taylor, W. Weber), *JUE*, 49, 2001; 14. 'Accounting for air pollution emission in measuring state manufacturing productivity growth' (with R. Färe, C. Pasurka), *J Reg S*, 41, 2001.

Principal Contributions My graduate training was in state and local public finance, financed in part by a grant from the Ford Foundation to study the economics of education. I consider my contributions in state and local finance to be in merging modern microeconomic theory and performance measurement to issues in performance of the public sector, including local governments, hospitals, schools, etc. My work in the area of performance measurement has led to both theoretical and empirical contributions in the area of growth and development, performance in banking, electric utilities, etc. Another area of interest has been in the modelling and estimation of performance in the presence of undesirable byproducts.

GROSSMAN, Gene M.

Born 1955, New York, USA.

Current Posts Jacob Viner Prof. Int. Econ., Princeton Univ., Princeton, NJ, USA, 1992–; Dir., Intl Econ. Section, Chair, Dept Econ., Princeton Univ., Princeton, NJ, USA, 2000–, 2002–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ. and Intl Affairs, Princeton Univ., 1980–85, 1985–88, 1988–; Vis. Lect., Tel Aviv Univ., 1982–83; Vis. Fell., Inst. Int. Stud., Univ. Stockholm, 1983, 1986, 1993, Inst. Adv. Stud., Hebrew Univ., 1989; Vis. Scholar, Bank Japan, 1989; Vis. Prof., Sch. Bus. Admin., Univ. California, Berkeley, 1990, Univ. Commerciale L Bocconi, Milano, 1994, Univ. d'Aix-Marseille II, 1994, Inst. d'Écon. Ind., Univ. Sc. Sociales de Toulouse, 1998, Dept Econ. and Fin., City Univ. Hong Kong, 2000, 2001; STICERD Disting. Visitor, LSE, 1997, 2000.

Degrees BA Yale Univ., 1976; PhD MIT, 1980.

Offices and Honours Sloan Foundation Res. Fell., 1984–88; Richard A. Lester

Preceptorship, Princeton Univ., 1984–87; Harry G. Johnson Prize, CEA, 1985; Daeyang Prize Econ., King Sejong Univ., 1987; Fell., Em Soc, 1992, AAAS, 1997; Guggenheim Foundation Fellowship, 1993–94; Exec. Comm., AEA, 1999–2002, IEA, 1999–2002.

Editorial Duties Book Rev. Ed., *J Int E*, 1983–86; Ed. Bds, *QJE*, 1984–, *JEP*, 1990–96, *J. Intl Trade and Econ. Devlp.*, 1991–95, *Europ. JPE*, 1994–, *JEG*, 1994–, *AER*, 1995–98; Assoc. Ed., *German Econ. Rev.*, 1999–, *Rev. Int. Econ.*, 1992–, *J Int E*, 1995–98; Ed. Panel, *Econ. Pol.*, 1994–95.

Principal Fields of Interest F1 Trade; D2 Production and Organizations; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *Innovation and Growth in the Global Economy* (with E. Helpman), (MIT Press, 1991); 2. *Imperfect Competition and International Trade* (ed.), (MIT Press, 1992); 3. *Handbook of International Economics*, Vol. III (ed. with K. Rogoff), (N-H, 1995); 4. *Special Interest Politics* (MIT Press, 2001); 5. *Interest Groups and Trade Policy* (Princeton Univ. Press, 2002).

Articles: 1. 'Union wages, temporary layoffs, and seniority', *AER*, 73, June 1983; 2. 'Informative advertising with differentiated products' (with C. Shapiro), *REStud*, 51, Jan. 1984; 3. 'Optimal trade policy under oligopoly' (with J. Eaton), *QJE*, 101, May 1986; 4. 'Imports as a cause of injury: the case of the US steel industry', *J Int E*, 21, May 1986; 5. 'The employment and wage effects of import competition in the United States', *J. Int. Econ. Integration*, Spring 1987; 6. 'Comparative advantage and long-run growth' (with E. Helpman), *AER*, 80, Sept. 1990; 7. 'Quality ladders in the theory of growth' (with E. Helpman), *REStud*, 58, Jan. 1991; 8. 'Environmental impacts of a North American free trade agreement' (with A.B. Krueger), in P. Garber (ed.), *The Mexico–*

US Free Trade Agreement (MIT Press, 1993); 9. 'Protection for sale' (with E. Helpman), *AER*, 84, Sept. 1994; 10. 'Economic growth and the environment' (with A.B. Krueger), *QJE*, 110, May 1995; 11. 'Trade wars and trade talks' (with E. Helpman), *JPE*, 103, Aug. 1995; 12. 'Electoral competition and special interest politics' (with E. Helpman), *REStud*, 63, April 1996; 13. 'Common agency and coordination: general theory and application to government policy making' (with A.K. Dixit, E. Helpman), *JPE*, 105, Aug. 1997; 14. 'Competing for endorsements' (with E. Helpman), *AER*, 89, June 1999; 15. 'Trade and diversity' (with G. Maggi), *AER*, 90, Dec. 2000.

Principal Contributions My early work focussed on the positive and normative effects of trade policy. I was interested in the effects on resource allocation of non-standard forms of protection, such as border tax adjustments, domestic content requirements, and other offshore assembly provisions, and in evaluating various efficiency arguments for trade intervention in the presence of market distortions such as imperfect competition, missing insurance markets, and asymmetric information in infant industries. In a series of empirical studies I also attempted to assess the impacts of import competition on wages, employment, and returns to capital in various industries in the United States. During the late 1980s and early 1990s I collaborated with Elhanan Helpman on research into the determinants of aggregate growth. Our work cast industrial innovation as the engine of long-run growth and examined the market incentives for innovation in general equilibrium. A major goal of this project was to understand the implications of international trade and trade policy for growth and welfare in an open, innovating economy. Shortly thereafter I collaborated with Alan Krueger on an evaluation of

the environmental impacts of a potential North American Free Trade Association (NAFTA) agreement. Using cross-national and time-series data, we identified an inverted U-shaped relationship between the national per capita income and the concentration of certain air pollutants. In subsequent research, we generalized our findings to other types of environmental degradation. In the mid- to late-1990s, Helpman and I examined the interaction between politicians, special interest groups and voters that determines a nation's trade and other redistributive policies. Most recently, we have been studying outsourcing relationships and the determinants of the organizational form of firms in international equilibrium.

GROSSMAN, Michael

Born 1942, New York City, NY, USA.

Current Posts Disting. Prof. Econ., Grad. Center, City Univ., New York, NY, USA, 1972–; Health Econ. Program Dir. and Res. Assoc., NBER, New York, NY, USA, 1970–.

Past Posts Res. Assoc., Center for Health Admin. Stud., Univ. Chicago, 1969–71; Vis. Scholar, Catholic Univ. Louvain, 1995.

Degrees BA Trinity Coll., 1964; PhD Columbia Univ., 1970.

Offices and Honours Harry G. Friedman Prize, 1970; Kulp Award Nomination, 1976; Mem., Inst. Medicine, NAS, 1990.

Editorial Duties Assoc. Ed., *JHE*, 1982–.

Principal Fields of Interest I1 Health; J1 Demographic Economics; D1 Household Behavior.

Publications *Books*: 1. *The Demand for Health: A Theoretical and Empirical Investigation* (Columbia Univ. Press for NBER, 1972); 2. *The Economic Analysis*

of Substance Use and Abuse: An Integration of Econometric and Behavioral Economic Research (with F.J. Chaloupka, W.K. Bickel, H. Saffer), (UCP, 1999); 3. *The Economic Analysis of Substance Use and Abuse: The Experience of Developed Countries and Lessons for Developing Countries* (with C.R. Hsieh), (Edward Elgar, 2001).

Articles: 1. 'On the concept of health capital and the demand for health', *JPE*, 80, March/April 1972; 2. 'Unemployment and consumption: note', *AER*, 63, March 1973; 3. 'The demand for pediatric care: an hedonic approach' (with F. Goldman), *JPE*, 86, April 1978; 4. 'The effects of government regulation on teenage smoking' (with E.M. Lewit, D. Coate), *J Law E*, 24, Dec. 1981; 5. 'Birth outcome production functions in the US' (with H. Corman, T.J. Joyce), *JHR*, 22, Summer 1987; 6. 'Effects of alcoholic beverage prices and legal drinking ages on youth alcohol use' (with D. Coate), *J Law E*, 31, April 1988; 7. 'An assessment of the benefits of air pollution control: the case of infant health' (with T.J. Joyce, F. Goldman), *JUE*, 25, Jan. 1989; 8. 'Unobservables, pregnancy resolutions, and birthweight production functions in New York City' (with T.J. Joyce), *JPE*, 98, Oct. 1990; 9. 'The dynamic relationship between low birthweight and induced abortion in New York City: an aggregate time-series analysis' (with T.J. Joyce), *JHE*, 9, Nov. 1990; 10. 'Policy watch: alcohol and cigarette taxes' (with J.L. Sindelar, J. Mullahy, R. Anderson), *JEP*, 7, Fall 1993; 11. 'Determinants of interest rates on tax-exempt hospital bonds' (with F. Goldman, S.W. Nesbitt, P. Mobilia), *JHE*, 12, Dec. 1993; 12. 'An empirical analysis of cigarette addiction' (with G.S. Becker, K.M. Murphy), *AER*, 84, June 1994; 13. 'Public policy and youth smokeless tobacco use' (with F.J. Chaloupka, J.A. Tauras), *SEJ*, 64, Oct. 1997; 14. 'An empirical

analysis of alcohol addiction: results from the Monitoring the Future panels' (with F.J. Chaloupka, I. Sirtalan), *EI*, 36, Jan. 1998; 15. 'The demand for cocaine by young adults: a rational addiction approach' (with F.J. Chaloupka), *JHE*, 17, Aug. 1998; 16. 'The effects of beer taxes on physical child abuse' (with S. Markowitz), *JHE*, 19, March 2000; 17. 'Competition and the cost of capital revisited: special authorities and underwriters in the market for tax-exempt hospital bonds' (with A.I. Gershberg, F. Goldman), *NTJ*, 54, June 2001.

Principal Contributions My research has focussed on economic models of the determinants of adult, child, and infant health in the US; economic approaches to cigarette smoking, alcohol use, and the use of illegal drugs by teenagers and young adults; empirical applications of rational addiction theories; and the determinants of interest rates on tax-exempt hospital bonds. My work on adult health used human capital theory and the household production function model of consumer behavior to construct and estimate a model of the demand for health. Empirically, I established that years of formal schooling completed is the most important correlate of a variety of end result measures of health and that the schooling effect is causal. My research on child health identified mother's schooling as the key home environmental variable contributing to improved health outcomes. My studies of infant health showed how policies with regard to abortion, family planning services, medical care services for low-income women and the rapid growth of neonatal intensive care impact on low birthweight and infant mortality. My investigations of the demand for cigarettes, alcohol, cocaine, and marijuana by teenagers and young adults established that these behaviors are quite sensitive to price. I also helped demonstrate the empirical

relevance of the rational addiction approach to the consumption of these items by showing that current consumption is negatively related to future prices as well as to current prices. This implies that consumers take account of the harmful future consequences of their current decisions. My work on tax-exempt hospital bonds suggested that issuance of these bonds in a competitive environment has a substantial negative effect on their interest rates.

GROSSMAN, Sanford Jay

Born 1953, Brooklyn, NY, USA.

Current Posts Chairman, CEO and Pres., Quant. Fin. Strategies, Inc., Stamford, CT, USA, 1988–; Steinberg Trustee Prof. Fin. Emeritus, Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 2000–.

Past Posts Asst Prof., Stanford Univ., 1975–77; Econ., Bd Governors, Fed. Reserve System, 1977–78; Assoc. Prof., Prof., Univ. Pennsylvania, 1978–79, 1979–81; Prof., Univ. Chicago, 1981–85; John L. Weinberg Prof. Econ., Princeton Univ., 1985–89; Steinberg Trustee Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1989–2000.

Degrees BA (Hons), MA, PhD Univ. Chicago, 1973, 1974, 1975.

Offices and Honours Lilly Foundation Honor Fellowship, 1973; Phi Beta Kappa, 1973; Irving Fisher Grad. Monograph Award, 1975; Fell., Em Soc, 1980; Alfred P. Sloan Foundation Fellowship, 1981; John Simon Guggenheim Memorial Fellowship, 1981; John Bates Clark Medal, 1987; Graham and Dodd Scroll Prize, 1988; Fell., AAAS, 1988; Roger F. Murray Prize, Inst. Quant. Res. Fin., 1988; Dir., Vice-Pres., Pres.-Elect, Pres., Fell., AFA, 1988–92, 1992, 1993, 1994, 2000; Public Dir., Bd Dirs, Chicago Bd Trade, 1992–96; Best Paper Award, *Math. Fin.*, 1993; Dir., Wharton Center for Quant. Fin.,

1994–2001; Res. Assoc., NBER, 1994–; Professional Achievement Citation, Univ. Chicago, 2002.

Editorial Duties Assoc. Ed., *J Fin.*, 1978–83, *JET*, 1979–90, *Rev. Fin. Stud.*, 1988–90, *J. Derivatives*, 1992–, *JFQA*, 1993–, *Rev. Derivatives Res.*, 1994–; Amer. Ed., *REStud*, 1979–82; Ed. Bd Advisors, *J. Accounting, Auditing, and Fin.*, 1986–90; Acad. Advisory Panel, FRB, New York, 1990; Ed. Bd, *Fin. India*, 1994–; Advisory Bd, *Math. Fin.*, 1994–.

Principal Fields of Interest G0 Financial Economics: General; F4 Macroeconomic Aspects of International Trade and Finance; C0 Mathematical and Quantitative Methods: General.

Publications *Book*: 1. *The Informational Role of Prices* (MIT Press, 1989).

Articles: 1. 'On the efficiency of competitive stock markets where traders have diverse information', *J Fin*, 31, 1976; 2. 'Further results on the informational efficiency of competitive stock markets', *JET*, 18, June 1978; 3. 'Take-over bids: the managerial theory of the firm and the free rider problem' (with O. Hart), in D.A. Currie, W. Peters (eds), *Contemporary Economic Analysis*, Vol. 2 (Croom Helm, 1980); 4. 'Disclosure laws and takeover bids' (with O. Hart), *J Fin*, 35, May 1980; 5. 'Takeover bids, the free-rider problem, and the theory of the corporation' (with O. Hart), *Bell JE*, 11, Spring 1980; 6. 'On the impossibility of informationally efficient markets' (with J.E. Stiglitz), *AER*, 70, June 1980; 7. 'Implicit contracts, moral hazard and unemployment' (with O. Hart), *AER*, 71, 1981; 8. 'The determinants of the variability of stock market prices' (with R. Shiller), *AER*, 71, 1981; 9. 'The allocational role of takeover bids in situations of asymmetric information' (with O. Hart), *J Fin*, 36, 1981; 10. 'Corporate financial structure and managerial incentives' (with O. Hart), in John McCall (ed.), *The Economics of Information and*

Uncertainty (UCP, 1982); 11. 'Consumption correlatedness and risk measurement in economies with non-traded assets, and heterogeneous information' (with R. Shiller), *J Fin E*, 10, July 1982; 12. 'Heterogeneous information and the theory of the business cycle' (with L. Weiss), *JPE*, 90, Aug. 1982; 13. 'An analysis of the principal-agent problem' (with O. Hart), *Em*, 51, Jan. 1983; 14. 'Implicit contracts under asymmetric information' (with O. Hart), *QJE*, 98, 1983; 15. 'A transactions based model of the monetary transmission mechanism' (with L. Weiss), *AER*, 73, Dec. 1983; 16. 'Unemployment with observable aggregate shocks' (with O. Hart, E. Maskin), *JPE*, 91, Dec. 1983; 17. 'The costs and benefits of ownership: a theory of vertical integration' (with O. Hart), *JPE*, 94, Aug. 1986; 18. 'An analysis of the implications for stock and fu-

tures price volatility of program trading and dynamic hedging strategies', *J Bus*, 61, July 1988; 19. 'Dynamic asset allocation and the informational efficiency of markets', *J Fin*, 50, July 1995.

Principal Contributions Understanding the informational role of prices, corporate structure, contracting, and trading strategies.

GRUBER, Jonathan H. n.e.

GUILKEY, David K. n.e.

GUL, Faruk n.e.

GÜTH, Werner n.e.

H

HAAS, Peter M. n.e.

HADDAD, Lawrence James

Born 1959, Johannesburg, South Africa.

Current Post Dir., Food Consumption and Nutrition Div., Intl Food Pol. Res. Inst., Washington, DC, USA, 1990–.

Past Posts Lect. Quant. Devlp. Econ., Dept Econ., Univ. Warwick, 1987–90.

Degrees BSc (Food Sc. and Food Econ.) Univ. Reading, 1980; MA (Resource Econ.) Univ. Massachusetts, 1982; PhD (Food Res.) Stanford Univ., 1988.

Offices and Honours Award of Merit, Northeastern Agric. Econ. Council, 1984; Quality of Res. Discovery (with R. Kanbur), AA, 1990; Quality of Res. Discovery (Hon. Mention), (with H. Bouis), AA, 1992.

Editorial Duties Ed. Advisory Bd, *WD*, 1997–99.

Principal Fields of Interest O1 Economic Development; D1 Household Behavior; I0 Health, Education, and Welfare: General.

Publications Books: 1. *Intrahousehold Resource Allocation: Methods, Models and Policy* (with J. Hoddinott, H. Alderman), (JHUP, 1997); 2. *The Double Burden of Malnutrition in Asia and the Pacific* (with S. Gillespie), (Sage, 2003).

Articles: 1. 'How serious is the neglect of intra-household inequality?' (with R. Kanbur), *EJ*, 100, Sept. 1990; 2. 'The impact of nutritional status on agricultural productivity: wage evidence from the Philippines' (with H. Bouis), *OBES*, 53, Feb. 1991; 3. 'Is there an intrahousehold Kuznet's curve? Some evidence from the Philippines' (with R. Kanbur), *Public Fin.*, suppl., 47, 1992; 4. 'Intrahousehold in-

equality and the theory of targeting' (with R. Kanbur), *EuroP ER*, 36, 1992; 5. 'Are calorie-income elasticities too high? A recalibration of the plausible range' (with H. Bouis), *JDE*, 39, 1992; 6. 'Gender bias in the allocation of resources within households in Burkina Faso: a disaggregated outlay equivalent analysis' (with T. Reardon), *JDE*, 29, 1992; 7. 'Are better-off households more or less unequal? A bargaining theoretic approach to Kuznets effects at the micro level' (with R. Kanbur), *Oxford Econ. Papers and Proceedings*, 46, 1994; 8. 'Women's income and boy-girl anthropometric status in the Côte d'Ivoire' (with J. Hoddinott), *WD*, 22, 1994; 9. 'Does female income share influence household expenditures? Evidence from the Côte d'Ivoire' (with J. Hoddinott), *OBES*, 57, 1995; 10. 'Unitary versus collective models of the household: is it time to shift the burden of proof?' (with H. Alderman, P.-A. Chiappori, J. Hoddinott, R. Kanbur), *WBES*, 10, 1995; 11. 'Intrahousehold inequality at different welfare levels: energy intake and energy expenditure data from the Philippines' (with R. Kanbur, H. Bouis), *OBES*, 57, 1995; 12. 'The gender dimensions of economic adjustment policies: potential interactions and evidence to date' (with L.R. Brown, A. Richter, L. Smith), *WD*, 23, June 1995; 13. 'How can safety nets do more with less? General issues with some evidence from Southern Africa' (with M. Zeller), *Devlp. Southern Africa*, 14, 1997; 14. 'How does the human rights perspective help to shape the food and nutrition policy research agenda?' (with A. Oshaug), *Food Pol.*, 23, 1998; 15. 'Are urban poverty and undernutrition growing?' (with M. Ruel, J. Garrett), *WD*, 27, 1999; 16. 'Are women overrepresented among the poor? An analysis of poverty in 10 developing countries' (with A. Quisumbing, C. Pena), *JDE*, 66, Oct. 2001; 17. 'Trust, groups and

household welfare in South Africa' (with J. Maluccio), *EDCC*, forthcoming; 18. 'The performance of employment programs: evidence from South Africa' (with M. Adato), *Int Lab Rev*, forthcoming.

Principal Contributions Much of my work has been on testing the unitary model of the household and identifying its limitations in modelling individual behaviour such as investment in children's education and nutrition. Income is not pooled within households and income in the hands of women tends to have a larger impact, controlling for overall household income, on outcomes in the areas of health, food intake and education. The work has also illustrated the returns to women and to their households of improving women's ability to get access to assets. I have also spent a great deal of time working to establish the strength of the empirical causal links between income and consumption (not as strong as one might think), income and nutrition (same story, even in the long run), consumption and nutrition (strong when complementary inputs such as clean water, care and health inputs are available), and nutrition and income (adult nutrition has a positive, large and significant effect on work that rewards physical capacity and labour productivity). More recently I have become interested in social capital issues (Does it work? How does it work? How to measure it? What can public policy do to stimulate it?) and the role it may or may not play in the movement of households out of poverty.

HAFER, Rik W. n.e.

HAKKIO, Craig S. n.e.

HALL, Alastair Robert

Born 1959, Woking, Surrey, UK.

Current Post Prof. Econ., North Carolina State Univ., Raleigh, NC, USA, 1992–.

Past Posts Res. Assoc., ASA/US Bureau of Census, 1984–85; Asst Prof., Assoc. Prof., Dept Econ., North Carolina State Univ., 1985–90, 1990–92; Vis. Prof., Dept Econ., Univ. Pennsylvania, 1987–89, Grad. Sch. Bus., Univ. Wisconsin-Madison, 1993; Sr Res. Fell., Dept Econ., Univ. Birmingham, UK, 1996–98.

Degrees BA (1st Class Hons), PhD Warwick Univ., 1981, 1985; MSc Southampton Univ., 1983.

Honours Outstanding Teacher Award, Coll. Mgmt, North Carolina State Univ., 2002.

Editorial Duties Assoc. Ed., *JBES*, 1992–2000, *Em. Rev.*, 2000–, *J. Fin. Em.*, 2001–; Co-Ed., *JBES*, 2001–03.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C5 Econometric Modeling.

Publications Articles: 1. 'The information matrix test for the linear model', *REStud*, 54, 1987; 2. 'Convergence of the Kalman filter gain for a class of non-detectable signal extraction problems' (with P. Burrige), *IEEE Transactions on Automatic Control*, 32, 1987; 3. 'Testing for a unit root in the presence of moving average errors', *Biometrika*, 76, 1989; 4. 'A test for structural stability of Euler parameters estimated via the generalized method of moments estimator' (with E. Ghysels), *IER*, 31, 1990; 5. 'Are consumption-based intertemporal capital asset pricing models structural?' (with E. Ghysels), *J Em*, 45, 1990; 6. 'Testing nonnested Euler conditions with quadrature-based methods of approximation' (with E. Ghysels), *J Em*, 46, 1990; 7. 'The Lagrange multiplier test for normality against semi non-parametric alternatives',

JBES, 8, 1990; 8. 'Testing for unit roots in autoregressive moving average models' (with S. Pantula), *J Em*, 48, 1991; 9. 'On estimating the speed of adjustment in inventory investment equations' (with R. Rossana), *JBES*, 9, 1991; 10. 'Testing for a unit root in time series using instrumental variable estimators with pretest data based model selection', *J Em*, 54, 1992; 11. 'Generalized predictive tests and structural change analysis in econometrics' (with J.-M. Dufour, E. Ghysels), *IER*, 35, 1994; 12. 'Trying out for the team: do exhibitions matter? Evidence from the National Football League' (with L. Craig), *JASA*, 89, 1994; 13. 'Testing for a unit root with pretest data based model selection', *JBES*, 12, 1994; 14. 'Residual autocovariances and unit root tests based on instrumental variable estimators from time series regression models', *J. Time Series Analysis*, 16, 1995; 15. 'Judging instrument relevance in instrumental variables estimation' (with G. Rudebusch, D. Wilcox), *IER*, 37, 1996; 16. 'On periodic structures and testing for seasonal unit roots' (with E. Ghysels, H. Lee), *JASA*, 91, 1996; 17. 'Predictive tests for structural change with unknown breakpoint' (with E. Ghysels, A. Guay), *J Em*, 82, 1997; 18. 'Structural stability testing based on generalized method of moments estimators' (with A. Sen), *JBES*, 17, 1999; 19. 'GARP, separability and the representative agent' (with A. Fleissig, J. Seater), *Macroecon. Dynamics*, 4, 2000; 20. 'Covariance matrix estimation and the power of the overidentifying restrictions test', *Em*, 68, 2000.

Principal Contributions My principal contributions have been to the literatures on unit root testing in univariate time-series models and inference based on Generalized Method of Moments (GMM) estimators. I have made two main contributions to the literature on unit root testing in autoregressive moving average (ARMA)

models. First, I showed that an instrumental variable estimator can be used to perform inference regarding the presence of a unit root. Second, I considered the impact of using the data to select the order of the ARMA model on the limiting distribution of the unit root test, and provided conditions under which this limiting distribution is unaffected. My work on GMM has focussed on developing or analyzing statistics used to test the types of hypotheses that arise in economic models. Specifically, I have developed methods for testing the structural stability of the model, and also for discriminating between two non-nested models. I also established the consistency of the commonly used overidentifying restrictions test statistic and showed how its large sample behavior is sensitive to the method of covariance matrix estimation.

HALL, Peter n.e.

HALL, Robert Ernest

Born 1943, Palo Alto, CA, USA.

Current Posts McNeil Prof. Econ., Sr Fell., Hoover Inst., Stanford Univ., Stanford, CA, USA, 1978–.

Past Posts Asst Prof., Acting Assoc. Prof., Univ. California, Berkeley, 1967–70; Assoc. Prof., Prof., MIT, 1970–74, 1974–78; Fell., Center Adv. Study Behav. Sc., Stanford, CA, 1977–78.

Degrees BA Univ. California, Berkeley, 1964; PhD MIT, 1967.

Offices and Honours Fell., Em Soc, 1973, AAAS, 1985.

Editorial Duties Assoc. Ed., *JASA*, 1968–70; Ed. Bd, *AER*, 1972–75; Assoc. Ed., *Em*, 1970–74.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; J4 Particular Labor Markets; C1 Econometric and Statistical Methods: General.

Publications Books: 1. *Inflation: Causes and Effect* (ed.), (UCP, 1982); 2. *Low Tax, Simple Tax, Flat Tax* (with A. Rabushka), (McGraw-Hill, 1983); 3. *The Flat Tax* (with A. Rabushka), (Hoover Inst., 1985, 1995); 4. *Macroeconomics* (with J. Taylor), (Norton, 1997); 5. *Economics* (with M. Lieberman), (South-Western, 1997); 6. *Digital Dealing* (Norton, 2001).

Articles: 1. 'Tax policy and investment behavior' (with D. Jorgenson), *AER*, 57, June 1967; 2. 'Why is the unemployment rate so high at full employment?', *BPEA*, 3, 1970; 3. 'Stochastic implications of the life-cycle permanent income hypothesis', *JPE*, 86, Dec. 1978; 4. 'The importance of lifetime jobs in the US economy', *AER*, 72, Sept. 1982; 5. 'Intertemporal substitution in consumption', *JPE*, 96, April 1988; 6. 'The relation between price and marginal cost in US industry', *JPE*, 96, Oct. 1988; 7. 'Lost jobs', *BPEA*, 1, 1995; 8. 'Productivity and density of economic activity' (with A. Ciccone), *AER*, 86, March 1996; 9. 'Why do some countries produce so much more output per worker than others?' (with C. Jones), *QJE*, Feb. 1999; 10. 'The stock market and capital accumulation', *AER*, 101, Dec. 2001.

Principal Contributions As an undergraduate, I worked with D. Jorgenson; this led to our 1967 joint paper on taxes and investment. This paper develops the 'Hall-Jorgenson formula' which shows how tax considerations affect the user cost of capital. I have pursued this line of thought on several subsequent occasions, most recently in my work with A. Rabushka on tax reform, which argues for a straight-forward consumption tax. During the early 1970s I worked mainly on labor issues from a macro point of view. I published quite a number of papers that stressed the importance of turnover in understanding unemployment and related issues. I have returned to these topics in the late 1990s.

In 1976 I came up with my single best idea, in thinking about the implications of rational expectations for consumption. The essence of the idea is that consumption is the personal equivalent of a security valuation – it embodies all current information about an individual's well-being. Like a security valuation, consumption should evolve as a random walk, loosely speaking. My paper on this point stimulated dozens of responses and extensions. In the mid-1980s I launched a research program on the relation between cyclical productivity, market power, and increasing returns. In the 1990s, I pursued topics in the agglomeration of economic activity over time and over space. Recently, I have worked on the role of securities markets in macro models and on fluctuations in labor markets.

HALL, Stephen George Frederick

Born 1953, London, UK.

Current Post Prof. Econ., Imperial Coll. Sc., Tech. and Medicine, London Univ., London, UK, 1995–.

Past Posts Sr Res. Fell., NIESR, 1981–87; Econ. Advisor, Bank of England, 1987–90; Professorial Res. Fell., London Bus. Sch., 1990–95.

Degrees BSc City Univ. London, 1977; MSc, PhD LSE, 1978, 1986.

Offices and Honours Acad. Advisors Panel, HM Treasury, 1992–; Steering Comm., UN Project LINK, 1993; Vis. Scholar, IMF, 1993–94; Vis. Prof., London Bus. Sch., 1995–99, Univ. Pretoria, 1999–, Rheinisch-Westfälisches Inst. Wirtschaftsforschung (RWI), 2000–01; ESRC Grants Bd, 1996–2000; Vis. Cons., Bank of Greece, 1996–; ESRC-ROPA Award Panel, 1997, 1998; First Disting. Author, *JAE*, 1999; UN Expert Group on Pol. Models for Low Income and LDCs, 1999–; Governing Body, Macroecon. and

Data Res. Centre, Univ. Gdansk, 1999–, Econometric Res. South Africa, 1999–, Romanian Centre of Econ. Modelling (RCEM), 2001–; Res. Assoc., Centre Intl Macroecon., Oxford Univ., 2000–.

Editorial Duties Ed. Bd, *Natl Inst. Econ. Rev.*, 1985–87, *J. Econ. Modeling*, 1993–98, *Intl J. Fin. Econ.*, 1995–, *SAJE*, 2000–; Assoc. Ed., *JEDC*, 1990–99, *Apl. Fin. Econ.*, 1998–; Ed., *John Wiley Financial Economics and Quantitative Analysis* series, 1991–; Joint Ed., *Econ. Modelling*, 1998–.

Principal Fields of Interest A1 General Economics; C1 Econometric and Statistical Methods: General.

Publications *Books*: 1. *Macroeconomic Modelling* (with S.G.B. Henry), *Contributions to Economic Analysis* series (N-H, 1988); 2. *Applied Econometric Techniques* (with M.P. Taylor, K. Cuthbertson), (Simon & Schuster, 1992); 3. *Applied Economic Forecasting Techniques* (ed.), (Simon & Schuster, 1994); 4. *Argument in the Greenhouse: The Economics of International Environmental Co-Ordination* (with N. Mabey, C. Smith, S. Guypta), (Routledge, 1997); 5. *Macroeconomic Modelling in a Changing World* (ed.), (John Wiley, 1997).

Articles: 1. 'Macroeconomics and a bit more reality', *EJ*, 101, 1995; 2. 'Equilibria and adaptive expectations: output and inflation in the LBS model' (with A. Garratt), *JEDC*, 21, 1997; 3. 'Measuring economic convergence' (with D. Robertson, M.R. Wickens), *Intl J. Fin. Econ.*, 2, May 1997; 4. 'A principal components analysis of common stochastic trends in heterogeneous panel data: some Monte Carlo evidence' (with S. Lazarova, G. Urga), *OBES*, 61, 1999; 5. 'Detecting periodically collapsing bubbles: a Markov-switching unit root test' (with Z. Psaradakis, M. Sola), *JAE*, 14, 1999; 6. 'On the identification of cointegrated systems in small samples: practical proce-

dures with an application to UK wages and prices' (with J. Greenslade, S.G.B. Henry), *JEDC*, 24, 2002.

Principal Contributions I worked in the areas of macroeconomic modelling, econometrics and the application of techniques to macroeconomic policy formation. In macroeconomic modelling, a range of model solution techniques were developed for models using rational expectations (RE) including the stacked solution algorithm for RE models. In econometrics I was an early contributor to the development of cointegration and the understanding of the identification problem in cointegrated systems.

HALTIWANGER, John Couch

Born 1955, Bethesda, MD, USA.

Current Posts Prof. Econ., Univ. Maryland, College Park, MD, USA, 1990–; Res. Assoc., NBER, Cambridge, MA, USA, 1996–; Res. Assoc., Center for Econ. Stud., Washington, DC, USA, 1987–; Sr Res. Fell., LEHD Program at Census, Washington, DC, 1999–.

Past Posts Asst Prof., UCLA, 1981–86; Assoc. Prof., Johns Hopkins Univ., 1986–87; Assoc. Prof., Univ. Maryland, 1987–90; Chief Econ., Bureau of Census, 1997–99.

Degrees BSc (Apl. Maths) Brown Univ., 1977; PhD Johns Hopkins Univ., 1981.

Principal Fields of Interest E2 Consumption, Saving, Production, Employment, and Investment; J2 Time Allocation; Work Behavior; Employment Determination and Creation; L0 Industrial Organization: General.

Publications *Book*: 1. *Job Creation and Destruction* (with S. Davis, S. Schuh), (MIT Press, 1996).

Articles: 1. 'Rational expectations and the limits of rationality: an analysis of

heterogeneity' (with M. Waldman), *AER*, 75, June 1985; 2. 'Unemployment rate dynamics and persistent unemployment under rational expectations' (with M. Darby, M. Plant), *AER*, 75, Sept. 1985; 3. 'Limited rationality and strategic complements: the implications for macroeconomics' (with M. Waldman), *QJE*, 104, Aug. 1989; 4. 'Inventories and the propagation of sectoral shocks' (with R. Cooper), *AER*, 80, March 1990; 5. 'Gross job creation and destruction: microeconomic evidence and macroeconomic implications' (with S. Davis), *NBER Macroecon. Annual*, 1990; 6. 'The impact of cyclical demand movements on collusive behavior' (with J. Harrington), *RandJE*, 22, Spring 1991; 7. 'Responders versus nonresponders: a new perspective on heterogeneity' (with M. Waldman), *EJ*, 101, Sept. 1991; 8. 'Wage dispersion between and within US manufacturing plants, 1963–1986' (with S. Davis), *BPEA: Microecon.*, 1991; 9. 'Gross job creation, gross job destruction, and employment reallocation' (with S. Davis), *QJE*, 107, Aug. 1992; 10. 'The aggregate implications of machine replacement: theory and evidence' (with R. Cooper), *AER*, 83, June 1993; 11. 'Autos and the national industrial recovery act: evidence on macroeconomic complementarities' (with R. Cooper), *QJE*, 108, Nov. 1993; 12. 'Real wages and the business cycle' (with K. Abraham), *JEL*, 33, Sept. 1995; 13. 'Plant-level adjustment and aggregate investment dynamics' (with R. Caballero, E. Engel), *BPEA*, 2, 1995; 14. 'Aggregate employment dynamics: building from microeconomic evidence' (with R. Caballero, E. Engel), *AER*, 87, March 1997; 15. 'Technology and jobs: secular changes and cyclical dynamics' (with T. Dunne, K. Troske), *C-RPP*, 1997; 16. 'Machine replacement and the business cycle: lumps and bumps' (with R. Cooper, L. Power), *AER*, 89, Sept. 1999; 17. 'Driving forces and employment

fluctuations' (with S. Davis), *AER*, 89, Dec. 1999; 18. 'Labor productivity: structural change and cyclical dynamics' (with M. Baily, E. Bartelsman), *REStat*, 83, Aug. 2001; 19. 'Sectoral job creation and destruction responses to oil price changes and other shocks' (with S. Davis), *JME*, 48, Dec. 2001.

Principal Contributions Most of my work has been related to the adjustment and reallocation dynamics at the micro business level and the relationship of these dynamics to aggregate fluctuations. The book *Job Creation and Destruction* with Steven Davis and Scott Schuh lays out the measurement methodology, the key issues and the basic facts of the processes of job creation and destruction. It is apparent from the facts presented in this book that modern market economies exhibit tremendous churning with high rates of reallocation of outputs and inputs across businesses. The adjustment dynamics at the micro level are often quite lumpy, which is a theme I have explored with numerous co-authors including Ricardo Caballero, Russell Cooper and Eduardo Engel. In addition, the ongoing process of creative destruction is quite important for understanding aggregate productivity dynamics. Much of aggregate productivity growth is accounted for by the reallocation of outputs and inputs from less productive to more productive businesses. The pace and efficiency of this creative destruction process potentially varies across time, sectors and countries and depends on the structure and institutions of product, labor and credit markets. Understanding the connection between productivity growth and reallocation is the focus of much of my current research including joint work with Martin Baily, Eric Bartelsman, Lucia Foster, C.J. Krizan, and Milan Vodopivec. I have also made contributions to the study of unemployment rate dynamics, the adoption of technol-

ogy and its impact on the demand for skilled workers, the evolution of the distribution of wages, and the role of limited rationality in the behavior of the economy.

HAMA0, Yasushi

Born 1955, Tokyo, Japan.

Current Post Assoc. Prof. Fin. and Bus. Econ., Marshall Sch. Bus., Univ. Southern California, Los Angeles, CA, USA, 1998–.

Past Posts Officer, Bank of Tokyo, 1978–83; Asst Prof. Fin., Univ. California, San Diego, 1987–91; Asst and Assoc. Prof. Fin. and Econ., Columbia Univ., 1991–99.

Degrees BA Univ. Tokyo, 1978; MBA, PhD Yale Univ., 1983, 1987.

Offices and Honours Bank of Tokyo Fellowship, 1981–83; Yale Univ. Fellowship, 1983–87; Dean Witter Fellowship, 1986–87; Amer. Assoc. Individual Investors Award for best paper in investments, Western Fin. Assoc., 1991; Batterymarch Fellowship, 1991–92; Res. support from Mitsubishi Trust and Banking Professorship, Columbia Univ., 1991–98; Nomination, Smith–Breedon Awards for Best Paper publ. in *J Fin*, AFA, 1992.

Editorial Duties Assoc. Ed., *Pacific Basin Fin. J.*, 1993–, *Asia-Pacific Fin. Markets*, 1994–, *Intl Rev. Fin.*, 2000–, *J. Empirical Fin.* 2000–.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services; G3 Corporate Finance and Governance.

Publications *Books*: 1. *Stocks, Bonds, and Inflation – Japan* (with R. Ibbotson), (Ibbotson Assocs, 1989, updated quarterly); 2. *Japanese Financial Market Research* (ed. with W. Bailey, W. Ziemba), (N-H, 1991).

Articles: 1. ‘An empirical examination of the arbitrage pricing theory: using Japa-

nese data’, *Japan and World Econ.*, 1, 1988, repr. in E. Elton, M. Gruber (eds), *Japanese Capital Markets* (Harper & Row, 1990); 2. ‘Correlations in price changes and volatility across international stock markets’ (with R. Masulis, V. Ng), *Rev. Fin. Stud.*, 3, 1990, repr. in R. Stulz, G.A. Karolyi (eds), *International Capital Markets* (Edward Elgar, forthcoming); 3. ‘The effect of the 1987 stock crash on international financial integration’ (with R. Masulis, V. Ng), in W. Ziemba, W. Bailey, Y. Hamao (eds), *Japanese Financial Market Research* (N-H, 1991); 4. ‘A standard data base for the analysis of the Japanese security markets’, *J Bus*, 64, 1991; 5. ‘Fundamentals and stock returns in Japan’ (with L. Chan, J. Lakonishok), *J Fin*, 46, 1991; 6. ‘Predictable stock returns in the US and Japan: a study of long-term capital market integration’ (with J. Campbell), NBER Working Paper, 1989, *J Fin*, 47, 1992; 7. ‘International capital market integration’ (with P. Jorion), in P. Newman, M. Milgate, J. Eatwell (eds), *The New Palgrave Dictionary of Money and Finance* (Macmillan Press, 1992); 8. ‘Tokyo stock exchange’, in P. Newman, M. Milgate, J. Eatwell (eds), *The New Palgrave Dictionary of Money and Finance* (Macmillan Press, 1992); 9. ‘Can fundamentals predict Japanese stock returns?’ (with L. Chan, J. Lakonishok), *Fin. Analysts J.*, 49, July/Aug. 1993; 10. ‘The interest rate process and the term structure of interest rates in Japan’ (with J. Campbell), in K. Singleton (ed.), *Japanese Monetary Policies*, NBER Monograph (UCP, 1993); 11. ‘A comparison of relation between security market prices, returns and accounting measures in Japan and the United States’ (with C. Hall, T. Harris), *JIFMA*, 1, 1994, repr. in F. Choi, R. Levich (eds), *International Capital Markets in a World of Accounting Differences* (Irwin, 1994); 12. ‘Changing corporate financing structure and the main

bank system in Japan' (with J. Campbell), in M. Aoki, H. Patrick (eds), *Japanese Main Bank System* (OUP, 1995); 13. 'Securities trading in the absence of dealers: trades and quotes on the Tokyo Stock Exchange' (with J. Hasbrouck), *Rev. Fin. Stud.*, 8, 1995; 14. 'Interaction in investment among rival Japanese firms' (with S. Foresi, J. Mei), *Japan and World Economy*, 10, 1998; 15. 'An analysis of bidding in the Japanese government bond auctions' (with N. Jegadeesh), *J Fin*, 53, 1998; 16. 'Institutional affiliation and the role of venture capital: evidence from initial public offerings in Japan' (with F. Packer, J. Ritter), *Pacific Basin Fin. J.*, 8, 2000; 17. 'Living with the enemy: an analysis of foreign equity investment in Japan' (with J. Mei), *JIMF*, 20, 2001; 18. 'The components of the bid-ask spread in a limit order market: evidence from the Tokyo Stock Exchange' (with H.-J. Ahn, J. Cai, R. Ho), *J. Empirical Fin.*, 9, 2002.

Principal Contributions My specialties are international finance, particularly Japanese financial markets and institutions. Since institutional characteristics and historical development are quite different from the US markets, Japanese financial markets offer excellent opportunities to test theories and hypotheses in finance that are developed based mostly on the US system. An earlier work of mine was to establish a standard database for the study of Japanese financial markets, which can be used to examine asset pricing models for Japan. L. Chan, J. Lakonishok and I found that firms' fundamental characteristics such as book-to-market ratio and size are significant in determining a cross-section of stock returns in Japan. Our study predated that of E. Fama and K. French on the US market. In the area of the integration of international capital markets, J. Campbell and I studied long-run capital market integration between the US and Japan. With R.

Masulis and V. Ng, I applied conditional heteroskedasticity models to examine short-term dynamics of international stock market returns. We found that there are spillovers in volatility surprises among stock markets in the US, UK and Japan, but this effect is not symmetric. My work with J.P. Mei focuses on the question of whether foreign investors fare better or worse in equity investment in Japan. I have also studied microstructure of the Tokyo Stock Exchange (TSE), which is an electronic limit-order market. My work with J. Hasbrouck was one of the first to examine the characteristics of the TSE trading. Recently, I have extended the analysis using more detailed high-frequency data. In the fixed income securities area, J. Campbell and I looked at the dynamics of interest rates and term structure of interest rates in Japan. N. Jegadeesh and I studied bidding behaviour of different dealers in the Japanese Government Bond primary markets. I have also done research on Japanese corporate finance and banking.

HAMERMESH, Daniel

Born 1943, Cambridge, MA, USA.

Current Posts Edward Everett Hale Centennial Prof. Econ., Univ. Texas, Austin, TX, USA, 1993–; Res. Assoc., NBER, Cambridge, MA, USA, 1979–; Res. Assoc., Program Dir., Inst. for Future of Labor, 1999–.

Past Posts Asst Prof., Princeton Univ., 1969–73; Dir. Res., Office US Secretary Labor, 1974–75; Vis. Prof., Harvard Univ., 1981; Assoc. Prof., Prof., Michigan State Univ., 1973–93.

Degrees BA Univ. Chicago, 1965; PhD Yale Univ., 1969.

Offices and Honours Phi Beta Kappa; Ford Dissertation Fell., 1967; Pres., MEA, 1989; Fell., Em Soc, 1996; Pres., Soc. Labor Econ., 2001.

Editorial Duties Ed. Bds, *QREB*, *J. Econ. and Bus.*, *Labour*, *AER*, *Ind. and Labor Relations Rev.*; Co-Ed., *Econ. Letters*, 1994–98; *Labour Econ.*, 1996–2000, *J. Pop. Econ.*, 2001–.

Principal Fields of Interest J2 Time Allocation; Work Behavior; Employment Determination and Creation; I0 Health, Education, and Welfare: General; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Economic Aspects of Manpower Training Programs* (D.C. Heath, 1971); 2. *Jobless Pay and the Economy* (JHUP, 1977); 3. *Economics of Work and Pay* (with A. Rees), (Harper & Row, 1984, and subsequent edns); 4. *Labor Demand* (Princeton Univ. Press, 1993). 5. *Economics is Everywhere* (McGraw-Hill/Irwin, 2004).

Articles: 1. ‘Wage bargains, threshold effects and the Phillips curve’, *QJE*, 84, Aug. 1970; 2. ‘An economic theory of suicide’ (with N.M. Soss), *JPE*, 82, Jan.–Feb. 1974; 3. ‘Interdependence in the labour market’, *Ec*, 42, Nov. 1975; 4. ‘Labor-market competition among youths, white women and others’ (with J.H. Grant), *REStat*, 63, Aug. 1981; 5. ‘Social insurance and consumption’, *AER*, 72, March 1982; 6. ‘Consumption during retirement’, *REStat*, 66, Feb. 1984; 7. ‘Expectations, life expectancy and economic behavior’, *QJE*, 103, May 1985; 8. ‘The costs of worker displacement’, *QJE*, 105, May 1987; 9. ‘Labor demand and the structure of adjustment costs’, *AER*, 79, Sept. 1989; 10. ‘Sleep and the allocation of time’ (with J.E. Biddle), *JPE*, 98, Oct. 1990; 11. ‘A young economist’s guide to professional etiquette’, *JEP*, 6, Winter 1992; 12. ‘Beauty and the labor market’ (with J.E. Biddle), *AER*, 84, Dec. 1994; 13. ‘The timing of work over time’, *EJ*, 108, Jan. 1999; 14. ‘Changing inequality in markets for workplace amenities’, *QJE*, 117, Nov. 1999; 15. ‘International labor economics’, *J Lab E*, 20, Oct. 2002.

Principal Contributions Since my dissertation, I have worked on various aspects of the demand for labor, including: studies of substitution among workers of different demographic groups; attempts to provide better estimates of the aggregate labor demand elasticity; examination of how the minimum wage affects labor demand; the impact of overtime regulations, and applications of these and other estimates to the evaluation of current and proposed labor-market policies; analysis of the nature of adjustment costs in factor demand. Much of my work in the last two decades has been on the allocation of time, including studies of time use, expectations about horizons and their role in life-cycle models. Substantial work also on academic labor markets, particularly on the returns to scholarly productivity and the economic analysis of scholarly interactions.

HAMILTON, James Douglas

Born 1954, Denver, CO, USA.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 1992–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Virginia, 1981–87, 1987–91, 1991–92.

Degrees BA Colorado Coll., 1977; MA, PhD Univ. California, Berkeley, 1981, 1983.

Offices and Honours Fell., Em Soc, 1996; Res. Assoc., NBER, 1999; NSF Advisory Panel, 2000–01.

Editorial Duties Assoc. Ed., *JBES*, 1991–, *JEDC*, 1988–2001, *REStat*, 1993–, *JMCB*, 1996–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; C1 Econometric and Statistical Methods: General.

Publications *Book*: 1. *Time Series Analysis* (Princeton Univ. Press, 1994; trans., Italian, 1995).

Articles: 1. 'Oil and the macroeconomy since World War II', *JPE*, 91, April 1983; 2. 'The observable implications of self-fulfilling expectations' (with C.H. Whiteman), *JME*, 16, Nov. 1985; 3. 'Uncovering financial market expectations of inflation', *JPE*, 93, Dec. 1985; 4. 'On the limitations of government borrowing: a framework for empirical testing' (with M. Flavin), *AER*, 76, Sept. 1986; 5. 'On testing for self-fulfilling speculative price bubbles', *IER*, 27, Oct. 1986; 6. 'Monetary factors in the Great Depression', *JME*, 19, March 1987; 7. 'The role of the international gold standard in propagating the Great Depression', *Contemporary Pol. Issues*, 6, April 1988; 8. 'A neoclassical model of unemployment and the business cycle', *JPE*, 96, June 1988; 9. 'Rational expectations econometric analysis of changes in regime: an investigation of the term structure of interest rates', *JEDC*, 12, June/Sept. 1988; 10. 'A new approach to the economic analysis of nonstationary time series and the business cycle', *Em*, 47, March 1989; 11. 'Analysis of time series subject to changes in regime', *J Em*, 45, July/Aug. 1990; 12. 'Long swings in the dollar: are they in the data and do markets know it?' (with C. Engel), *AER*, 80, Sept. 1990; 13. 'Was the deflation during the Great Depression anticipated? Evidence from the commodity futures market', *AER*, 82, March 1992; 14. 'Autoregressive conditional heteroskedasticity and changes in regime' (with R. Susmel), *J Em*, 64, Sept./Oct. 1994; 15. 'The daily market for federal funds', *JPE*, 104, Feb. 1996; 16. 'Specification testing in Markov-switching time-series models', *J. Em*, 70, Sept./Oct. 1996; 17. 'Measuring the liquidity effect', *AER*, 87, March 1997; 18. 'A parametric approach to flexible nonlinear inference', *Em*, 69, May 2001; 19. 'A model of the federal funds target' (with O. Jorda), *JPE*, 110, Dec. 2002.

Principal Contributions My research has played an important role in establishing that oil supply shocks have significant disruptive effects on the US economy. People were quite incredulous when I reported in 1980 that six out of the seven postwar recessions were preceded by a sharp increase in crude oil prices. The position is substantially less controversial today, as we have seen the same relation hold for the three recessions the US has experienced since then. I have also contributed to the evidence that monetary policy prior to 1929, and problems with the international gold standard, were key factors in initiating and propagating the Great Depression. Both positions were again initially somewhat maverick but have now become mainstream consensus. I also developed an approach to modeling economic time series that exhibit stark changes in regime, proposing the class of Markov-switching time-series models. One application of this method is an algorithm for characterizing the shifts between phases of the business cycle and dating the beginning and end of economic recessions. Other applications include changes in monetary policy or exchange rate regimes, currency crises and describing financial market volatility. *Time Series Analysis* helped synthesize advances in time series analysis over the last quarter century and make these accessible to students and researchers. I am also interested in building statistical descriptions of monetary policy that incorporate institutional details of the US money market. In other work, I have noted that a stock market 'bubble' behaves exactly like the response to an unobserved economic fundamental, proposed a common framework and language for nonparametric and parametric statistical inference, allowing the benefits of both approaches to be exploited together, and developed new approaches to forecasting discrete-valued time series,

such as predicting the dates when the Federal Reserve is going to change its target value for the federal funds rate.

HAMILTON, James T.

Born 1961, Alexandria, VA, USA.

Current Post Oscar L. Tang Family Assoc. Prof. Public Pol., Econ., and Polit. Sc., Duke Univ., Durham, NC, USA, 2000–.

Past Posts Asst. Prof. Public Pol., Econ. and Polit. Sc., Assoc. Prof. Public Pol., Econ. and Polit. Sc., Duke Univ., 1991–98, 1998–2000; Dir., Duke Program on Violence and Media, 1993–2000; Assoc. Dir., Sanford Inst. Public Pol., 2001–02.

Degrees BA (Econ. and Govt, *scI*), PhD Harvard Univ., 1983, 1991.

Offices and Honours John Olin Law and Econ. Fell., Duke Law Sch., 1990–91; Disting. Teaching Award, Trinity Coll., Duke Univ., 1993; Oak Ridge Assoc. Univs Faculty Award, 1994; Vernon Prize outstanding article, *JPAM*, 1995; Allyn Young Prize for Excellence in Teaching the Principles of Econ., Harvard Univ., 1996; Goldsmith Book Prize, Shorenstein Center, Kennedy Sch. Govt, 1999; Bass Soc. Fells, Duke Univ., 2000; David N. Kershaw Award, Assoc. Public Pol. Analysis and Mgmt, 2001.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; Q2 Renewable Resources and Conservation; Environmental Management; L9 Industry Studies: Utilities and Transportation.

Publications *Books*: 1. *Employers Large and Small* (with C. Brown, J. Medoff), (HUP, 1990); 2. *Channeling Violence: The Economic Market for Violent Television Programming* (Princeton Univ. Press, 1998, pb edn 2000); 3. *Television Violence and Public Policy* (ed. and author of 2 chaps), (Univ. Michigan Press,

1998, pb edn 2000); 4. *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policy* (with W.K. Viscusi), (MIT Press, 1999).

Articles: 1. ‘Politics and social costs: estimating the impact of collective action on hazardous waste facilities’, *RandJE*, 24, Spring 1993; 2. ‘Strategic regulators and the choice of rulemaking procedures: the selection of formal and informal rules in regulating hazardous waste’ (with C.H. Schroeder), *Law and Contemporary Problems*, 57, Winter/Spring 1994; 3. ‘Pollution as news: media and stock market reactions to the toxics release inventory data’, *JEEM*, 28, Jan. 1995; 4. ‘Testing for environmental racism: prejudice, profits, political power?’, *JPAM*, 14, Winter 1995; 5. ‘Noncompliance in environmental reporting: are violators ignorant, or evasive, of the law?’ (with J. Brehm), *Amer. J. Polit. Sc.*, 40, May 1996; 6. ‘Biased ballots? The impact of ballot structure on North Carolina elections in 1992’ (with H.F. Madd), *Public Choice*, 87, June 1996; 7. ‘Cleaning up superfund’ (with W.K. Viscusi), *Public Interest*, 124, Summer 1996; 8. ‘Private interests in “public interest” programming: an economic assessment of broadcaster incentives’, *Duke Law J.*, 45, 1996; 9. ‘The benefits and costs of regulatory reforms for superfund’ (with W.K. Viscusi), *Stanford Environmental Law J.*, 16, May 1997; 10. ‘Taxes, torts and the toxics release inventory: congressional voting on instruments to control pollution’, *EI*, 35, Oct. 1997; 11. ‘Conservative versus mean risk assessments: implications for superfund policies’ (with W.K. Viscusi, P.C. Dockins), *JEEM*, 34, Nov. 1997; 12. ‘Exercising property rights to pollute: do cancer risks and politics affect plant emission reductions?’, *JRU*, 18, Aug. 1999; 13. ‘Are risk regulators rational? Evidence from hazardous waste cleanup decisions’ (with W.K. Viscusi), *AER*, 89, Sept. 1999; 14.

'How costly is clean? An analysis of the benefits and costs of superfund site remediations' (with W.K. Viscusi), *JPAM*, 18, Winter 1999; 15. 'Private values of risk tradeoffs at superfund sites: housing market evidence on learning about risk' (with T. Gayer, W.K. Viscusi), *REStat*, 82, Aug. 2000.

Principal Contributions My research is part of the broad field of political economy which treats outcomes in both politics and economics as the result of individual decisions made under conditions of scarcity. My work focuses on the political economy of environmental regulation and media policy. A common set of questions motivates my empirical work on the environment and media: what explains the magnitude and distribution of externalities, defined as costs or benefits that are not fully reflected in the decisions of producers and consumers? How does the logic of collective action – which indicates that individuals with a common interest may fail to become organized or active in promoting that interest – affect the origin and distribution of externalities? How can the provision of information be used as a policy instrument to deal with externalities? These questions are interesting because they help explain situations where the pursuit of individual self-interest leaves society collectively worse off. They are also important in policy terms, since understanding how property rights are defined and exercised when externalities arise may ultimately lead to improvements in social welfare.

HAMNETT, Chris

Born 1946, Louth, Lincolnshire, UK.

Current Post Prof. Geography, King's Coll., London, UK, 1996–.

Past Posts Lect., Sr Lect., Prof. Urban

Geography, Open Univ., 1973–87, 1987–93, 1993–95.

Degrees BSc (Geography and Econ.) Univ. London, 1969; Diploma Urban and Regional Stud., Univ. Birmingham, 1970.

Offices and Honours Benjamin Banneker Res. Prof., Center for Washington Area Stud., George Washington Univ., 1985; Vis. Res. Fell., Urban Res. Center, ANU, 1989; Sir Norman Chester Sr Res. Fellowship, Nuffield Coll., Oxford, 1993–94; Sr Res. Fell., Netherlands Inst. Adv. Stud., 1995; Advisory Prof., East China Normal Univ., Shanghai, China, 1999–.

Editorial Duties Ed. Bds, *Housing Stud.*, 1984–94, *Geoforum*, 1998–2003, *J. Housing and Built Environment*, 1999–, *Urban Affairs Rev.*, 2001–03; Ed., *Area*, 1994–97; Ed. Advisory Bd, *Housing Stud.*, 1995–2002.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; I3 Welfare and Poverty; N3 Labor and Consumers, Demography, Education, Income and Wealth.

Publications *Books*: 1. *Cities, Housing and Profits* (with W. Randolph), (Hutchinson, 1988); 2. *The Changing Social Structure* (ed. with L. McDowell, P. Sarre), (Sage, 1989); 3. *Safe as Houses: Housing Inheritance in Britain* (with M. Harmer, P. Williams), (Paul Chapman, 1991); 4. *Housing and Labour Markets* (ed. with J. Allen), (Unwin Hyman, 1991); 5. *A Shrinking World?* (ed. with J. Allen), (OUP, 1995); 6. *Winners and Losers: Home Ownership in Modern Britain* (Taylor & Francis, 1999); 7. *Shrinking the State: The Political Underpinnings of Privatization* (with H. Feigenbaum, J. Henig), (CUP, 1999); 8. *Unequal City: London in the Global Arena* (Routledge, 2003 forthcoming).

Articles: 1. 'Housing the two nations: socio-tenurial polarization in Britain, 1961–81', *Urb Stud*, 21, 1984; 2. 'The changing socio-economic structure of

London and the South East, 1961–81', *Regional Stud.*, 20, 1986; 3. 'Labour and housing market change in London: a longitudinal analysis, 1971–81' (with W. Randolph), *Urb Stud*, 25, 1988; 4. 'The blind men and the elephant: the explanation of gentrification', *Transactions Inst. British Geographers*, 16, 1991; 5. 'Gentrification, class and gender' (with T. Butler), *Environment and Planning D*, 12, 1994; 6. 'Social polarization in global cities: theory and evidence', *Urb Stud*, 31, 1994; 7. 'A nation of inheritors? Housing inheritance, wealth and inequality in Britain', *J. Social Pol.*, 20, 1995; 8. 'Social polarisation, economic restructuring and welfare state regimes', *Urb Stud*, 33, 1996; 9. 'Home ownership, housing wealth and wealth distribution in Britain', in J Hills (ed.), *New Inequalities* (CUP, 1996); 10. 'A stroke of the Chancellor's pen: the social and regional impact of the 1988 higher rate income tax cuts', *Environment and Planning A*, 29, 1997; 11. 'Social polarisation and inequality in London: the earnings evidence' (with D. Cross), *Environment and Planning C: Govt and Pol.*, 16, 1998; 12. 'Social change, social polarisation and income inequality in London, 1979–93' (with D. Cross), *Geojournal*, 46, 1998.

Principal Contributions These are in several main areas. (1) Research on the changing occupational and social structure of London and other global cities. (2) Work on the structure of the British owner-occupied housing market, including analysis of regional house prices. (3) Analysis of the changing structure of the London housing market, including work on flat break-ups (condo conversions) and flat conversion and housing tenure polarisation. (4) Work on the scale, importance and structure of inheritance in Britain, particularly looking at housing inheritance and wealth and equity extraction by elderly home owners. (5) Theoretical work

on explanation of gentrification. (6) Critical theoretical work on social polarisation, and the analysis of earnings and income inequality. (7) Analysis of privatisation, focusing on the key role of politics rather than economics.

HANCOCK, Diana n.e.

HANEMANN, W. Michael n.e.

HANNAN, Timothy H.

Born 1944, Aberdeen, WA, USA.

Current Post Sr Econ., Fed. Reserve Bd, Washington, DC, USA, 1983–.

Past Posts Econ., FRB, Philadelphia, 1974–81; Assoc. Prof., Arizona State Univ., 1981–83.

Degrees BA Univ. Washington, 1967; MA, PhD Univ. Wisconsin, 1972, 1974.

Principal Fields of Interest D4 Market Structure and Pricing; L0 Industrial Organization: General; G2 Financial Institutions and Services.

Publications *Book*: 1. *The Economics of Methadone Maintenance* (D.C. Heath, 1975).

Articles: 1. 'Expense-preference behavior in banking: a reexamination', *JPE*, 87, Aug. 1979; 2. 'Expense preference and managerial control: the case of the banking firm', *Bell JE*, 11, Autumn 1980; 3. 'Market concentration and the diffusion of new technology in the banking industry', *REStat*, 66, Nov. 1984; 4. 'The determinants of technology adoption: the case of the banking firm' (with J. McDowell), *RandJE*, 15, Fall 1984; 5. 'Sex discrimination and product market competition: the case of the banking industry' (with O. Ashenfelter), *QJE*, 101, Feb. 1986; 6. 'Rival precedence and the dynamics of technology adoption: an em-

pirical analysis' (with J. McDowell), *Em*, 54, May 1987; 7. 'Bank insolvency risk and the market for large certificates of deposit' (with G. Hanweck), *JMCB*, 20, May 1988; 8. 'The price-concentration relationship in banking' (with A. Berger), *REStat*, 71, May 1989; 9. 'The impact of technology adoption on market structure' (with J. McDowell), *REStat*, 72, Feb. 1990; 10. 'Bank commercial loan markets and the role of market structure: evidence for surveys of commercial lending', *J Bank Fin*, 15, 1991; 11. 'The rigidity of prices: evidence from the banking industry' (with A. Berger), *AER*, 81, Sept. 1991; 12. 'Discrimination, competition, and loan performance in FHA mortgage lending' (with J. Berkovec, G. Canner, S. Gabriel), *REStat*, 80, May 1998; 13. 'The efficiency cost of market power in the baking industry: a test of the "quiet life" and related hypotheses' (with A. Berger), *REStat*, 80, Aug. 1998; 14. 'Do substantial horizontal mergers generate significant price effects? Evidence from the banking industry' (with R. Prager), *J Ind E*, 46, Dec. 1998.

Principal Contributions n.e.

HANSEN, Bruce E.

Born 1962, Los Angeles, CA, USA.

Current Post Stockwell Prof. Econ., Univ. Wisconsin, Madison, WI, USA, 1998-.

Past Posts Asst Prof., Assoc. Prof., Univ. Rochester, 1989-92, 1992-95; Assoc. Prof., Prof., Boston Coll., 1994-95, 1995-98.

Degrees AB Occidental Coll., 1984; MA, PhD Yale Univ., 1986, 1989.

Offices and Honours Fell., Em Soc, 2000.

Editorial Duties Assoc. Ed., *Em Theory*, 1992-95, *Em*, 1996-; Co-Ed., *Em Theory*, 1995-; Advisory Bd, *FRB New York Econ. Pol. Rev.*, 1998-.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications Articles: 1. 'Statistical inference in instrumental variables regression with I(1) processes' (with P.C.B. Phillips), *REStud*, 57, 1990; 2. 'Strong laws for dependent heterogeneous processes', *Em. Theory*, 7, 1991; 3. 'Testing for parameter instability in linear models', *J. Pol. Modeling*, 14, 1992; 4. 'Tests for parameter instability in regressions with I(1) processes', *JBES*, 10, 1992; 5. 'Convergence to stochastic integrals for dependent heterogeneous processes', *Em. Theory*, 8, 1992; 6. 'The likelihood ratio test under non-standard conditions: testing the Markov switching model of GNP', *JAE*, 7, 1992; 7. 'Consistent covariance matrix estimation for dependent heterogeneous processes', *Em*, 60, 1992; 8. 'Asymptotic theory for the GARCH(1,1) quasi-maximum likelihood estimator' (with S.-W. Lee), *Em. Theory*, 10, 1994; 9. 'Autoregressive conditional density estimation', *IER*, 35, 1994; 10. 'Are seasonal patterns constant over time? A test for seasonal stability' (with F. Canova), *JBES*, 13, 1995; 11. 'Rethinking the univariate approach to unit root tests: how to use covariates to increase power', *Em. Theory*, 11, 1995; 12. 'Regression with non-stationary volatility', *Em*, 63, 1995; 13. 'Inference when a nuisance parameter is not identified under the null hypothesis', *Em*, 64, 1996; 14. 'The grid bootstrap and the autoregressive model', *REStat*, 81, 1999; 15. 'Sample splitting and threshold estimation', *Em*, 68, 2000; 16. 'Threshold autoregression with a unit root' (with M. Caner), *Em*, 69, 2001; 17. 'The new econometrics of structural change: dating changes in US Labor Productivity', *JEP*, 15, 2001.

Principal Contributions In work with

Peter Phillips, I developed the Fully Modified Estimator for cointegrated regressions. Several of my papers deal with the problem of testing for structural change of unknown timing, including treatment of the case of cointegrating regressions. Other papers have focused on estimation and inference in nonlinear models, focusing in particular on time-series models, including Markov switching and threshold autoregressive (TAR) models. Other recent contributions concern time-series bootstrap methods.

HANSEN, Gary D. n.e.

HANSEN, Lars Peter

Born 1952, USA.

Current Post Homer J. Livingston Disting. Service Prof., Dept Econ., Univ. Chicago, IL, USA, 1998–.

Past Posts Asst Prof., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1978–80; Asst Prof., Assoc. Prof., Prof., Homer J. Livingston Prof., Dept Econ., Univ. Chicago, 1980–81, 1982–84, 1984–90, 1990–97; Vis. Assoc. Prof. Econ., Univ. Chicago, 1981–82, MIT, 1983; Vis. Prof. Econ., Harvard Univ., 1986; Dir., Grad. Student Program, 1988–94; Vis. Res. Prof., Grad. Sch. Bus., Stanford Univ., 1989–90.

Degrees BS (Maths) Utah State Univ., 1974; PhD Univ. Minnesota, 1978.

Offices and Honours Sloan Foundation Fell., 1982; Frisch Prize, co-winner (with K. Singleton), 1984; Res. Assoc., Econ. Res. Center, Natl Opinion Res. Council, 1984–; Fell., Em Soc, 1985–, NBER, 1987–, AAAS, 1993–; Lionel W. McKenzie Annual Lecture, Univ. Rochester, 1992; John Simon Guggenheim Fell., 1996–97.

Editorial Duties Assoc. Ed., *Em*, 1984–

86, *ET*, 1984–86; Ed. Bd, *JME*, 1984–; Co-Ed., *Em*, 1986–91; Ed., *JPE*, 1995–.

Principal Fields of Interest n.e.

Publications *Articles*: 1. 'Forward exchange rates as optimal predictors of future spot rates' (with R.J. Hodrick), *JPE*, 88, 1980; 2. 'Linear rational expectations models for dynamically interrelated variables' (with T.J. Sargent), in R.E. Lucas, Jr, T.J. Sargent (eds), *Rational Expectations and Econometric Practice* (Wiley & Sons, 1981); 3. 'Large sample properties of generalized method of moments estimators', *Em*, 50, 1982; 4. 'Generalized instrumental variables estimation of nonlinear rational, expectations models' (with K.J. Singleton), *Em*, 50, 1982; 5. 'Instrumental variables procedures for estimating linear rational expectations models' (with T.J. Sargent), *JME*, 9, 1982; 6. 'A time series analysis of representative consumer models of consumption and leisure choice under uncertainty' (with M.S. Eichenbaum, K.J. Singleton), *QJE*, Feb. 1988; 7. 'Seasonality and approximation errors in rational expectations models' (with T.J. Sargent), *J Em*, 55, 1993; 8. 'The empirical foundations of calibration' (with J.J. Heckman), *JEP*, 10, 1996; 9. 'Assessing specification errors in stochastic discount factor models' (with R. Jagannathan), *J Fin*, 52, 1997; 10. 'Bootstrapping the long run' (with T.G. Conley, W.-F. Liu), *Macroecon. Dynamics*, 1, 1997.

Principal Contributions n.e.

HANSMANN, Henry Baethke

Born 1945, Highland Park, IL, USA.

Current Post Prof. Law, Yale Law Sch., New Haven, CT, USA, 1973–.

Past Posts Asst Prof. Law, Assoc. Prof., Univ. Pennsylvania, 1975–81, 1981–83.

Degrees BA (Math) Brown Univ., 1967; JD Yale Law Sch., 1974; PhD Yale Univ., 1978.

Offices and Honours Guggenheim Foundation Fell., 1985–86.

Principal Fields of Interest K0 Law and Economics: General; L2 Firm Objectives, Organization, and Behavior; K2 Regulation and Business Law.

Publications *Book*: 1. *The Ownership of Enterprise* (HUP, 1996).

Articles: 1. ‘The role of nonprofit enterprise’, *Yale Law J.*, 89, 1980; 2. ‘Non-profit enterprise in the performing arts’, *Bell JE*, 12, 1981; 3. ‘Population heterogeneity and the sociogenesis of homicide’ (with J.M. Quigley), *Social Forces*, 61, 1982; 4. ‘The organization of insurance companies: mutual versus stock’, *JLEO*, 1, 1985; 5. ‘A theory of status organizations’, *JLEO*, 2, 1986; 6. ‘Ownership of the firm’, *JLEO*, 4, 1988; 7. ‘Why do universities have endowments?’, *J. Legal Stud.*, 19, 1990; 8. ‘When does worker ownership work? ESOPs, law firms, codetermination, and economic democracy’, *Yale Law J.*, 99, 1990; 9. ‘Condominium and cooperative housing: transactional efficiency, tax subsidies, and tenure choice’, *J. Legal Stud.*, 20, 1991; 10. ‘Toward unlimited shareholder liability for corporate torts’ (with R. Kraakman), *Yale Law J.*, 100, 1991; 11. ‘Hands-tying contracts: book publishing, venture capital financing, and secured debt’ (with R. Kraakman), *JLEO*, 8, 1992; 12. ‘Authors’ and artists’ moral rights: a comparative legal and economic analysis’ (with M. Santilli), *J. Legal Stud.*, 26, 1997; 13. ‘Organizational law as asset partitioning’, *Europ ER*, 44, 2000; 14. ‘The essential role of organizational law’ (with R. Kraakman), *Yale Law J.*, 110, 2000.

Principal Contributions Scholarship has focused principally on the law and economics of organizational ownership and structure including, beyond conventional investor-owned firms, nonprofits, mutuals, cooperatives, condominiums, trusts, and partnerships. I have also writ-

ten on other aspects of basic legal relationships, with a particular focus on property rights.

HANSON, Gordon Howard

Born 1964, Berkeley, CA, USA.

Current Post Prof. Intl Relations and Pacific Stud., Univ. California, San Diego, CA, USA, 2001–.

Past Posts Asst Prof. Econ., Univ. Texas, 1992–98; Assoc. Prof. Econ. and Intl Bus., Univ. Michigan, 1998–2001.

Degrees AB Occidental Coll., 1986; PhD MIT, 1992.

Offices and Honours Watson Fell., 1986–87; Faculty Res. Fell., Res. Assoc., NBER, 1993–98, 1998–; Assoc. Chair Econ., Univ. Michigan, 1999–2001; Nippon Telephone & Telegraph Fell., Univ. Michigan, 2000–01.

Editorial Duties Assoc. Ed., *AER*, 1997–, *J Int E*, 1997–, *J. Econ. Geography*, 1999–, *REStat*, 2002–.

Principal Fields of Interest F1 Trade; F2 International Factor Movements and International Business; R0 Urban, Rural, and Regional Economics: General.

Publications *Book*: 1. *Immigration Policy and the Welfare State* (with T. Boeri, B. McCormick), (OUP, 2002).

Articles: 1. ‘Incomplete contracts, risk, and ownership’, *IER*, 36, May 1995; 2. ‘Globalization, outsourcing, and wage inequality’ (with R. Feenstra), *AER*, 86, May 1996; 3. ‘Agglomeration, dispersion, and the pioneer firm’, *JUE*, 39, May 1996; 4. ‘Localization economies, vertical organization, and trade’, *AER*, 86, Dec. 1996; 5. ‘Increasing returns, trade, and the regional structure of wages’, *EJ*, 107, Jan. 1997; 6. ‘Foreign direct investment and relative wages: evidence from Mexico’s maquiladoras’ (with R. Feenstra), *J Int E*, 42, May 1997; 7. ‘Spillovers, foreign investment, and export behavior’ (with B.

Aitken, A. Harrison), *J Int E*, 43, Aug. 1997; 8. 'Regional adjustment to trade liberalization', *RSUE*, 28, July 1998; 9. 'Trade, technology, and wage inequality in Mexico' (with A. Harrison), *ILRR*, 52, Jan. 1999; 10. 'Who gains from trade reform? Some remaining puzzles' (with A. Harrison), *JDE*, 59, June 1999; 11. 'The impact of outsourcing and high-technology capital on wages: estimates for the United States, 1979–1990' (with R. Feenstra), *QJE*, 114, Aug. 1999; 12. 'Illegal immigration, border enforcement and relative wages: evidence from apprehensions at the US–Mexico border' (with A. Spilimbergo), *AER*, 89, Dec. 1999; 13. 'Aggregation bias in the factor content of trade: evidence from US manufacturing' (with R. Feenstra), *AER*, 90, May 2000; 14. 'Political economy, sectoral shocks, and border enforcement' (with A. Spilimbergo), *CJ*, 24, Aug. 2001; 15. 'US–Mexico integration and regional economies: evidence from border-city pairs', *JUE*, 50, Sept. 2001; 16. 'Does border enforcement protect US workers from illegal immigration?' (with R. Robertson, A. Spilimbergo), *REStat*, 84, Feb. 2002; 17. 'Labor-market adjustment in open economies: evidence from US states' (with M. Slaughter), *J Int E*, 57, June 2002; 18. 'Technology, trade, and adjustment to immigration in Israel' (with N. Gandal, M. Slaughter), *Europ ER*, forthcoming; 19. 'Intermediaries in entrepôt trade: Hong Kong re-exports of Chinese goods' (with R.C. Feenstra), *JEMS*, forthcoming.

Principal Contributions My research examines how globalization affects labour markets, industry structure, and industry location in national and regional economies. In early work, I found that trade liberalization in Mexico contributed to a shift in industrial activity and regional wage differentials in favour of locations with relatively good access to foreign markets. I also found that regional wage pat-

terns in the US and Mexico are consistent with economic geography models based on increasing returns to scale. In later work with R. Feenstra, I have estimated the impact of technological change and international trade on the structure of wages in the US and Mexico. We found that in both countries foreign outsourcing has contributed to an increase in the relative demand for and relative wages of skilled labour. In the US, the wage impacts of foreign outsourcing were smaller than those of technological upgrading. In work with A. Spilimbergo, I have examined illegal immigration in the US from Mexico. We found that attempted illegal immigration from Mexico is highly responsive to changes in Mexican wages and that border enforcement is ineffective at impeding illegal entry. In work with N. Gandal and M. Slaughter, I have examined how regions and nations adjust to labour-supply shocks. In the US and Israel, we found that adjustment occurred primarily through open-economy mechanisms (trade, factor, or technology flows) and not closed-economy mechanisms (region or country-specific wage changes).

HANUSHEK, Eric Alan

Born 1943, Lakewood, OH, USA.

Current Posts Prof. Econ. and Polit. Sc., Univ. Rochester, NY, USA, 1978–; Dir., W. Allen Wallis Inst. Polit. Econ., Univ. Rochester, 1991–; Res. Assoc., NBER, USA, 1995–.

Past Posts Instr., Asst Prof. Econ., Assoc. Prof., USAF Acad., 1968–69, 1969–71, 1971–73; Sr Staff Econ., US President's Council Econ. Advisors, Washington, DC, 1971–72; Sr Staff Econ., US Cost of Living Council, Washington, DC, 1973–74; Assoc. Prof. Econ., Inst. Social and Pol. Stud., Yale Univ., 1975–78; Dir., Public Pol. Analysis Program, Univ.

Rochester, 1978–83; Chairman, Dept Econ., Univ. Rochester, 1982–87, 1988–90, 1991–93; Dep. Dir., US CBO, Washington, DC, 1984–85.

Degrees BS USAF Acad., 1965; PhD MIT, 1968.

Offices and Honours Pres., Assoc. Public Pol. Analysis and Mgmt, 1988–89; Mem., Intl Acad. Educ., 1997–.

Editorial Duties Assoc. Ed., *REStat*; Co-Ed., *JHR*, 1990–94; Ed. Bds, *Social Sc. Res.*, 1978–, *Econ. Educ. Rev.*, 1982–, *Evaluation Rev.*, 1987–89, *J. Econ. Educ.*, 1990–95, *RSUE*, 1991–, *Amer. J. Educ.*, 1992–95, *JPAM*, 1994–, *Socio-Econ. Planning Sc.*, 1994–.

Principal Fields of Interest I2 Education; H0 Public Economics: General; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Education and Race – An Analysis of the Educational Production Process* (D.C. Heath, 1972); 2. *Statistical Methods for Social Scientists* (with J.E. Jackson), (Acad. Press, 1977); 3. *Improving Information for Social Policy Decisions: The Uses of Microsimulation Modeling*, Vols I, II (ed. with C.F. Citro), (Natl Acad. Press, 1991); 4. *Educational Performance of the Poor: Lessons from Rural Northeast Brazil* (with R.W. Harbison), (OUP, 1992); 5. *Educação Rural: Lições do Edurural* (with J.B.F. Gomes Neto, R.W. Harbison, R.H. Leite), (Editora da Univ. São Paulo, 1994); 6. *Making Schools Work: Improving Performance and Controlling Costs* (Brookings Inst., 1994); 7. *Modern Political Economy: Old Topics, New Directions* (ed. with J.S. Banks), (CUP, 1995); 8. *Assessing Knowledge of Retirement Behavior* (ed. with N.L. Maritato), (Natl Acad. Press, 1996); 9. *Improving America's Schools: The Role of Incentives* (ed. with D.W. Jorgenson), (Natl Acad. Press, 1996); 10. *Assessing Policies for Retirement Income: Needs for Data, Research,*

and Models (ed. with C.F. Citro), (Natl Acad. Press, 1997).

Articles: 1. 'Regional differences in the structure of earnings', *REStat*, 55, May 1973; 2. 'Implicit investment profiles and intertemporal adjustments of relative wages' (with J.M. Quigley), *AER*, 68, March 1978; 3. 'What is the price elasticity of housing demand?' (with J.M. Quigley), *REStat*, 62, Aug. 1980; 4. 'Alternative models of earnings determination and labor market structure', *JHR*, 16, Spring 1981; 5. 'Life cycle earning capacity and the OJT investment model' (with J.M. Quigley), *IER*, 26, June 1985; 6. 'The economics of schooling: production and efficiency in public schools', *JEL*, 49, Sept. 1986; 7. 'The impact of differential expenditures on school performance', *Educ. Researcher*, 18, May 1989; 8. 'The trade-off between child quantity and quality', *JPE*, 100, Feb. 1992; 9. 'Interpreting recent research on schooling in developing countries', *World Bank Res. Observer*, 10, Aug. 1995; 10. 'Understanding the 20th century growth in US school spending' (with S.G. Rivkin), *JHR*, 32, Winter 1997.

Principal Contributions My work has involved empirical public finance and labor economics. Much of it has had a focus on behavior that is directly relevant to public policy issues with a special emphasis on education problems. The education analysis has been most focussed on production relations in schools and the implications of empirical findings for policy. The key insight developed in a series of papers is that variations in resources devoted to schools are not closely related to student performance. This finding has immediate implications for school policy including the structure of financing arrangements for schools. It also has implications for the more general analysis of public programs, where outcome measures are frequently lacking and in-

puts are used as a measure of program quality. These analyses have been developed both in the US and in developing countries, where many similarities to developed countries are found. Other investigations have centered on the determination of individual incomes and wages, housing policy, social experimentation, statistical methodology, and the economics of discrimination. The thrust of most of the analysis has been to relate economic analysis and findings to understanding better the underlying behavior and the appropriate scope for governmental policy. My academic work has been complemented by direct involvement in government policy making. Early in my career I worked at the Council of Economic Advisers and the Cost of Living Council. Subsequently I returned to government as Deputy Director of the Congressional Budget Office. These positions both provided me with insights about government policy making and allowed me to apply economic analysis to policy development.

HARDLE, Wolfgang n.e.

HARDOUVELIS, Gikas A.

Born 1955, Poulithra, Arcadia, Greece.

Current Posts Dir. and Chief Econ. Adviser, Econ. Office of Prime Minister, Athens, Greece, 2000–; Prof., Dept Banking and Fin. Mgmt, Univ. Piraeus, Greece, 1994–; Res. Fell., CEPR, London, UK, 1996–; Mem., Acad. Council, Federation of Hellenic Banks, 1997–.

Past Posts Asst Prof., Barnard Coll., Columbia Univ., 1983–89; Assoc. Prof., Prof., Rutgers Univ., 1989–94; Res. Adviser and Econ., FRB, New York, 1987–93; Advisor and Alternate, to Governor of Bank of Greece, Europ. Monetary Inst., 1994–95; Mem. Bd Dirs, Natl Securities

Co., 1995–2000, Athens Derivatives Exchange, 1998–2000; Chief Econ. and Dir., Strategic Planning and Res., Natl Bank of Greece, 1996–2000.

Degrees BA, MSc (Apl. Maths) Harvard Univ., 1978, 1978; PhD Univ. California, Berkeley, 1983.

Offices and Honours President's Award for Excellence, FRB, New York, 1988; Finalist, Thomas Mott Award for Teaching Excellence, 1990; Rutgers Faculty Acad. Service Increment Program recipient, 1990–91, 1991–92, 1992–93.

Editorial Duties Assoc. Ed., *Southern Bus. and Econ. J.*, 1988–91; Ed., *Multinatl Fin. J.*, 1999–.

Principal Fields of Interest G1 General Financial Markets; E4 Money and Interest Rates; F3 International Finance.

Publications *Articles*: 1. 'Are rational expectations for real?' (with R. Craine), *Greek Econ. Rev.*, 5, April 1983; 2. 'Market perceptions of Federal Reserve policy, and the weekly monetary announcements', *JME*, 14, Sept. 1984; 3. 'Commodity prices, money surprises, and Fed credibility' (with J.A. Frankel), *JMCB*, 17, Nov. 1985; 4. 'Exchange rates, interest rates, and money stock announcements: a theoretical exposition', *JIMF*, 4, Dec. 1985; 5. 'Reserves announcements and interest rates: does monetary policy matter?', *J Fin*, 42, June 1987; 6. 'Optimal wage indexation and monetary policy in an economy with imported raw materials', *JIMF*, 6, Dec. 1987; 7. 'Economic news, exchange rates, and interest rates', *JIMF*, 7, March 1988; 8. 'The predictive power of the term-structure during recent monetary regimes', *J Fin*, 43, June 1988; 9. 'Evidence on stock market speculative bubbles: Japan, the United States, and Great Britain', *Q. Rev. FRB New York*, 13, Summer 1988; 10. 'The evolution of Federal Reserve credibility: 1978–1984' (with S.W. Barnhart), *REStat*, 71, Aug. 1989; 11. 'Margin requirements, volatil-

ity, and the transitory component of stock prices', *AER*, 80, Sept. 1990; 12. 'The term structure as a predictor of real economic activity' (with A. Estrella), *J Fin*, 46, June 1991; 13. 'Monetary policy games, inflationary bias, and openness', *JEDC*, 16, Jan. 1992; 14. 'Margin requirements, speculative trading and stock price fluctuations: the case of Japan' (with S. Peristiani), *QJE*, 107, Nov. 1992; 15. 'The term structure spread and future changes in long and short rates in the G7 countries: is there a puzzle?', *JME*, 33, March 1994; 16. 'What moves the discount on country equity funds?' (with R. LaPorta, T. Wizman), in J. Frankel (ed.), *The Internationalization of Equity Markets* (UCP, 1994); 17. 'Margin requirements, price fluctuations and market participation in metal futures' (with D. Kim), *JMCB*, 27, Aug. 1995; 18. 'Price volatility and futures margins' (with D. Kim), *J. Futures Markets*, 16, Feb. 1996; 19. 'Intertemporal asset pricing models with and without consumption: an empirical evaluation' (with D. Kim, T. Wizman), *J. Empirical Fin.*, 3, Sept. 1996; 20. 'The asymmetric relation between initial margin requirements and stock market volatility across bull and bear markets' (with P. Theodossiou), *Rev. Fin. Stud.*, 15, 2002.

Principal Contributions I have been interested in applied policy questions in the area of monetary economics and finance. In the mid-1980s I analyzed the issue of Federal Reserve credibility as an inflation fighter by examining the way markets responded to various Fed announcements. It turns out that credibility does not come easily. It also turns out that in the 1980s, a time when most macroeconomists discounted the presence of a liquidity effect, market participants perceived its existence. The information content of the term structure of interest rates is another area I have focussed on, particularly its predictive power for real

economic activity. The behavior of the stock market is another area of interest. I developed a new test for rational speculative bubbles and applied it to Japan. But most of my work concentrated on the role of a long-forgotten policy tool: margin requirements, that is, official restrictions on broker financing for the purpose of buying stocks. In today's environment of looking for ways to control not only inflation, but asset price bubbles as well, margin requirements are bound to return to center stage. In a series of papers, I have shown that changes in margin requirements are effective in controlling excess stock price volatility. Article 20 further shows that the optimal policy rule is to reduce margins during times of crises and re-instate them at higher levels during good times. In the past three years I have become a general economist, having to provide economic analysis and political advice on a broad range of topics from energy and telecom liberalization, to labor market reforms, productivity issues, competitiveness, bureaucracy minimization, tax simplification, financial regulation, etc.

HARRINGTON, Jr, Joseph E. n.e.

HARRIS, Lawrence E. n.e.

HARRIS, Milton

Born 1946, Houston, TX, USA.

Current Posts Chicago Bd Trade Prof. Fin. and Econ., Assoc. Dean PhD Stud., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1987–, 1997–.

Past Posts Math., Acoustic Warfare Branch, Acoustics Div., US Naval Res. Lab., Washington, DC, 1969–1971; Summer Asst, Special Projects Branch, Intl Div., Bd of Governors, Federal Reserve

System, Washington, DC, 1971; Instr. Econ., Univ. Chicago, 1974; Asst Prof. Econ., Assoc. Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1974–78, 1978–81; Vis. Assoc. Prof. Econ., Tel Aviv Univ., 1979, 1980, 1984, 1985; Vis. Assoc. Prof. Managerial Econ. and Decision Sc., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1980–81; Prof. Fin. and Managerial Econ. and Decision Sc., Nathan and Mary Sharp Prof. Fin. and Prof. Managerial Econ. and Decision Sc., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1981–83, 1983–87; Vis. Prof. Econ., Stanford Univ., 1983–84, Univ. Haifa, 2001.

Degrees BA (Maths) Rice Univ., 1968; AM, PhD Univ. Chicago, 1973, 1974.

Offices and Honours Fell., Em Soc, 1989–; 2nd-place winner (with A. Raviv), Smith–Breedon Award for best paper in *J Fin*, 1990; Bd Dirs, AFA, 1990–93; Vice-Pres., Pres.-Elect and Program Chair, Pres., Western Fin. Assoc., 1992–93, 1993–94, 1994–95; Pres., Soc. Fin. Stud., 1999–2002.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1988–1991; Bd Eds, *JEMS*, 1992–98; *Europ. Fin. Rev.*, 1997–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D2 Production and Organizations; D8 Information and Uncertainty.

Publications *Book*: 1. *Dynamic Economic Analysis* (OUP, 1987).

Articles: 1. ‘Some results on incentive contracts with applications to education and employment, health insurance, and law enforcement’ (with A. Raviv), *AER*, 68, March 1978; 2. ‘Optimal incentive contracts with imperfect information’ (with A. Raviv), *JET*, 20, April 1979; 3. ‘Expectations and money in a dynamic exchange model’, *Em*, 47, Nov. 1979; 4. ‘Resource allocation under asymmetric information’ (with R.M. Townsend), *Em*, 49, Jan. 1981; 5. ‘A theory of monopoly

pricing schemes with demand uncertainty’ (with A. Raviv), *AER*, 71, June 1981; 6. ‘Allocation mechanisms and the design of auctions’ (with A. Raviv), *Em*, 49, Nov. 1981; 7. ‘Asymmetric information, incentives and intrafirm resource allocation’ (with C. Kriebel, A. Raviv), *Mgmt Sc.*, 28, June 1982; 8. ‘A theory of wage dynamics’ (with B. Holmström), *REStud*, 69, July 1982; 9. ‘A sequential signalling model of convertible debt call policy’ (with A. Raviv), *J Fin*, 40, Dec. 1985; 10. ‘Corporate control contests and capital structure’ (with A. Raviv), *J Fin E*, 20, Jan./March 1988; 11. ‘Corporate governance: voting rights and majority rules’ (with A. Raviv), *J Fin E*, 20, Jan./March 1988; 12. ‘The design of securities’ (with A. Raviv), *J Fin E*, 24, Oct. 1989, repr. in M.J. Brennan (ed.), *The Theory of Corporate Finance* (Edward Elgar, 1996); 13. ‘Capital structure and the informational role of debt’ (with A. Raviv), *J Fin*, 45, June 1990; 14. ‘The theory of capital structure’ (with A. Raviv), Golden Anniversary Invited Rev. Article, *J Fin*, 46, March 1991; 15. ‘Differences of opinion make a horse race’ (with A. Raviv), *Rev. Fin. Stud.*, 6, 1993; 16. ‘The role of games in security design’ (with A. Raviv), *Rev. Fin. Stud.*, 8, Summer 1995; 17. ‘The capital budgeting process, incentives and information’ (with A. Raviv), *J Fin*, 51, Sept. 1996; 18. ‘Capital budgeting and delegation’ (with A. Raviv), *J Fin E*, 50, Dec. 1998; 19. ‘Organization design’ (with A. Raviv), *Mgmt Sc.*, 48, July 2002.

Principal Contributions Although I began my career studying monetary theory, I quickly switched to the economics of information, contracts and agency. My earliest contributions in this area (with Artur Raviv) were to show how the tradeoff between risk aversion of an agent and the need to provide incentives determines optimal agency contracts. I then developed a version of the ‘Revelation Principle’ (with

Robert Townsend) and applied the technique to the design of auctions, monopoly pricing (both with Artur Raviv), and intra-firm resource allocation (with Raviv and Charles Kriebel). As my interest shifted toward corporate finance, Raviv and I showed how some anomalies in the way firms and markets behave with respect to calling of convertible debt could be explained by asymmetric information. I have also made contributions to explaining the design of securities, especially their voting rights, capital structure, securities pricing and volume, and capital budgeting schemes (all with Raviv), the evolution of wages (with Bengt Holmström), and, lately, the design of organizations (with Raviv).

HARRIS, Richard Ian David

Born 1957, Wimbledon, Surrey, England.

Current Post Prof. Econ., Dept Econ. and Fin., Univ. Durham, Durham, UK, 2001–.

Past Posts Lect. Econ., Dept Econ., Queen's Univ., Belfast, 1980–88; Sr Lect./Reader, Dept Econ., Univ. Waikato, 1989–93; Prof. Econ., Dept Econ., Univ. Portsmouth, 1994–2000.

Degrees BA (Hons) Kent Univ., 1978; MA Lancaster Univ., 1980; PhD Queen's Univ., Belfast, 1987.

Offices and Honours Sr (Hon.) Res. Fell., Dept Social and Econ. Res., Univ. Glasgow, 1992–93.

Principal Fields of Interest L1 Market Structure, Firm Strategy, and Market Performance; O3 Technological Change; R0 Urban, Rural, and Regional Economics: General.

Publications *Books*: 1. *The Structure and Growth of the UK Regional Economy, 1963–85* (Gower, 1989); 2. *Using Co-integration Analysis in Econometric Modelling* (Prentice-Hall, 1995).

Articles: 1. 'Estimates of inter-regional differences in production in the United Kingdom, 1968–78', *OBES*, 44, Aug. 1982; 2. 'Interrelated demand for the factors of production in the UK engineering industry, 1968–81', *EJ*, 95, Dec. 1985; 3. 'Market structure and external control in the regional economies of Great Britain', *SJPE*, 35, Nov. 1988; 4. 'North–south divide in the UK: the case of trade union recognition' (with P.B. Beaumont), *OBES*, 51, Aug. 1989; 5. 'The employment creation effects of factor subsidies: some estimates for Northern Ireland manufacturing, 1955–83', *J Reg S*, 31, Feb. 1991; 6. 'Testing for unit roots using the augmented Dickey–Fuller Test', *Econ. Letters*, 38, July 1992; 7. 'Small sample tests of unit roots', *OBES*, 54, Nov. 1992; 8. 'Union and non-union establishments in Britain: changes in status, 1984–1990' (with P.B. Beaumont), *ILRR*, 48, April 1995; 9. 'The pattern of plant exit in a declining manufacturing sector: the case of New Zealand' (with J. Gibson), *REStat*, 78, Aug. 1996; 10. 'Productivity and growth in UK regions, 1968–91' (with M. Trainor), *OBES*, 59, Nov. 1997; 11. 'Small sample testing for cointegration using the bootstrap approach' (with G. Judge), *Econ. Letters*, 58, March 1998; 12. 'Verdoorn's Law and increasing returns to scale in the UK regions, 1968–91: some new estimates based on the cointegration approach' (with E. Lau), *OEP*, 50, April 1998; 13. 'UK plant and machinery capital stocks and plant closures' (with S. Drinkwater), *OBES*, 62, May 2000; 14. 'Rates of return on plant and machinery in the regions of the UK, 1968–1991' (with B. Andrew), *SJPE*, 47, Aug. 2000; 15. 'Pollution abatement expenditure, productive efficiency and plant ownership' (with A. Collins), *Land Econ.*, 78, May 2002; 16. 'The impact of ownership changes and age effects on plant exits in UK manufacturing, 1974–1995' (with P. Hassaszadeh),

Econ. Letters, 75, June 2002; 17. 'The impact of foreign acquisitions on total factor productivity: plant-level evidence from UK manufacturing, 1987–1992' (with C. Robinson), *REStat*, 84, Aug. 2002; 18. 'Foreign ownership and productivity in the United Kingdom – some issues when using the ARD establishment level data', *SJPE*, 49, Aug. 2002.

Principal Contributions In (mostly) earlier work I made contributions to evaluating differences in the performances of UK regional economies, including a book based on my PhD thesis. More recently I have worked on plant-level data looking at such issues as what determines productivity differences in UK manufacturing, the impact of foreign direct investment, and the entry/exit impacts of firm turnover. Occasionally I have done some applied econometric work based around unit root and cointegration modelling.

HARRISON, Ann E. n.e.

HARRISON, Bennett

Born 1942, Jersey City, NJ, USA.

Current Post Prof. Polit. Econ. and Planning, MIT, Cambridge, MA, USA, 1983–.

Past Posts Lect. Econ., New Sch. Social Res., NY, 1967–68; Asst Prof. Econ., Univ. Maryland, 1968–72; Vis. Prof. Urban Stud., Univ. Pennsylvania, 1972; Assoc. Prof. Econ. and Urban Stud., MIT, 1972–82; Vis. Prof. Econ., Boston Univ., 1975; Vis. Prof. City and Regional Planning, Univ. California, Berkeley, 1983.

Degrees BA (Polit. Sc.) Brandeis Univ., 1965; MA, PhD Univ. Pennsylvania, 1966, 1970.

Offices and Honours Hons Polit. Sc., Brandeis Univ., 1965; Carey Prize Econ., Univ. Pennsylvania, 1970; US SSRC

Fulbright Fell., 1983; Hon. Mention, C. Wright Mills Prize, 1983.

Editorial Duties Ed. Bd, *Social Pol.*

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth; General; J4 Particular Labor Markets; R0 Urban, Rural, and Regional Economics: General.

Publications *Books*: 1. *The Economic Development of Harlem* (with T. Vietorisz), (Praeger, 1970); 2. *Education, Training and the Urban Ghetto* (JHUP, 1972); 3. *The Political Economy of Public Service Employment* (ed. with H. Shephard, W. Spring), (D.C. Heath, 1972); 4. *Urban Economic Development* (Urban Inst., 1974); 5. *Patterns of Racial Discrimination* (ed. with G.M. von Furstenberg), (D.C. Heath, 1974); 6. *The Deindustrialization of America* (with W.B. Bluestone), (Basic Books, 1982).

Articles: 1. 'Education and underemployment in the urban ghetto', *AER*, 62, Dec. 1972, repr. in M. Carnoy (ed.), *Schooling in a Corporate Society* (McKay, 1975), and D. Gordon (ed.), *Problems in Political Economy* (D.C. Heath, 1978); 2. 'Labor market segmentation: positive feedback and divergent development' (with T. Vietorisz), *AER*, 63, May 1973; 3. 'Ghetto employment and the model cities program', *JPE*, 82, March–April 1974; 4. 'Ghetto economic development', *JEL*, 12, March 1974; 5. 'The political economy of state job-creation business incentives' (with S. Kanter), *J. Amer. Inst. Planners*, 44, Oct. 1978, repr. in G. Sternlieb, J. Hughes (eds), *The Revitalization of the Northeast* (Transaction, 1978); 6. 'The changing structure of jobs in older and younger cities' (with E. Hill), in B. Chinitz (ed.), *Central City Economic Development* (ABT Assoc., 1979); 7. 'Welfare payment and the reproduction of low-wage workers and secondary jobs', *Rev. Radical Polit. Econ.*, 11, Summer 1979; 8. 'The incidence and regulation of plant closings'

(with B. Bluestone), *Pol. Stud. J.*, 10, Dec. 1981, repr. in S. Redburn, T. Buss (eds), *Public Policies for Distressed Communities* (D.C. Heath, 1982), and L. Sawers, W. Tabb (eds), *Sunbelt–Snowbelt: Urban Growth and Regional Restructuring* (OUP, 1984); 9. ‘The tendency towards increasing instability and inequality underlying the revival of New England’, *Reg. Sc. Assoc. Proceedings*, 28, 1982, repr. in H. Richardson, *The Economic Prospects for the Northeast* (Temple Univ. Press, 1984); 10. ‘Regional restructuring and good business climates: the economic transformation of New England since World War II’, in *Sunbelt–Snowbelt*, *op. cit.*

Principal Contributions I have always been interested in the spatial aspects of industrial and employment change: how they affect workers of different races and genders, and the economic vitality of local communities. My first book was a study of the Black ghetto in New York City called Harlem. Two years later, my doctoral dissertation was published, which extended my researches on the social and economic organisation of the urban ghetto to comparative analyses of twelve such areas located across the country. I came to the Urban Planning Department of MIT in 1973 to develop a new curriculum in the field of ‘community economic development’. Studying the poor, their neighbourhoods, and even their cities as a way of trying both to understand and to remedy their condition seemed increasingly inadequate; the problem lay in the development and functioning of broader, more fundamental social and political institutions. In 1974 and 1975, I became a consultant to the Massachusetts Legislature and helped to formulate a series of recommendations on state economic policy designed to facilitate the rebuilding of a balanced economic base. I then obtained a research grant to conduct more extensive inquiries into the changing economic

structure of the Massachusetts and New England economies. During the course of the New England research, Barry Bluestone and I were approached by a consortium of major unions (principally the United Auto Workers) and public policy organisations and asked to conduct an investigation of the magnitude and consequences of plant shutdowns in the US. This led to the most exciting research effort of my life, which culminated in the publication in 1982 of our book, *The Deindustrialization of America*.

HARRISON, Glenn W. n.e.

HART, Oliver Simon D’Arcy

Born 1948, London, England.

Current Posts Andrew E. Furer Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1993–; Centennial Vis. Prof., LSE, London, UK, 1997–.

Past Posts Lect., Univ. Essex, 1974–75; Asst Lect., Lect., Univ. Cambridge, 1975–81; Prof. Econ., LSE, 1982–85; Prof. Econ., MIT, 1985–93.

Degrees BA (Maths) Univ. Cambridge, 1969; MA Univ. Warwick, 1972; PhD Univ. Princeton, 1974.

Offices and Honours Fell., Council Mem., Exec. Comm., Em Soc, 1979, 1983–, 1984–, 1994–; Guggenheim Fellowship, 1987–88; Fell., AAAS, 1988; Fisher–Schultz Lect., Em Soc, 1988; Res. Assoc., NBER, 1990–; Dr (*hc*) Free Univ. Brussels, 1992; Clarendon Lect., Oxford Univ., 1993; Hon. DPhil Univ. Basel, Switzerland, 1994; Corres. Fell., BA, 2000; Nancy L. Schwartz Lect., Northwestern Univ., 2000; Munich Lect., Univ. Munich, 2001; Arrow Lect., Stanford Univ., 2002.

Editorial Duties Assoc. Ed., *JET*, 1976–79, *Em*, 1984–87; Managing Ed.,

REStud, 1979–83; Ed. Bd, *REStud*, 1975–88.

Principal Fields of Interest D2 Production and Organizations; G3 Corporate Finance and Governance; K2 Regulation and Business Law.

Publications Book: 1. *Firms, Contracts, and Financial Structure* (OUP, 1995).

Articles: 1. ‘On the optimality of equilibrium when the market structure is incomplete’, *JET*, 11, Dec. 1975; 2. ‘Takeover bids, the free rider problem, and the theory of the corporation’ (with S.J. Grossman), *Bell JE*, 11, Spring 1980; 3. ‘Corporate financial structure and managerial incentives’ (with S. Grossman), in J. McCall (ed.), *The Economics of Information and Uncertainty* (UCP, 1982); 4. ‘An analysis of the principal–agent problem’ (with S.J. Grossman), *Em*, 51, Jan. 1983; 5. ‘The market mechanism as an incentive scheme’, *Bell JE*, 14, Autumn 1983; 6. ‘The costs and benefits of ownership: a theory of vertical and lateral integration’ (with S.J. Grossman), *JPE*, Aug. 1986; 7. ‘One share/one vote and the market for corporate control’ (with S.J. Grossman), *J Fin E*, Jan.–March 1988; 8. ‘Incomplete contracts and renegotiation’ (with J. Moore), *Em*, 56, July 1988; 9. ‘Contract renegotiation and Coasian dynamics’ (with J. Tirole), *REStud*, 55, July 1988; 10. ‘Property rights and the nature of the firm’ (with J. Moore), *JPE*, 98, 1990; 11. ‘Vertical integration and market foreclosure’ (with J. Tirole), *BPEA: Microecon.*, 1990; 12. ‘The economics of bankruptcy reform’ (with P. Aghion, J. Moore), *JLEO*, 8, 1992; 13. ‘A theory of debt based on the inalienability of human capital’ (with J. Moore), *QJE*, 109, 1994; 14. ‘Debt and seniority: an analysis of the role of hard claims in constraining management’ (with J. Moore), *AER*, 85, 1995; 15. ‘The governance of exchanges: members’ cooperatives versus outside ownership’ (with J. Moore), *OREP*, 12, 1996;

16. ‘The proper scope of government: theory and an application to prisons’ (with A. Shleifer, R.W. Vishny), *QJE*, 112, 1997; 17. ‘Default and renegotiation: a dynamic model of debt’ (with J. Moore), *QJE*, 113, 1998; 18. ‘Foundations of incomplete contracts’ (with J. Moore), *REStud*, 66, 1999; 19. ‘Financial contracting’, *JEL*, 34, Dec. 2001.

Principal Contributions I have worked on contract theory, the theory of the firm, the determinants of corporate financial structure, bankruptcy reform and privatization.

HARTWICK, John Martin

Born 1944, Arvida, Quebec, Canada.

Current Post Prof. Econ., Queen’s Univ., Kingston, Ontario, Canada, 2002–.

Past Posts Asst Prof., Assoc. Prof., Prof., Dept Econ., Queen’s Univ., 1969–2002.

Degrees BA Carleton Univ., 1966; PhD Johns Hopkins Univ., 1969.

Honours Phi Beta Kappa, 1969.

Editorial Duties Ed. Bds, *Resource and Energy Econ.*, 1994–, *Pacific and Asian J. Energy*, 1995–, *Environment and Devlp Econ.*, 1996–.

Principal Fields of Interest O1 Economic Development; D8 Information and Uncertainty; Q3 Nonrenewable Resources and Conservation.

Publications Book: 1. *National Accounting and Capital* (Edward Elgar, 2000).

Articles: 1. ‘Efficient resource allocation in a multinucleated city with intermediate goods’ (with P.G. Hartwick), *QJE*, 88, May 1974; 2. ‘Intergenerational equity and the investment of exhaustible resource rents’, *AER*, 67, Dec. 1977; 3. ‘Natural resources, national accounting and economic depreciation’, *J Pub E*, 43, Dec. 1990; 4. ‘Patent races optimal with

respect to entry', *IJIO*, 9, 1991; 5. 'Natural wealth and net national product', *Scand JE*, 96, Jan. 1994; 6. 'Constant consumption paths in open economies with exhaustible resources', *Rev. Intl Econ.*, 3, Oct. 1995; 7. 'The tragedy of the commons revisited' (with D. Yeung), *Pacific Econ. Rev.*, 2, Feb. 1997; 8. 'Labor supply under wage uncertainty', *Econ. Letters*, 68, April 2000; 9. 'Deforestation and development in a small open economy' (with N.V. Long, H. Tian), *JEEM*, 41, April 2001; 10. 'Depreciation rules and value invariance with extractive firms' (with L. Karp, N.V. Long), *JEDC*, 26, Jan. 2002.

Principal Contributions My work on investing exhaustible resource rents in new produced capital has attracted the most attention. A recent paper with Kirk Hamilton provides an interesting extension to economies not on constant consumption trajectories. I have devoted much attention to accounting issues involving exhaustible resources. Measuring economic depreciation has been a focus. Comparing the energy accounts in classical mechanics to those for aggregate economies has preoccupied me. Quite natural entities such as capital, consumption and change in capital value figure in the physics accounts. And I have devoted much attention to modeling countries 'living off' the exports of natural resources such as timber, oil or plain agricultural commodities.

HARVEY, Andrew Charles

Born 1947, Cottingham, Yorkshire, England.

Current Post Prof. Em., Univ. Cambridge, Cambridge, UK, 1996–.

Past Posts Econ./Stat., Central Bureau Stats, Nairobi, Kenya, 1969–71; Lect., Univ. Kent, 1971–78; Sr Lect., Reader, Prof., LSE, 1978–80, 1980–84, 1984–96.

Degrees BA Univ. York, 1968; MSc (Stats) LSE, 1969.

Offices and Honours Fell., Em Soc, 1984, BA, 1999.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications *Books*: 1. *The Econometric Analysis of Time Series* (Philip Allan, 1981, 1989; trans., German, 1994, Chinese, 1998); 2. *Time Series Models* (Philip Allan, 1981, 1993; trans., Japanese, 1985, German, 1995); 3. *Forecasting, Structural Time Series Models and the Kalman Filter* (CUP, 1989).

Articles: 1. 'Maximum likelihood estimation of regression models with autoregressive: moving average disturbances' (with G.D.A. Phillips), *Biometrika*, 66, 1979; 2. 'Testing for serial correlation in simultaneous equation systems' (with G.D.A. Phillips), *Em*, 48, 1980; 3. 'Trends and cycles in macroeconomic time series', *JBES*, 3, 1985; 4. 'The effects of seat belt legislation on British road casualties' (with J. Durbin), *JRSS-A*, 149, 1986; 5. 'Time series models for count or qualitative observations' (with C. Fernandes), *JBES*, 7, 1989; 5. 'Detrending, stylized facts and the business cycle' (with A. Jaeger), *JAE*, 8, 1993; 6. 'Multivariate stochastic variance models' (with E. Ruiz, N. Shephard), *REStud*, 61, 1994; 7. 'Tests of common stochastic trends' (with J. Nyblom), *ET*, 16, 2000; 8. 'Estimating the underlying change in unemployment in the UK' (with C.-H. Chung), *JRSS-A*, 163, 2000.

Principal Contributions My main contributions have been in time-series econometrics. I have been particularly concerned with the development and application of state space methods.

HARVEY, Campbell R. n.e.

HASBROUCK, Joel S. n.e.

HAUSER, John Richard

Born 1949, Scranton, PA, USA.

Current Posts Kirin Prof. Marketing, Sloan Sch. Mgmt, MIT, Cambridge, MA, USA, 1989–; Virtual Customer Initiative Leader, Center Innovation in Product Devlp., 2001–.

Past Posts Asst Prof. Marketing and Transportation, Grad. Sch. Mgmt and Transportation Center, Northwestern Univ., 1975–80; Assoc. Prof. Mgmt Sc., Prof. Mgmt Sc., Alfred P. Sloan Sch. Mgmt, MIT, 1980–84, 1984–89; Vis. Lect., Europ. Inst. Bus. Admin., Fontainebleau, France, 1985; Marvin Bower Fell., Harvard Bus. Sch., Harvard Univ., 1987–88; Co-Dir., Intl Center Res. on Mgmt Tech., 1993–2000; Res. Dir., Center for Innovation in Product Devlp., 1997–2000.

Degrees SB (Electrical Eng.), SM (Electrical Eng.), SM (Civil Eng.), ScD (OR) MIT, 1973, 1973, 1973, 1975.

Offices and Honours Doctoral Consortium Faculty, 1979, 1984, 1985, 1986, 1988, 1989, 1991, 1993, 1995, 1997, 1998, 2001; 1st Place, Best Paper in Marketing Sc. Literature, 1982, 1983, John D.C. Little Best Paper Award, INFORMS, 1990; Hon. Mention, Best Paper in Marketing Sc. Literature, 1984; Council, Inst. Mgmt Sc., 1987–89; Finalist, O'Dell Award for Best Paper in *J. Marketing Res.*, 1991; Finalist, John D.C. Little Best Paper Award, INFORMS, 1993, 1994, 1998; Excellence in Teaching Award, Sloan Sch. Mgmt, 1994; Advisory Council, INFORMS Coll. Marketing, 1994–; Named 'Outstanding Faculty', *Bus. Week Guide to Best Bus. Schs.*, 1995; Converse Award, 1996; Marketing Sc. Inst. Award, 1996;

Parlin Award, Amer. Marketing Assoc., 2001; Finalist, Best Paper in *J. Product Innovation Mgmt*, Product Devlp. Assoc., 2001; Provisional Secretary, INFORMS Soc. Marketing, 2002–.

Editorial Duties Assoc. Ed. Marketing, *Mgmt Sc.*, 1980–81; Ed. Bds, *Marketing Sc.*, 1980–88, *J. Product Innovation Mgmt*, 1997–, *Europ. Mgmt J.*, 1998–; Dept Ed. Marketing, *Mgmt Sc.*, 1982–88; Ed.-in-Chief, *Marketing Sc.*, 1989–94; Advisory Bd, *Marketing Sc.*, 1995–; Ed. Advisory Bd, *Sloan Mgmt Rev.*, 2000–.

Principal Fields of Interest M3 Marketing and Advertising; D1 Household Behavior.

Publications Books: 1. *Essentials of New Product Management* (with G.L. Urban, N. Dholakia), (Prentice-Hall, 1986); 2. *Design and Marketing of New Products* (with G.L. Urban), (Prentice-Hall, 2nd edn 1993).

Articles: 1. 'A normative methodology for modeling consumer response to innovation' (with G.L. Urban), *OR*, 25, July–Aug. 1977; 2. 'Testing the accuracy, usefulness and significance of probabilistic models: an information theoretic approach', *OR*, 26, May–June 1978; 3. 'Dynamic analysis of consumer response to marketing strategies' (with K.J. Wisniewski), *Mgmt Sc.*, 28, May 1982; 4. 'Defensive marketing strategy' (with Steven M. Shugan), *Marketing Sc.*, 2, Fall 1983; 5. 'Testing competitive market structures' (with G.L. Urban, P.L. Johnson), *Marketing Sc.*, 3, Spring 1984; 6. 'A measurement error approach for modeling consumer risk preference' (with J. Eliashberg), *Mgmt Sc.*, 31, Jan. 1985; 7. 'Value priority hypotheses for consumer budget plans' (with G.L. Urban), *J. Consumer Res.*, 12, March 1986; 8. 'Agendas and consumer choice' *J. Marketing Res.*, 2, Aug. 1986; 9. 'The house of quality' (with D. Clausing), *Harvard Bus. Rev.*, 3, May–June 1988; 10. 'Implicit coalitions in a generalized pris-

oners' dilemma' (with P. Fader), *J. Conflict Resolution*, 32, Sept. 1988; 11. 'Competitive price and positioning strategies' *Marketing Sc.*, 7, Winter 1988; 12. 'An evaluation cost model of consideration sets' (with B. Wernerfelt), *J. Consumer Res.*, 16, March 1990; 13. 'The voice of the customer' (with A. Griffin), *Marketing Sc.*, 12, Winter 1993; 14. 'How consumers allocate their time when searching for information' (with G.L. Urban, B. Weinberg), *J. Marketing Res.*, 30, Nov. 1993; 15. 'Customer satisfaction incentives' (with D.I. Simester, B. Wernerfelt), *Marketing Sc.*, 13, Fall 1994; 16. 'Premarket forecasting of really-new products' (with G.L. Urban, B. Weinberg), *J. Marketing*, 60, Jan. 1996; 17. 'Research, development, and engineering metrics', *Mgmt Sc.*, 44, Dec. 1998; 18. 'Metrics thermostat', *J. Product Innovation Mgmt*, 18, May 2001.

Principal Contributions My primary contributions are in the area of marketing science and, in particular, the design and marketing of new products, the development of products that are profitable because they satisfy customer needs, strategies to defend profitability in light of new entrants, and methods to test the market potential of new products. I have also contributed to the methodological literature with respect to measuring consumer satisfaction, consumer needs, consumer perceptions, consumer preferences, and consumer risk preferences and with respect to identifying market structure and testing quantal choice models. I have been called on to testify with respect to marketing research and other methodological issues relating to consumer measurement. Another line of research includes metrics for research and development and for product development and, in particular, I have been able to develop practical means to use agency theory to set the metrics to enhance profitability. My research on product development has also led me to

the study of consumer behavior including how consumers allocate their budgets, how consumers allocate their time when searching for information, how consumers use agendas to effect decisions, and how consumers simplify their decision processes with consideration sets.

HAUSMAN, Jerry Allen

Born 1946, Weirton, WV, USA.

Current Post MacDonald Prof. Econ., MIT, Cambridge, MA, USA, 1992–.

Past Posts Asst Prof., Assoc. Prof., Prof., MIT, 1973–76, 1976–79, 1979–81; Res. Assoc., NBER, 1979–; Vis. Prof., Harvard Univ., 1982–83, Harvard Bus. Sch., 1987–88.

Degrees BA (Hist.) Brown Univ., 1968; BPhil, DPhil Univ. Oxford, 1972, 1973.

Offices and Honours Marshall Scholar, 1970–72; Fell., Em Soc, 1979; Frisch Medal, Em Soc, 1980; JB Clark Award, AEA, 1986; Fell., AAAS, 1991, Fell., *J Em*, 1998.

Editorial Duties Ed. Bds, *Bell JE*, 1974–83, *RandJE*, 1984–86, *Em*, 1978–88, *Math. Rev.*, 1978–80, *REStud*, 1979–82, *J Pub E*, 1982–97.

Principal Fields of Interest D0 Microeconomics: General; C1 Econometric and Statistical Methods: General; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications *Books*: 1. *Social Experimentation* (ed. with D. Wise), (UCP, 1985); 2. *Contingent Valuation: A Critical Appraisal* (N-H, 1993).

Articles: 1. 'An instrumental variable approach to full-information estimators in linear and certain non-linear econometric models', *Em*, 43, May 1975; 2. 'A conditional probit model for qualitative choice' (with D. Wise), *Em*, 46, March 1978; 3. 'Specification tests in econometrics', *Em*,

46, May 1978; 4. 'Attrition bias in experimental and panel data: the Gary income maintenance experiment' (with D. Wise), *Em*, 47, Jan. 1979; 5. 'Individual discount rates and the purchase and utilization of energy using durables', *Bell JE*, Spring 1979; 6. 'The effect of taxes on labor supply', in *How Taxes Affect Economic Behavior* (Brookings Inst., 1981); 7. 'Exact consumers' surplus and deadweight loss', *AER*, 71, May 1981; 8. 'Panel data and unobservable individual effects' (with W. Taylor), *Em*, 49, Nov. 1981; 9. 'Econometric models for current data with application to R&D' (with B. Hall, Z. Griliches), *Em*, 52, May 1984; 10. 'Errors in variables in panel data' (with Z. Griliches), *J Em*, 60, 1986; 11. 'Semiparametric identification and estimation of polynomial errors in variables models' (with W. Newey, J. Powell, H. Ichimura), *J Em*, 50, 1991; 12. 'Competitive analysis with differentiated products' (with G. Leonard, D. Zona), *Annales, D'Écon. et de Stat.*, 34, 1994; 13. 'Nonparametric estimation of exact consumers surplus and deadweight loss' (with W. Newey), *Em*, 63, 1995; 14. 'Valuation of new goods under perfect or imperfect competition', in T. Bresnahan, R. Gordon (eds), *The Economics of New Goods* (UCP, 1996); 15. 'Valuation and the effect of regulation on new services in telecommunications', *BPEA: Microecon.*, 1997; 16. 'Misclassification of a dependent variable in qualitative response models' (with F. Scott-Morton, J. Abrevaya), *J Em*, 64, 1998; 17. 'Cellular telephone, new products and the CPI', *JBES*, 17, 1999; 18. 'A new specification test for the validity of instrumental variables' (with J. Hahn), *Em*, 70, 2002.

Principal Contributions My major research activity has been the methodological development and application of econometrics. I have done research into the simultaneous equations model, the discrete

choice model, panel data, and weak instruments to develop new econometrics models and methods to overcome problems which existed in each of these areas. I have also been interested in tests of the adequacy of the specification of econometric models. I have developed specification tests which can be used in a variety of circumstances to test for correct specifications. I have done research on the effects of errors in variables on econometric estimators. I have been engaged in the development of estimation techniques which overcome or alleviate this problem. Another area of methodological and applied interest has been the design and analysis of social and economic experiments. I have done research on the negative income tax experiments and also experiments in electricity and telephone pricing and electricity conservation activities. One primary area of applied research has been in public finance. I have estimated models of labour supply which explicitly take account of the tax system which creates nonlinear budget sets. My research has indicated the potential of large deadweight loss from the current US income tax system. I have also considered the effects of the welfare system in the US and social security on economic activity including labour-force participation, retirement behaviour, and savings behaviour. My applied research has also led to the development of empirical methods to calculate exact consumers' surplus and deadweight loss to make welfare calculations. The research indicates that approximate methods are inadequate for empirical measurement of deadweight loss. Most recently, I have been developing methods to estimate the value of new goods to consumers and the effect of regulation on the introduction of new goods. I have also investigated bias in the CPI from failure to introduce new goods or account for quality change using correct methods.

HAVEMAN, Robert H.

Born 1936, Grand Rapids, MI, USA.

Current Post John Bascom Emeritus Prof. Econ., Univ. Wisconsin-Madison, Madison, WI, USA, 1970–.

Past Posts Prof. Econ., Grinnell Coll., IA, 1965–70; Fell., Netherlands Inst. Adv. Study, 1975–76; 1996–97; Tinbergen Prof., Erasmus Univ., Rotterdam, 1984–85.

Degrees BA Calvin Coll., 1958; PhD Vanderbilt Univ., 1963.

Offices and Honours Dir., Inst. Res. on Poverty, Univ. Wisconsin, 1971–75; Pres., MEA, 1992–93; Chair, Dept Econ., Univ. Wisconsin-Madison, 1993–96; Exec. Vice Pres., Pres., IIPF, 1993–97, 1997–2000; Hon. DPhil, Umeå Univ., Sweden, 1996; Mem., Netherlands Acad. Arts and Sc., 1996–.

Editorial Duties Bd Eds, Chairman, *Land Econ.*, 1973–, 1976–, *JEL*, 1983–87, *Public Fin. (Finances Publiques)*, 1983–, *AER*, 1991–95, *Economist*, 1994–; Co-Ed., *AER*, 1985–91.

Principal Fields of Interest H0 Public Economics: General; I3 Welfare and Poverty; H6 National Budget, Deficit, and Debt.

Publications *Books*: 1. *Unemployment, Idle Capacity and the Evaluation of Public Expenditures* (with J.V. Krutilla), (JHUP, 1968); 2. *The Economics of the Public Sector* (Wiley, 1970, 1976); 3. *The Economic Impacts of Tax-Transfer Policy: Regional and Distributional Effects* (with F. Golladay), (Acad. Press, 1977); 4. *Earnings Capacity, Poverty, and Inequality* (with I. Garfinkel), (Acad. Press, 1978); 5. *Poverty Policy and Poverty Research: The Great Society and the Social Sciences* (Univ. Wisconsin Press, 1987); 6. *Starting Even: An Equal Opportunity Program for the Nation's New Poverty* (Simon & Schuster, 1988); 7. *Succeeding Generations: On the Effects of Investments in*

Children (with B. Wolfe), (Russell Sage, 1995); 8. *Understanding Poverty* (ed. with S. Danziger), (HUP/Russell Sage Foundation, 2002).

Articles: 1. 'Common property, congestion, and environmental pollution', *QJE*, 87, May 1973; 2. 'Regional and distributional effects of a negative income tax' (with F. Golladay), *AER*, 66, Sept. 1976; 3. 'How income transfers affect work, savings, and the income distribution' (with S. Danziger, R. Plotnick), *JEL*, 19, Sept. 1981; 4. 'Disability transfers and early retirement: a causal relationship?' (with B. Wolfe), *J Pub E*, 24, June 1984; 5. 'Schooling and economic well-being: the role of non-market effects' (with B. Wolfe), *JHR*, 19, Summer 1984; 6. 'Labor market behavior of older men: estimates from a trichotomous choice model' (with B. Wolfe, J. Warlick), *J Pub E*, 36, 1988; 7. 'Disability transfers and the work decision of older men' (with P. de Jong, B. Wolfe), *QJE*, 106, 1991; 8. 'Teen out-of-wedlock births and welfare receipt: the role of childhood events and economics circumstances' (with C.B. An, B. Wolfe), *REStat*, 75, May 1993; 9. 'The determinants of children's attainments: a review of methods and findings' (with B. Wolfe), *JEL*, 33, Dec. 1995; 10. 'The "window problem" in studies of children's attainments: a methodological exploration' (with B. Wolfe, D. Ginther, C.B. An), *JASA*, 91, Sept. 1996; 11. 'Neighborhood attributes as determinants of children's outcomes: how robust are the relationships?' (with D. Ginther, B. Wolfe), *JHR*, Fall 2000; 12. 'The role of economic incentives in teenage nonmarital childbearing choices' (with B. Wolfe, K. Wilson), *J Pub E*, 81, 2001.

Principal Contributions My research over the past decade has been in the general area of applied welfare economics. In this field, I have made contributions to the development of microdata simulation

modeling, measuring poverty and economic wellbeing, and analyzing the determinants of changes in poverty and earnings inequality. A related area has focussed on the disabled population and I have studied the determinants of labor supply and transfer reciprocity among the disabled, and the determinants of the wellbeing of people with disabilities, including tracking their economic status over time. Most recently, I have focussed my research on the determinants of children's attainments and success, using 25 years of panel data on 2000 children. The children's attainments that I have studied most extensively are education, teenage nonmarital child-bearing, and labor market success. Along with these research efforts, I have also written extensively on the social policy issues, welfare reform, and antipoverty policy.

HAYASHI, Fumio n.e.

HAYES, Dermot J. n.e.

HAYWARD, Mark D. n.e.

HE, Hua n.e.

HEATH, David Clay

Born 1942, Oak Park, IL, USA.

Current Post Orion Hoch Prof., Mellon Coll. Sc., Carnegie-Mellon Univ., Pittsburgh, PA, USA, 1997–.

Past Posts Asst Prof., Univ. Minnesota, 1969–75; Asst Prof., Assoc. Prof., Cornell Univ., 1975–78, 1978–97.

Degrees AB (Maths) Kalamazoo Coll., 1964; MA (Maths), PhD (Maths) Univ. Illinois, 1966, 1969.

Offices and Honours Best paper award, Conf. Computational Intelligence for Fin. Eng., 1998; Head, Center for Computational Fin., Carnegie-Mellon Univ., 1999–.

Editorial Duties Ed. Bds, *Math. Fin.*, 1988–95, *Fin. and Stochastics*, 1998–.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C5 Econometric Modeling; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'On a theorem of de Finetti, oddsmaking, and game theory' (with W.D. Sudderth), *Annals Math. Stats*, 43, 1972; 2. 'On finitely additive priors, coherence, and extended admissibility' (with W.D. Sudderth), *Annals Stats*, 6, 1978; 3. 'Internal telephone billing rates – a novel application of non-atomic game theory' (with L.J. Billera, J. Raanan), *OR*, 26, 1978; 4. 'A unique procedure for allocating common costs from a production process' (with L.J. Billera, R. Verecchia), *J. Accounting Res.*, 19, 1981; 5. 'Allocation of shared costs: a set of axioms yielding a unique procedure' (with L.J. Billera), *Maths OR*, 7, 1982; 6. 'An index of market activity' (with R. Pisani), *Proceedings of Sixth Natl Conf. Gambling and Risk Taking*, 4, 1985; 7. 'Arbitrage, continuous trading, and margin requirements' (with R. Jarrow), *J Fin*, 17, 1988; 8. 'Ex-dividend stock price behavior and arbitrage opportunities' (with R. Jarrow), *J Bus*, 61, 1988; 9. 'Coherent inference from improper priors and from finitely additive priors' (with W.D. Sudderth), *Annals Stats*, 17, 1989; 10. 'Contingent claim valuation with a random evolution of interest rates' (with R. Jarrow, A. Morton), *Rev. Futures Markets*, 9, 1990; 11. 'Bond pricing and the term structure of interest rates: a discrete time approximation' (with R. Jarrow, A. Morton), *JFQA*, 25, 1990; 12. 'Bond pricing and the term structure of interest rates: a new methodology' (with R. Jarrow, A. Morton), *Em*, 60, 1992; 13. 'Modelling

the evolution of demand forecasts with application to safety stock analysis in production/distribution systems' (with P.L. Jackson), *IIE Transactions*, 26, 1994; 14. 'Approximate completeness with multiple martingale measures' (with P. Artzner), *Math. Fin.*, 5, 1995; 15. 'Coherent measures of risk' (with P. Artzner, F. Delbaen, J.M. Eber), *Math. Fin.*, 5, 1999.

Principal Contributions My principal contributions include: a game-theoretic method for allocating costs from a production process with an application to setting 'fair' telephone charges, improved understanding of the role of finitely-additive measures in the foundations of statistics as a mathematically rigorous analog of improper priors, a very general framework for modeling the evolution of the term structure of interest rates and valuing interest-rate derivatives resulting in arbitrage-free models which can be chosen to reproduce given variance-covariance structures, new models for the evolution of good forecasts for time-series data which can be used to understand the quality of these forecasts and as a basis for modeling future forecasts and observations to improve the inventory/stock-out tradeoffs, and a new approach to the measurement and regulation of risk based on a simple set of axioms.

HEATON, John n.e.

HECKMAN, James J.

Born 1944, Chicago, IL, USA.

Current Post Henry Schultz Disting. Service Prof., Univ. Chicago, Chicago, IL, USA, 1994–.

Past Posts Asst Prof., Assoc. Prof., Columbia Univ., 1970–72, 1972–74; Assoc. Prof., Univ. Chicago, 1974–80; Vis. Prof., UCLA, 1976, Univ. Wisconsin, 1977,

LSE, 1977; Irving Fisher Vis. Prof. Econ., Yale Univ., 1984; Prof. Econ., Henry Schultz Prof., Univ. Chicago, 1977–84, 1985–94.

Degrees BA (Maths) Colorado Coll., 1965; MA, PhD Princeton Univ., 1968, 1971.

Offices and Honours Guggenheim Foundation Fell., 1978–79; Fell., Em Soc, 1980, Center Adv. Stud. Behav. Sc., Stanford, CA, 1982, AAAS, 1989, ASA, 2001; John Bates Clark Medal, AEA, 1983; Hon. MA, Yale Univ., 1989; Sr Fell., Amer. Bar Foundation, 1991–; Mem., NAS, 1992–; Pres., MEA, 1997–98; Bank of Sweden Prize in Memory of Alfred Nobel, 2000; Doctoris (*hc*), Colorado Coll., 2001, Univ. Chile, 2002; Paul Harris Award, Rotary Org., 2002.

Editorial Duties Assoc. Ed., *J Ec*, 1972–83, *J Lab E*, 1983–, *Econ. Rev.*, 1987–, *JEP*, 1989–96, *REStat*, 1993–; Co-Ed., *JPE*, 1981–87; Amer. Ed., *REStud*, 1982–85.

Principal Fields of Interest J0 Labor and Demographic Economics: General; H0 Public Economics: General; C1 Econometric and Statistical Methods: General.

Publications Books: 1. *Longitudinal Analysis of Labor Market Data* (ed. with B. Singer), (CUP, 1985); 2. *Evaluating Social Programs*, Harris Lectures (HUP, 1995); 3. *Performance Standards in a Government Bureaucracy*, edited collection (Upjohn Monograph series, forthcoming 2003); 4. *Inequality in America: What Role for Human Capital Policy?* (ed. with A. Krueger), (MIT Press, forthcoming 2003).

Articles: 1. 'Shadow prices, market wages and labor supply', *Em*, 42, July 1974; 2. 'A life cycle model of earnings, learning and consumption', *JPE*, 84, Aug. 1976; 3. 'Sample selection bias as a specification error', *Em*, 47, Jan. 1979; 4. 'Alternative methods for estimating the impact of interventions' (with R. Robb), in

Longitudinal Analysis of Labour Market Data (CUP, 1985); 5. 'Determining the impact of federal antidiscrimination policy on the economic status of Blacks: a study of South Carolina' (with B Payner), *AER*, 79, March 1989; 6. 'Varieties of selection bias', *AER*, 80, May 1990; 7. 'The empirical content of the Roy model' (with B. Honore), *Em*, 58, Sept. 1990; 8. 'Making the most out of programme evaluations and social experiments: accounting for heterogeneity in programme impacts' (with J. Smith), *REStud*, 64, Oct. 1997; 9. 'Life cycle schooling and educational selectivity: models and choices' (with S. Cameron), *JPE*, 106, April 1998; 10. 'Evaluating the welfare state' (with J. Smith), in S. Strom (ed.), *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial*, 29, (CUP for Em Soc, 1998).

Principal Contributions A major focus of my lifetime research had been on the development and application of methods for evaluating economic and social programs including tax, subsidy and affirmative action policies. This has led me into solutions for econometric problems that arise from using self-selected samples of program participants to evaluate programs: it has also led me to develop econometric procedures that account for heterogeneity in preferences and responses to interventions. I have investigated a variety of approaches to social program evaluations, ranging from theory-free 'treatment effect' approaches to partial equilibrium and general equilibrium frameworks and comparisons among the efficacy of these alternative frameworks. I stress the implicit economic assumptions that justify various empirical approaches in economics and have contributed to the empirical foundations of economic models used to evaluate policy programs in a series of papers that test among competing economic paradigms.

HELPMAN, Elhanan

Born 1946, Dzalabad, USSR.

Current Posts Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1997–; Prof. Econ., Tel Aviv Univ., Tel Aviv, Israel, 1981–.

Past Posts Lect., Sr Lect., Assoc. Prof., Tel Aviv Univ., 1974–76, 1976–78, 1978–81; Vis. Prof., Harvard Univ., 1982–83, 1991–92, 1996, MIT, 1983–84, 1987–88.

Degrees BA, MA (Econ. Stats) Tel Aviv Univ., 1969, 1971; PhD Harvard Univ., 1974.

Offices and Honours Fell., Em Soc, 1986–; Mem., Israeli Acad. Sc. and Humanities, 1988–; Pres., Israel Econ. Assoc., 1989–91; Mahalanobis Memorial Medal, 1990; Hon. Mem., AEA, 1991; Israel Prize, 1991; Foreign Hon. Mem., AAAS, 1993–; Feher Prize, 1995; Bernhard-Harms Prize, 1998; Pres., Em Soc, 2000; Rothschild Prize, 2002; William H. Riker Award, 2002; EMET (Art, Sc. and Culture) Prize, 2002.

Editorial Duties Advisory Ed., *Econ. Letters*, 1978–92; Assoc. Ed., Co-Ed., *J Int E*, 1981–82, 1983–88; Assoc. Ed., Ed., *Europ ER*, 1986–89, 1996–98; Assoc. Ed., *J. Japanese and Intl Econ.*, 1987–, *RSUE*, 1997–; Panel Mem., *Econ. Pol.*, 1987–88; Ed. Advisory Bd, *World Econ.*, 1990–; Ed. Bds, *Rev. Intl Econ.*, 1994–, *Intl J. Fin. Econ.*, 1996–; Intl Advisory Bd, *WA*, 1995–.

Principal Fields of Interest F0 International Economics: General; O3 Technological Change; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *A Theory of International Trade under Uncertainty* (with A. Razin), (Acad. Press, 1978); 2. *Social Policy Evaluation: An Economic Perspective* (ed. with A. Razin, E. Sadka), (Acad. Press, 1983); 3. *Market Structure and Foreign Trade* (with P.R. Krugman), (MIT Press, 1985); 4. *Economic Effects of the Government Budget* (ed. with A. Razin,

E. Sadka), (MIT Press, 1988); 5. *Trade Policy and Market Structure* (with P.R. Krugman), (MIT Press, 1989); 6. *International Trade and Trade Policy* (ed. with A. Razin), (MIT Press, 1991); 7. *Innovation and Growth in the Global Economy* (with G.M. Grossman), (MIT Press, 1991); 8. *General Purpose Technologies and Economic Growth* (ed.), (MIT Press, 1998); 9. *Special Interest Politics* (with G.M. Grossman), (MIT Press, 2001); 10. *Interest Groups and Trade Policy* (with G.M. Grossman), (Princeton Univ. Press, 2002).

Articles: 1. 'International trade in the presence of product differentiation, economies of scale and monopolistic competition', *J Int E*, 11, Aug. 1981; 2. 'An exploration in the theory of exchange rate regimes', *JPE*, 89, Oct. 1981; 3. 'A simple theory of international trade with multinational corporations', *JPE*, 92, 1984; 4. 'Imperfect competition and international trade: evidence from fourteen industrial countries', *J. Japanese and Intl Econ.*, 1, 1987; 5. 'Quality ladders in the theory of growth' (with G.M. Grossman), *REStud*, 58, 1991; 6. 'Protection for sale' (with G.M. Grossman), *AER*, 84, 1994; 7. 'International R&D spillovers' (with D. Coe), *Europ ER*, 39, 1995; 8. 'Electoral competition and special interest politics' (with G.M. Grossman), *REStud*, 63, 1996; 9. 'Competing for endorsements' (with G.M. Grossman), *AER*, 89, 1999; 10. 'Integration versus outsourcing in industry equilibrium' (with G.M. Grossman), *QJE*, 117, 2002.

Principal Contributions My research interests have changed over time. They have included economic theory, public economics, urban economics and macroeconomics. But I have always maintained an interest in international economics. My contributions include studies of the balance of payments, exchange rate regimes, stabilization programs and foreign debt.

Most important, however, are my studies of international trade, economic growth and political economy. I am a cofounder of the 'new trade theory' and the 'new growth theory', which emphasize the roles of economies of scale and imperfect competition.

HELSELEY, Robert Warren

Born 1955, Knoxville, TN, USA.

Current Posts Prof. Strategy and Bus. Econ. and Assoc. Dean Res., Faculty Commerce and Bus. Admin., UBC, Vancouver, BC, Canada, 2000–, 2002–.

Past Posts Econ. Analyst, ECO Northwest, Ltd, 1979–80; Asst Prof., Assoc. Prof., Philip H. White Prof. Urban Land Econ., UBC, 1984–91, 1991–97, 1997–99.

Degrees BS Univ. Oregon, 1979; MA, PhD Princeton Univ., 1982, 1985.

Offices and Honours 1st Prize, Amer. Real Estate and Urban Econ. Doctoral Dissertation Competition, 1986; Izaak Walton Killam Faculty Res. Fellowship, UBC, 1990; Chair, Urban Land Econ. Div., UBC, 1991–97; Dir., UBC Center for Urban Econ. and Real Estate, 1992–97.

Editorial Duties Bd Eds, *JUE*, 1996–; Assoc. Ed., *RSUE*, 1997–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; H0 Public Economics: General.

Publications *Articles:* 1. 'The fundamentals of land prices and urban growth' (with D.R. Capozza), *JUE*, 26, 1989; 2. 'The stochastic city' (with D.R. Capozza), *JUE*, 28, 1990; 3. 'Knowledge and production in the CBD', *JUE*, 28, 1990; 4. 'Matching and agglomeration economies in a system of cities' (with W.C. Strange), *RSUE*, 20, 1990; 5. 'Agglomeration economies and urban capital markets' (with W.C. Strange), *JUE*, 29, 1991; 6. 'Urban subcenter formation' (with A.M.

O'Sullivan), *RSUE*, 21, 1991; 7. 'Exclusion and the theory of clubs' (with W.C. Strange), *CJ*, 24, 1991; 8. 'Exclusion and the private enforcement of property rights' (with W.C. Strange), *J Pub E*, 53, 1994; 9. 'Redevelopment and the land price gradient' (with S.S. Rosenthal), *JUE*, 35, 1994; 10. 'City formation with commitment' (with W.C. Strange), *RSUE*, 24, 1994; 11. 'Altruistic voting and campaign contributions' (with A.M. O'Sullivan), *J Pub E*, 55, 1994; 12. 'Strategic growth controls' (with W.C. Strange), *RSUE*, 25, 1995; 13. 'Limited developers' (with W.C. Strange), *CJ*, 30, 1997; 14. 'Private government' (with W.C. Strange), *J Pub E*, 69, 1998; 15. 'Gated communities and the economic geography of crime' (with W.C. Strange), *JUE*, 46, 1999; 16. 'Potential competition and public sector performance' (with W.C. Strange), *RSUE*, 30, 2000; 17. 'Social interactions and the institutions of local government' (with W.C. Strange), *AER*, 90, 2000; 18. 'Stolen gun control' (with A.M. O'Sullivan), *JUE*, 50, 2001; 19. 'Innovation and input sharing' (with W.C. Strange), *JUE*, 51, 2002.

Principal Contributions I consider myself to be an applied microeconomic theorist. My research consists mostly of conceptual studies of problems in urban economics and public finance. The general problems that I have worked on include: the implications of growth and uncertainty for urban land prices; the microfoundations of agglomeration economies; land developers and the process of city formation; the private provision of collective goods; the new institutions of local government, including private governments and gated communities; the economics of crime; and innovation in cities.

HENDERSON, John Vernon

Born 1947, Vancouver, BC, Canada.

Current Post Eastman Prof. Polit. Econ., Prof. Econ. and Urban Stud., Brown Univ., Providence, RI, USA, 1982–.

Past Posts Asst Prof., Queen's Univ., Canada, 1972–74; Vis. Asst Prof., Univ. Chicago, 1974; Asst Prof., Assoc. Prof., Brown Univ., 1974–79, 1979–82; Vis. Lect., Tribhuvai Univ., Nepal, 1976; Cons., World Bank Res. Projects and Missions, Brazil, 1980, China, 1984, 2000, Mexico, 1991, Indonesia, 1994, Washington, 1998–99, Asian Devlp. Bank, 1997; Res. Assoc., NBER, 1982–.

Degrees BA UBC, Canada, 1968; MA, PhD Univ. Chicago, 1969, 1972.

Offices and Honours Guggenheim Foundation Fell., 1984; Earhart Foundation, 1986; Mem., Econ. Panel, NSF, 1995–97.

Editorial Duties Ed. Bd, *JUE*, 1978–, *RSUE*, 1983–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; R3 Production Analysis and Firm Location.

Publications Books: 1. *Peer Group Effects and Educational Production Functions* (with P. Mieszkowski, Y. Sauvageau), (Econ. Council Canada, 1976); 2. *Economic Theory and the Cities* (Acad. Press, 1977, 1984); 3. *Urban Development: Theory, Fact and Illusion* (OUP, 1988, pb 1991).

Articles: 1. 'Public goods, efficiency and regional fiscal equalization' (with F. Flatters, P. Mieszkowski), *J Pub E*, 3, May 1974, repr. in B.G. Brewai *et al.* (eds), *The Economics of Federalism* (ANU Press, 1980), and J.-F. Thisse (ed.), *Location Theory* (Edward Elgar, 1996); 2. 'The sizes and types of cities', *AER*, 64, Sept. 1974, repr. in J.-F. Thisse (ed.), *Location Theory* (Edward Elgar, 1996); 3. 'Com-

munity development: the effects of growth and uncertainty', *AER*, 70, May 1980; 4. 'A model of housing tenure choice' (with Y. Ioannides), *AER*, 73, March 1983; 5. 'The Tiebout model: bring back the entrepreneurs', *JPE*, 93, 1985; 6. 'Property tax incidence: exemptions and perceptions', *JPE*, 93, 1985; 7. 'Industrial development in cities' (with A. Kuncoro, W. Turner), *JPE*, 103, 1995; 8. 'Effects of air quality regulation', *AER*, 86, 1996; 9. 'A theory of urban growth' (with D. Black), *JPE*, 107, 1999; 10. 'Spatial evolution of population and industry in the USA' (with D. Black), *AER*, 89, May 1999; 11. 'Effects of air quality regulations on polluting industries' (with R. Becker), *JPE*, 108, 2000, repr. in W.B. Gray (ed.), *Economic Costs and Consequences of Environmental Regulation* (Ashgate, forthcoming 2002); 12. 'On strategic community development' (with J.-F. Thisse), *JPE*, 109, 2001; 13. 'The urbanization process and economic growth: the so-what question', *JEG*, forthcoming.

Principal Contributions The central focus of my work is urbanization and economic geography. Initial theory developed the first models of the positive and normative properties of a system of cities. Current theory is focussed on city formation and urban growth and inequality in models with endogenous economic growth and exogenous population growth. Empirical work examines production patterns across cities, measurement and identification of scale externalities, and evolution of urban populations and industrial locations. Current work investigates patterns in the USA, Korea, and Indonesia. I have also made significant past contributions in the area of fiscal federalism, modeling traffic flows and congestion mitigation, Tiebout modeling, tenure choice and consumption of housing, land-use regulation, and community choice of revenue instruments. Recent work includes the effects

of air quality regulation on industrial location, productivity and air-quality, and the modeling of community formation, product differentiation, edge city location, and developer pricing in Tiebout-type models.

HENDERSON, Rebecca Marta

Born 1960, London, England.

Current Posts Eastman Kodak Leaders for Manufacturing Prof. Mgmt, Sloan Sch., MIT, Cambridge, MA, USA, 1999–; Res. Assoc., NBER, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., MIT, 1988–92, 1993–99; McKinsey Analyst, London, UK, 1981–83.

Degrees BS (Mechanical Eng.) MIT, 1981; PhD Harvard Univ., 1988.

Offices and Honours Phi Beta Kappa, 1988; *Admin. Sc. Q.* Award for Scholarly Contrib., 1996.

Editorial Duties Ed. Bds, *Admin Sc. Q.*, 1994–, *Strategic Mgmt J.*, 1994–, *Econ. Innovation and New Tech.*, 1995–, *Res. Pol.*, 1998–, *Mgmt Sc.*, 2000–, *Strategic Org.*, 2001–; Dept Head Strategy, *Mgmt Sc.*, 1995–2000.

Principal Fields of Interest L0 Industrial Organization: General; L1 Market Structure, Firm Strategy, and Market Performance; L2 Firm Objectives, Organization, and Behavior.

Publications Articles: 1. 'Architectural innovation: the reconfiguration of existing product technologies and the failure of established firms' (with K. Clark), *Admin. Sc. Q.*, 35, March 1990; 2. 'Underinvestment and incompetence as responses to radical innovation: evidence from the photolithographic industry', *RandJE*, 24, Summer 1993; 3. 'Geographic localization of knowledge spillovers as evidenced by patent citations' (with A. Jaffe, M. Trajtenberg), *QJE*, 434, Aug. 1993; 4. 'Racing to invest? The dynamics of com-

petition in ethical drug discovery' (with I. Cockburn), *JEMS*, 3, Fall 1994; 5. 'The evolution of integrative capability: innovation in cardiovascular drug discovery', *Ind. Corp. Change*, 3, Winter 1994; 6. 'Measuring competence? Exploring firm effects in drug discovery' (with I. Cockburn), *Strategic Mgmt J.*, 15, Winter 1994; 7. 'Of life cycles real and imaginary: the unexpectedly long old age of optical lithography', *Res. Pol.*, 24, 1995; 8. 'Scale, scope and spillovers: the determinants of research productivity in drug discovery' (with I. Cockburn), *RandJE*, 27, Spring 1996; 9. 'University versus corporate patents: a window on the basicness of invention' (with A. Jaffe, M. Trajtenberg), *Econ. Innovation New Tech.*, 5, 1997; 10. 'Universities as a source of commercial technology: a detailed analysis of university patenting, 1965–1988' (with A. Jaffe, M. Trajtenberg), *REStat*, 80, Feb. 1998; 11. 'Absorptive capacity, coauthoring behavior, and the organization of research in drug discovery' (with I. Cockburn), *J Ind E*, 46, June 1998; 12. 'Untangling the origins of competitive advantage' (with I. Cockburn, S. Stern), *Strategic Mgmt J.*, 21, Fall 2000; 13. 'Putting patents in context: exploring knowledge transfer from MIT' (with A. Argawal), *MS*, 28, 2002.

Principal Contributions My work is focused in the economics of technological change. I have tried to show that organizational structure and purpose may profoundly affect the evolution of industries. I have also made a contribution to the literature that explores the role of public universities in stimulating economic growth.

HENDRY, David Forbes

Born 1944, Nottingham, Nottinghamshire, England.

Current Post Prof. Econ., Fell., Nuffield Coll., Oxford, England, 1982–.

Past Posts Lect., Reader, Prof., LSE, 1969–81; Vis. Prof., Cowles Foundation, Yale Univ., 1975, Univ. California, Berkeley, 1976, Univ. California, San Diego, 1981, 1989–90; Vis. Res. Fell., ANU, 1976; Vis. Res. Prof., CORE, Louvain, Belgium, 1980; Vis. Res. Prof., Duke Univ., 1987–91; Leverhulme Personal Res. Prof., Oxford, 1995–2000.

Degrees MA Aberdeen Univ. 1966; MSc, PhD Univ. London, 1967, 1970; Chartered Stat., 1992.

Offices and Honours Fell., Em Soc, 1975–; Mem., Econ. Comm., UK SSRC, 1977–82; Mem., Acad. Panel, UK Treasury, 1976–88; Council Mem., RES, 1978–83, 1992–; Chairman, Soc. Econ. Analysis, 1981–84; Acting Dir., Oxford Inst. Econ. and Stats, 1982–84; Guy Medal in Bronze, RSS, 1986; Hon. LLD, Aberdeen, 1987, St Andrews, 2002; Fell., BA, 1987; Foreign Hon. Mem., AEA, 1991–, AAAS, 1994–; Pres., Hon. Vice-Pres., RES, 1992–95, 1995; Mem., Chair, Res. Assessment Exercise in Econ., 1993, 1995–96; Fell., *J Em*, 1997; Hon. DSc, Nottingham Univ., 1998; Pres., Section F, BAAS, 1999; Hon. DrOec (*hc*), St. Gallen Univ., 2001; Hon. DrPhil, Norwegian Univ. Sc. and Tech., 2001; Hon. Fell., Intl Inst. Forecasters, 2001; Fell., Royal Soc. Edinburgh, 2002.

Editorial Duties Joint Managing Ed., *REStud*, 1971–75; Em. Ed., *EJ*, 1976–80; Joint Ed., *BOIS*, 1982–92; Ed. Bd, *REStud*, 1976–84; Assoc. Ed., *Em*, 1981–88, *Intl J. Forecasting*, 1998–.

Principal Field of Interest CI Econometric and Statistical Methods: General.

Publications *Books*: 1. *Econometrics and Quantitative Economics* (ed. with K.F. Wallis), (Blackwell, 1984); 2. *Econometrics: Alchemy or Science?* (Blackwell, 1993; OUP, 2000); 3. *Co-integration, Error Correction and the Econometric Analysis of Non-Stationary Data* (with A.

Banerjee, J.J. Dolado, J.W. Galbraith), (OUP, 1993); 4. *The Foundations of Econometric Analysis* (ed. with M.S. Morgan), (CUP, 1995); 5. *Dynamic Econometrics* (OUP, 1995); 6. *Forecasting Economic Time Series* (with M.P. Clements), (CUP, 1998); 7. *Forecasting Non-stationary Economic Time Series* (with M.P. Clements), (MIT Press, 1999); 8. *Interactive Monte Carlo Experimentation in Econometrics using PcNaive* (with J.A. Doornik), (Timberlake, 2001); 9. *Empirical Econometric Modelling using PcGive*, 3 vols (with J.A. Doornik), (Timberlake, 2001); 10. *Automatic Econometric Model Selection using PcGets* (with H.-M. Krolzig), (Timberlake, 2001).

Articles: 1. 'Maximum likelihood estimation of systems of simultaneous regression equations with errors generated by a vector auto-regressive process', *IER*, 12, June 1971; 2. 'Maximum likelihood estimation of difference equations with moving-average errors: a simulation study' (with P.K. Trivedi), *RESud*, 32, April 1972; 3. 'Stochastic specification in an aggregate demand model of the United Kingdom', *Em*, 42, May 1974; 4. 'The structure of simultaneous equations estimators', *J Em*, 4, Jan. 1976; 5. 'Econometric modelling of the aggregate time series relationship between consumers, expenditure and income in the United Kingdom' (with J.E.H. Davidson, F. Srba, S. Yeo), *EJ*, 88, Dec. 1978; 6. 'Predictive failure and econometric modelling in macroeconomics: the transactions demand for money', in P. Ormerod (ed.), *Economic Modelling* (Heinemann, 1979); 7. 'Econometrics: alchemy or science?', *Ec*, 47, Nov. 1980; 8. 'Exogeneity' (with R.F. Engle, J.-F. Richard), *Em*, 51, March 1983; 9. 'An econometric analysis of UK money demand, in M. Friedman, A.J. Schwartz (eds), *Monetary Trends in the United States and the United Kingdom*', *AER*, 81, Jan. 1991; 10. 'The econometrics of

macroeconomic forecasting', *EJ*, 107, Sept. 1997.

Principal Contributions My research from 1970–90 was directed towards writing *Dynamic Econometrics* (book 5), which integrates empirical modelling for economic time series. There are six main strands to this effort: deriving and analysing methods of estimation and inference for non-stationary time series (see book 3); developing Monte Carlo techniques for investigating the small-sample properties of possible methods (see book 8, with an earlier release in 1991); implementing appropriate tools in computer programs (the AUTOREG library, summarized in *J Em*, 1980, since adapted to Windows as seen in book 9, now in its 10th version, with Jürgen A. Doornik); exploring alternative modelling strategies and 'methodologies' (see book 2); analysing concepts and criteria that would provide a viable basis for modelling economic time series, culminating in automatic procedures for model selection (see book 10, with Hans-Martin Krolzig); and testing these developments by simulation and in empirical investigations of consumption, money demand, inflation and the housing market, leading to over 75 papers. My second main interest is the history of econometric thought because of the insights available from thoughtful earlier analyses when technique was less dominant (summarized in book 4, with Mary S. Morgan). My research since 1990 mainly concerns economic forecasting and policy analysis, jointly with Michael P. Clements, and Grayham E. Mizon, respectively. We have investigated the conceptual foundations of economic forecasting when the econometric model in use does not coincide with the process generating the data in a non-stationary economy subject to intermittent structural breaks; delineated the main determinants of forecast failure and developed a taxonomy of

forecast errors; evaluated alternative forecasting methods; analysed the role of causal information; shown how to robustify forecasts against location shifts, and related the approach to the use of econometric models in policy analysis (see books 6 and 7), leading to more than 30 papers.

HERMALIN, Benjamin E.

Born 1962, New York, NY, USA.

Current Posts Willis H. Booth Prof. Banking and Fin., Walter A. Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1999–; Prof. Econ., Dept Econ., Univ. California, Berkeley, CA, USA, 1998–.

Past Posts Asst Prof. Bus. and Econ., Assoc. Prof. Bus. and Econ., Univ. California, Berkeley, 1988–94, 1994–98; Prof. Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., 1998–99.

Degrees AB Princeton Univ., 1984; PhD MIT, 1988.

Offices and Honours Co-Founder, Berkeley Electronic Press, 1999; Assoc. Dean, Interim Dean, Walter A. Haas Sch. Bus., Univ. California, Berkeley, 1999–2001, 2002.

Editorial Duties Assoc. Ed., *J Ind E*, 1995–2000; Ed. Bd, *AER*, 2001–; Co-Ed., *BE-Js EAP*, 2001–.

Principal Fields of Interest L2 Firm Objectives, Organization, and Behavior; G3 Corporate Finance and Governance; L1 Market Structure, Firm Strategy, and Market Performance.

Publications Articles: 1. ‘The determinants of board composition’ (with M. Weisbach), *RandJE*, 19, Winter 1988; 2. ‘Legal restrictions on private contracts can enhance efficiency’ (with P. Aghion), *JLEO*, 6, Fall 1990; 3. ‘Moral hazard and verifiability: the effects of renegotiation in agency’ (with M. Katz), *Em*, 59, Nov.

1991; 4. ‘The effects of competition on executive behavior’, *RandJE*, 23, Autumn 1992; 5. ‘Managerial preferences concerning risky projects’, *JLEO*, 9, Spring 1993; 6. ‘The use of an agent in a signalling model’ (with B. Caillaud), *JET*, 60, June 1993; 7. ‘Judicial modification of contracts between sophisticated parties: a more complete view of incomplete contracts and their breach’ (with M. Katz), *JLEO*, 9, Fall 1993; 8. ‘The determinants of efficiency and solvency in savings and loans’ (with N. Wallace), *RandJE*, 25, Autumn 1994; 9. ‘Heterogeneity in organizational form: why otherwise identical firms choose different incentives for their managers’, *RandJE*, 25, Winter 1994; 10. ‘An economic analysis of takings’, *JLEO*, 11, Spring 1995; 11. ‘Buyouts in large corporations’ (with A. Schwartz), *J. Legal Stud.*, 25, June 1996; 12. ‘Endogenously chosen boards of directors and their monitoring of the CEO’ (with M. Weisbach), *AER*, 88, March 1998; 13. ‘Toward an economic theory of leadership: leading by example’, *AER*, 88, Dec. 1998; 14. ‘Contract renegotiation and options in agency’ (with A. Edlin), *JLEO*, 16, Fall 2000; 15. ‘Firm performance and executive compensation in the savings and loan industry’ (with N. Wallace), *J Fin E*, 61, July 2001; 16. ‘Implementing the first best in agency relationship with renegotiation: a corrigendum’ (with A. Edlin), *Em*, Sept. 2001.

Principal Contributions My principal contributions have been in the area of contract renegotiation, boards of directors, and the intersection of agency theory and firm competition. In contract renegotiation, articles with A. Edlin and M. Katz show that, in many circumstances, renegotiation allows parties to profitably exploit observable, but unverifiable information in their contract designs; hence, raising doubts about the presumed negative consequences of unverifiable information for

efficient contracting. Work on corporate boards, with M. Weisbach, has established a number of empirical regularities about boards, as well as offering a robust theory of why boards function as they do. The introduction of agency theory into models of competition and strategic interaction has offered explanations for a number of important phenomena, such as why otherwise identical firms may adopt different incentive schemes for their managers.

HERSCH, Joni

Born 1956, Chicago, IL, USA.

Current Post Lect. Law, Harvard Law Sch., Cambridge, MA, USA, 1999–.

Past Posts Lect., Ohio State Univ., 1981–82; Asst Prof., Univ. Oregon, 1982–89; Vis. Asst Prof., Northwestern Univ., 1986–87; Assoc. Prof., Prof., Univ. Wyoming, 1989–95, 1995–99; Vis Assoc. Prof., California Inst. Tech., 1992–93; Vis. Prof., Duke Univ., 1995–96, Harvard Univ., 1998.

Degrees BA (Maths) Univ. South Florida, 1977; PhD Northwestern Univ., 1981.

Offices and Honours NSF Vis. Professorship for Women, 1992–93; Bd Mem., AEA Comm. on Status of Women in Econ. Profession, 1994–96.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; D1 Household Behavior; K4 Legal Procedure, the Legal System, and Illegal Behavior.

Publications *Articles*: 1. ‘The effect of housework on earnings of husbands and wives: evidence from full-time piece rate workers’, *Social Sc. Q.*, 66, March 1985; 2. ‘Cigarette smoking, seatbelt use, and differences in wage–risk tradeoffs’ (with W.K. Viscusi), *JHR*, 25, Spring 1990; 3. ‘Job match, tenure, and wages paid by firms’ (with P. Reagan), *EI*, 28, July 1990; 4. ‘Education match and job match’,

REStat, 73, Feb. 1991; 5. ‘The impact of non-market work on market wages’, *AER*, 81, May 1991; 6. ‘Male–female differences in hourly wages: the role of human capital, working conditions, and housework’, *ILRR*, 44, July 1991; 7. ‘Equal employment opportunity law and firm profitability’, *JHR*, 26, Winter 1991; 8. ‘Housework, wages and the division of housework time for employed spouses’ (with L.S. Stratton), *AER*, 84, May 1994; 9. ‘Optimal “mismatch” and promotion’, *EI*, 33, Oct. 1995; 10. ‘Smoking, seat belts, and other risky consumer decisions: differences by gender and race’, *Managerial and Decision Econ.*, 17, Sept.–Oct. 1996; 11. ‘Gender differences in promotions and wages’ (with W.K. Viscusi), *Ind. Relations*, 35, Oct. 1996; 12. ‘Worker effort decisions and efficient gender-specific wage–tenure profiles’ (with P. Reagan), *EI*, 35, Jan. 1997; 13. ‘Housework, fixed effects, and wages of married workers’ (with L.S. Stratton), *JHR*, 32, Spring 1997; 14. ‘Teen smoking behavior and the regulatory environment’, *Duke Law J.*, 47, Spring 1998; 15. ‘Compensating differentials for gender-specific job injury risk’, *AER*, 88, June 1998; 16. ‘Household specialization and the male marriage wage premium’ (with L.S. Stratton), *ILRR*, 54, Oct. 2000; 17. ‘Gender, income levels, and the demand for cigarettes’, *JRU*, 21, Nov. 2000; 18. ‘Cigarette smokers as job risk takers’ (with W.K. Viscusi), *REStat*, 83, May 2001; 19. ‘Housework and wages’ (with L.S. Stratton), *JHR*, 37, Winter 2002.

Principal Contributions Much of my work examines the labor market effects of household time allocation, risk-taking behavior, and wage structures. My early work on household time allocation showed that women undertake a disproportionate share of household responsibilities, and this time allocation has a direct negative impact on women’s earnings. Additional work with Leslie Stratton confirmed and

extended analysis of the role of household responsibilities on earnings. My analyses of risk-taking behavior address both labor market and consumer risk decisions. I found that relative to comparable men, women are more risk averse in their personal decisions such as smoking and seatbelt use. Consistent with women's generally safer behavior, many researchers viewed compensating differentials for job injury risk as being concentrated largely among blue-collar males. I found that women work in jobs with substantial injury risks and earn risk premiums comparable to those of blue-collar men. My research with W. Kip Viscusi examined the influence of individual heterogeneity on compensating differentials for job injury risk. We found that workers of different riskiness are sorted into noncompeting groups, and face different market offer curves, so that riskier workers receive lower premiums for jobs of equal riskiness than otherwise similar but less risky workers. My work on wage structures examines job match quality, promotions, and wage-tenure profiles. I developed and tested a model showing that seeming mismatches occur because overqualified workers require less training time, although are more likely to quit if not promoted, while underqualified workers are less likely to quit. Patricia Reagan and I examined structural models of the wage-tenure relation and job match quality, and demonstrated that efficient wage-tenure profiles are steeper for women than men as a direct result of their shorter expected working lives. Current work examines the choice and effect of judge or jury trial on legal outcomes.

HESTON, Alan Wiley

Born 1934, Portland, OR, USA.

Current Post Prof. Econ. and S. Asia

Stud., Univ. Pennsylvania, Philadelphia, PA, USA, 1978-.

Past Posts Instr. Econ., Yale Univ., 1961-62; Asst Prof., Assoc. Prof., Univ. Pennsylvania, 1962-68, 1968-78.

Degrees BA Univ. Oregon, 1955; MA Univ. Washington, 1957; PhD Yale Univ., 1962.

Offices and Honours Secretary, Vice-Pres., Secretary-Treasurer, Amer. Inst. Indian Stud., 1971-76; Mem. Council, IARIW, 1985-92; Chair, Council, IARIW, 1987-89; Disting. Fell., AEA, 1998.

Editorial Duties Asst Ed., Ed., *Annals Amer. Acad. Polit. and Social Sc.*, 1968-95, 1996-.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth; General; N0 Economic History: General; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications *Books*: 1. *A System of International Comparisons of Gross Product and Purchasing Power* (with I.B. Kravis, Z. Kenessey, R. Summers), (JHUP, 1975); 2. *International Comparisons of Real Product and Purchasing Power* (with I.B. Kravis, R. Summers), (JHUP, 1978); 3. *World Product and Income: International Comparisons of Real GDP* (with I.B. Kravis, R. Summers), (JHUP, 1982); 4. *World Comparisons of Purchasing Power and Real Product for 1980, Phase IV of the International Comparison Project*, repr. in *Handbook of the United Nations International Comparison Programme* (with others), (UN Stat. Div., 1992).

Articles: 1. 'An approach to the sacred cow of India', *Current Anthropol.*, April 1971, repr. in *Ethnology and Explanation* (Little, Brown, 1982), and I. Vogeler (ed.), *Dialectics of Third World Development* (Allanheld, Osmun, 1983); 2. 'Real GDP per capita for more than one hundred countries' (with I. Kravis, R. Summers),

EJ, 88, June 1978; 3. 'National income, 1857–1947', chap. IV in *Cambridge Economic History of India* (CUP, 1982); 4. 'The share of services in economic growth' (with R. Summers, I.B. Kravis), in F.G. Adams, B. Hickman (eds), *Global Econometrics: Essays in Honor of Lawrence R. Klein* (MIT Press, 1983); 5. 'The economics of camel transport in Pakistan' (with H. Hasnain, S.Z. Hussain, R.M. Khan), *EDCC*, 33, Oct. 1985; 6. 'The Penn World Table (Mark 5): an expanded set of international comparisons, 1950–88' (with R. Summers), *QJE*, 106, May 1991; 7. 'Real world military expenditures: 134 countries, 1980 and 1985' (with B. Aten), in J. Brauer, M. Chatterji (eds), *Economic Issues of Disarmament* (Macmillan, 1993); 8. 'What can be learned from successive ICP benchmark estimates?' (with R. Summers), in A. Szirmai, D. Pilat (eds), *Explaining Economic Growth; Essays in Honour of Angus Maddison* (N-H, 1993); 9. 'A brief review of some problems in using national accounts data in level of output comparisons and growth studies', *JDE*, 43, June 1994; 10. 'The differential productivity hypothesis and purchasing power parities: some new evidence' (with R. Summers, D.A. Nuxoll), *Rev. Intl Econ.*, 2, Oct. 1994.

Principal Contributions Much of my research has focussed on issues of measurement of price and real quantities both over time and across countries. A part of this work has been focussed specifically on South Asia, including both economic history since 1500 as well as contemporary issues. My major contribution to the field has been in association with the International Comparison Programme (ICP) of the United Nations in which I was directly involved from its inception in 1968 until 1985 when I returned to Pennsylvania from being Chief of the Price Statistics section of the UN Statistical Office. In these benchmark ICP studies, Robert

Summers and I worked with Irving Kravis who had worked with Milton Gilbert on the early OEEC comparisons and was the director of the work at Pennsylvania. These benchmark studies provided estimates of the purchasing power parity (PPP) of countries with which one could better convert national currency measures such as per capita income or wages. A basic finding of the ICP was that conversions of national accounts to a comparable currency at exchange rates in any year will systematically understate the incomes of poorer countries. And from year to year, estimates using PPPs as converters were much more stable than exchange rate conversions. As a consequence most economic analysis today uses PPPs as the conversion factor. In our own analysis of the benchmark studies, Summers and I have found that when conventional subaggregates of national accounts are converted at PPPs they often present very different shares of investment, education and health expenditures than are obtained at national prices. We have also reworked the benchmark studies to obtain aggregates such as services and commodities, and tradables and nontradables that have provided new insights into differences in the economic structure of world economies. Subsequently Robert Summers and I developed extensions of the benchmark comparisons over time and space into a System of Real National Accounts termed the Penn World Table (PWT). This extension in its latest version includes over 150 countries for some or all the years 1950–95 for about 30 variables. The availability of national accounts aggregates that are comparable across time and space in PWT has allowed researchers to examine empirically a number of issues in economic growth as well as demography and other social science areas. These data are available on a website – pwt.econ.upenn.edu.

HESTON, Steven L. n.e.

HEYWOOD, John Spencer

Born 1957 Cedar Rapids, IA, USA.

Current Posts Prof. Econ. and Dir., Grad. Program in Human Resources and Labor Relations, Univ. Wisconsin-Milwaukee, Milwaukee, WI, USA, 1986–; Hon. Res. Fell., Dept Commerce, Univ. Birmingham, Birmingham, UK, 1994–.

Past Posts Vis. Prof., Dept Econ., Giessen Univ., 1991, 2002; Intl Res. Scholar, Center Public Pol. Stud., Lingnan Univ., 1996; Sr Res. Fell., Dept Commerce, Univ. Birmingham, 2000–02.

Degrees BA Swarthmore Coll., 1979; MA, PhD Univ. Michigan, 1983, 1986.

Offices and Honours Elliot Paret Prize for Outstanding Paper in Labor Econ., 1985; Horace Rackham Dissertation Fellowship, 1985–86; Foundation Award for Outstanding Res., Univ. Wisconsin-Milwaukee, 1994.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs, J7 Discrimination; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Book*: 1. *Paying for Performance: An International Comparison* (ed. with M. Brown), (M.E. Sharpe, 2002).

Articles: 1. ‘Labor quality and the concentration earnings hypothesis’, *REStat*, 68, May 1986; 2. ‘Tournaments, piece rates and the shape of the payoff function’ (with R. Drago), *JPE*, 97, Aug. 1989; 3. ‘Market structure and the demand for unionized labor’, *SEJ*, 56, Jan. 1990; 4. ‘Union membership, union organization and the dispersion of wages’ (with D. Belman), *REStat*, 72, Feb. 1990; 5. ‘Sheepskin effects in the returns to education: the case of women and minorities’ (with D. Belman), *REStat*, 73, Nov. 1991; 6. ‘Do workers accurately perceive gender wage discrimination?’ (with M. Hamp-

ton), *ILRR*, 47, Oct. 1993; 7. ‘Unionization and the pattern of nonunion wage supplements’, *SEJ*, 60, April 1994; 8. ‘Deregulation and the prevalence of black truck drivers’ (with J. Peoples), *J Law E*, 37, April 1994; 9. ‘Strategic behavior downstream and the incentive to integrate: a spatial model with delivered pricing’ (with B. Gupta, D. Pal), *IJIO*, 13, Fall 1995; 10. ‘Estimation of the US federal job queue in the presence of an endogenous union queue’ (with M. Mohanty), *Ec*, 62, Nov. 1995; 11. ‘How to tax a spatial monopolist’ (with D. Pal), *J Pub E*, 61, July 1996; 12. ‘Duopoly, delivered pricing and horizontal mergers’ (with B. Gupta, D. Pal), *SEJ*, 63, Jan. 1997; 13. ‘Public sector earnings and the extent of unionization’ (with D. Belman, J. Lund), 50, July 1997; 14. ‘Sheepskin effects by cohort; implications of job matching in a signaling model’ (with D. Belman), *OEP*, 49, Oct. 1997; 15. ‘The determinants of hiring older workers: evidence from Hong Kong’ (with L. Ho, X. Wei), *ILRR*, 52, April 1999; 16. ‘The strategic choice of location and transport mode in a successive monopoly model’ (with B. Gupta, D. Pal), *J Reg S*, 39, Aug. 1999; 17. ‘Spatial price discrimination and the merger paradox’ (with K. Monaco, R. Rothschild), *RSUE*, 30, Sept. 2000; 18. ‘Spatial price discrimination and merger: the N firm case’ (with K. Monaco, R. Rothschild), *SEJ*, 67, Jan. 2001; 19. ‘Worker sorting and job satisfaction: the case of union and government jobs’ (with W.S. Siebert, X. Wei), *ILRR*, 55, July 2002.

Principal Contributions n.e.

HINES, Jr, James Rodger

Born 1958, Chicago, IL, USA.

Current Posts Prof. Econ., Dept Econ., Univ. Michigan, Ann Arbor, MI, USA, 2001–; Prof. Bus. Econ., Univ. Michigan

Bus. Sch., 1997–; Prof. Public Pol., Gerald R. Ford Sch. Public Pol., Univ. Michigan, 2001–; Res. Dir., Office Tax Pol. Res., Univ. Michigan, 1997–; Res. Assoc., NBER, Cambridge, MA, USA, 1986–.

Past Posts Econ., US Dept Commerce, 1980–81; Asst Prof. Econ. and Public Affairs, Princeton Univ., 1986–91; Assoc. Prof. Public Pol., John F. Kennedy Sch. Govt, Harvard Univ., 1991–97.

Degrees BA, MA Yale Univ., 1980, 1980; PhD Harvard Univ., 1986.

Editorial Duties Assoc. Ed, *World Polit.*, 1990–91, *ITPF*, 1993–98, *QJE*, 1997–2000, *J. Intl Fin. Markets, Inst. and Money*, 1997–; Bd Eds, *World Polit.*, 1992–98; Ed., *Finanzarchiv*, 2000–; Ed. Bd, *BE-Js EAP*, 2001–.

Principal Fields of Interest H8 Miscellaneous Issues; H2 Taxation, Subsidies, and Revenue; H3 Fiscal Policies and Behavior of Economic Agents.

Publications *Books*: 1. *Taxing Multinational Corporations* (ed. with M. Feldstein, R.G. Hubbard), (UCP, 1995); 2. *The Effects of Taxation on Multinational Corporations* (ed. with M. Feldstein, R.G. Hubbard), (UCP, 1995); 3. *International Taxation and Multinational Activity* (ed.), (UCP, 2001); 4. *Rethinking Estate and Gift Taxation* (ed. with W.G. Gale, J. Slemrod), (Brookings, 2001).

Articles: 1. ‘The national accounting for non-renewable natural resources in the mining industries’ (with J.S. Landefeld), *RIW*, 31, March 1985; 2. ‘Investment tax incentives and frequent tax reforms’ (with A.J. Auerbach), *AER*, 78, May 1988; 3. ‘The flight paths of migratory corporations’, *J. Accounting, Auditing and Fin.*, 6, Fall 1991; 4. ‘Budget spillovers and fiscal policy interdependence: evidence from the States’ (with A.C. Case, H.S. Rosen), *J Pub E*, 52, Oct. 1993; 5. ‘Fiscal paradise: foreign tax havens and American business’ (with E.M. Rice), *QJE*, 109, Feb. 1994; 6. ‘Credit and deferral as in-

ternational investment incentives’, *J Pub E*, 55, Oct. 1994; 7. ‘The flypaper effect’ (with R.H. Thaler), *JEP*, 9, Fall 1995; 8. ‘From each according to his surplus: equi-proportionate sharing of commodity tax burdens’ (with J.C. Hlinko, T.J.F. Lubke), *J Pub E*, 58, Nov. 1995; 9. ‘Dividends and profits: some unobvious foreign influences’, *J Fin*, 51, June 1996; 10. ‘Altered states: taxes and the location of foreign direct investment in America’, *AER*, 86, Dec. 1996; 11. ‘Basket cases: tax incentives and international joint venture participation by American multinational firms’ (with M.A. Desai), *J Pub E*, 71, March 1999; 12. ‘Three sides of Harberger triangles’, *JEP*, 13, Spring 1999; 13. ‘Lessons from behavioral responses to international taxation’, *NTJ*, 52, June 1999; 14. ‘The case against deferral: a deferential reconsideration’, *NTJ*, 52, Sept. 1999; 15. ‘What is benefit taxation?’, *J Pub E*, 75, March 2000; 16. ‘Repatriation taxes and dividend distortions’ (with M.A. Desai, C.F. Foley), *NTJ*, 54, Dec. 2001.

Principal Contributions My research area is public finance, with a focus on the effects of taxation in open economies. This research analyzes the taxation of foreign income, and its effects on foreign direct investment (FDI) and other activities of multinational corporations. Low tax rates encourage FDI – doing so, as Eric Rice and I found, not only by improving after-tax rates of return to investment, but also by encouraging firms to reallocate taxable income between jurisdictions. In other work I note that home country tax systems influence the attractiveness of low tax foreign jurisdictions, thereby accounting for at least some of the spatial distribution of FDI within the United States, and the pattern of American investment abroad. Some of my work considers the impact of specific tax provisions. Findings indicate that the US tax treatment of asset depreciation, interest deductions,

R&D expenses, foreign royalty income, export income, foreign tax credit 'baskets', and the deferral of active foreign income all influence the way in which American multinational corporations organize their financing and operations. Other public finance research of mine analyzes the effects of tax credits and depreciation rules on capital investment, the effects of intergovernmental grants and business-cycle conditions on subnational government expenditures, deadweight loss measurement, features of optimal taxation, the tax exemption for nonprofit organizations, and alternative measures of tax incidence. Anne Case, Harvey Rosen, and I analyze empirically the extent to which fiscal policies of American states influence fiscal policies of similarly-situated states, finding evidence of considerable spillover effects. And elsewhere I argue that standard accounting methods seriously misstate the size of the public sector, with implications for the effect of government activity on economic growth.

HIRSCH, Barry Thomas

Born 1949, Washington, DC, USA.

Current Post E.M. Stevens Disting. Prof. Econ., Trinity Univ., San Antonio, TX, USA, 2000–.

Past Posts Prof. Econ., Univ. North Carolina, Greensboro, 1976–90; Vis. Assoc. Prof. Econ., Univ. Kentucky, 1981–82; Prof. Econ., Disting. Res. Prof., Florida State Univ., 1990–99, 1999; Res. Assoc., Pepper Inst. Aging and Public Pol., Florida State Univ., 1992–99.

Degrees BA Univ. Virginia, 1972; PhD Univ. Virginia, 1977.

Offices and Honours Teaching Awards, Florida State Univ., 1994, 1999; Bd Trustees, Vice-Pres., SEA, 1998–2001, 2003–04; Professional Excellence Program Award, Florida State Univ., 1999.

Editorial Duties Ed. Bds, *J. Labour Res.*, 1986–, *ILLR*, 1999–; Bd Reviewers, *Ind. Relations*, 1992–; Assoc. Ed., *SEJ*, 1997–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining; J7 Discrimination.

Publications Books: 1. *The Economic Analysis of Unions: New Approaches and Evidence* (with J.T. Addison), (A&U, 1986); 2. *Labor Unions and the Economic Performance of Firms* (Upjohn Inst. Employment Res., 1991); 3. *Union Membership and Earnings Data Book: Compilations from the Current Population Survey* (with D.A. Macpherson), (Bureau Natl Affairs, 1994–2002; annual).

Articles: 1. 'Sex discrimination in faculty salaries: evidence from a historically women's university' (with K. Leppel), *AER*, 72, Sept. 1982; 2. 'The civilian earnings experience of Vietnam-era veterans' (with M.C. Berger), *JHR*, 18, Fall 1983; 3. 'Economics departmental rankings: comment' (with R. Austin, J. Brooks, J.B. Moore), *AER*, 74, Sept. 1984; 4. 'Union rent seeking, intangible capital, and market value of the firm' (with R.A. Connolly, M. Hirschey), *REStat*, 68, Nov. 1986; 5. 'Trucking regulation, unionization, and labor earnings: 1973–1985', *JHR*, 23, Summer 1988; 6. 'Union effects on productivity, profits, and growth: has the long run arrived?' (with J.T. Addison), *J Lab E*, 7, Jan. 1989; 7. 'Union coverage and profitability among US firms', *REStat*, 73, Feb. 1991; 8. 'Labor earnings, discrimination, and the racial composition of jobs' (with E.J. Schumacher), *JHR*, 27, Fall 1992; 9. 'Trucking deregulation, unionization, and earnings: is the union premium a compensating differential?', *J Lab E*, 11, April 1993; 10. 'Functional form in regression models of Tobin's q ' (with T.G. Seaks), *REStat*, 75, May 1993; 11. 'Wages

and gender composition: why do women's jobs pay less?' (with D.A. Macpherson), *J Lab E*, 13, July 1995; 12. 'Monopsony power and relative wages in the labor market for nurses' (with E.J. Schumacher), *JHE*, 14, Oct. 1995; 13. 'Unions, wages, and skills' (with E.J. Schumacher), *JHR*, 33, Winter 1998; 14. 'Earnings, rents, and competition in the airline labor market' (with D.A. Macpherson), *J Lab E*, 18, Jan. 2000; 15. 'Evaluating the labor market performance of veterans using a matched comparison group design' (with S.L. Mehay), *JHR*, 38, Summer 2003; 16. 'Wages, sorting on skill, and the racial composition of jobs' (with D.A. Macpherson), *J Lab E*, 22, Jan. 2004; 17. 'Match bias in wage gap estimates due to earnings imputation' (with E.J. Schumacher), *J Lab E*, 22, 2004.

Principal Contributions I am an applied labor economist whose research focusses on wage determination and labor unions. A 1986 book with Addison surveys economics research on unions. My 1991 book and several articles examine unions and firm performance. Union effects on productivity and productivity growth vary across firms, but on balance are zero or negative. Union effects on market valuation and profitability are negative. Unions tax quasi-rents associated with market share, physical capital, and intangible capital. In response, union firms invest less and grow more slowly. Research with Schumacher shows that Census earnings imputation methods cause union wage gaps to be substantially understated. Panel analysis reveals similar union wage effects across skill groups following employer and employee sorting. Macpherson and I author an annual *Data Book* and maintain a website (unionstats.com) providing researchers with union data compiled from the Current Population Surveys, disaggregated by state, city, industry, and occupation. I

study wages and unions in regulated and deregulated industries. In trucking, union wages and premiums fell sharply following deregulation. Unions retain bargaining power in airlines, exercising that power when carriers are prosperous and showing restraint when carriers suffer losses. Compensation of union postal employees is higher than in comparable private employment, as evidenced by wages, benefits, entrant gains, quits, and applicant queues. Workers earn less in occupations with high densities of women or African-Americans. Articles with Macpherson and Schumacher indicate that racial density does not have a causal effect; rather it is a proxy for unmeasured worker and job skills following sorting. Some but not all of the lower pay in 'female jobs' results from worker preferences, experience, scheduling, and working conditions. The effect of military service on civilian earnings is examined in work with Berger and Mehay. Service has a net payoff for black enlistees, but not whites. Vietnam-era service had negative effects primarily for white draftees.

HIRSCHMAN, Elizabeth C. n.e.

HIRSHLEIFER, David Adam

Born 1958, Los Angeles, CA, USA.

Current Post Ralph M. Kurtz Chair Fin., Fisher Coll. Bus., Ohio State Univ., Columbus, OH, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Anderson Grad. Sch. Mgmt, UCLA, 1984–90, 1990–95; Prof. Fin., Univ. Michigan Bus. Sch., 1995–99.

Degree PhD Univ. Chicago, 1985.

Offices and Honours Program Comm., Western Fin. Assoc., 1988–; Nominating Comm., Bd Dirs, AFA, 1996, 1999–2001; Amer. Assoc. Individual Investors, 1997;

Award for Best Paper on Investments at Western Fin. Assoc. Meeting; Best Paper Award, Natl Taiwan Univ. Intl Conf. Fin., Taiwan, 1998; Smith–Breedon Award for Best Paper in *J Fin*, 1999.

Principal Fields of Interest D0 Microeconomics: General; G0 Financial Economics: General; G3 Corporate Finance and Governance.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1990–94, 1997–2000, *J. Fin. Intermediation*, Vols III–, *J. Corp. Fin.*, 1994–; Co-Ed., *JEMS*, 1993–; Ed., *Rev. Fin. Stud.*, 1994–97; Advisory Ed., *Econ. Letters*, 2002–.

Publications Articles: 1. ‘Residual risk, trading costs and commodity futures risk premia’, *Rev. Fin. Stud.*, 2, Summer 1988; 2. ‘Risk, futures pricing, and the organization of production in commodity markets’, *JPE*, 96, Dec. 1988; 3. ‘Futures trading, storage and the division of risk: a multiperiod analysis’, *EJ*, 99, Sept. 1989; 4. ‘Facilitation of competing bids and the price of a takeover target’ (with I.P.L. Png), *Rev. Fin. Stud.*, 2, 1989; 5. ‘Hedging pressure and futures price movements in a general equilibrium model’, *Em*, 58, March 1990; 6. ‘Share tendering strategies and the success of hostile takeover bids’ (with S. Titman), *JPE*, 98, April 1990; 7. ‘A theory of fads, fashion, custom, and cultural change as informational cascades’ (with S.I. Bikhchandani, I. Welch), *JPE*, 100, Oct. 1992; 8. ‘Managerial conservatism, project choice and debt’ (with A. Thakor), *Rev. Fin. Stud.*, 5, 1992; 9. ‘Security analysis and trading patterns when some investors receive information before others’ (with A. Subrahmanyam, S. Titman), *J Fin*, 49, Dec. 1994; 10. ‘Corporate control through board dismissals and takeovers’ (with A. Thakor), *JEMS*, 7, 1998; 11. ‘Investor psychology and security market under- and over-reactions’ (with K. Daniel, A. Subrahmanyam), *J Fin*, 53, 1998; 12.

‘Learning from the behavior of others: conformity, fads, and informational cascades’ (with S. Bikhchandani, I. Welch), *JEP*, 12, Summer 1998; 13. ‘On the survival of overconfident traders in a competitive securities market’ (with G. Luo), *J. Fin. Markets*, 4, Jan. 2001; 14. ‘Using psychology to predict market moves’ (with S. Teoh), *Optimus*, Jan. 2001; 15. ‘Overconfidence, arbitrage, and equilibrium asset pricing’ (with K. Daniel, A. Subrahmanyam), *J Fin*, 56, June 2001; 16. ‘The blurring of boundaries between financial institutions and markets’, *J. Fin. Intermediation*, 10, July/Oct. 2001; 17. ‘Investor psychology and asset pricing’, *J Fin*, 56, Aug. 2001; 18. ‘Investor psychology in capital markets: evidence and policy implications’ (with K. Daniel, S. Teoh), *JME*, 49, 2001, repr. in *C-RPP*, 53, 2002; 19. ‘Sideline investors, trading-generated news, and security returns’ (with H. Cao, J. Coval), *Rev. Fin. Stud.*, 15, 2002; 20. ‘An economic approach to the psychology of change: amnesia, inertia, and impulsiveness’ (with I. Welch), *JEMS*, 11, Fall 2002.

Principal Contributions One strand of research deals with hedging, prices and organization of commodity markets. This emphasizes the determination of equilibrium hedging and futures prices together with prices and positions in the later spot market. This work relates non-participation in futures markets to futures risk premia and producer hedging, and examines the fundamental sources of futures risk premia. A second strand concerns strategic issues in takeover contests. In tender offer contests, bidders’ possession of information that target shareholders do not have can cause shareholder skepticism and bid failure. Thus, target defensive strategies (e.g., anti-takeover amendments or poison pills), by changing asymmetry of information and by altering bidding incentives, may sometimes increase target

shareholders' willingness to tender. In sequential auctions with multiple bidders (e.g., takeover contests), small costs of bidding can lead to outcomes very different from the conventional English auction solution. Sequential auctions can be viewed as a learning process in which bidders quit when they learn they are destined to lose, and delays also convey useful information. Contests are predicted to involve large jumps in bids that are highly informative, so that the auction ends after just a few bids. A third strand examines learning by observation of others and how this can lead to failures of information aggregation as in information cascades, and thereby to fads and fashions. A fourth strand examines how agency problems and reputational concerns cause managers to make non-optimal choices among risky projects. Owing to information asymmetry, managers may be either unduly conservative or risk prone even when contracts are designed optimally to induce correct effort and project choice. A fifth strand examines how psychological biases of investors and managers affect corporate financial decisions and the prices of securities. This includes the effects of overconfidence, emotions, and limited attention on firm and investor behavior.

HITCHENS, David Michael Warren Naunton

Born 1948, Cardiff, South Wales, UK.

Current Post Prof. Apl. Econ., Queen's Univ., Belfast, Northern Ireland, UK, 1995–.

Past Posts Res. Fell., City Univ., London, 1974–78; Res. Officer, NIESR, London, 1978–84, Northern Ireland Econ. Res. Centre, 1986–88; New Blood Lect. Econ., Sr Lect., Reader Bus. Econ., Head Dept Econ., Queen's Univ., Belfast, 1984–91, 1991–93, 1993–95, 1995–99; Vis. Sci-

entist, Inst. Prospective Tech. Stud. (IPTS), European Commission, Seville, 1999–2001.

Degrees BSc Univ. Coll., Cardiff, 1970; PhD Univ. Aston, 1974.

Principal Fields of Interest L5 Regulation and Industrial Policy; L6 Industry Studies: Manufacturing; L8 Industry Studies: Services.

Publications Books: 1. *Inheritance and Wealth Inequality in Britain* (with C.D. Harbury), (A&U, 1979); 2. *International Industrial Productivity: A Comparison of Britain, America and Germany* (with A.D. Smith, S.W. Davies), (CUP, 1982); 3. *Productivity in the Distributive Trades: A Comparison of Britain, America and Germany* (with A.D. Smith), (CUP, 1986); 4. *Closing the Productivity Gap: A Comparison of Northern Ireland, the Republic of Ireland, Britain and West Germany* (with K. Wagner, J.E. Birnie), (Avebury Bus. Sch. Library, 1990); 5. *East German Productivity: The Transition to the Market Economy* (with K. Wagner, J.E. Birnie), (Avebury, 1993); 6. *The Competitiveness of Industry in the Czech Republic and Hungary* (with J.E. Birnie, J. Hamar, A. Zemplerova, K. Wagner), (Avebury, 1995); 7. *The Firm, Competitiveness and Environmental Regulation* (with J.E. Birnie, A. McGowan, U. Triebswetter, A. Cottica), (Edward Elgar, 1998); 8. *Environmental Regulation and Competitive Advantage, A Study of Packaging Waste in the European Supply Chain* (with U. Triebswetter, E. Birnie, W. Thompson, P. Bertossi, L. Messori), (Edward Elgar, 2000); 9. *The Impact of Best Available Techniques (BAT) on the Competitiveness of European Industry* (with F. Farrell, J. Lindblom, U. Triebswetter), (IPTS, Europ. Commission, 2001).

Articles: 1. 'The inheritance of top wealth leavers: some further evidence' (with C.D. Harbury), *EJ*, 86, 1976; 2. 'Productivity, machinery and skills in a sam-

ple of British and German manufacturing plants: results of a pilot inquiry' (with A. Daly, K. Wagner), *Natl Inst. Econ. Rev.*, 111, 1985; 3. 'The comparative performance of small manufacturing firms in Northern Ireland and south east England' (with P.N. O'Farrell), *Regional Stud.*, 21, 1987; 4. 'Improving productivity through international exchange visits' (with K. Wagner, J.E. Birnie), *Omega Intl J. Mgmt Sc.*, 19, 1991; 5. 'Business services use by manufacturing firms in mid Wales' (with P.N. O'Farrell, C. Conway), *Environment and Planning A*, 26, 1994; 6. 'Economic awareness in Northern Ireland' (with M. Sheehan, J.E. Birnie), *Res. in Educ.*, 54, 1995; 7 'The comparative productivity of plants in the Czech Republic and Hungary' (with J.E. Birnie, J. Hamar, K. Wagner, A. Zemplerinova), *Econ. Systems*, 19, Sept. 1995; 8. 'A matched plant comparison of productivity in East and West Germany: transition to the market economy' (with J.E. Birnie), *Omega Intl J. Mgmt Sc.*, 24, 1996; 9. 'Investigating the relationship between company competitiveness and environmental regulation in European food processing: results of a matched firm comparison' (with J.E. Birnie, A. McGowan, U. Triebswetter, A. Cottica), *Environment and Planning A*, 29, 1998; 10. 'Productivity and income per capita convergence in a peripheral European economy: the Irish experience' (with E.B. Birnie), *Regional Stud.*, 32, 1998; 11. 'The implications for competitiveness of environmental regulations for peripheral regions in the EU', *Omega Intl J. Mgmt Sc.*, 27, 1999.

Principal Contributions I have made a contribution to regional, national and EU economic and environmental policy, from, primarily empirical, international comparative research in the areas of industrial productivity and competitiveness; and environmental policy and competitiveness.

HOCH, Stephen J. n.e.

HODGSON, Geoffrey Martin

Born 1946, Watford, UK.

Current Post Res. Prof. Bus. Stud., Bus. Sch., Univ. Hertfordshire, Hertford, UK, 1999–.

Past Posts Lect., Sr Lect. Econ., Manchester Polytech., 1974–80; Vis. Prof. Econ., Bennington Coll., Vermont, 1980–81; Principal Lect. Econ., Newcastle upon Tyne Polytech., 1981–90; Prof. Econ., Univ. Northumbria, 1990–92; Univ. Lect. and Reader Econ., Judge Inst. Mgmt Stud., Univ. Cambridge, 1992–98.

Degrees BSc (Maths and Philo.), MA Univ. Manchester, 1968, 1974; MA, DLitt Univ. Cambridge, 1995, 1997.

Offices and Honours Dehn Prize in Commerce and Ind., Univ. Manchester, 1974; Hallsworth Res. Fell. Polit. Econ., Univ. Manchester, 1984–85; Clarence F. Ayres Vis. Scholar, Assoc. Evolutionary Econ., 1990; Vis. Res. Fell., Swedish Collegium for Adv. Study in Social Sc., Uppsala, Sweden, 1991, Centre for Interdisciplinary Res. (ZIF), Univ. Bielefeld, Germany, 1992, Austrian Acad. Sc., Vienna, 1994, Japan Soc. for Promotion of Sc., Kansai Univ., Japan, 1997; Vis. Prof., Univ. Aix-Marseille, 2002.

Editorial Duties Ed. Bds, *Intl Rev. Apl. Econ.*, 1988–, *Rev. Polit. Econ.*, 1988–92, *Camb JE*, 1993–, *Econ. and Ind. Democracy*, 1993–, *Rev. Intl Polit. Econ.*, 1993–, *Intl Network Econ. Method*, 1993–, *Rev. Social Econ.*, 1994–, *J. Evolutionary Econ.*, 1998–.

Principal Fields of Interest B2 History of Economic Thought since 1925; B4 Economic Methodology; B5 Current Heterodox Approaches.

Publications *Books*: 1. *Socialism and Parliamentary Democracy* (Spokesman, 1977; trans., Italian, Spanish, Turkish,

Japanese); 2. *Labour at the Crossroads* (Martin Robertson, 1981); 3. *Capitalism, Value and Exploitation* (Martin Robertson, 1982); 4. *The Democratic Economy* (Penguin, 1984); 5. *Economics and Institutions* (Polity Press, Univ. Pennsylvania Press, 1988; trans., Italian, Japanese, Portuguese, Russian); 6. *After Marx and Sraffa: Essays in Political Economy* (Macmillan, 1991); 7. *Economics and Evolution* (Polity Press, Univ. Michigan Press, 1993; trans., Spanish, Japanese, Portuguese); 8. *Economics and Utopia* (Routledge, 1999); 9. *Evolution and Institutions* (Edward Elgar, 1999); 10. *How Economics Forgot History* (Routledge, 2001).

Articles: 1. 'The theory of the falling rate of profit', *New Left Rev.*, 84, March–April 1974; Italian trans. repr. in E. Screpanti, M. Zenezini (eds), *Accumulazione del capitale e progresso tecnico* (Feltrinelli, 1978); 2. 'Theoretical and policy implications of variable productivity', *Camb JE*, 6, Sept. 1982; 3. 'Institutional rigidities and economic growth', *Camb JE*, 13, March 1989, repr. in A. Lawson, J.O. Palma, J. Sender (eds), *Kaldor's Political Economy* (Acad. Press, 1989); 4. 'Institutional economics: surveying the "old" and the "new"', *Metroeconomica*, 44, Feb. 1993; 5. 'The Mecca of Alfred Marshall', *EJ*, 103, March 1993; 6. 'Optimisation and evolution: Winter's critique of Friedman revisited', *Camb JE*, 18, Aug. 1994; 7. 'The approach of evolutionary economics', *JEL*, 36, March 1998; 8. 'Competence and contract in the theory of the firm', *JEBO*, 26, June 1998; 9. 'The legal nature of the firm and the myth of the firm–market hybrid', *IJEB*, 9, Feb. 2002; 10. 'Darwinism in economics: from analogy to ontology', *J. Evolutionary Econ.*, 12, June 2002.

Principal Contributions I have always been interested in the big questions of how socio-economic systems work, and

how individuals relate to economic institutions. These themes were present in my critical engagement with Marxism in the 1970s and reflected in my enduring interest in institutional and evolutionary economics, since the early 1980s. *Capitalism, Value and Exploitation* (1982) reflects my early concern with Marxian and Sraffian value theory. *The Democratic Economy* (1984) exhibits an interest in the analysis of the production process and stressed the inevitability of mixed economies. Subsequent works showed a more explicit engagement with the 'old' institutional economics. *Economics and Institutions* (1988) is a critique of the core assumptions of neoclassical economics and an attempt to outline an alternative approach. This was followed by work on an institutionalist theory of economic growth. An interest in the role of metaphor in economics and the sources of creativity, combined with a concern about the fashionable but often ill-informed use of the 'evolutionary' label, led to the book *Economics and Evolution* (1993). Subsequent work has continued to address the history, methodology and conceptual foundations of institutional and evolutionary economics. Particular attention has been given to key institutions such as the firm, linking with Nelson–Winter type work and other evolutionary and 'competence-based' approaches. *Economics and Utopia* (1999) explored possible scenarios for a post-capitalist future and examines the implications of the learning economy. *How Economics Forgot History* (2001) examined the problem of historical specificity in economics, and the past contributions to this methodological issue by members of the German historical school and others. If I have made a contribution, then it is to add a little to our understanding of how economic institutions work, and to unearth some of the forgotten contributions of others to this project.

HODRICK, Robert James

Born 1950, Williamsport, PA, USA.

Current Posts Nomura Prof. Intl Fin., Acad. Dir., Chazen Inst. Intl Bus., Columbia Bus. Sch., New York City, NY, USA, 1996–; Res. Assoc., NBER, Cambridge, MA, USA, 1985–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Carnegie-Mellon Univ., 1976–81, 1982–83; Econ., IMF, Washington, DC, 1981–82; Assoc. Prof. Fin., Prof. Fin., Tokai Bank Prof. Intl Fin., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1983–84, 1984–90, 1990–96.

Degrees AB (Public and Intl Affairs) Princeton Univ., 1972; PhD Univ. Chicago, 1976.

Offices and Honours Roger F. Murray Prize, 1994; Dir., Western Fin. Assoc., 1994–97.

Editorial Duties Assoc. Ed., *J Bus Stud*, 1982–84, *J Int E*, 1985–87, 1990–96, *AER*, 1990–95, *JIMF*, 1990–, *JMCB*, 1993–95; Co-Ed., *J Int E*, 1987–90; Advisory Ed., *J Empirical Fin.*, 1991–, *Intl J. Fin. Econ.*, 1994–; Advisory Bd, *Econ. Pol. Rev.*, 1997–.

Principal Fields of Interest F3 International Finance; G1 General Financial Markets; E3 Prices, Business Fluctuations, and Cycles.

Publications *Book*: 1. *The Empirical Evidence on the Efficiency of Forward and Futures Foreign Exchange Markets* (Harwood Acad., 1987).

Articles: 1. 'Forward exchange rates as optimal predictors of future spot rates: an econometric analysis' (with L.P. Hansen), *JPE*, 88, Oct. 1980; 2. 'International asset pricing with time-varying risk premia', *J Int E*, 11, Nov. 1981; 3. 'Risk averse speculation in the forward foreign exchange market: an econometric analysis of linear models' (with L.P. Hansen), in J.A. Frenkel (ed.), *Exchange Rates and International Macroeconomics* (UCP for

NBER, 1983); 4. 'An investigation of risk and return in forward foreign exchange' (with S. Srivastava), *JIMF*, 3, April 1984; 5. 'Optimal price and inventory adjustment in an open-economy model of the business cycle' (with R.P. Flood), *QJE*, 100, Nov. 1985; 6. 'Asset price volatility, bubbles, and process switching' (with R.P. Flood), *J Fin*, 41, Sept. 1986; 7. 'Real aspects of exchange rate regime choice with collapsing fixed rates' (with R.P. Flood), *J Int E*, 21, Nov. 1986; 8. 'Foreign currency futures' (with S. Srivastava), *J Int E*, 22, Feb. 1987; 9. 'Risk, uncertainty and exchange rates' *JME*, 23, May 1989; 10. 'On testing for speculative bubbles' (with R.P. Flood), *JEP*, 4, Spring 1990; 11. 'The variability of velocity in cash-in-advance models' (with N. Kocherlakota, D. Lucas), *JPE*, 99, April 1991; 12. 'Characterizing predictable components in excess returns on equity and foreign exchange markets' (with G. Bekaert), *J Fin*, 47, June 1992; 13. 'Dividend yields and expected stock returns: alternative procedures for inference and measurement', *Rev. Fin. Stud.*, 5, 1992; 14. 'Post-war US business cycles: an empirical investigation' (with E. Prescott), *JMCB*, 29, Feb. 1997; 15. 'On biases in tests of the expectations hypothesis of the term structure of interest rates' (with G. Bekaert, D. Marshall), *J Fin E*, 44, June 1997; 16. 'An international dynamic asset pricing model' (with D. Ng, P. Sengmueller), *ITPF*, 6, Nov. 1999; 17. 'Expectations hypotheses tests' (with G. Bekaert), *J Fin*, 56, Aug. 2001; 18. 'Peso problem explanations for term structure anomalies' (with G. Bekaert, D. Marshall), *JME*, 48, Oct. 2001; 19. 'Evaluating the specification errors of asset pricing models' (with X. Zhang), *J Fin E*, 62, Nov. 2001.

Principal Contributions My career began as an international macroeconomist with a specialization in time-series mod-

elling. While at Carnegie-Mellon in the late 1970s, I had the opportunity to work with Ed Prescott on the development of a way of characterizing business cycles that came to be known as the HP filter. I also collaborated with Lars Hansen in the application of his generalized method of moments to issues in international finance. We demonstrated how to use data, like forward exchange rates, that are sampled more frequently than the forecast interval, and we developed a latent variable model of the risk–return trade-off. Sanjay Srivastava and I pushed the analysis into foreign currency futures. While working at the IMF in 1981, I met Bob Flood who was working at the Federal Reserve Board. We wrote several papers on international business cycles with rational expectations, and we became interested in the fact that there may be differences between what agents rationally expect to happen and what actually happens in a given sample. Since asset prices reflect expectations, testing asset pricing models becomes quite difficult. In research with Geert Bekaert and David Marshall, I demonstrate how anomalies in the term structure of interest rates may be attributable to such an idea. As computers have become faster, I realized that there are often big differences between the asymptotic distributions of test statistics and their small sample distributions, even in samples of 30 years of monthly data. My most recent research involves the development and appropriate testing of asset pricing models of exchange rates, stock prices, and bond prices. My work with Xiaoyan Zhang demonstrates how to use the HP filter to allow the parameters of asset pricing models to depend on the state of the business cycle.

HOFFMAN, Elizabeth n.e.

HOFFMAN, Saul D. n.e.

HOLMSTRÖM, Bengt Robert

Born 1949, Helsinki, Finland.

Current Post Paul A. Samuelson Prof. Econ., Dept Econ., MIT, Cambridge, MA, USA, 1997–; Prof. Econ. and Mgmt, Dept Econ. and Sloan Sch. Mgmt, MIT, 1994–.

Past Posts OR Analyst, Min. Trade and Commerce, Finland, 1971–72; Corp. Planner, A. Ahlstrom Ltd., Finland, 1972–74; Asst Prof. Systems and OR, Swedish Sch. Econ. and Bus. Admin., 1978–79; Asst Prof. Managerial Econ., Assoc. Prof. Managerial Econ., Northwestern Univ., 1979–80, 1980–83; Prof. Econ., Dept Econ., Yale Univ., 1983–85; Prof. Econ. and Org., Edwin J. Beinecke Prof. Mgmt Stud., Sch. Mgmt, Yale Univ., 1983–85, 1985–94.

Degrees BS (Maths) Univ. Helsinki, 1972; MSc (OR), PhD Stanford Univ., 1975, 1978.

Offices and Honours Fell., Em Soc, 1983–, AAAS, 1993–; Res. Assoc. Labor Stud., Res. Assoc. Corp. Fin. Program, NBER, 1984–86, 1996–; Foreign Fell., Finnish Soc. Sc. and Letters, 1992–; Yrjo Jahnsson Lectures, 1992; Council, Exec. Comm., Em Soc, 1994–2001, 1998–2001; Fisher–Schultz Lecture, Toulouse, 1997; Hon. Doctorate, Univ. Vaasa, 1988, Stockholm Sch. Econ., 1998; Louise and Goran Ehrnrooth Hon. Lectures, Helsinki, 1998; Wicksell Lectures, Stockholm Sch. Econ., 1999; Exec. Bd, CEPR, 2000–, Europ. Corp. Governance Inst., 2000–; Woodward Lecture, UBC, 2001; Karl Borch Lecture, Norwegian Sch. Econ., 2002.

Editorial Duties Foreign Ed., *REStud*, 1982–85; Assoc. Ed., *JET*, 1983–93, *Em*, 1984–2002, *RandJE*, 1986–89, *Finnish Econ. Papers*, 1988–, *JLEO*, 1989–, *J. Fin. Intermediation*, 1989–95, *JEMS*, 1990–98; Advisory Bd, *J. Inst. Theoretical Econ.*, 1992–; Ed. Bd, *Econ. Design*, 1993–.

Principal Fields of Interest D2 Production and Organizations; G3 Corporate Finance and Governance; E4 Money and Interest Rates.

Publications *Articles*: 1. ‘Moral hazard and observability’, *Bell JE*, 10, Spring 1979; 2. ‘A theory of wage dynamics’ (with M. Harris), *REStud*, 49, July 1982; 3. ‘Moral hazard in teams’, *Bell JE*, 13, Autumn 1982; 4. ‘Efficient and durable decision rules with incomplete information’ (with R. Myerson), *Em*, 51, Nov. 1983; 5. ‘Managerial incentives and capital management’ (with J.R. Costa), *QJE*, 101, Nov. 1986; 6. ‘Aggregation and linearity in the provision of intertemporal incentives’ (with P. Milgrom), *Em*, 55, March 1987; 7. ‘The theory of contracts’ (with O. Hart), in T. Bewley (ed.), *Advances in Economic Theory, Fifth World Congress* (CUP, 1987); 8. ‘Short-term contracts and long-term agency relationships’ (with D. Fudenberg, P. Milgrom), *JET*, 51, June 1990; 9. ‘Multi-task principal-agent problems: incentive contracts, asset ownership and job design’ (with P. Milgrom), *JLEO*, 7, special issue, 1991; 10. ‘Market liquidity and performance measurement’ (with J. Tirole), *JPE*, 101, Aug. 1993; 11. ‘The firm as an incentive system’ (with P. Milgrom), *AER*, 84, Sept. 1994; 12. ‘The wage policy of a firm’ (with G. Baker, M. Gibbs), *QJE*, 109, Nov. 1994; 13. ‘Financial intermediation, loanable funds and the real sector’ (with J. Tirole), *QJE*, 112, Aug. 1997; 14. ‘Private and public supply of liquidity’ (with J. Tirole), *JPE*, 106, Feb. 1998; 15. ‘Managerial incentive problems: a dynamic perspective’, *REStud*, 66, Jan. 1999; 16. ‘The firm as a subeconomy’, *JLEO*, 15, 1999; 17. ‘LAPM: a liquidity-based asset pricing model’ (with J. Tirole), *J Fin*, 61, 2001; 18. ‘Corporate governance and merger activity in the United States: making sense of the 1980s and 1990s’ (with S. Kaplan), *JEP*, 15, 2001.

Principal Contributions My research has been focused on the economics of contracting and organizations. My early work on moral hazard illuminated the role of information and its value in structuring optimal incentive contracts. My later work on moral hazard (much with Paul Milgrom) has been concerned with robustness of incentive contracts and the need to design balanced incentives when agents engage in multiple tasks. Multi-tasking leads to the view that firms emerge in order to mute and restructure excessively strong market incentives using a multitude of instruments. Weak incentives, monitoring of inputs and bureaucratic rules all form a logical system of incentives that often characterize the employment relationship. Career concerns has been another long-standing interest of mine and influenced my thinking about incentives. Most of us try to impress, in various ways, the people who can impact our professional lives. Such behaviour can be viewed as an effort to influence the way people learn about our characteristics. Career concerns can provide employees very powerful incentives to behave diligently even in the absence of formal incentives. Just as importantly, they can be a source of significant incentive problems. At times employees may become excessively cautious (when they are close to being promoted for instance); at other times they may take undue risks. The negative and positive manifestations of career concerns are very important (and visible) in the political arena and have been used in political economy models. I have also worked (with Jean Tirole) on the supply and demand for liquidity in the corporate sector. Our approach is contractual and builds on one simple imperfection: a part of the firm’s financial returns cannot be pledged to outside investors. This can lead to a shortage of aggregate liquidity (collateral), which lim-

its real investments, and a role for government to manage and create aggregate liquidity.

HOLTHAUSEN, Robert W. n.e.

HOLTZ-EAKIN, Douglas n.e.

HOLZER, Harry Joseph

Born 1957, Somers Point, NJ, USA.

Current Posts Prof. Public Pol., Georgetown Public Pol. Inst., Washington, DC, USA, 2000–; Vis. Fell., Urban Inst., Washington, DC, 2000–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Michigan State Univ., 1983–88, 1988–92, 1992–2000; Vis. Scholar, Russell Sage Foundation, 1995; Chief Econ., US Dept of Labor, 1999.

Degrees AB, PhD Harvard Univ., 1978, 1983.

Offices and Honours Teacher-Scholar Award, Michigan State Univ., 1988; Disting. Faculty Award, Michigan State Univ., 1998; Leslie Whittington Award, Georgetown Univ., 2002.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J3 Wages, Compensation, and Labor Costs; J6 Mobility, Unemployment, and Vacancies.

Publications *Books*: 1. *The Black Youth Employment Crisis* (ed. with R. Freeman), (UCP, 1986); 2. *Unemployment, Vacancies and Local Labor Markets* (W.E. Upjohn Inst. Employment Res., 1989); 3. *What Employers Want: Job Prospects for Less-Educated Workers* (Russell Sage Foundation, 1996); 4. *Detroit Divided* (with R. Farley, S. Danziger), (Russell Sage Foundation, 2000); 5. *Employers and Welfare Recipients: The Effects of Welfare Reform in*

the Workplace (with M. Stoll), (Public Pol. Inst. California, 2001).

Articles: 1. ‘Reservation wages and their labor market effects for black and white male youth’, *JHR*, 21, Spring 1986; 2. ‘Informal job search and black youth unemployment’, *AER*, 77, June 1987; 3. ‘Search method use by unemployment youth’, *J Lab E*, 6, Jan. 1988; 4. ‘Employment, unemployment, and demand shifts in local labor markets’, *REStat*, 73, Feb. 1991; 5. ‘The spatial mismatch hypothesis: what has the evidence shown?’, *Urb Stud*, 28, Feb. 1991; 6. ‘Job queues and wages’ (with L. Katz, A. Krueger), *QJE*, 106, Aug. 1991; 7. ‘Are training subsidies for firms effective? The Michigan experience’ (with R. Block, M. Cheatham, J. Knott), *ILRR*, 47, July 1993; 8. ‘Asymmetries and rigidities in wage adjustment by firms’ (with E. Montgomery), *REStat*, 75, Aug. 1993; 9. ‘Industrial shifts, skill levels, and the labor market for white and black males’ (with J. Bound), *REStat*, 75, Aug. 1993; 10. ‘Customer discrimination and employment outcomes for minority workers’ (with K. Ihlanfeldt), *QJE*, 113, Aug. 1998; 11. ‘Employer skill demands and labor market outcomes by race and gender’, *ILRR*, 52, Oct. 1998; 12. ‘Are affirmative action hires less qualified? New evidence from employer–employee data on new hires’ (with D. Neumark), *J Lab E*, 17, July 1999; 13. ‘Demand shifts, population adjustments, and labor market outcomes during the 1980s’ (with J. Bound), *J Lab E*, 18, Jan. 2000; 14. ‘Assessing affirmative action’ (with D. Neumark), *JEL*, 38, Sept. 2000; 15. ‘Employer demand for welfare recipients by race’ (with M. Stoll), *J Lab E*, 21, Jan. 2003.

Principal Contributions Much of my work has focused on the labor market problems of low-wage workers, particularly minorities in urban areas. My earliest work focussed on job search issues

and youth unemployment, including the role of reservation wages and use of informal job search. For a period in the late 1980s and early 1990s, I analyzed employer wage-setting and hiring behavior using data from a large national survey of firms. I then began administering my own employer surveys, and have surveyed over 7000 firms over the past decade. Much of my work during this time period has focused on employer demand for minorities, how this demand is affected by a variety of factors (such as their skill needs, spatial locations, discrimination and affirmative action), and how it affects employment outcomes of minority workers. At various times, I have also considered the role of on-the-job training in affecting employee productivity and earnings. Finally, I have recently focused on employer demand for welfare recipients and ex-offenders, and how this demand constrains employment outcomes of these individuals. I have also recently analyzed trends in employment among young minority men and their determinants.

HOMMES, Cars H.

Born 1960, Vlagtwedde, The Netherlands.

Current Post Prof. Econ. Dynamics, Dept Quant. Econ., Univ. Amsterdam, Amsterdam, The Netherlands, 1999–.

Past Posts Asst Prof., Dept Econ., Univ. Groningen, 1991–92; Asst Prof., Dept Econ., Univ. Amsterdam, 1992–98.

Degrees MSc (Maths), PhD Univ. Groningen, 1985, 1991.

Editorial Duties Assoc. Ed., *Macroecon. Dynamics*, 1997–, *Computational Econ.*, 1998–, *J. Nonlinear Sc.*, 1999–, *JEDC*, 1999–2002, *Quant. Fin.*, 2000–; Ed., *JEDC*, 2002–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; D0

Microeconomics: General; C0 Mathematical and Quantitative Methods: General.

Publications Books: 1. *Chaotic Dynamics in Economic Models: Some Simple Case-Studies. Theses in Economics, Management and Organization* (Wolters-Noordhoff, 1991); 2. *Equilibrium, Markets and Dynamics. Essays in Honour of Claus Weddepohl* (ed. with R. Ramer, C. Withagen), (S-V, 2002).

Articles: 1. ‘Adaptive learning and roads to chaos: the case of the cobweb’, *Econ. Letters*, 36, June 1991; 2. ‘Dynamics of the cobweb model with adaptive expectations and non-linear supply and demand’, *JEBO*, 24, Aug. 1994; 3. ‘A reconsideration of Hicks’ nonlinear trade cycle model’, *Structural Change and Econ. Dynamics*, 6, Dec. 1995; 4. ‘Partial equilibrium analysis in a noisy chaotic market’ (with A. van Eekelen), *Econ. Letters*, 53, Dec. 1996; 5. ‘A rational route to randomness’ (with W.A. Brock), *Em*, 65, Sept. 1997; 6. ‘Chaotic consumption patterns in a simple 2-D addiction model’ (with G. Feichtinger, A. Milik), *ET*, 10, 1997; 7. ‘On the consistency of backward-looking expectations: the case of the cobweb’, *JEBO* 33, Jan. 1998; 8. ‘Heterogeneous beliefs and routes to chaos in a simple asset pricing model’ (with W.A. Brock), *J. Econ. Dynamics*, 22, Aug. 1998; 9. ‘Consistent expectations equilibria’ (with G. Sorger), *Macroecon. Dynamics*, 2, Sept. 1998; 10. ‘Heterogeneous beliefs and the non-linear cobweb model’ (with J.K. Goeree), *J. Econ. Dynamics*, 24, June 2000; 11. ‘Financial markets as complex adaptive evolutionary systems’, *Quant. Fin.*, 1, Jan. 2001.

Principal Contributions Most of my work concerns modeling of dynamic phenomena in economics and finance. Applications of nonlinear dynamics (e.g., local stability, bifurcations and chaos) play an important role throughout my work. I believe this is important, since the economy

is inherently nonlinear. Simple nonlinear systems buffeted with small noise may explain a significant part of observed stylized facts in economic and financial time-series data. Modeling of expectations and learning has been one of the main topics throughout my work. Whereas linearity and predictability are quite natural in a world where agents have rational expectations, non-linearity and limited predictability are key features of bounded rationality. Our dynamic models may be viewed as simple stylized models in behavioral economics and finance. Much of the work on bounded rationality is in fact an attempt to back off from full rationality. The philosophy underlying my work is that agents use simple behavioral strategies in a complex, unknown environment. These simple behavioral rules may not be perfect, but within a class of simple rules agents try to optimize and find a rule that performs reasonably well. In joint work with Buz Brock we have developed a notion of adaptive rational equilibrium dynamics, characterized by evolutionary selection of competing forecasting strategies. Fractions of agents using one particular strategy change over time, according to their performance (measured, for example, by realized profits or forecasting accuracy) in the recent past. In this work the 'wilderness of bounded rationality' is thus disciplined by evolutionary forces. In other recent work, jointly with Gerhard Sorger, we have developed the notion of consistent expectations equilibria, where agents try to learn an optimal, linear rule in an unknown nonlinear environment. Along these consistent expectations equilibria, although the forecasting rules are misspecified and not perfect, forecasting errors are unbiased and uncorrelated.

HONORÉ, Bo Emo n.e.

HOPENHAYN, Hugo A. n.e.

HOROWITZ, Joel Lawrence

Born 1941, Pasadena, CA, USA.

Current Post Charles E. and Emma H. Morrison Prof. Market Econ., Dept Econ., Northwestern Univ., Evanston, IL, USA, 2001–.

Past Posts Tech. Staff, Res. Analysis Corp., 1967–71; Sr OR Analyst, US Environmental Protection Ag., 1971–82; Professorial Lect., Dept OR, George Washington Univ., 1972–82; Prof. Geography, Prof. Econ., Univ. Iowa, 1982–92, 1982–2001.

Degrees BS (Physics) Stanford Univ., 1962; PhD (Physics) Cornell Univ., 1967.

Offices and Honours Richard Stone Prize in Apl. Em., 1994; Fell., Em Soc, 1996–; Alexander von Humboldt Award for Sr US Scientists, 1999–; Intl Fell., Centre Microdata Methods and Practice, Univ. Coll. London, 2002–.

Editorial Duties Assoc. Ed., *ET*, 1988–95, *Transportation Sc.*, 1988–95, *Em*, 1993–2000, *REStat*, 1996–2002; Co-Ed., *ET*, 1992–2000, *Em*, 2000–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C5 Econometric Modeling.

Publications *Books*: 1. *Air Quality Analysis for Urban Transportation Planning* (MIT Press, 1982); 2. *Semiparametric Methods in Econometrics* (S-V, 1998).

Articles: 1. 'A generalized moments specification test of the proportional hazards model' (with G.R. Neumann), *JASA*, 87, 1992; 2. 'A smoothed maximum score estimator for the binary response model', *Em*, 60, 1992; 3. 'The role of the list price in housing markets: theory and an econo-

metric model', *JAE*, 7, 1992; 4. 'Identification and robustness with contaminated and corrupted data' (with C.F. Manski), *Em*, 63, 1995; 5. 'On blocking rules for the bootstrap with dependent data' (with P. Hall, B.-Y. Jing), *Biometrika*, 82, 1995; 6. 'Semiparametric estimation of a regression model with an unknown transformation of the dependent variable', *Em*, 64, 1996; 7. 'Semiparametric estimation of regression models for panel data (with M. Markatou), *REStud*, 63, 1996; 8. 'Bootstrap critical values for tests based on generalized-method-of-moments estimators' (with P. Hall), *Em*, 64, 1996; 9. 'Direct semiparametric estimation of a single-index model with discrete covariates' (with W. Härdle), *JASA*, 91, 1996; 10. 'Censoring of outcomes and regressors due to survey nonresponse: identification and estimation using weights and imputations' (with C.F. Manski), *J Em*, 84, 1998; 11. 'Bootstrap methods for median regression models', *Em*, 66, 1998; 12. 'Semiparametric estimation of a proportional hazard model with unobserved heterogeneity', *Em*, 67, 1999; 13. 'Nonparametric analysis of randomized experiments with missing covariate and outcome data' (with C.F. Manski), *JASA*, 95, 2000; 14. 'Nonparametric estimation of a generalized additive model with an unknown link function', *Em*, 69, 2001; 15. 'An adaptive, rate-optimal test of a parametric mean-regression model against a nonparametric alternative' (with V.G. Spokoiny), *Em*, 69, 2001; 16. 'The bootstrap in econometrics', in J.J. Heckman, E.E. Leamer (eds), *Handbook of Econometrics*, Vol. 5 (Elsevier Sc., 2001); 17. 'Should the DEA's STRIDE data be used for economic analyses of markets for illegal drugs?', *JASA*, 96, 2001; 18. 'An adaptive, rate-optimal test of linearity for median regression models (with V.G. Spokoiny), *JASA*, 97, 2002.

Principal Contributions Most of my

recent work has been in econometrics with emphasis on three topics: semi- and non-parametric estimation, bootstrap methods, and inference with incomplete or contaminated data. My work in semi- and non-parametric estimation has been directed toward relaxing restrictive assumptions that are often made in econometric modeling for reasons of mathematical convenience. These assumptions are frequently inconsistent with available data and can lead an investigator to draw highly misleading conclusions. I have developed ways to estimate and test binary-response models, transformation and proportional hazard models, models for panel data, and additive models under weak assumptions. In addition, V.G. Spokoiny and I have developed specification tests that have optimal power in a certain sense under weak assumptions. My research on the bootstrap is aimed at improving the large-sample approximations that are regularly used to carry out inference in applied econometrics. These approximations are often very inaccurate with the sample sizes that are available. The bootstrap can often achieve a much more accurate approximation. My research has shown how to use the bootstrap in a variety of inferential situations for both cross-sectional and time-series data. Incomplete or contaminated data arise in many applications. An example is non-response to one or more questions on a survey. Incomplete or contaminated data typically make the population quantities of interest non-identified unless one makes untestable assumptions about the process through which data become missing or contaminated. However, C.F. Manski and I have shown that informative bounds on population quantities can be identified without making such untestable assumptions. We have also shown how to estimate the bounds and have demonstrated their usefulness in applications.

HOSHI, Takeo

Born 1960, Nanyo, Yamagata, Japan.

Current Post Pacific Econ. Co-op. Prof. Intl Econ. Relations, Grad. Sch. Intl Relations and Pacific Stud. (IR/PS), Univ. California, San Diego (UCSD), CA, USA, 2002–; Prof., IR/PS, UCSD, 2000–.

Past Posts Asst Prof., Assoc. Prof., IR/PS, UCSD, 1988–94, 1994–2000.

Degrees BLA (Social Sc.) Univ. Tokyo, 1983; PhD MIT, 1988.

Honours Fulbright Scholarship, 1984–88; Sloan Scholarship for Thesis Writers, 1987–88; 45th Nikkei Prize for Excellent Books in Econ. Sc., 2002.

Editorial Duties Assoc. Ed., *J. Japanese Intl Econ.*, 1993–98, *Intl Rev. Fin.*, 1998–, *J. Fin. Services Res.*, 2000–; Ed.-in-Chief, *J. Japanese Intl Econ.*, 1999–.

Principal Fields of Interest G0 Financial Economics: General; G3 Corporate Finance and Governance; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Books*: 1. *Crisis and Change in the Japanese Financial System* (ed. with H. Patrick), (Kluwer Acad., 2000); 2. *Corporate Financing and Governance in Japan: The Road to the Future* (with A. Kashyap), (MIT Press, 2001).

Articles: 1. ‘Stock market rationality and price volatility: tests using Japanese data’, *J. Japanese Intl Econ.*, 1, Dec. 1987; 2. ‘The role of banks in reducing the costs of financial distress in Japan’ (with A. Kashyap, D. Scharfstein), *J Fin E*, 27, Sept. 1990; 3. ‘Evidence on q and investment for Japanese firms’ (with A. Kashyap), *J. Japanese Intl Econ.*, 4, Dec. 1990; 4. ‘Corporate structure, liquidity, and investment: evidence from Japanese industrial groups’ (with A. Kashyap, D. Scharfstein), *QJE*, 106, Feb. 1991; 5. ‘Heterogeneous beliefs, wealth accumulation, and asset price dynamics’ (with A. Cabrales), *JEDC*, 20, 1996; 6. ‘The Japa-

nese banking crisis: where did it come from and how will it end?’ (with A. Kashyap), *NBER Macroecon. Annual*, 1999; 7. ‘The convoy system for insolvent banks: how it originally worked and why it failed in the 1990s’, *Japan and World Econ.*, 14, April 2002.

Principal Contributions My research has focussed on the analysis of Japanese working, especially its financial system. The collaborative work with Anil Kashyap and David Scharfstein (which yielded articles 2, 3, 4 and chapters in some books) found the role of relationship banking in mitigating some agency problems in financial transactions. More recently, Anil Kashyap and I examined the source of the Japanese banking problem in the 1990s and found it in the slow and incomplete financial deregulation. These articles and other papers written for books formed the basis for my book with Anil Kashyap. The book analyzes the development of the Japanese financial system in the past 150 years and discusses the likely future path. We found that the Japanese financial system started as rather a market-oriented, security-based system with little government intervention but it started to go through a major transformation during the interwar period. The post-war financial system, which was bank-oriented and characterized by heavy government intervention, is now again experiencing a major change. This research makes contributions to the economic research on the comparative financial system and more generally the evolution of economic institutions.

HOWARTH, Richard B.

Born 1962, Portsmouth, NH, USA.

Current Post Assoc. Prof., Dartmouth Coll., Hanover, NH, USA, 1998–.

Past Posts Staff Scientist, Lawrence

Berkeley Natl Lab., 1990–93; Asst Prof., Assoc. Prof., Univ. California, Santa Cruz, 1993–97, 1997–98.

Degrees AB (Biology and Soc.) Cornell Univ., 1985; MS (Land Resources) Univ. Wisconsin-Madison, 1987; PhD (Energy and Resources) Univ. California, Berkeley, 1990.

Offices and Honours Bd Dirs, US Soc. for Ecological Econ., 2001–03.

Editorial Duties Ed. Bds, *Contemporary Econ. Pol.*, 1993–, *Environment and Devlp Econ.*, 1994–, *Intl J. Sustainable Devlp.*, 1998–, *Ecological Econ.*, 1998–; Assoc. Ed., *Intl Environmental Agreements*, 1999–; Co-Ed., *Advances in Econ. Environmental Resources*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; Q3 Nonrenewable Resources and Conservation; Q4 Energy.

Publications Books: 1. *The Long-term Economics of Climate Change: Beyond a Doubling of Greenhouse Gas Concentrations* (with D.C. Hall), (Elsevier, 2001); 2. *Status, Growth, and the Environment: Goods as Symbols in Applied Welfare Economics* (with K.A. Brekke), (Edward Elgar, 2002).

Articles: 1. ‘Intergenerational resource rights, efficiency, and social optimality’ (with R.B. Norgaard), *Land Econ.*, 66, 1990; 2. ‘Intergenerational competitive equilibria under technological uncertainty and an exhaustible resource constraint’, *JEEM*, 21, 1991; 3. ‘Manufacturing energy use in eight OECD countries: decomposing the impacts of changes in output, industry structure, and energy intensity’ (with L. Schipper, P.A. Duerr, S. Strøm), *Energy Econ.*, 13, 1991; 4. ‘Environmental valuation under sustainable development’ (with R.B. Norgaard), *AER Papers and Proceedings*, 80, 1992; 5. ‘Intergenerational justice and the chain of obligation’, *Environmental Values*, 1,

1992; 6. ‘Intergenerational transfers and the social discount rate’ (with R.B. Norgaard), *Environmental and Resource Econ.*, 3, 1993; 7. ‘Market barriers to energy efficiency’ (with B. Andersson), *Energy Econ.*, 15, 1993; 8. ‘Energy use and CO₂ emissions reduction: integrating pricing and regulatory policies’ (with M.A. Winslow), *Energy*, 19, 1994; 9. ‘Normal markets, market imperfections, and energy efficiency’ (with A.H. Sanstad), *Energy Pol.*, 22, 1994; 10. ‘Sustainability under uncertainty: a deontological approach’, *Land Econ.*, 71, 1995; 11. ‘Climate change and overlapping generations’, *Contemporary Econ. Pol.*, 14, 1996; 12. ‘Status effects and environmental externalities’, *Ecological Econ.*, 16, 1996; 13. ‘Energy efficiency and economic growth’, *Contemporary Econ. Pol.*, 15, 1997; 14. ‘Sustainability as opportunity’, *Land Econ.*, 73, 1997; 15. ‘An overlapping generations model of climate-economy interactions’, *Scand JE*, 100, 1998; 16. ‘The economics of energy efficiency: insights from voluntary participation programs’ (with B.M. Haddad, B. Paton), *Energy Pol.*, 28, 2000; 17. ‘The social contingency of wants’ (with K.A. Brekke), *Land Econ.*, 76, 2000; 18. ‘Accounting for the value of ecosystem services’ (with S. Farber), *Ecological Econ.*, 41, 2002.

Principal Contributions My research program has emphasized the theoretical aspects of: (1) discounting, sustainability, and intergenerational fairness; and (2) the role of social status in motivating consumer behavior and the implications for applied welfare economics. My applied research has focussed on the issues of climate change, energy efficiency, and the conservation of ecological resources.

HOWITT, Peter Wilkinson

Born 1946, Toronto, Ontario, Canada.

Current Post Lyn Crost Prof. Social Sc., Brown Univ., Providence, RI, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Western Ontario, 1972–96; Prof., Ohio State Univ., 1996–2000; Vis. Prof., Hebrew Univ., Jerusalem, 1980, MIT, 1987–88, Univ. Toulouse, 1994–96.

Degrees BA McGill Univ., 1968; MA Univ. Western Ontario, 1969; PhD Northwestern Univ., 1973.

Offices and Honours Fell., Royal Soc. Canada, 1992–; Pres., CEA, 1993–94; Fell., Em Soc, 1994–; Assoc., Canadian Inst. for Adv. Res., 1994–2002, Res. Assoc., NBER, 2001–.

Editorial Duties Assoc. Ed., *CJ*, 1978–81, *Em*, 1995–98, *JEG*, 1996–, *Macroecon. Dynamics*, 1997–2001; Ed. Bds, *AER*, 1980–83, *JEL*, 1992–, *J. Macroecon.*, 2000–; Ed., *JMCB* 1997–2000.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Monetary Policy in Transition: A Study of Bank of Canada Policy, 1982–85* (C.D. Howe Inst., 1986); 2. *The Keynesian Recovery and Other Essays* (Philip Allan, Univ. Michigan, 1990); 3. *Endogenous Growth Theory* (with P. Aghion), (MIT Press, 1998).

Articles: 1. ‘Stability and the quantity theory’, *JPE*, 82, Jan.–Feb. 1974; 2. ‘The transactions theory of the demand for money: a reconsideration’ (with R. Clower), *JPE*, 86, June 1978; 3. ‘The limits to stability of a full-employment equilibrium’, *Scand JE*, 80, Sept. 1978; 4. ‘Activist monetary policy under rational expectations’, *JPE*, 89, April 1981; 5. ‘Transaction costs in the theory of unemployment’, *AER*, 75, March 1985; 6. ‘Business cycles with costly research and recruiting’, *QJE*, 103, Feb. 1988; 7. ‘A

model of growth through creative destruction’ (with P. Aghion), *Em*, 60, March 1992; 8. ‘Animal spirits’ (with R.P. McAfee), *AER*, 82, June 1992; 9. ‘Interest-rate control and nonconvergence to rational expectations’, *JPE*, 100, Aug. 1992; 10. ‘Growth and unemployment’ (with P. Aghion), *REStud*, 61, July 1994; 11. ‘Adjusting to technological change’, *CJ*, 27, Nov. 1994; 12. ‘Taking markets seriously: groundwork for a non-Walrasian macroeconomics’ (with R. Clower), in D. Colander (ed.), *Beyond Micro Foundations: Post Walrasian Macroeconomics* (CUP, 1996); 13. ‘The emergence of economic organization’ (with R. Clower), *JEBO*, 41, Jan. 2000; 14. ‘Endogenous growth and cross-country income differences’, *AER*, 90, Sept. 2000; 15. ‘Competition, imitation and growth with step-by-step innovation’ (with P. Aghion, C. Harris, J. Vickers), *REStud*, 68, July 2001.

Principal Contributions My early work was in the field of disequilibrium adjustment. I wanted to understand how a decentralized market economy could normally find itself in something resembling a coordinated state. My idea was to introduce into general equilibrium theory the firms that create markets and coordinate transactions in actual economies. Market-making firms keep the system running when people’s plans don’t mesh, and it is up to them to restore equilibrium when the system is shocked. They were missing from standard general equilibrium theory, in which coordination was assumed to take place costlessly, through some unspecified process. Later my attention turned to policy issues. My experience studying Canadian monetary policy convinced me of the importance of Wicksell’s cumulative process, according to which a central bank’s attempt to stabilize interest rates could lead to accelerating inflation. Wondering why this Wicksellian idea had disappeared from the

literature, I realized it could not be analyzed using the rational-expectations-equilibrium approach that dominated monetary theory. That is, it concerns the efficacy of disequilibrium coordination mechanisms, which the equilibrium approach cannot analyze by virtue of its assumption that the economy is never out of equilibrium. I discovered that under very general assumptions the attempt by a central bank to stabilize interest rates introduces positive feedback loops that prevent these mechanisms from guiding the economy to an equilibrium. In 1987 I met Philippe Aghion, and with him started an entirely new research program, namely that of rebuilding growth theory on the basis of Schumpeter's concept of creative destruction. This work is still ongoing, and has reinforced my belief in the central coordinating role of firms; Schumpeterian entrepreneurs create and operate the markets through which economies are continually adjusting to technological change. I am now working on transforming my ideas of market-making firms into a general theory of macroeconomic systems.

HSIEH, David A. n.e.

HUANG, Roger D.

Born 1955, Rangoon, Burma.

Current Posts Kenneth R. Meyer Prof. Global Investment Mgmt, Chairperson Dept Fin. and Bus. Econ., Mendoza Coll. Bus., Univ. Notre Dame, Notre Dame, IN, USA, 2000–, 2000–.

Past Posts Asst Prof. Fin., Purdue Univ., 1980–82; Asst Prof. Fin., Assoc. Prof. Fin., Univ. Florida, 1982–85, 1985–88; Assoc. Prof. Fin., Prof. Fin., Brownlee O. Currey Prof. Fin., Vanderbilt Univ., 1988–92, 1992–97, 1998–2000; Vis. Prof.

Fin., MIT, 1993–94; Assoc. Dir., Fin. Markets Res. Center, Vanderbilt Univ., 1996–2000.

Degrees BSIM (Ind. Mgmt) Purdue Univ., 1975; MA (Fin.), PhD (Fin.) Univ. Pennsylvania, 1978, 1980.

Editorial Duties Assoc. Ed., *J. Intl Fin. Markets Insts and Money*, 1990–, *Pacific-Basin Fin. J.*, 1997–.

Principal Fields of Interest G1 General Financial Markets; F3 International Finance; G2 Financial Institutions and Services.

Publications Articles: 1. 'The monetary approach to exchange rate in an efficient foreign exchange market: tests based on volatility', *J Fin*, 36, March 1981; 2. 'Some alternative tests of forward exchange rates as predictors of future spot rates', *JIMF*, 3, Aug. 1984; 3. 'Tests of variance bounds implied by Cagan's hyperinflation model', *IER*, 25, Oct. 1984; 4. 'Common stock returns and presidential elections', *Fin. Analysts J.*, 41, March/April 1985; 5. 'Does monetization of Federal debt matter? Evidence from the financial markets', *JMCB*, 18, Aug. 1986; 6. 'Expectations of exchange rates and differential inflation rates: further evidence on purchasing power parity in efficient markets', *J Fin*, 42, March 1987; 7. 'An analysis of intertemporal pricing for forward foreign exchange contracts', *J Fin*, 44, March 1989; 8. 'Risk and parity in purchasing power', *JMCB*, 22, Aug. 1990; 9. 'Time-varying return and risk in the corporate bond market' (with E. Chang), *JFQA*, 25, Sept. 1990; 10. 'Volatility in the foreign currency futures market' (with C.R. Harvey), *Rev. Fin. Stud.*, 4, 1991; 11. 'Market microstructure and stock return predictions' (with H.R. Stoll), *Rev. Fin. Stud.*, 7, Spring 1994; 12. 'Market structures and liquidity: a transactions data study of exchange listings' (with W.G. Christie), *J. Fin. Intermediation*, 3, June 1994; 13. 'Following the Pied Piper: do

individual returns herd around the market?' (with W.G. Christie), *Fin. Analysts J.*, 51, July/Aug. 1995; 14. 'Dealer versus auction markets: a paired comparison of execution costs on NASDAQ and the NYSE' (with H.R. Stoll), *J Fin E*, 41, July 1996; 15. 'The components of the bid-ask spread: a general approach' (with H.R. Stoll), *Rev. Fin. Stud.*, 10, 1997; 16. 'FX spreads and dealer competition across the 24 hour trading day' (with R.W. Masulis), *Rev. Fin. Stud.*, 12, 1999; 17. 'Tick size, bid-ask spreads and market structure' (with H.R. Stoll), *JFQA*, 36, Dec. 2001; 18. 'The quality of ECN and NASDAQ market maker quotes', *J Fin*, 57, June 2002; 19. 'Information-based trading in treasury note interdealer broker market' (with J. Cai, X. Wang), *J. Fin. Intermediation*, 11, July 2002; 20. 'Information-based trading in dealer and auction markets: an analysis of exchange listings' (with H. Heidle), *JFQA*, 37, Sept. 2002.

Principal Contributions n.e.

HUBBARD, Robert Glenn

Born 1958, Orlando, FL, USA.

Current Posts Russell L. Carson Prof. Econ. and Fin., Columbia Univ., NY, USA, 1988-; Res. Assoc., NBER, USA, 1983-, AEI, 1994-.

Past Posts Prof. Econ. and Urban Affairs, Northwestern Univ., 1983-88; Dep. Asst Secretary, US Treasury Dept, 1991-92; John M. Olin Vis. Prof. Econ., Univ. Chicago, 1994; Chairman, US President's Council Econ. Advisers, Washington, DC, USA, 2001-03.

Degrees BA, BS Univ. Central Florida, 1979; AM, PhD Harvard Univ., 1981, 1983.

Offices and Honours Natl Soc. Professional Engineers Award, 1979; NSF Fellowship, Harvard Univ., 1979-83; Al-

fred P. Sloan Foundation Fellowship, Harvard Univ., 1982-83; John M. Olin Fell., NBER, 1987-88.

Editorial Duties Ed. Bds, *J Ind E*, 1991-96, *Econ. Pol. Rev.*, FRB, NY, 1993-.

Principal Fields of Interest G3 Corporate Finance and Governance; H3 Fiscal Policies and Behavior of Economic Agents; L2 Firm Objectives, Organization, and Behavior.

Publications Books: 1. *Asymmetric Information, Corporate Finance, and Investment* (UCP, 1990); 2. *Financial Markets and Financial Crises* (UCP, 1991); 3. *Studies in International Taxation* (with A. Giovanni, J.B. Slemrod), (UCP, 1993); 4. *Money, the Financial System, and the Economy* (Addison-Wesley, 1994, 4th edn 2001); 5. *Taxing Multinational Corporations* (with M.S. Feldstein, J.R. Hines), (UCP, 1995); 6. *Effects of Taxation on Multinational Corporations* (with M.S. Feldstein, J.R. Hines), (UCP, 1995).

Articles: 1. 'Personal taxation, pension wealth, and portfolio composition', *REStat*, 67, Feb. 1985; 2. 'Supply shocks and price adjustment in the world oil markets', *QJE*, 101, Feb. 1986; 3. 'Liquidity constraints, fiscal policy, and consumption' (with K. Judd), *BPEA*, 1, 1986; 4. 'Oligopoly supergames: some empirical evidence on prices and margins' (with I. Domowitz, B.C. Petersen), *J Ind E*, 36, June 1987; 5. 'Social security and individual welfare: precautionary saving, borrowing constraints, and the payroll tax' (with K. Judd), *AER*, 77, Sept. 1987; 6. 'Financing constraints and corporate investment' (with S.M. Fazzari, B.C. Petersen), *BPEA*, 1, 1988; 7. 'Price flexibility, credit availability, and economic fluctuations: evidence from the US, 1894-1909' (with C. Calomiris), *QJE*, 104, Aug. 1989; 8. 'Internal net worth and the investment process: an application to US agriculture' (with A.K. Kashyap), *JPE*,

100, June 1992; 9. 'A reconsideration of investment behavior using tax reforms as natural experiments' (with J.G. Cummins, K.A. Hassett), *BPEA*, 2, 1994; 10. 'Precautionary saving and social insurance' (with J. Skinner, S. Zeldes), *JPE*, 105, April 1995; 11. 'Are dividend taxes and imputation credits capitalized in share values?' (with T. Harris, D. Kemsley), *J Pub E*, 79, March 2001; 12. 'The effect of the Tax Reform Act of 1986 on the location of assets in financial services firms' (with R. Altshuler), *J Pub E*, 80, 2002; 13. 'Are there bank effects in borrowers' costs of funds?' (with K. Kuttner, D. Palia), *J Bus*, 75, 2002.

Principal Contributions My research has been concentrated in eight programs of study: (1) investigating determinants of product-market contracting in the presence of asymmetric information; (2) investigating determinants of financial marketing contracting in the presence of asymmetric information; (3) analyzing determinants of the level and cyclical variability of price-cost markups; (4) deriving and testing models of the effects of tax policy on business investment decisions; (5) deriving and testing models of the effects of tax policy on household saving decisions in the presence of borrowing constraints; (6) evaluating the importance of uninsured idiosyncratic risk and capital-market imperfections in explaining the level and distribution of household saving; (7) deriving and testing models of the effect of capital-market friction on business investment and financing decisions; and (8) analyzing consequences for the monetary transmission mechanisms of informational imperfections in financial markets.

HULL, John Campbell

Born 1946, Ealing, England.

Current Post Prof. Fin., Univ. Toronto, Toronto, Canada, 1988–.

Past Posts Corp. Planning Officer, British Shoe Corp., 1969–71; Sr Res. Officer, London Bus. Sch., 1971–72; Sr Lect., Cranfield Univ., 1973–81; Assoc. Prof., York Univ., 1981–88.

Degrees BA (Maths) Cambridge Univ., 1968; MA (OR) Lancaster Univ., 1969; PhD Cranfield Univ., 1976.

Offices and Honours Nikko-LOR Award for res. on interest rate derivatives, 1989; Roger Martin and Nancy Lang Teaching Award, 1999; Fin. Engineer of Year, Intl Assoc. Fin. Engineers, 1999; Maple Fin. Group Prof. Derivatives and Risk Mgmt, Univ. Toronto, 2000; Chairman, Moody's Acad. Advisory Comm., 2001; Northrop Frye Award for linking teaching and res., Univ. Toronto, 2002.

Editorial Duties Assoc. Ed., *JFQA*, 1991–99, *J. Derivatives*, 1993–, *Apl. Math. Fin.*, 1993–, *Rev. Derivatives Res.*, 1993–, *J. Fin. Eng.*, 1994–98, *J. Derivatives Use, Trading, and Regulation*, 1994–, *Canadian J. Admin. Stud.*, 1996–, *J. Risk*, 1998–, *J. Bond Trading and Mgmt*, 2001–.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services; G3 Corporate Finance and Governance.

Publications *Books*: 1. *Options, Futures, and Other Derivatives* (Prentice-Hall, 1989); 2. *Fundamentals of Futures and Options Markets* (Prentice-Hall, 1991).

Articles: 1. 'The pricing of options on assets with stochastic volatilities' (with A. White), *J Fin*, 42, June 1987; 2. 'Hedging the risks from writing foreign currency options' (with A. White), *JIMF*, 6, June 1987; 3. 'The use of the control variate technique in option pricing' (with A. White), *JFQA*, 23, Sept. 1988; 4. 'As-

sessing credit risk in a financial institution's off-balance sheet financing', *JFQA*, 24, Dec. 1989; 5. 'Valuing derivative securities using the explicit finite difference method' (with A. White), *JFQA*, 24, March 1990; 6. 'Pricing interest rate derivative securities' (with A. White), *Rev. Fin. Stud.*, 3, 1990; 7. 'One-factor interest rate models and the valuation of interest rate derivative securities' (with A. White), *JFQA*, 28, June 1993; 8. 'Efficient procedures for valuing European and American path dependent options' (with A. White), *J. Derivatives*, 1, Fall 1993; 9. 'Numerical procedures for implementing term structure models I' (with A. White), *J. Derivatives*, 2, Fall 1994; 10. 'Numerical procedures for implementing term structure models II' (with A. White), *J. Derivatives*, 2, Winter 1994; 11. 'The impact of default risk on the prices of options and other derivative securities' (with A. White), *J. Bank Fin.*, 19, 1995; 12. 'Using Hull-White interest rate trees' (with A. White), *J. Derivatives*, 3, Spring 1996; 13. 'Value at risk when daily changes in market variables are not normally distributed' (with A. White), *J. Derivatives*, 5, Spring 1998; 14. 'Incorporating volatility updating into the historical simulation method for VAR' (with A. White), *J. Risk*, 1, Fall 1998; 15. 'Forward rate volatilities, swap rate volatilities, and the implementation of the LIBOR market model' (with A. White), *J. Fixed Income*, 10, Sept. 2000; 16. 'Valuing credit default swaps I: no counterparty default risk' (with A. White), *J. Derivatives*, 8, Fall 2000; 17. 'Valuing credit default swaps II: modeling default correlations' (with A. White), *J. Derivatives*, 8, Spring 2001; 18. 'A methodology for assessing model risk and its application to the implied volatility function model' (with W. Suo), *JFQA*, 37, June 2002.

Principal Contributions My books *Options, Futures, and Other Derivatives*

(now in its fifth edition) and *Fundamentals of Futures and Options Markets* (now in its fourth edition) have been translated into many languages and are widely used. In addition to being very popular for graduate and undergraduate courses, they are standard reference texts for practitioners throughout the world. Most of my research has been joint with my colleague, Alan White. My early research reached conclusions on the impact of stochastic volatility on both the pricing of options and the effectiveness of delta hedging. I then moved on to consider the pricing of interest rate options. This led to what has become known as the Hull-White one-factor model and the development of numerical procedures for implementing a wide range of one-factor no-arbitrage models. I have studied the implementation of the LIBOR market model and the relationship between the pricing of interest rate caps and swap options. I have also developed procedures for extending the binomial tree methodology so that it can handle path-dependent options. Recently my research has focused on market risk, credit risk, and model risk. In the market risk area I have written two articles dealing with the calculation of value at risk. They show how the historical simulation approach can be extended to incorporate volatility updating and how the model building approach can be extended to incorporate non-normal probability distributions for daily changes in market variables. My credit risk research has been concerned with the valuation of credit default swaps, both plain vanilla deals and those that are dependent on the default correlations between two or more companies. Finally my model risk research proposes a methodology for calculating potential errors in a model as it is actually used by traders.

HUMPHREY, David B. n.e.

HUNTER, William C. n.e.

HURD, Michael D. n.e.

HUTH, Paul K. n.e.

HYLLEBERG, Svend

Born 1944, Hørup, Denmark.

Current Post Prof., Dept Econ., Sch. Econ. and Mgmt, Univ. Aarhus, Aarhus C, Denmark, 1986.

Past Posts Asst Prof., Assoc. Prof., Dept Econ., Sch. Econ. and Mgmt, Univ. Aarhus, 1972–75, 1975–86; Vis. Scholar, Dept Econ., MIT, 1973–74; Vis. Prof., Dept Econ., Univ. California, San Diego, 1980, 1986–87, 1992, Dept Econ., Cornell Univ., 1987, Res. Sch. Social Sc., ANU, 1993.

Degrees Cand Oecon, Dr Oecon, Univ. Aarhus, 1971, 1984.

Offices and Honours Chairman, Econ. Study Council, Univ. Aarhus, 1979–80; Dean, Econ. Faculty, Univ. Aarhus, 1984–86; Chairman of Bd, Jyske Invest, 1989–; Mem., Danish Social Sc. Res. Council, 1990–96; Chairman, Konkurrencerådet (Danish Competition Council), 1992–; Chairman, Econometric Programme Comm., Em Soc Europ. Meeting in Uppsala, Sweden, 1993; Dir., Centre for Non-Linear Modelling in Econ., Dept Econ., Univ. Aarhus, 1994–99; Chairman, Dept Econ., Univ. Aarhus, 1995–2001; Res. Comm., Industriens Realkreditfond, 1998–; Head, Sch. Econ. and Mgmt, Univ. Aarhus, 1998–; Dir., Centre for Dynamic Modelling in Econ., Dept Econ., Univ. Aarhus, 1999–2001.

Editorial Duties Ed. Bd, *JAE*, 1991–; Assoc. Ed., *Econometric Rev.*, 1994–,

Scand JE, 1995–, *Macroecon. Dynamics*, 1997–.

Principal Field of Interest C1 Econometric and Statistical Methods: General.

Publications *Book*: 1. *Seasonality in Regression* (Acad. Press, 1986).

Articles: 1. 'A comparative study of finite sample properties of band spectrum regression estimators', *J Em*, 5, 1977; 2. 'Seasonality in dynamic regression models: a comparative study of finite sample properties of various regression estimators including band spectrum regression' (with H. Bunzel), *J Em*, 19, 1982; 3. 'Cointegration and error correction models' (with G. Mizon), *EJ*, 99, 1989; 4. 'A note on the distribution of the least squares estimates of a random walk with drift' (with G. Mizon), *Econ. Letters*, 29, 1989; 5. 'Seasonal integration and cointegration' (with R.F. Engle, C.W.J. Granger, S. Yoo), *J Em*, 44, 1992; 6. 'Seasonal cointegration: the Japanese consumption function' (with R.F. Engle, C.W.J. Granger, H. Lee), *J Em*, 55, 1993; 7. 'Seasonality in macroeconomic time series' (C. Jørgensen, N.K. Sørensen), *Empirical Econ.*, 18, 1993; 8. 'The economics of seasonal cycles: a comment', in C. Sims (ed.), *Advances in Econometrics*, Sixth World Congress, Vol. 1 (CUP, 1994); 9. 'Modelling seasonal variation', in C. Hargreaves (ed.), *Nonstationary Time Series Analyses and Cointegration* (OUP, 1994); 10. 'Tests for seasonal unit roots: general to specific or specific to general', *J Em*, 69, 1995; 11. 'A note on the distribution of the least squares estimator of a random walk with drift: some analytical evidence' (with N. Haldrup), *Econ. Letters*, 48, 1995; 12. 'Spurious deterministic seasonality' (with P.H. Franses, H.S. Lee), *Econ. Letters*, 46, 1995; 13. 'Common seasonal features: global unemployment' (with R.F. Engle), *OBES*, 58, 1996; 14. 'Seasonal integration and the evolving seasonal model' (with A.R. Pagan), *Intl J. Forecasting*, 13,

1997; 15. 'Near-integration, and deterministic trends' (with N. Haldrup), *Stat. Papers*, 38, 1997; 16. 'Wage adjustment and employment persistency' (with T.M. Andersen), *Macroecon. Dynamics*, 2, 1998; 17. 'Competition policy with a Coasian prior?' (with P.B. Overgaard), in E. Hope (ed.), *Competition Policy Analy-*

sis (Routledge, 2000); 18. 'Sources of persistency in employment adjustment – Denmark 1974–1993' (with T.M. Andersen), *OEP*, 52, 2000.

Principal Contributions My principal contribution is the work on time-series econometrics, in particular modelling of seasonality.

I

IANNACCONI, Laurence R. n.e.

ICHNIOWSKI, Casey n.e.

ICKES, Barry William

Born 1955, Los Angeles, CA, USA.

Current Post Prof. Econ., Pennsylvania State Univ., Univ. Park, PA, USA, 1983–.

Past Posts Vis. Asst Prof., Univ. Michigan, 1991; Vis. Assoc. Prof., Univ. Pittsburgh, 1992; Vis. Scholar, IMF, 1992, RAND, 1993; Vis. Res., OECD, 1994; Res. Dir., New Econ. Sch., 1993–; Vis. Prof., Hebrew Univ., 1998.

Degrees BA (Econ. and Polit. Sc.), MA UCLA, 1978, 1978; PhD Univ. California, Berkeley, 1984.

Offices and Honours Ed A. Hewett Book Prize Winner, 1994; Chair, Natl Council for Eurasian and East Europ. Res., 1998–99.

Editorial Duties Amer. Ed., *Econ. Systems*, 1999–.

Principal Fields of Interest P2 Socialist Systems and Transitional Economies; F4 Macroeconomic Aspects of International Trade and Finance; O1 Economic Development.

Publications *Book*: 1. *Russia's Virtual Economy* (with C. Gaddy), (Brookings, forthcoming 2002).

Articles: 1. 'Cyclical fluctuations in centrally planned economies', *Soviet Stud.*, 38, Jan. 1986; 2. 'On the economics of Taut plans', *J Comp E*, 10, Dec. 1986; 3. 'Job transfers and incentives in complex economic organizations: thwarting the ratchet effect' (with L. Samuelson), *RandJE*, Summer 1987; 4. 'Do socialist countries share a common business cy-

cle?', *REStat*, 72, Aug. 1990; 5. 'A macroeconomic model for centrally-planned economies', *J. Macroecon.*, 12, Winter 1990; 6. 'To innovate or not to innovate: incentives for innovation in hierarchies' (with J. Dearden, L. Samuelson), *AER*, 80, Dec. 1990; 7. 'Inflation stabilization in reforming socialist economies: the myth of the monetary overhang' (with J.H. Cochrane), *Comparative Econ. Stud.*, 33, 2, Summer, 1991; 8. 'Tax implementation issues in the transition from a planned economy' (with J. Slemrod), *Public Fin.*, 47, 1992; 9. 'The interenterprise arrears crisis in Russia' (with R. Ryterman), *Post-Soviet Affairs* (formerly *Soviet Econ.*), 8, Oct.–Dec. 1992; 10. 'International business cycles' (with S. Ahmed, P. Wang, S. Yoo), *AER*, 83, June 1993; 11. 'Roadblock to economic reform: interenterprise debt and the transition to markets' (with R. Ryterman), *Post-Soviet Affairs* (formerly *Soviet Econ.*), 9, July–Sept. 1993; 12. 'Departures from the ruble zone: the implications of adopting independent currencies' (with L. Goldberg, R. Ryterman), *World Econ.*, 17, May 1994; 13. 'End of the tunnel? The effects of financial stabilization in Russia' (with P. Murrell, R. Ryterman), *Post-Soviet Affairs* (formerly *Soviet Econ.*), 13, April–June 1997; 14. 'Russia's virtual economy' (with C. Gaddy), *Foreign Affairs*, 77, Sept.–Oct. 1998; 15. 'A simple four-sector model of Russia's virtual economy' (with C. Gaddy), *Post-Soviet Geography and Econ.*, 40, March 1999; 16. 'A model of Russia's 'virtual economy' (with R. Ericson), *Rev. Econ. Design*, 6, Sept. 2001.

Principal Contributions My early research was on the problems of Soviet-type economies. Some of this work focused on problems of economic fluctuations under central planning. I also worked on incentive problems in planned economies. I then turned to the economic analysis of transition. This work has focused on enterprise

behaviour and financial development in transition economies. My recent work has investigated the role of initial conditions in transition, with primary emphasis on Russia. My work with Gaddy and Ericson on Russia's virtual economy studies the barriers to economic restructuring, and the mechanisms used to avoid this. I have also worked on international business cycles.

IHLANFELDT, Keith

Born 1950, Belleville, IL, USA.

Current Posts Prof. Econ. and DeVoe Moore Eminent Scholar, Florida State Univ., Tallahassee, FL, USA, 2000–.

Past Posts Asst Prof. Econ., Univ. Dayton, 1977–80; Asst Prof. Econ., Old Dominion Univ., 1980–81; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Georgia State Univ., 1981–85, 1985–90, 1990–2000.

Degrees BA Illinois Wesleyan Univ., 1972; MA, PhD Washington Univ., 1974, 1978.

Editorial Duties Ed. Bd, *Rev. Regional Stud.*, *J. Econ. Geography*, *J Reg S*, *RSUE*, current; Ed. Bd, *Urban Affairs Rev.*, 1998–2000, *Econ. Devlp. Q.*, 1998–2001.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; H7 State and Local Government; Intergovernmental Relations; I3 Welfare and Poverty.

Publications *Book*: 1. *Job Accessibility and the Employment and School Enrollment of Teenagers* (W.E. Upjohn Inst. Employment Res., 1992).

Articles: 1. 'Racial differences in home purchase: the evidence from newly-formed households' (with J. Silberman, G. Yocham), *EI*, 20, 1982; 2. 'Systematic assessment error and intrajurisdictional property tax capitalization' (with J. Jackson), *SEJ*, 49, 2, Oct. 1982; 3. 'Property taxation and the demand for housing', *JUE*,

16, March 1984; 4. 'Residential mobility and neighborhood quality' (with T. Boehm), *J Reg S*, 26, May 1986; 5. 'Intra-metropolitan variation in earnings and labor market discrimination: an econometric analysis of the Atlanta labor market', *SEJ*, 55, April 1989; 6. 'The impact of job decentralization on the economic welfare of central city blacks' (with D. Sjoquist), *JUE*, 26, July 1989; 7. 'Job accessibility and racial difference in youth employment rates' (with D. Sjoquist), *AER*, 80, 1, March 1990; 8. 'The intra-metropolitan location of new office firms' (with M. Raper), *Land Econ.*, 66, May 1990; 9. 'The role of space in determining the occupations of black and white workers' (with D. Sjoquist), *RSUE*, 21, 1991; 10. 'The revelation of neighborhood preferences: an *n*-chotomous multivariate approach' (with T. Boehm), *J. Housing Econ.*, 1, March 1991; 11. 'Intra-urban wage gradients: evidence by race, gender, occupational class, and sector', *JUE*, 32, July 1992; 12. 'Work, search, and travel among white and black youth' (with H. Holzer, D. Sjoquist), *JUE*, 35, 1994; 13. 'Intrametropolitan variation in wage rates: the case of Atlanta fast-food restaurant workers' (with M. Young), *REStat*, 74, Aug. 1994; 14. 'The spatial distribution of black employment between the central city and the suburbs' (with M. Young), *EI*, 34, Oct. 1996; 15. 'Information on the spatial distribution of job opportunities within metropolitan areas', *JUE*, 41, 1997, repr. in R.W. Wassmer (ed.), *Readings in Urban Economics: Issues and Public Policy* (Blackwell, 1999); 16. 'Customer discrimination and employment outcomes for minority workers' (with H. Holzer), *QJE*, 113, Aug. 1998; 17. 'The spatial mismatch hypothesis: a review of recent studies and their implications for welfare reform' (with D. Sjoquist), *Housing Pol. Debate*, 9, 1998; 18. 'Is the labor market tighter outside the ghetto', *Papers in Re-*

gional Sc.: J. RSA Intl, 78, 1999; 19. 'Spatial mismatch in the labor market and racial differences in neighborhood crime', *Econ. Letters*, 76, 1, June 2002.

Principal Contributions Most of my work has focused on social problems that plague large US cities, including poverty, crime, and racial discrimination in housing and labor markets. The portion of my work that is most frequently cited concerns the spatial mismatch hypothesis, which states that poverty in the inner city is related to a loss in job opportunities caused by employment suburbanization. This work shows that joblessness, crime, and school dropping out are all higher within minority communities because of the decentralization of lower-skill jobs within urban areas.

IKENBERRY David L.

Born 1960, East Lansing, MI, USA.

Current Posts Prof. Fin., Chairman, Dept Fin., Univ. Illinois, Champaign, IL, USA, 2002–, 2003–.

Past Posts Asst Prof. Fin., Assoc. Prof. Fin., Jesse H. Jones Grad. Sch. Mgmt, Rice Univ., 1990–96, 1996–2002; Vis. Scholar, Univ. Washington, 1998–99.

Degrees BS (Mineral Econ.) Pennsylvania State Univ., 1983; MM (Fin.) Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1985; PhD (Fin.) Univ. Illinois, 1990.

Offices and Honours Best paper award in investments, Amer. Assoc. Individual Investors, Southwestern Fin. Assoc. Meetings, 1993, 1995; Finalist, Phi Beta Kappa teaching award, Rice Univ., 1993, 1995; Haliburton Foundation Award of Excellence for professionalism in educ., res. and service to students, Jones Grad. Sch., Rice Univ., 1994; Nominated for Smith-Breeden Award for best paper published in *J. Fin.*, 1995; Award for Excellence in

Teaching as voted by alumni, Jones Grad. Sch., Rice Univ., 1996, 1999; Named one of nation's best teachers, *Bus. Week*, 1997, 2002; Best paper award, Chicago Quant. Analysts meeting, Chicago, 2000; Best paper award, Europ. Fin. Mgmt meetings, Scotland, 2000; Teaching Awards Award for Excellence in Teaching as voted by students, Jones Grad. Sch., Rice Univ., 2002.

Editorial Duties Ed. Bds, *Fin. Mgmt*, 1997–99, *Advances in Investment Analysis and Portfolio Mgmt*, 1999–.

Principal Fields of Interest O1 Economic Development; G3 Corporate Finance and Governance.

Publications *Articles*: 1. 'Seasonal anomalies in financial markets: a survey' (with J. Lakonishok), in R.M.C. Guimaraes, B.G. Kingsman, S.J. Taylor (eds), *A Reappraisal of the Efficiency of Financial Markets* (NATO Adv. Sc. Inst. series, S-V, 1989); 2. 'Corporate governance through the proxy contest: evidence and implications' (with J. Lakonishok), *J Bus*, 66, July 1993; 3. 'The individual investor and the weekend effect' (with A. Abraham), *JFQA*, 29, June 1994; 4. 'Market underreaction to open market share repurchases' (with J. Lakonishok, T. Vermaelen), *J Fin E*, 39, Oct. 1995, repr. in H. Shefrin (ed.), *Behavioral Finance, Intl Library of Critical Writings in Fin. Econ.* series (Edward Elgar, 2001); 5. 'The long-run negative drift of post-listing stock returns' (with B. Dharan), *J Fin*, 50, Dec. 1995; 6. 'What do stock splits really signal?' (with E.K. Stice, G. Rankine), *JFQA*, 31, Sept. 1996; 7. 'The option to repurchase stock' (with T. Vermaelen), *Fin. Mgmt*, 25, Winter 1996; 8. 'Why active fund managers often underperform the S&P 500: the impact of size and skewness' (with R.L. Shockley, K.L. Womack), *J. Private Portfolio Mgmt*, 1, Spring 1998; 9. 'What do we know about share repurchases?' (with G. Grullon), *J. Apl. Corp. Fin.*, 31, Spring

2000; 10. 'Stock repurchases in Canada: performance and strategic trading' (with J. Lakonishok, T. Vermaelen), *J Fin*, 55, Oct. 2000; 11. 'Underreaction to self-selected news events: the case of stock splits' (with S. Ramnath), *Rev. Fin. Stud.*, 15, 2002.

Principal Contributions I teach investment and corporate finance to both graduate students and executives. My research concerns a broad array of empirical issues in finance. A substantial portion of my work has focussed on issues relating to long-horizon stock returns, a young and often debated area of inquiry in finance. Much of my work has frequently challenged fundamental notions of informational efficiency in equity markets. Past studies have focussed on unexpected long-horizon return performance relating to specific corporate events including stock splits, exchange listings and proxy fights. My more general work on the unusual properties of long-horizon returns has been used to help explain why professional money managers frequently underperform the S&P 500 index, even when investing in S&P stocks. Perhaps my most noted work concerns stock repurchase programs, a transaction of growing importance around the world. For example, a recent paper takes advantage of some of the unique aspects of the Canadian market to provide additional insight into issues about how and why firms repurchase stock. My work in this area continues to generate substantial interest in both the academic and corporate communities. I frequently speak to academic, government and corporate officers, and the broad investment communities about current research efforts, my research and the economic role of repurchases. My research is regularly mentioned in the popular press in such publications as *The Wall Street Journal*, *Forbes*, *Fortune*, *Smart Money*, *Barron's*,

Business Week and *The Economist*. I am a frequent guest on various television programs including CNBC, Bloomberg Television and the Nightly Business Report.

IMBENS, Guido W. n.e.

INMAN, J. Jeffrey n.e.

INNES, Robert D.

Born 1959, San Rafael, CA, USA.

Current Post Prof., Econ. Dept and Dept Agric. and Resource Econ., Univ. Arizona, Tucson, AZ, USA, 1993–.

Past Posts Asst Prof., Assoc. Prof., Univ. California, Davis, 1986–91; Assoc. Prof., Dept Agric. Econ., Univ. Arizona, 1991–93; Sr Econ., US President's Council Econ. Advisers, Exec. Office of President, Washington, DC, 1994–95.

Degrees BA (Highest Hons), MBA (Fin.), PhD (Agric. and Resource Econ.) Univ. California, Berkeley, 1981, 1984, 1986.

Offices and Honours Outstanding PhD Dissertation, AA, 1987; Quality Res. Discovery Award, AA, 1994, 2000; Hicks–Tinbergen Medal (with R. Sexton), EEA, 1994; Disting. Pol. Contrib. Award, AA, 1996; Outstanding Article, *Choices*, 1996; Sr Fulbright Scholar, Econ. Dept, Univ. Melbourne, 1997–98; Hon. Mention, AA, 2000; Best Publ. Res. Award, Western Agric. Econ. Assoc., 2000.

Editorial Duties Ed. Bd, *JEEM*, 2001–.

Principal Fields of Interest D0 Microeconomics: General; K0 Law and Economics: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Articles*: 1. 'Limited liability and incentive contracting with *ex-ante* action choices', *JET*, 52, Oct. 1990; 2. 'Government target price intervention

in economies with incomplete markets', *QJE*, 105, Nov. 1990; 3. 'Investment and government intervention in credit markets when there is asymmetric information', *J Pub E*, 46, Dec. 1991; 4. 'Adverse selection, investment and profit taxation', *Europ ER*, 86, Oct. 1992; 5. 'Debt, futures and options: optimal price-linked financial contracts under moral hazard and limited liability', *IER*, 34, May 1993; 6. 'Risk, risk aversion and on-farm soil depletion' (with S. Ardila), *JEEM*, 25, July 1993; 7. 'Two-season subsistence farming, urban food subsidies and optimal agricultural policy', *OEP*, 45, Oct. 1993; 8. 'Customer coalitions, monopoly price discrimination and generic entry deterrence' (with R. Sexton), *Europ ER*, 37, Dec. 1993; 9. 'Strategic buyers and exclusionary contracts' (with R. Sexton), *AER*, 84, June 1994; 10. 'Regulating automobile pollution under certainty, competition and imperfect information', *JEEM*, 31, Sept. 1996; 11. 'Takings, compensation and equal treatment for owners of developed and undeveloped property', *J Law E*, 40, Oct. 1997; 12. 'Self-policing and optimal law enforcement when violator remediation is valuable', *JPE*, 107, Dec. 1999; 13. 'Self-reporting and optimal law enforcement when violators have heterogeneous probabilities of apprehension', *J. Legal Stud.*, 29, Jan. 2000; 14. 'The economics of livestock waste and its regulation', *AJAE*, 82, Feb. 2000; 15. 'The economics of takings and compensation when land and its public use value are in private hands', *Land Econ.* 76, May 2000; 16. 'The economics of safe drinking water' (with D. Cory), *Land Econ.*, 77, Feb. 2001; 17. 'Violator avoidance activities and self-reporting in optimal law enforcement', *JLEO*, 17, April 2001; 18. 'Inducing innovation in the environmental technology of oligopolistic firms' (with J. Bial), *J Ind E*, 50, Sept. 2002; 19. 'Enforcement costs, optimal sanctions, and

the choice between *ex-post* liability and *ex-ante* regulation', *Intl Rev. Law and Econ.*, forthcoming; 20. 'Crop insurance in a political economy: an alternative perspective on agricultural policy', *AJAE*, forthcoming.

Principal Contributions I have made research contributions in finance, agricultural policy, industrial organization, law and economics, and environmental economics. In finance, I have studied the design of credit contracts when there are either hidden actions or hidden attributes of prospective borrowers, helping understand the prevalence of debt-type contracts and their policy implications. On agricultural policy, I have studied stereotypical government interventions in stochastic economies with incomplete contingent claim markets; two season subsistence farming and its implications for developing countries' agricultural policy; soil depletion in stochastic dynamic frameworks, with implications for government insurance; optimal nutrition policy; and the optimal design of government crop insurance programs in a political economy. My work with Rich Sexton advances industrial organization literatures in two ways: identifying efficiency benefits of exclusionary contracts that require buyers to purchase only from a particular seller, when buyers behave strategically; and providing a new explanation for price discrimination, with implications for government anti-trust policy. My recent work in law and economics focusses on the optimal self-enforcement of law, the economics of takings, the optimal design of liability rules, and enforcement-driven motives for the *ex ante* regulation of potentially harmful activities. In environmental economics, I have studied both generic issues in policy design and specific problems in environmental regulation vexed by imperfect information and/or limited liability, including automobile pollution, live-

stock waste, endangered species, and safe drinking water. Recent work identifies economic motives for intertemporal emission permit programs and studies how environmental policies can be structured to pro-

vide optimal incentives for innovation in pollution abatement technologies.

ITO, Takatoshi n.e.

J

JACKSON, Matthew Owen

Born 1962, Elmhurst, IL, USA.

Current Post Edie and Lew Wasserman Prof. Econ., California Inst. Tech., Pasadena, CA, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., Prof., Managerial Econ. and Decision Sc. (MEDS) Dept, Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1988–91, 1991–93, 1993–94; Mechthild E. Nemmers Disting. Prof. and Chairman, MEDS Dept, Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1995–96; IBM Disting. Prof. Regulatory and Competitive Practices, and Chairman, MEDS Dept, Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1996–97.

Degrees BA Princeton Univ., 1984; PhD Stanford Univ., 1988.

Offices and Honours Class of 1916 Cup, Princeton Univ., 1984; Wolf Balleisen Memorial Prize, Princeton Univ., 1984; NSF Fellowship, 1984–87; State Farm Fellowship, 1987–88; Fell., Em Soc, 1998; Social Choice and Welfare Prize, 2001.

Editorial Duties Assoc. Ed., *Social Choice and Welfare*, 1990–, *Rev. Econ. Design*, 1992–97, *JET*, 1993–2001, *Math. Social Sc.*, 1995–, *Games and Econ. Behav.*, 1996–, *J. Public Econ. Theory*, 1997–, *Em*, 1998–; Co-Ed., *Rev. Econ. Design*, 1997–, *Em Soc Monograph* series, 2001–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; C7 Game Theory and Bargaining Theory; D4 Market Structure and Pricing.

Publications *Articles*: 1. ‘Optimal innovation of futures contracts’ (with D. Duffie), *Rev. Fin. Stud.*, 2, 1989; 2. ‘Equilibrium, price formation and the value of private information’, *Rev. Fin. Stud.*, 4, 1991; 3. ‘Bayesian implementation’, *Em*,

59, 1991; 4. ‘Speculation and price fluctuations with private, extrinsic signals’ (with J. Peck), *JET*, 55, 1991; 5. ‘Implementation in undominated strategies: a look at bounded mechanisms’, *REStud*, 59, 1992; 6. ‘Implementing a public project and distributing its cost’ (with H. Moulin), *JET*, 57, 1992; 7. ‘A characterization of strategy-proof social choice functions for economies with pure public goods’ (with S. Barbera), *Social Choice and Welfare*, 11, 1994; 8. ‘Undominated Nash implementation in bounded mechanisms’ (with T. Palfrey, S. Srivastava), *Games and Econ. Behav.*, 6, 1994; 9. ‘Strategy-proof exchange’ (with S. Barbera), *Em*, 63, 1995; 10. ‘A strategic model of social and economic networks’ (with A. Wolinsky), *JET*, 71, 1996; 11. ‘Characterizations of game theoretic solution concepts which lead to impossibility theorems’ (with S. Srivastava), *REStud*, 63, 1996; 12. ‘Strategy-proof allotment rules’ (with S. Barbera, A. Neme), *Games and Econ. Behav.*, 18, 1997; 13. ‘Social learning in recurring games’ (with E. Kalai), *Games and Econ. Behav.*, 21, 1997; 14. ‘Efficiency and voluntary implementation in markets with repeated pairwise bargaining’ (with T. Palfrey), *Em*, 66, 1998; 15. ‘Bayesian representation of stochastic processes under learning: de Finetti revisited’ (with E. Kalai, R. Smorodinsky), *Em*, 67, 1999; 16. ‘Strategic candidacy and voting rules’ (with B. Dutta, M. Le Breton), *Em*, 69, 2001; 17. ‘Voluntary implementation’ (with T. Palfrey), *JET*, 98, 2001; 18. ‘Coalition and party formation in a legislative voting game’ (with B. Moselle), *JET*, 103, 2002; 19. ‘The stability of hedonic coalition structures’ (with A. Bogomolnaia), *Games and Econ. Behav.*, 38, 2002; 20. ‘Communication and equilibrium in discontinuous games of incomplete information’ (with L. Simon, J. Swinkels, W. Zame), *Em*, 70, 2002.

Principal Contributions My contributions have primarily been in micro-economic theory, and in particular in the understanding of how the design of institutions such as markets, voting systems, and social networks, affects the behaviour of the individuals involved and the resulting economic welfare. My research uses game-theoretic reasoning to understand the incentives provided by various mechanisms for collective decision making. The specific topics to which I have contributed are implementation theory, mechanism design, social choice theory, auction theory, game theory, coalition formation, and the analysis of social and economic networks.

JAEGER, David Allen

Born 1964, East Orange, NJ, USA.

Current Posts Assoc. Prof. Dept Econ., Coll. William and Mary, Williamsburg, VA, USA, 2001–; Res. Fell., Inst. Study Labor, Bonn, Germany, 1998–.

Past Posts Res. Econ., US Bureau Labor Stats, Washington, DC, 1995–97; Assoc. Prof., Dept Econ., Hunter Coll. and Grad. Center, City Univ., New York, 1997–2001; Vis. Assoc. Prof., Princeton Univ., 1999–2000.

Degrees BA Williams Coll., 1986; MA, MA (Stats), PhD Univ. Michigan, 1990, 1993, 1995.

Offices and Honours Moore Dissertation Res. Prize, Dept Econ., Univ. Michigan, 1994; Dissertation Award (First Prize), W.E. Upjohn Inst. Employment Res., 1995; Res. Fell., Alexander von Humboldt Foundation, Bonn, 2003–04.

Principal Fields of Interest J0 Labor and Demographic Economics: General; C1 Econometric and Statistical Methods: General.

Publications *Articles*: 1. ‘Problems with instrumental variables estimation

when the correlation between the instruments and the endogenous explanatory variable is weak’ (with J. Bound, R.M. Baker), *JASA*, 90, June 1995; 2. ‘Degrees matter: new evidence on sheepskin effects in the returns to education’ (with M.E. Page), *REStat*, 78, Nov. 1996; 3. ‘Reconciling the old and new census bureau education questions: recommendations for researchers’, *JBES*, 15, July 1997; 4. ‘Is job stability in the United States falling? Reconciling trends in the current population survey and the panel study of income dynamics’ (with A.H. Stevens), *J Lab E*, 17, Oct. 1999; 5. ‘Do compulsory school attendance laws alone explain the association between earnings and quarter of birth’ (with J. Bound), *Res. Labor Econ.*, 19, 2000.

Principal Contributions My main contribution has been in the area of instrumental variables estimation and estimating the returns to education. With John Bound and Regina Baker, I showed that using instruments with a low correlation with the endogenous explanatory variable could lead to inconsistent estimates (if there is even a small correlation between the ‘instruments’ and the error in the structural equation) or estimates that are nearly as biased (in a finite sample) as those from ordinary least squares. These results have had broad applicability, beyond just estimating the returns to education. John Bound and I have also critiqued the use of quarter of birth as an instrument to estimate the returns to education. In work with Marianne Page I have examined ‘sheepskin’ effects in the returns to education and found that they may be as important as years of schooling. In recent work with Melissa Clark I have also found that there are important ‘sheepskin’ effects in the returns to the General Educational Development examination, particularly for the foreign-born. Other work has examined job stability and mobility in the

US (with Ann Huff Stevens), the measurement of educational attainment in the Current Population Survey, the impact of immigration on natives' wages, and the determinants of location choices of immigrants.

JAFFE, Adam B.

Born 1955, Cleveland, OH, USA.

Current Posts Fred C. Hecht Prof. Econ. and Chair of Econ., Brandeis Univ., Waltham, MA, USA, 1994–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Harvard Univ., 1985–89, 1989–94; Sr Staff Econ., US President's Council Econ. Advisers, 1990–91.

Degrees SB (Chemistry), SM (Tech. and Pol.) MIT, 1976, 1978; PhD Harvard Univ., 1985.

Offices and Honours Faculty Res. Fell., Res. Assoc., NBER, 1985–94, 1994–; Coordinator, NBER Innovation Pol. and Economy Group, 1999–.

Editorial Duties Ed. Bd, *AER*, 1995–2000; Assoc. Ed., *J Ind E*, 1995–, *RandJE*, 1998–.

Principal Fields of Interest O3 Technological Change; L4 Antitrust Policy; L5 Regulation and Industrial Policy.

Publications *Book*: 1. *Patents, Citations and Innovations: A Window on the Knowledge Economy* (with M. Trajtenberg), (MIT Press, 2002).

Articles: 1. 'Technological opportunity and spillovers of R&D: evidence from firms' patents, profits and market value', *AER*, 76, Dec. 1986; 2. 'Real effects of academic research', *AER*, 79, Dec. 1989; 3. 'Unintended impacts of public investments on private decisions: the depletion of forested wetlands' (with R. Stavins), *AER*, 80, June 1990; 4. 'Market power of local cable television franchises: evidence from the effects of deregulation' (with D. Kanter), *RandJE*, 21, Summer 1990; 5.

'How high are the giants' shoulders: an empirical assessment of knowledge spillovers and creative destruction in a model of economic growth' (with R. Caballero), in O. Blanchard, S. Fischer (eds), *NBER Macroecon. Annual*, 8 (MIT Press, 1993); 6. 'Geographic localization of knowledge spillovers as evidenced by patent citations' (with M. Trajtenberg, R. Henderson), *QJE*, 108, Aug. 1993; 7. 'The energy paradox and the diffusion of conservation technology' (with R. Stavins), *Resource and Energy Econ.*, 16, 1994; 8. 'Environmental regulation and the competitiveness of US manufacturing: what does the evidence tell us?' (with S. Peterson, P. Portney, R. Stavins), *JEL*, 33, 1995; 9. 'Dynamic incentives of environmental regulations: the effects of alternative policy instruments on technology diffusion' (with R. Stavins), *JEEM*, 29, 1995; 10. 'Bounding the effects of R&D: an investigation using linked establishment and firm data' (with J. Adams), *RandJE*, 27, Winter 1996; 11. 'University versus corporate patents: a window on the basicness of invention' (with M. Trajtenberg, R. Henderson), *Econ. Innovation and New Tech.*, 5, 1997; 12. 'Environmental regulation and innovation: a panel data study' (with K. Palmer), *REStat*, 79, Nov. 1997; 13. 'Universities as a source of commercial technology: a detailed analysis of university patenting, 1965–1988' (with R. Henderson, M. Trajtenberg), *REStat*, 80, Feb. 1998; 14. 'The induced innovation hypothesis and energy-saving technological change' (with R. Newell, R. Stavins), *QJE*, 114, 1999; 15. 'The US patent system in transition: policy innovation and the innovation process', *Res. Pol.*, 29, 2000; 16. 'Knowledge spillovers and patent citations: evidence from a survey of inventors' (with M. Trajtenberg, M. Fogarty), *AER Papers and Proceedings*, 90, 2000; 17. 'Reinventing public R&D: patent policy and the commercialization of Na-

tional Laboratory technologies' (with J. Lerner), *RandJE*, 32, Spring 2001; 18. 'Environmental policy and technological change' (with R. Newell, R. Stavins), *Environmental and Resource Econ.*, 22, 2002; 19. 'Building programme evaluation into the design of public research-support programmes', *OREP*, 18, 2002.

Principal Contributions I began my career with the empirical measurement of the phenomena of technological opportunity and spillovers of R&D among firms. I showed that a firm's patent portfolio can be used to characterize its 'technological position', and that its productivity, profits and market value can then be shown to be affected by this position (technological opportunity), and by the extent of research effort of 'nearby' firms (spillovers). I later extended this approach to showing that universities contribute to commercial innovation within US states. More recently, I have used patent citations data to investigate the rate at which technological knowledge spreads across institutional and geographic boundaries. I have explored how this kind of microeconomic evidence on returns to research and knowledge diffusion can be incorporated explicitly into macroeconomic models of economic growth. In another line of research, I have investigated empirically the contribution of endogenous economic incentives and explicit government policies in determining the rate of a number of 'diffusion' phenomena. I showed that flood-control investments and agricultural prices both contributed to the conversion of forested wetlands to farmland in the US Mississippi valley, and that energy prices (but not building codes) explain part of the diffusion of insulation and other energy-conserving building technologies in the US. In related work, I have analyzed the extent to which the diffusion of energy-conserving technologies is characterized by market failures, and the implications

for public policy. I have analyzed theoretically and empirically the extent to which induced technological change results from, and affects the consequences of, environmental policy interventions. Finally, I have analyzed how the impact and effectiveness of public programs to support research and innovation can be measured, and how such programs can be designed to facilitate such measurement.

JAGANNATHAN, Ravi

Born 1949, Madras (now Chennai), India.

Current Post Chicago Mercantile Exchange Disting. Prof. Fin., Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 1997–.

Past Posts Assoc. Prof. Fin., Piper Jaffray Prof. Fin., Carlson Sch. Mgmt, Univ. Minnesota, 1989–93, 1993–97.

Degrees BE (Mechanical Eng.) Univ. Madras, 1970, MS (Fin. Econ.), PhD (Fin. Econ.) Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1981, 1983.

Offices and Honours Alexander Henderson award for Excellence in Econ. Theory, Carnegie-Mellon Univ., 1983; Amer. Assoc. Individual Investors Award for Best Paper on Investments, 29th Annual Conf., Western Fin. Assoc., NM, 1994; Dir., Vice-Pres., Western Fin. Assoc., 1997–2000, 2002–03; Dir., AFA, 1998–2000, 2002–04; Vice-Pres., Pres., Soc. Fin. Stud., 1999–2002, 2002–05; Co-Dir., Fin. Insts and Markets Res. Center, Kellogg Sch. Mgmt, Northwestern Univ., 2001–.

Editorial Duties Assoc. Ed., *J Fin*, 1994–96, *Mgmt Sc.*, 1994–2001, *Rev. Quant. Fin. and Accounting*, 1994–, *Fin. Mgmt*, 1999–; Ed., Exec. Ed., *Rev. Fin. Stud.*, 1994–96, 1996–99; Advisory Bd, *J. Fin. Em.*, 2000–; Dept Ed. *Fin.*, *Mgmt Sc.*, 2001–.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services; C5 Econometric Modeling.

Publications Articles: 1. 'Call options and the risk of underlying securities', *J Fin E*, 13, 1984; 2. 'An investigation of commodity futures prices using the consumption based intertemporal capital asset pricing model', *J Fin*, 40, March 1985; 3. 'Assessing the market timing performance of managed portfolios' (with R.A. Korajczyk), *J Bus*, 59, 1986; 4. 'Seasonalities in security returns: the case of earnings announcements', *J Fin E*, 21, May 1988; 5. 'Banking panics, information and rational expectation equilibrium' (V.V. Chari), *J Fin*, 43, July 1988; 6. 'Economic significance of predictable variations in stock index returns' (with W. Breen, L. Glosten), *J Fin*, 44, Dec. 1989; 7. 'Price stability and futures trading in commodities' (with V.V. Chari, L.E. Jones), *QJE*, 105, May 1990; 8. 'Implications of security market data for models of dynamic economies' (with L.P. Hansen), *JPE*, 99, 1991; 9. 'On the relation between the expected value and the volatility of the nominal excess return on stocks' (with L. Glosten, D. Runkle), *J Fin*, 48, Dec. 1993; 10. 'A contingent claims framework for analyzing the performance of portfolio managers' (with L. Glosten), *J. Empirical Fin.*, 1, 1994; 11. 'Ex-dividend price behavior of common stocks' (with J. Boyd), *Rev. Fin. Stud.*, 7, 1994; 12. 'The conditional CAPM and the cross-section of expected returns' (with Z. Wang), *J Fin*, 51, March 1996; 13. 'Assessing specification errors in stochastic discount factor models' (with L.P. Hansen), *J Fin*, 52, June 1997; 14. 'Why do stock prices drop by less than the value of the dividend? Evidence from a country without taxes' (with M. Frank), *J Fin E*, 47, Feb. 1998; 15. 'An asymptotic theory for estimating beta-pricing models using cross-

sectional regression' (with Z. Wang), *J Fin*, 53, July 1998; 16. 'Valuing the reload features of executive stock options' (with J. Saly, S.J. Huddart), *Accounting Horizons*, 13, Sept. 1999; 17. 'A test for mean variance efficiency when short-selling is prohibited' (with G. Basak, G. Sun), *JEDC*, 26, July 2002; 18. 'Empirical evaluation of asset pricing models: a comparison of the SDF and Beta models' (with Z. Wang), *J Fin*, 57, Oct. 2002; 19. 'An evaluation of multi-factor CIR Models using LIBOR, swap rates, and cap and swaption prices' (with A. Kaplin, S.G. Sun), Annals issue of *J Em* on 'Estimation of objective and risk neutral probability measures', forthcoming; 20. 'Risk reduction in large portfolios: why imposing the wrong constraint helps' (with T. Ma), *J Fin*, forthcoming.

Principal Contributions A number of models have been proposed to explain how investors value assets. Differences among the various asset pricing models arise from the fact that they start with different assumptions that restrict investor preferences, their initial wealth, the information available to them, the process governing the arrival of new information in the economy and the type of market frictions that are allowed. Lars Hansen and I developed diagnostic methods to evaluate asset pricing models and understand what is missing in each model. Zhenyu Wang and I showed how the performance of the widely used Sharpe–Lintner–Black Capital Asset Pricing Model (CAPM) can be substantially improved by (a) taking into account the return to human capital when measuring the return on the market portfolio and (b) allowing the model parameters to vary with the business cycle. Most asset pricing models assume that security markets are frictionless and securities are priced as though taxes do not matter. My work with Fumio Hayashi, John Boyd and Murray

Frank suggests that at the margin, stock prices drop on average by a dollar for each dollar of additional dividend on the ex-dividend day providing empirical support for this view. My work with Glosten and Runkle provides new insights into the nature of the stochastic process that drives stock returns. We showed how modifying the standard GARCH-M model to allow positive innovations to stock returns has a different impact on conditional volatility than negative innovations. This modification improves the model performance. Glosten and I showed that valuing performance of an active portfolio manager is equivalent to valuing a particular contingent claim on the stock index portfolio. In general the form of the contingent claim is not known and we demonstrated that the contingent claim can be approximated by a series of options.

JAIN, Dipak C.

Born 1957, Tezpar, India.

Current Posts Vis. Prof. Marketing and Program Coordinator, Sasin Grad. Inst. Bus. Admin., Chulalongkorn Univ., Bangkok, Thailand, 1989–; Vis. Prof. Marketing, Nijenrode Univ., Netherlands Bus. Sch., The Netherlands, 1995–, Otto Bescheim Grad. Sch. Mgmt Stud., WHU Koblenz, Germany; 1997–, Hong Kong Univ. Sc. and Tech., Hong Kong, 1997–, Recanati Grad. Sch. Bus Admin., Tel Aviv Univ., Israel, 1997–, Indian Sch. Bus., Hyderabad, India, 2001–; Sandy and Morton Goldman Prof. Entrepreneurial Stud. and Prof. Marketing, Dean, Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 1994–, 2001; Hon. Vis. Prof., Dept Mgmt Stud., IIT, Delhi, India, 1998–.

Past Posts Lect. Maths, Nowgong Coll., Assam, India, 1979–80; Lect. Bus. Admin., Guwahati Univ., India; 1980–83; Teaching Asst, Univ. Texas, Dallas, 1983–

86; Asst Prof. Marketing, Assoc. Prof. Marketing, Prof. Marketing, Kellogg Sch. Mgmt, Northwestern Univ., 1986–90, 1990–93, 1993–94; Vis Prof. Marketing, Mgmt Devlp. Inst., Gurgaon, India, 1991–92; Assoc. Dean Acad. Affairs, Kellogg Sch. Mgmt, Northwestern Univ., 1996–2000.

Degrees BS (Stats, Hons), MS (Math. Stats) Guwahati Univ., 1976, 1978; Diploma (Bus. Mgmt), Intl Teachers Certificate, Stockholm Sch. Econ., 1982; MS (OR), PhD (Marketing) Univ. Texas, 1986, 1987.

Offices and Honours Gold Medal, Jaycees Intl, USA, 1976; Youth Merit Award, Rotary Intl, 1976; Jawaharlal Nehru Merit Award, Govt India, 1976; Gold Medal, Best Grad. of Year, Darrang Coll., Assam, 1976, Best Post-Grad. of Year, Guwahati Univ., 1978; Outstanding Educator Award, State of Assam, 1982; Fell., AMA Doctoral Consortium and Southwestern Doctoral Symposium, 1985; Beatrice Res. Professorship, Northwestern Univ., 1987–88; Kraft Res. Professorship, Northwestern Univ., 1989–90, 1990–91; John D.C. Little Best Paper Award, 1991; Mem., Beta Gamma Sigma Bus. Honor Soc., 1991; Sidney Levy Award for Excellence in Teaching, Northwestern Univ., 1994–95; Prof. of Year (vis.), Nijenrode Univ., 1996–97, 1997–98; Outstanding Prof. of Year, Nijenrode Univ., 2000; Best Prof. Award, Koblenz Bus. Sch., 1999–2000; Alumni Reunion Outstanding Prof. of Year, Kellogg Sch., 2002.

Editorial Duties Assoc. Ed., *Mgmt Sc.*, 1990–95; Assoc. Ed. Marketing, *JBES*, 1991–96; Ed. Bd, *J. Marketing*, 1991–99, *J. Marketing Res.*, 1991–; Area Ed., *Marketing Sc.*, 1994–96; Dept Ed. Marketing, *Mgmt Sc.*, 1995–.

Principal Fields of Interest A2 Teaching of Economics; M0 Business Administration and Business Economics; Marketing; Accounting: General.

Publications Articles: 1. 'Simple approaches to evaluate competing non-nested models in marketing' (with S. Balasubramanian), *Intl J. Res. Marketing*, 11, 1994; 2. 'Estimating household purchase rates for consumer non-durable goods' (with N.J. Vilcassim), *Apl. Stochastic Models and Data Analysis*, 10, March 1994; 3. 'A random coefficients logit brand choice model applied to panel data' (with N. Vilcassim, P. Chintagunta), *JBES*, 12, July 1994; 4. 'Why the Bass model fits without decision variables' (with F. Bass, T. Krishnan), *Marketing Sc.*, Summer 1994; 5. 'The effect of information format and task processing method in cutoff choice strategies' (with R. Sethuraman, C. Cole), *J. Consumer Psychology*, 3, 1994; 6. 'Empirical analysis of dynamic duopoly models of advertising competition' (with P. Chintagunta), *JEMS*, 4, Spring 1995; 7. 'Design and the satisfied customer', *Innovation*, Winter 1995; 8. 'Diffusion of innovations in Thailand: role of infrastructure and communications' (with S. Maesincee), *Sasin J. Mgmt*, 1995; 9. 'An approach for determining optimal product sampling for the diffusion of a new product' (with V. Mahajan, E. Muller), *J. Product Innovation Mgmt*, 12, 1995; 10. 'Cultural-influences on new product acceptance in global markets' (with S. Maesincee), *Monash Mount Eliza Bus. Rev.*, 1, Feb. 1998; 11. 'Framework' (with S. Gupta, D. Besanko), *Mgmt Sc.*, 44, Nov. 1998; 12. 'A hierarchical elimination modeling approach for market structure analysis' (with S. Park, L. Krishnamurthi), *Europ. J. OR*, 1112, Dec. 1998; 13. 'Pricing patterns of cellular phones and phone calls: a segment-level analysis' (with E. Muller, N. Vilcassim), *Mgmt Sc.*, 45, Feb. 1999; 14. 'Consumer choice process for experience goods: an econometric model and analysis' (with R. Neelameghan), *J. Marketing Res.*, 36, Aug. 1999; 15. 'Modeling the

evolution of "chicken-and-egg" product-markets: an application to the digital television industry' (with S. Gupta, M. Sawhney), *Marketing Sc.*, 18, Summer 1999; 16. 'Optimal pricing strategy for new products' (with T.V. Krishnan, F.M. Bass), *Mgmt Sc.*, 45, Dec. 1999; 17. 'Modeling the marketing-mix influence in new-product diffusion' (with F.M. Bass, T. Krishnan), in V. Mahajan, E. Muller, Y. Wind (eds), *New-Product Diffusion Models* (2000); 18. 'Drawing inferences from logit models for panel data: an empirical analysis of the consumer packaged goods market' (with E. Nordmoe), *Apl. Stochastic Models in Bus. and Ind.*, 16, 2000; 19. 'Nine major shifts in the new economy' (with P. Kotler, S. Maesincee), *Electronic Customer Relationship Mgmt*, 2001; 20. 'Customer lifetime value analysis: a review and future research directions' (with S. Singh), *J. Interactive Marketing*, 16, 2002.

Principal Contributions n.e.

JAMES, Christopher n.e.

JANSEN, Dennis William

Born 1956, St. Louis, MO, USA.

Current Post Prof. Econ., Dept Econ., Texas A&M Univ., College Station, TX, USA, 1994–.

Past Posts Instr., Dept Econ., North Carolina State Univ., 1982–83; Asst Prof., Assoc. Prof., Dept Econ, Texas A&M Univ., 1983–1994; Vis. Scholar, FRB, St. Louis, 1988–89; Assoc. Prof., Dept Econ., Indiana Univ., 1991–92.

Degrees BA St. Louis Univ., 1978; PhD Univ. North Carolina, 1983.

Offices and Honours Natl Merit Scholar, 1975; Mrs Victor Humphries Fellowship, 1978; Earhart Foundation Fellowship, 1988; Res. Fell., Private Enter-

prise Res. Center, 1992–; Head, Dept Econ., Texas A&M Univ., 1996–2001.

Editorial Duties Co-Ed., *EI*, 1997–2001; Ed., *EI*, 2002–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; G0 Financial Economics: General; C1 Econometric and Statistical Methods: General.

Publications *Books*: 1. *Intermediate Macroeconomics* (with C. DeLorme, R. Ekelund), (West, 1994); 2. *Money and Banking: An Economic Approach* (with M. Baye), (Houghton-Mifflin, 1995).

Articles: 1. ‘Real balances in an *ad hoc* Keynesian model and policy ineffectiveness’, *JMCB*, 17, Aug. 1985; 2. ‘Federal reserve operating procedures in the eighties: a dynamic analysis’ (with M. Bradley), *JMCB*, 18, Aug. 1986; 3. ‘The geographical distribution of unemployment in the US: a spatial time series analysis’ (with S. Bronars), *J Em*, 36, Nov. 1987; 4. ‘Informational implications of money, interest rate, and price rules’ (with M. Bradley), *EI*, 26, July 1988; 5. ‘Estimates of the variance of US inflation based upon the ARCH model’ (with T. Cosimano), *JMCB*, 20, Aug. 1988; 6. ‘Intertemporal substitution and the role for monetary policy: policy irrelevance once again’, *EJ*, 100, June 1990; 7. ‘Variance of agricultural prices, industrial prices, and money’ (with D. Han, J. Penson), *AJAE*, 72, Nov. 1990; 8. ‘On the frequency of large stock returns: putting booms and busts into perspective’ (with C. de Vries), *REStat*, 73, Feb. 1991; 9. ‘A primer on cointegration with an application to money and income’ (with D. Dickey, D. Thornton), *FRB, St. Louis Rev.*, March/April 1991; 10. ‘The demand for money in the United States: evidence from cointegration tests’ (with R. Hafer), *JMCB*, 23, May 1991; 11. ‘Unit roots and infrequent large shocks: new international evidence on output growth’ (with M. Bradley), *JMCB*, 27, Aug. 1995;

12. ‘The method of moments ratio estimator for the tail shape parameter’ (with J. Danielsson, C. de Vries), *Communications in Stats – Theory and Methods*, 25, 1996; 13. ‘Repeated games with stochastic discounting’ (with M. Baye), *Ec*, 63, Nov. 1996; 14. ‘Nonlinear business cycle dynamics: cross-country evidence on the persistence of aggregate shocks’ (with M. Bradley), *EI*, July 1997; 15. ‘Modeling nonlinearity of business cycles: choosing between the CDR and STAR models’ (with W. Oh), *REStat*, 81, May 1999; 16. ‘Nonlinearities in real output: international evidence’ (with M. Bradley), *Stud. in Nonlinear Dynamics and Em*, 4, July 2000; 17. ‘Portfolio selection with limited downside risk’ (with K. Koedijk, C. de Vries), *J. Empirical Fin.*, 7, Nov. 2000.

Principal Contributions My contributions can be classified as follows. I have written a series of articles that investigate theoretical issues regarding alternative monetary policy rules. These papers explore the macroeconomic implications of money, interest rate, nominal income, and inflation rules for monetary policy, as well as the interaction of policy rules and certain private sector behavior such as nominal wage contracts. A related set of empirical papers attempts to provide a description of US monetary policy behavior. I have also written a series of articles that apply extreme value theory to problems in economics and finance. These include descriptive studies of financial asset returns, applications of extreme value theory to the problem of portfolio selection, and development of new estimators of the tail index. In addition, I have written a number of articles looking at various empirical characterizations of macroeconomic and financial variables, including potential nonlinearities, outliers, cointegrating relationships, as well as a characterization of stochastic or deterministic trends.

JAPPELLI, Tullio

Born 1956, Naples, Italy.

Current Post Prof. Econ., Univ. Salerno, Salerno, Italy, 1995–.

Past Posts Asst Prof., Univ. Palermo, 1986–87; Assoc. Prof., Istituto Univ. Navale, Naples, 1988–95.

Degrees Laurea, Univ. Palermo, 1980; PhD Boston Coll., 1989.

Editorial Duties Co-Ed., *Giornale degli Economisti*, 1997–.

Principal Fields of Interest E2 Consumption, Saving, Production, Employment, and Investment; D1 Household Behavior.

Publications *Books*: 1. *Household Portfolios* (ed. with L. Guiso, M. Haliassos), (MIT Press, 2001); 2. *Stockholding in Europe* (ed. with L. Guiso, M. Haliassos), (Macmillan Palgrave, forthcoming 2002).

Articles: 1. ‘Aggregate consumption and capital market imperfections: an international comparison’ (with M. Pagano), *AER*, 79, Dec. 1989; 2. ‘Who is credit constrained in the US economy?’, *QJE*, 105, Feb. 1990; 3. ‘Earnings uncertainty and precautionary saving’ (with L. Guiso, D. Terlizzese), *JME*, 30, Nov. 1992; 4. ‘The effect of borrowing constraints on consumer liabilities’ (with D. Cox), *JMCB*, 25, May 1993; 5. ‘Information sharing in credit markets’ (with M. Pagano), *J Fin*, 48, Dec. 1993; 6. ‘Saving, growth and liquidity constraints’ (with M. Pagano), *QJE*, 106, Feb. 1994; 7. ‘Income risk, borrowing constraints and portfolio choice’ (with L. Guiso, D. Terlizzese), *AER*, 86, March 1996; 8. ‘Testing for liquidity constraints in Euler equations with complementary data sources’ (with S. Pischke, N. Souleles), *REStat*, 80, May 1998; 9. ‘The welfare effects of liquidity constraints’ (with M. Pagano), *OEP*, 51, April 1999; 10. ‘Using subjective income expectations to test for the excess sensitivity of consumption to

predicted income growth’ (with L. Pistaferri), *Europ ER*, 44, Feb. 2000; 11. ‘Searching for non-Keynesian effects of fiscal policy’ (with F. Giavazzi, M. Pagano), *Europ ER*, 44, June 2000; 12. ‘Intertemporal choice and the cross-sectional variance of marginal utility’ (with O. Attanasio), *REStat*, 83, Feb. 2001; 13. ‘Money demand, financial innovation and the welfare cost of inflation’ (with O. Attanasio, L. Guiso), *JPE*, 110, April 2002; 14. ‘An empirical analysis of earnings and employment risk’ (with L. Guiso, L. Pistaferri), *JBES*, 20, April 2002; 15. ‘Private transfers, borrowing constraints and the timing of home ownership’ (with L. Guiso), *JMCB*, 34, May 2002; 16. ‘Information sharing, lending and defaults: cross-country evidence’ (with M. Pagano), *J Bank Fin*, 26, Oct. 2002; 17. ‘Tax incentives and the demand for life insurance: evidence from Italy’ (with L. Pistaferri), *J Pub E*, forthcoming; 18. ‘Financial market imperfections and home ownership: a comparative study’ (with M.C. Chiuri), *Europ ER*, forthcoming.

Principal Contributions n.e.

JARROW, Robert Alan

Born 1952, Hackensack, NJ, USA.

Current Post Prof. Fin. and Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., Ithaca, NY, USA, 1979–.

Past Posts none.

Degrees BA (Maths) Duke Univ., 1974; MBA (Fin.) Dartmouth Coll., 1976; PhD (Fin.) MIT, 1979.

Offices and Honours Pomerance Prize, Chicago Bd Options Exchange, 1982; Sr Fell., Intl Assoc. Fin. Engineers, 1997–; Fin. Engineer of Year, Intl Assoc. Fin. Engineers, 1997; Exec. Comm., Cornell Theory Center, 1999–; Graham and Dodd Scrolls Award 2001; Bd Dirs, AFA, 1998–2001; Council, Bachelier Fin. Soc., 2002–.

Editorial Duties Asst Ed., *JFQA*, 1983–99, *Rev. Derivatives Res.*, 1993–, *Rev. Fin. Stud.*, 1994–97, *J. Derivatives*, 1998–99, *J. Fixed Income*, 1996–, *J. Risk*, 1998–; Co-Ed., *Math. Fin.*, 1989–2001, *J. Derivatives*, 1999–2002; Managing Ed. *Math. Fin.*, 2002–.

Principal Field of Interest G1 General Financial Markets.

Publications *Books*: 1. *Option Pricing* (with A. Rudd), (Irwin, 1983); 2. *Finance Theory* (Prentice-Hall, 1988); 3. *Modeling Fixed Income Securities and Interest Rate Options* (McGraw-Hill, 1996, Stanford Univ. Press, 2002; trans., Japanese, 1997, Korean, 1997); 4. *Derivative Securities* (with S. Turnbull), (Southwestern Publ., 1996, 2000).

Articles: 1. ‘Preferences, continuity and the arbitrage pricing theory’, *Rev. Fin. Stud.*, 2, 1988; 2. ‘The stop–loss start–gain paradox and option valuation: a new decomposition into intrinsic and time value’ (with P. Carr), *Rev. Fin. Stud.*, 3, 1990; 3. ‘Pricing foreign currency options under stochastic interest rates’ (with K. Amin), *JIMF*, 10, Sept. 1991; 4. ‘Bond pricing and the term structure of interest rates: a new methodology for contingent claims valuation’ (with D. Heath, A. Morton), *Em*, 60, Jan. 1992; 5. ‘Alternative characterizations of American put options’ (with P. Carr, R. Myneni), *Math. Fin.*, 2, April 1992; 6. ‘Market manipulation, bubbles, corners, and short squeezes’, *JFQA*, 27, Sept. 1992; 7. ‘Pricing American options on risky assets in a stochastic interest rate economy’ (with K. Amin), *Math. Fin.*, 2, Oct. 1992; 8. ‘Derivative security markets, market manipulation, and option pricing theory’, *JFQA*, 29, June 1994; 9. ‘Pricing derivatives on financial securities subject to credit risk’ (with S. Turnbull), *J Fin*, 50, March 1995; 10. ‘Option pricing using the term structure of interest rates to hedge systematic discontinuities in asset returns’ (with D. Madan), *Math. Fin.*, 5, Oct. 1995; 11.

‘A Markov model for the term structure of credit risk spreads’ (with D. Lando, S. Turnbull), *Rev. Fin. Stud.*, 10, Summer 1997; 12. ‘The second fundamental theorem of arbitrage pricing theory’ (with X. Jin, D. Madan), *Math. Fin.*, 9, July 1999; 13. ‘The second fundamental theorem of asset pricing – a new approach’ (with R. Battig), *Rev. Fin. Stud.*, 12, Winter 1999; 14. ‘Default parameter estimation using market prices’, *Fin. Analysts J.*, 57, Sept. 2001; 15. ‘Counterparty risk and the pricing of defaultable securities’ (with F. Yu), *J Fin*, 56, 2001; 16. ‘Put premiums and coherent risk measures’, *Math. Fin.*, 12, 2002.

Principal Contributions My work relates to the pricing and hedging of the risks in trading financial securities. I have studied two market settings: competitive markets and markets where there is a large trader. In competitive markets I have analyzed market, term structure, foreign currency, commodity, and credit risk. Here I have developed models useful for the pricing and hedging of various derivative securities. Of these models, those that are most used in practice are the Heath–Jarrow–Morton term structure model and the Jarrow–Turnbull reduced form credit risk model. In markets where there is a large trader, I have analyzed conditions under which the markets cannot be manipulated and developed models for the pricing of derivatives in these manipulative-free settings. I have also contributed to the theoretical foundations of arbitrage pricing theory and risk management theory, more generally.

JEFFERSON, Gary H.

Born 1943, Lynn, MA, USA.

Current Post Carl Marks Prof. Intl Trade and Fin., Brandeis Univ., Waltham, MA, USA, 1984–.

Past Posts Dep. State Planning Dir., State Planning Office, Commonwealth of Massachusetts, 1975–77; Staff Dir., House Intl Devlp. Subcomm., Foreign Affairs Comm., House of Representatives, US Congress, 1977–79.

Degrees AB (Hist.) Dartmouth Coll., 1966; MA and MALD Fletcher Sch. Law and Diplomacy, Tufts Univ., 1970; MSc LSE, 1980; PhD Yale Univ., 1985.

Offices and Honours Res. Assoc., Fairbank Center, Harvard Univ., 1988–; Res. Fell., William Davidson Inst., Univ. Michigan, 1999.

Editorial Duties Exec. Ed., *J. Asian Econ. Stud.*, 1990–; Ed. Bd, *China Econ. Rev.*, 1994–.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth: General; P0 Economic Systems: General.

Publications *Book*: 1. *Enterprise Reform in China: Ownership, Transition, and Performance* (contrib. ed. with I. Singh), (OUP, 1998).

Articles: 1. ‘The aggregate production function and productivity change: a re-evaluation of Verdoorn’s Law’, *OEP*, 40, 1988; 2. ‘New estimates of fixed capital stock for Chinese state industry’ (with K. Chen, T. Rawski, H.C. Wang, Y.X. Zheng), *China Q.*, 114, June 1988; 3. ‘Productivity change in Chinese industry: 1953–1985’ (with K. Chen, T. Rawski, H.C. Wang, Y.X. Zheng), *J Comp E*, 12, Dec. 1988; 4. ‘Potential sources of productivity growth within Chinese industry’, *WD*, 17, 1989; 5. ‘China’s iron and steel industry: sources of enterprise efficiency and the impact of reform’, *JDE*, 33, Oct. 1990; 6. ‘The impact of economic structure on the fertility, savings and retirement behavior of Chinese households’, *J. Asian Econ.*, 1, Fall 1990; 7. ‘The impact of reform on socialist enterprises in transition: structure, conduct and performance in Chinese industry’ (with W.Y. Xu), *J*

Comp E, 15, 1991; 8. ‘Unemployment, underemployment and employment policy in Chinese cities’ (with T. Rawski), *Modern China*, 18, Jan. 1992; 9. ‘Growth, efficiency and convergence in China’s state and collective industry’ (with T. Rawski, Y.X. Zheng), *EDCC*, 40, Jan. 1992; 10. ‘Lessons from China’s economic reform’ (with K. Chen, I.J. Singh), *J Comp E*, 16, June 1992, repr. in M. Bornstein (ed.), *Comparative Economic Systems: Models and Cases* (Irwin, 7th edn 1994); 11. ‘Can communist economies reform incrementally’ (with A. Gelb, I. Singh), *Econ. Transition*, 1, 1993; 12. ‘Assessing gains in efficient production among China’s industrial enterprises’ (with W.Y. Xu), *EDCC*, 42, April 1994; 13. ‘Enterprise reform in Chinese industry’ (with T. Rawski), *JEP*, 8, Spring 1994; 14. ‘Chinese industrial productivity: trends, measurement issues, and recent developments’ (with T. Rawski, Y.X. Zheng), *J Comp E*, 23, 1996; 15. ‘Innovation in Chinese manufacturing enterprises: a preliminary analysis of survey data’ (with T. Rawski, Y.X. Zheng), *Moct-Most*, 7, 1997; 16. ‘China’s state enterprises: public goods, externalities, and Coase’, *AER*, 88, May 1998; 17. ‘Ownership, productivity change, and financial performance in Chinese industry’ (with T. Rawski, L. Wang, Y.X. Zheng), *J Comp E*, 28, Dec. 2000; 18. ‘China’s emerging market for property rights: theoretical and empirical perspectives’ (with T. Rawski), *Econ. Transition*, forthcoming; 19. ‘R and D performance in Chinese industry’ (with B. Huamao), *Econ. Innovation and New Tech.*, forthcoming.

Principal Contributions (i) Creating and using large enterprise data sets to analyze the impact of China’s economic transition on Chinese enterprise behavior and performance; (ii) analyzing total factor productivity change in Chinese industry, while accounting for a wide range of statistical issues that bear on its reliable

measurement; and (iii) extending the literature on R&D and innovation in the US, and other OECD economies to the emerging innovation sector in Chinese industry and demonstrating the increasingly important role that R&D is playing in China's economy. I am presently investigating China's science and technology take-off (i.e., the rapid rise in its R&D spending/GDP ratio) within the context of similar experiences of various OECD economies. In addition to these contributions and research areas, my current research focusses on models of (i) the technology multiplier, which analyzes the channels through which technical change impacts on living standards, including factor accumulation and rates of savings and fertility and (ii) the commons economy, which links the weak monitoring of economic institutions to broad macroeconomic externalities, including inflation, crowding out, and financial repression. Finally, having brought scholars and staff from numerous Chinese universities and agencies to the US to study and participate in the study of the research issues described above, I have expanded their understanding of the power and possibilities of economic analysis and contributed to the creation of an increasingly able group of Chinese economists and statisticians, who are now performing and processing economic research within China.

JEGADEESH, Narasimhan n.e.

JENKINS, Stephen Pryse

Born 1956, Marton, New Zealand.

Current Post Prof., Inst. Social and Econ. Res., Univ. Essex, Colchester, Essex, UK, 1994–.

Past Posts Jr Lect. Econ., Massey Univ., New Zealand, 1978; Res. Fell.,

Univ. York, UK, 1979–80, 1981–83; Lect. Polit. Econ. of Welfare State, Univ. Bath, 1983–91; Prof. Apl. Econ., Univ. Wales, Swansea, 1991–94.

Degrees BA Univ. Otago, 1977; DPhil Univ. York, UK, 1983.

Offices and Honours Council Mem., Pres., Europ. Soc. Pop. Econ., 1995–, 1998; Council Mem., IARIW, 2000–.

Editorial Duties Ed. Bd, *Pol. and Polit.*, 1989–93, *RIW*, 1989–, *J. Econ. Inequality*, 2001–; Assoc. Ed., *Stata J.*, 2001–.

Principal Fields of Interest D3 Distribution; I3 Welfare and Poverty; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *The Distribution of Household Welfare and Household Production* (ed. with A. Kapteyn, B.M.S. van Praag), (CUP, 1998); 2. *The Dynamics of Child Poverty in Industrialised Countries* (ed. with J. Micklewright, B. Bradbury), (CUP, 2001).

Articles: 1. 'Snapshots vs movies: "life-cycle bias" and the estimation of inter-generational earnings inheritance', *Europ ER*, 31, July 1987; 2. 'Calculating income distribution indices from micro-data', *NTJ*, 41, March 1988; 3. 'Empirical measurement of horizontal inequity', *J Pub E*, 37, Dec. 1988; 4. 'Equivalence scale relativities and the extent of inequality and poverty' (with F.A.E. Coulter, F.A. Cowell), *EJ*, 102, Sept. 1992; 5. 'Ranking income distributions when needs differ' (with P.J. Lambert), *RIW*, 93, Dec. 1993; 6. 'Dwarfs and giants in the 1980s: trends in the UK income distribution' (with F.A. Cowell), *Fiscal Stud.*, 15, Feb. 1994; 7. 'Earnings discrimination measurement: a distributional approach', *J Em*, 61, March 1994; 8. 'Parametric equivalence scales and scale relativities' (with F.A. Cowell), *EJ*, 104, July 1994; 9. 'Accounting for inequality trends: decomposition analyses for the UK, 1971–86', *Ec*, 62, Feb. 1995; 10. 'Easy estimation methods for discrete-time duration models',

OBES, 57, Feb. 1995; 11. 'Recent trends in the UK income distribution: what happened and why', *OREP*, 12, Spring 1996; 12. 'Low income dynamics in 1990s Britain' (with S.J. Jarvis), *Fiscal Stud.*, 18, May 1997; 13. 'Three "I"s of poverty curves, with an analysis of UK poverty trends' (with P.J. Lambert), *OEP*, 49, July 1997; 14. 'How much income mobility is there in Britain?' (with S.J. Jarvis), *EJ*, 108, March 1998; 15. 'Modelling household income dynamics', *J. Pop. Econ.*, 13, Dec. 2000.

Principal Contributions Much of my research has concerned issues related to income distribution, often from a measurement or applied angle. Examples include: the growth in UK income inequality and poverty during the 1980s, characterisation of systematic relationships between choice of equivalence scale and estimates of inequality and poverty, measurement of horizontal inequity and discrimination, and analysis of income and poverty dynamics and their determinants. I have also proposed or popularised various graphical devices and 'easy estimation' methods (typically accompanied by free programs that work with widely available software): e.g., three I's of poverty curves for poverty analysis, computation of indices of inequality, poverty, tax concentration and progressivity, and estimation of discrete-time hazard regression models.

JENSEN, Michael C.

Born 1939, Rochester, MN, USA.

Current Posts Jesse Isidor Straus Prof. Bus. Admin. Emeritus, Grad. Sch. Bus. Admin., Harvard Univ., Cambridge, MA, USA, 1999–; Managing Dir. Org. Strategy Practice, The Monitor Co., 1999–; Founder and Chairman, Social Sc. Electronic Publ., Inc., 1993–.

Past Posts Instr., Northwestern Univ., 1967; Asst Prof., Assoc. Prof., Univ. Rochester, 1967–71, 1972–79; Vis. Prof., Prof. Bus. Admin., Edsel Bryant Ford Prof. Bus. Admin., Jesse Isidor Straus Prof. Bus. Admin., Grad. Sch. Bus. Admin., Harvard Univ., 1984–85, 1985–88, 1989–97, 1997–99; LaClare Prof. Fin. and Bus. Admin., Dir., Managing Econ. Res. Center, Grad. Sch. Mgmt, Univ. Rochester, 1983–88.

Degrees BA Macalester Coll., 1962; MA, PhD Univ. Chicago, 1964, 1968.

Offices and Honours Leo Melamed Prize (with W.H. Meckling), 1978; Joseph Coolidge Shaw, S.J. Medal 1984; Citation Classic, Inst. Sc. Info., 1984; Graham and Dodd Plaque (with W.H. Meckling), McKinsey Award 1989; Disting. Scholar of Year, Eastern Fin. Assoc., 1990; Pres., AFA, 1992; Pres., Western Econ. Assoc. Intl, 1993, AAAS, 1996; Robert F. Greenhill Award, Harvard Bus. Sch., 1996; Hon. degrees: Docteur (*hc*), Univ. Catholique de Louvain, 1991, Docteur (*hc*), Univ. Bern, 2000; Doctor Laws, William E. Simon Grad. Sch. Bus. Admin., Univ. Rochester, 2001.

Editorial Duties Founding Ed., *J Fin E*, 1978–.

Principal Field of Interest M2 Business Economics.

Publications *Books*: 1. *Studies in the Theory of Capital Markets* (ed. Praeger, 1972); 2. *The Modern Theory of Corporate Finance* (ed. with C. Smith, Jr), (McGraw-Hill, 1984); 3. *Foundations of Organizational Strategy*, (HUP, 1998); 4. *Theory of The Firm: Governance, Residual Claims, and Organizational Forms* (HUP, 2000).

Articles: 1. 'The adjustment of stock prices to new information' (with E. Fama *et al.*), *IER*, 10, Feb. 1969; 2. 'Risk, the pricing of capital assets, and the evaluation of investment portfolios', *J Bus*, 42, April 1969; 3. 'Theory of the firm: mana-

gerial behavior, agency costs and ownership structure' (with W.H. Meckling), *J Fin E*, 3, Oct. 1976; 4. 'Towards a theory of the press', in K. Brunner (ed.), *Economics and Social Institutions* (Martinus Nijhof, 1979); 5. 'The market for corporate control: the scientific evidence' (with R. Ruback), *J Fin E*, 11, April 1983; 6. 'Separation of ownership and control' (with E. Fama), *J Law E*, 26, June 1983; 7. 'Agency problems and residual claims' (with E. Fama), *J Law E*, 26, June 1983; 8. 'Active investors, LBOs, and the privatization of bankruptcy', *J. Apl. Corp. Fin.*, 2, Spring 1989; 9. 'Performance pay and top management incentives' (with K.J. Murphy), *JPE*, 98, April, 1990; 10. 'Corporate control and the politics of finance', *J. Apl. Corp. Fin.*, 4, Summer, 1991; 11. 'Specific and general knowledge, and organizational structure' (with W. Meckling) in L. Werin, H. Wijkander (eds), *Contract Economics* (Blackwell, 1992); 12. 'The modern industrial revolution, exit, and the failure of internal control systems', *J Fin*, 48, July, 1993; 13. 'Self interest, altruism, incentives, and agency theory', *J. Apl. Corp. Fin.*, 7, Summer 1994; 14. 'The nature of man' (with W. Meckling), *J. Apl. Corp. Fin.*, 7, Summer 1994; 15. 'Value maximization and the corporate objective function', in J. Andriof, S. Waddock, S. Rahman, B. Husted (eds), *Unfolding Stakeholder Thinking* (Greenleaf, 2002); 16. 'Paying people to lie: the truth about the budgeting process', *Social Sc. Res. Network eLibrary*, <http://papers.ssrn.com/abstract=267651>, 2002.

Principal Contributions In finance, primarily to asset-pricing theory, portfolio theory, efficient market theory and the measurement of portfolio performance. In economics, primarily to the theory of the firm, property rights, agency theory, corporate control, organisation theory, and law and economics.

JESSOP, Bob (Robert) Douglas

Born 1946, Dartford, Kent, UK.

Current Post Prof. Sociology, Univ. Lancaster, Lancaster, UK, 1990–.

Past Posts Res. Fell. Social and Polit. Sc., Downing Coll., Cambridge, 1970–75; Lect. Govt, Sr Lect. Govt, Reader Govt, Univ. Essex, 1975–83, 1983–89, 1989–90.

Degrees BA (Sociology) Univ. Exeter, 1967; PhD (Econ. and Polit.) Cambridge Univ., 1972.

Offices and Honours Doctor (*hc*) Roskilde Univ., Denmark, 1997; Ashby Prize, Environment and Planning, 2002.

Editorial Duties Intl Bd, *Rev. Intl Polit. Econ.*, 1993–; Advisory Bd, *J. Polit. Philo.*, 1993–2001, *Renewal*, 1993–; Intl Advisory Bd, *New Polit. Econ.*, 1994–, *Urban Affairs Rev.*, 1995–, *Devlp. and Soc.* (Korea), 1999–.

Principal Fields of Interest P1 Capitalist Systems; H1 Structure and Scope of Government; F2 International Factor Movements and International Business.

Publications *Books*: 1. *The Capitalist State* (Martin Robertson, 1982; trans., Chinese, 1983, Japanese, 1984); 2. *State Theory: Putting Capitalist States in their Place* (Polity, 1990; trans., Japanese, 1993, Korean, 2000); 3. *The Politics of Flexibility: Scandinavia, Great Britain, and West Germany* (with H. Kastendiek, K. Nielsen, O.K. Pedersen), (Edward Elgar, 1991); 4. *Regulation Theory and the Crisis of Capitalism*, 5 vols (Edward Elgar, 2001); 5. *The Future of the Capitalist State* (Polity, 2002).

Articles: 1. 'Recent theories of the capitalist state', *Camb JE*, 1, Dec. 1977; 2. 'Accumulation strategies, state forms, and hegemonic projects', *Kapitalistate*, 10, 1983; 3. 'Regulation theories in retrospect and prospect', *Economy and Soc.*, 19, May 1990; 4. 'Towards a Schumpeterian Workfare State? Preliminary remarks on

post-Fordist political economy', *Stud. in Polit. Econ.*, 40, Spring 1993; 5. 'The regulation approach: implications for political theory', *J. Polit. Philo.*, 5, Sept. 1997; 6. 'Twenty years of the regulation approach: the paradox of success and failure at home and abroad', *New Polit. Econ.*, 2, Nov. 1997; 7. 'The rise of governance and the risks of failure: the case of economic development', *Intl Social Sc. J.*, 155, March 1998; 8. 'The changing governance of welfare: recent trends in its primary functions, scale, and modes of coordination', *Social Pol. and Admin.*, 33, Dec. 1999; 9. 'The crisis of the national spatio-temporal fix and the ecological dominance of globalizing capitalism', *Intl J. Urban and Regional Stud.*, 24, June 2000; 10. 'An entrepreneurial city in action: Hong Kong's emerging strategies in and for (inter-) urban competition' (with N.L. Sum), *Urb Stud*, 37, Dec. 2000; 11. 'Pre-disciplinary and post-disciplinary perspectives in political economy' (with N.L. Sum), *New Polit. Econ.*, 6, March 2001; 12. 'Institutional (re)turns and the strategic-relational approach', *Environment and Planning A*, 33, July 2001; 13. 'Regulationist and autopoieticist reflections on Polanyi's account of market economies and the market society', *New Polit. Econ.*, 6, July 2001; 14. 'Bringing the state back in (yet again): reviews, revisions, rejections, and redirections', *Intl Res. Sociology*, 11, July 2001; 15. 'Time and space in the globalization of capital and their implications for state power', *rethinking MARXISM*, 14, July 2002.

Principal Contributions As a post-disciplinary social scientist inspired by Marx's pre-disciplinary critique of political economy, my principal contributions to economics have been in the field of the critique of orthodox economics and the development of a heterodox evolutionary and institutionalist understanding of various economic practices and institutions

in the capitalist era. Thus my principal areas of research relevant to the field of economics concern the social embeddedness of the capitalist economy and its structural coupling and co-evolution in relation to other institutional orders (especially the state considered as an institutional ensemble) and the lifeworld (or civil society). I have worked on theories of the capitalist state for more than 25 years, developed a sympathetic critique of the Parisian and other regulation approaches and highlighted the role of state and discourse in the regularization of the inherently improbable nature of capital accumulation, elaborated a series of claims about the transformation of the Keynesian Welfare National State into an emergent Schumpeterian Workfare Postnational Regime, and developed a neo-Schumpeterian approach to entrepreneurial cities and the development of cross-border regions. I have also worked more recently on issues of globalization and regionalization, time-space distantiating and time-space compression, and the role of spatio-temporal fixes in securing islands of relative economic stability within an otherwise inherently unstable world economy.

JOHANNESSON, Magnus

Born 1964, Eksjö, Sweden.

Current Post Assoc. Prof., Dept Econ., Stockholm Sch. Econ., Stockholm, Sweden, 1994–.

Past Posts Vis. Asst Prof., Dept Health Pol. and Mgmt, Harvard Univ. Sch. Public Health, 1992–93; Asst Prof., Dept Econ., Stockholm Sch. Econ., 1992–94; Adjunct Asst Prof., Adjunct Assoc. Prof., Dept Health Pol. and Mgmt, Harvard Univ. Sch. Public Health, 1993–96, 1996–99.

Degrees BA, PhD Linköping Univ., 1989, 1991.

Honour Fulbright Award (Res. Scholar), 1992–93.

Editorial Duties Assoc. Ed., *JHE*, 1997–; Guest Ed., *Medical Decision Making*, special issue, 1998.

Principal Fields of Interest I1 Health; C9 Design of Experiments; D6 Welfare Economics.

Publications *Book*: 1. *Theory and Methods of Economic Evaluation of Health Care* (Kluwer Acad., 1996).

Articles: 1. ‘Willingness to pay for antihypertensive therapy: results of a Swedish pilot study’ (with B. Jönsson, L. Borgquist), *JHE*, 10, 1991; 2. ‘Willingness to pay for antihypertensive therapy: further results’ (with P.-O. Johannsson, B. Kriström, U.-G. Gerdtham), *JHE*, 12, 1993; 3. ‘Are healthy years equivalents an improvement over quality adjusted life-years?’ (with J.P. Pliskin, M.C. Weinstein), *Medical Decision Making*, 13, 1993; 4. ‘A note on QALYs, time-tradeoff, and discounting’ (with J.P. Pliskin, M.C. Weinstein), *Medical Decision Making*, 14, 1994; 5. ‘A note on the estimation of the equity–efficiency trade-off for QALYs’ (with U.-G. Gerdtham), *JHE*, 15, 1996; 6. ‘Cost-effectiveness of simvastatin treatment to lower cholesterol levels in patients with coronary heart disease’ (with B. Jönsson, J. Kjekshus, A.G. Olsson, T.R. Pedersen, H. Wedel), *New England J. Medicine*, 336, 1997; 7. ‘Standard gamble, time-trade-off and rating scale: experimental results on the ranking properties of QALYs’ (with H. Bleichrodt), *JHE*, 16, 1997; 8. ‘Quality of life and the WTP for an increased life expectancy at an advanced age’ (with P.-O. Johannsson), *J Pub E*, 65, 1997; 9. ‘Characterizing QALYs by risk neutrality’ (with H. Bleichrodt, P. Wakker), *JRU*, 15, 1997; 10. ‘Saving lives in the present versus saving lives in the future: is there a framing effect?’ (with P.-O. Johannsson), *JRU*, 15, 1997; 11. ‘Experimental results on expressed certainty

and hypothetical bias in contingent valuation’ (with K. Blumenschein, G.C. Blomquist, B. Liljas, R.M. O’Conor), *SEJ*, 65, 1998; 12. ‘Stated preferences, real behaviour and anchoring: some empirical evidence’ (with R.M. O’Conor, P.-O. Johannsson), *Environmental and Resource Econ.*, 13, 1999; 13. ‘Probability weighting and utility curvature in QALY-based decision making’ (H. Bleichrodt, J. van Rijn), *J. Math. Psychology*, 43, 1999; 14. ‘Calibrating hypothetical willingness to pay responses’ (with G.C. Blomquist, K. Blumenschein, P.-O. Johannsson, B. Liljas, R.M. O’Conor), *JRU*, 18, 1999; 15. ‘Income-related inequality in life-years and quality-adjusted life-years’ (with U.-G. Gerdtham), *JHE*, 19, 2000; 16. ‘Non-reciprocal altruism in dictator games’ (with B. Persson), *Econ. Letters*, 69, 2000; 17. ‘Hypothetical versus real willingness to pay in the health care sector: results from a field experiment’ (with K. Blumenschein, K.K. Yokoyama, P.R. Freeman), *JHE*, 20, 2001; 18. ‘Time preference for health: a test of stationarity versus decreasing timing aversion’ (with H. Bleichrodt), *J. Math. Psychology*, 45, 2001; 19. ‘Do life-saving regulations save lives?’ (with U.-G. Gerdtham), *JRU*, 24, 2002.

Principal Contributions Part of my work has been related to the application of welfare economics to the economic evaluation of health care programs. I have for instance worked with developing methods for valuing and aggregating health changes in cost–benefit and cost-effectiveness analysis. Another area of research has concerned the determinants of health and the inequality in health. Much of my work has also been in the area of experimental economics and behavioral economics, where I have worked on, for instance: hypothetical versus real purchase decisions, hyperbolic discounting, anchoring, and social preferences.

JOHANSEN, Søren

Born 1939, Hellerup, Denmark.

Current Post Prof. Math. Stats, Univ. Copenhagen, Denmark, 1964–.

Past Post Prof. Em., Europ. Univ. Inst., San Domenico di Fiesole, Italy, 1996–2001.

Degrees Candidate Degree (Math. Stats), DSc Univ. Copenhagen, 1964, 1974.

Offices and Honours Gold medal, Univ. Copenhagen, 1967; Fell., Inst. Math. Stats (IMS), 1973, Em Soc, 2000; Mem., Intl Stats Inst. (ISI), 1976; Mem., Comm. Stats in Physical Sc., 1978–81; Chairman, Program Comm., 14th Europ. Meeting Stats, Wroclaw, 1981; Mem., Comm. Fells, IMS, 1982–85, 1990–93; Chairman, Bernoulli Soc., 45th session, ISI, Amsterdam, 1985; Chairman, Program Comm., 46th session, ISI, Tokyo, 1987; Mem., Council for Bernoulli Soc., 1989–93; Dir. Ib Henriksen's award for outstanding res., 1997.

Editorial Duties Assoc. Ed., *Annals Stats*, 1974–81, *Annals Probability*, 1974–81, *Scand. J. Stats*, 1985–86, *Em. Theory*, 1990–, *Em*, 1997–; Ed., *Scand. J. Stats*, 1986–90.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C1 Econometric and Statistical Methods: General; C5 Econometric Modeling.

Publications *Books*: 1. *Likelihood-based Inference in Cointegrated Vector Autoregressive Models* (OUP, 1995, 1996); 2. *Workbook on Cointegration* (with P.R. Hansen), (OUP, 1998).

Articles: 1. 'Statistical analysis of cointegration vectors', *JEDC*, 12, 1988; 2. 'Maximum likelihood estimation and inference on cointegration – with applications to the demand for money' (with K. Juselius), *OBES*, 52, 1990; 3. 'Estimation and hypothesis testing of cointegration vectors in Gaussian vector

autoregressive models', *Em*, 59, 1991; 4. 'Cointegration in partial systems and the efficiency of single equation analysis', *J Em*, 52, 1992; 5. 'A representation of vector autoregressive processes integrated of order 2', *Em. Theory*, 8, 1992; 6. 'Structural tests in a multivariate cointegration analysis of the PPP and UIP for UK' (with K. Juselius), *J Em*, 53, 1992; 7. 'Identification of the long-run and the short-run structure. An application to the ISLM model' (with K. Juselius), *J Em*, 63, 1994; 8. 'Identifying restrictions of linear equations – with applications to simultaneous equations and cointegration', *J Em*, 69, 1995; 9. 'Likelihood analysis of the I(2) model' *Scand. J. Stats*, 433, 1997; 10. 'Likelihood analysis of seasonal cointegration' (with E. Schaumburg), *J Em*, 301, 1998.

Principal Contributions I have worked with the theory of cointegration and its applications in economics.

JOHN, Kose n.e.**JOHNSON, Eric J.**

Born 1954, Passaic, NJ, USA.

Current Post Norman Eig Prof. Bus., Columbia Bus. Sch., Columbia Univ., New York, NY, USA, 1999–.

Past Posts NSF Postdoctoral Fellowship in Psychology, Dept Psychology, Stanford Univ., 1980–81; Asst Prof. Ind. Admin., Assoc. Prof. Ind. Admin. and Psychology, Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1981–84, 1984–87; Vis. Assoc. Prof., Sloan Sch. Mgmt, MIT, 1984–85; Assoc. Prof. Marketing, Marketing Dept, Prof. Marketing, Decision Sc. and Psychology, David W. Hauck Prof. Marketing, Wharton Sch., Univ. Pennsylvania, 1987–92, 1992–99, 1997–99; Secondary appointment in Operations

and Info. Mgmt, 1989; Secondary appointment in Psychology, 1991.

Degrees BA (Human Communication, Highest Dept Hons) Rutgers Univ., 1976; MS (Psychology), PhD (Psychology) Carnegie-Mellon Univ., 1978, 1980.

Offices and Honours Dissertation Award, Consumer Psychology, Amer. Psychology Assoc., 1980; Fell., Russell Sage Foundation, 1993; Pres., Soc. Judgment and Decision-Making, 2004.

Editorial Duties Ed Bds, *J. Consumer Res.*, 1983–, *Marketing Sc.*, 1985–94, *J. Consumer Psychology*, 1994–, *J. Interactive Marketing*, 1997–, *Marketing Letters*, 1998–2001; Assoc. Ed., *J. Consumer Psychology*, 1993–96.

Principal Fields of Interest M3 Marketing and Advertising; D1 Household Behavior.

Publications *Books*: 1. *Decision Research: A Field Guild* (with J.S. Carroll), (Sage, 1990); 2. *The Adaptive Decision-Maker* (with J.W. Payne, J.R. Bettman), (CUP, 1993).

Articles: 1. 'Affect, generalization and the perception of risk' (with A. Tversky), *J. Personality and Social Psychology*, 45, 1983; 2. 'Product familiarity and learning new information' (with J.E. Russo), *J. Consumer Res.*, 11, 1984; 3. 'Representations of perceptions of risk' (with A. Tversky), *J. Experimental Psychology: General*, 113, 1984; 4. 'Effort and accuracy in choice' (with J.W. Payne), *Mgmt Sc.*, 31, 1985, repr. in P. Langley, P. Young, (eds), *Production System Models of Cognition* (Bradford Books: MIT Press, 1987); 5. 'When choice models fail: compensatory representations in negatively-correlated environments' (with R.J. Meyer, S. Ghose), *J. Marketing Res.*, 26, 1989; 6. 'Cognitive processes in preference reversals' (with D.A. Schkade), *Org. Behav. and Human Decision Processes*, 44, 1989; 7. 'A componential analysis of cognitive effort in choice' (with J. Bettman, J. Payne),

Org. Behav. and Human Decision Processes, 45, 1990; 8. 'Gambling with the house money and trying to break-even: the effects of prior outcomes on risky choice' (with R. Thaler), *Mgmt Sc.*, 36, 1990; 9. 'Behavioral decision research: a constructive processing perspective' (with J.W. Payne, J. R. Bettman), *Annual Rev. Psychology*, 43, 1992; 10. 'Does measuring intent change behavior?' (with V. Morwitz, D. Schmittlein), *J. Consumer Res.*, 20, 1993; 11. 'Framing, probability distortions, and insurance decisions' (with J. Hershey, J. Meszaros, H. Kunreuther), *JRU*, 7, 1993, repr. in C. Camerer, H. Kunreuther (eds), *Making Decisions about Liability and Insurance* (Kluwer, 1993), and D. Kahneman, A. Tversky (eds), *Choices, Values, and Frames* (CUP, 2000); 12. 'Reference dependence, loss aversion, and brand choice' (with B. Hardie, P. Fader), *Marketing Sc.*, 12, 1993; 13. 'Correlation, conflict and choice', (with J.R. Bettman, M.F. Luce, J.W. Payne), *J. Experimental Psychology: Human Learning and Cognition*, 19, 1993; 14. 'Mere-possession effects without possession in consumer choice' (with S. Sen), *J. Consumer Res.*, 24, 1997; 15. 'Divide and prosper: why firms divide prices instead of charging a single price' (with V. Morwitz, E. Greenleaf), *J. Marketing Res.*, 35, 1998; 16. 'Anchoring, confirmatory search and the construction of values' (with G. Chapman), *Org. Behav. and Human Decision Processes*, 79, 1999; 17. 'When web pages influence choice: effects of visual primes on experts and novices' (with N. Mandel), *J. Consumer Research*, forthcoming; 18. 'Detecting failures of backward induction: monitoring information search in sequential bargaining' (with C.F. Camerer, S. Sen, T. Rymon), *JET*, forthcoming.

Principal Contributions As a psychologist with specific interests in markets, games and consumer behaviour, I

have concentrated on understanding the cognitive processes involved in judgement, valuation and choice, and in demonstrating the relevance of principle from behavioural decision research to economics. Specifically, I have done work in introducing process tracing analysis to the study of games, to the analysis of preference reversals and to understanding the selection of choice processes. A second stream of work has examined the role of representations in pricing and choice including work in mental accounting and consumer choice. Finally, I have also been interested in the role of behavioural factors such as affect, availability and framing in the perception of risk.

JOHNSON, George Edwards

Born 1940, Boston, MA, USA.

Current Post Prof. Econ., Univ. Michigan, Ann Arbor, MI, USA, 1966–.

Past Posts Res. Fell., Univ. Nairobi, Kenya, 1970–71; Dir., Office Evaluation, US Dept Labor, 1971–74; Sr Econ., US President's Council Econ. Advisers, 1977–78; Vis. Fell., LSE, 1979; Res. Assoc., NBER, Cambridge, MA, 1983–; Vis. Prof., CERGE, Charles Univ., Prague, 1992–93.

Degrees MA, PhD Univ. California, Berkeley, 1964, 1968.

Principal Fields of Interest J4 Particular Labor Markets; I3 Welfare and Poverty.

Publications Articles: 1. 'Bargaining theory, trade unions and industrial strike activity' (with O. Ashenfelter), *AER*, 59, March 1969; 2. 'The demand for labor by educational category', *SEJ*, 37, Oct. 1970; 3. 'Earnings and promotion of women faculty' (with F. Stafford), *AER*, 64, Dec. 1974; 4. 'Fiscal substitution effect' (with J. Tomola), *JHR*, 12, Winter 1977; 5. 'Theory of labour market intervention',

Ec, 47, Aug. 1980; 6. 'Subsidies for higher education', *J Lab E*, 2, July 1984; 7. 'Work rules, featherbedding, and Pareto-optimal union-management bargaining', *J Lab E*, 8, Jan. 1990; 8. 'International competition and real wages' (with F. Stafford), *AER*, 73, May 1992; 9. 'Changes in the structure of wages during the 1980s' (with J. Bound), *AER*, 72, June 1992.

Principal Contributions In the first part of my career I was interested in straightforward questions about how labour markets work and also in how to integrate unionism into an economic framework. In the 1970s I became interested in how government policies influence labour market outcomes. Since the mid-1980s I have been working on theoretical and empirical questions involving determinants of the distribution of earnings.

JONES, Charles I. n.e.

JONES, Derek Charles

Born 1946, Middlesbrough, Cleveland, UK.

Current Post Prof., Hamilton Coll., Clinton, NY, USA, 1984–.

Past Posts Instr., Cornell Univ., 1971; Instr., Asst Prof., Assoc. Prof., Chair, Hamilton Coll., 1972, 1973, 1978, 1978–83 and 1987–92; Assoc. Fell., Program on Participation and Labor Mgmt, Cornell Univ., 1978–95; Vis. Fell., Warwick Univ., 1976–77; Res. Fell., Manchester Univ., 1984–85, Davidson Inst., Univ. Michigan, 2001–; Vis. Prof., London Bus. Sch., 1996–97, Hitotsubashi Univ., 2002; Vis. Scholar, Cambridge Univ., 1996–97, Oxford Univ., 2002–03.

Degrees BA Newcastle upon Tyne Univ., 1968; MSc LSE, 1969; MA, PhD Cornell Univ., 1970, 1974.

Offices and Honours Fellowship, SSRC, Univ. Warwick, 1976–77; Res. Fell., German Marshall Fund, 1983; Hallsworth Fellowship, Manchester Univ., 1984–85; 1st incumbent, James L. Ferguson Professorship, Hamilton Coll., 1987–91; 1st incumbent, Irma M. and Robert D. Morris Professorship, Hamilton Coll., 1999–; Pres., Econ. Participation, 1996–98, Assoc. Comparative Econ. Stud., 2003.

Editorial Duties Series Co-Ed., *Advances in the Economic Analysis of Participatory and Labor Managed Firms*, 1985–; Bd Eds, *Econ. Analysis and Workers' Mgmt*, 1985–95, *Econ. and Ind. Democracy*, 1987–98; Exec. Comm., *Comparative Econ. Stud.*, 1993–95; Ed. Bd, *Annals Public and Co-op. Econ.*, 1994–.

Principal Fields of Interest J5 Labor–Management Relations, Trade Unions, and Collective Bargaining; P5 Comparative Economic Systems; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Participatory and Self-Managed Firms: Evaluating Economic Performance* (ed. with J. Svejnar), (Lexington, 1982, 1983); 2. *The Bulgarian Economy: Lessons from Reform During Early Transition* (ed. with J. Miller), (Avebury, 1997); 3. *Handbook of Economics in the Electronic Age* (sr ed.), (Acad. Press, forthcoming 2003).

Articles: 1. 'British producer cooperatives and the views of the Webbs on participation and ability to survive', *Annals Public and Co-op. Econ.*, 46, Jan./March, 1975; 2. 'British producer cooperatives in the footwear industry: an empirical evaluation of the theory of financing' (with D.K. Backus), *EJ*, 87, 1977; 3. 'US producer cooperatives: the record to date', *Ind. Relations*, 18, Fall 1979, repr. in D.L. Prychitko, J. Vanek (eds), *Producer Cooperatives and Labor Managed Systems*, (Edward Elgar, 1996); 4. 'The economic performance of producer cooperatives in command economies: evidence for the

case of Poland', *Camb JE*, 9, 1985, repr. in D.L. Prychitko, J. Vanek (eds), *Producer Cooperatives and Labor-Managed Systems* (Edward Elgar, 1996); 5. 'The effects of worker participation in management on enterprise performance: some empirical evidence' (with S. Estrin, J. Defourney), *IJIO*, 3, 1985; 6. 'Participation, profit sharing, worker ownership and efficiency in Italian producer cooperatives' (with J. Svejnar), *Em*, 52, Nov. 1985; 7. 'Productivity effects of worker participation: producer cooperatives in western economies' (with S. Estrin, J. Svejnar), *J Comp E*, 11, 1987, repr. in D.L. Prychitko, J. Vanek (eds), *Producer Cooperatives and Labor-Managed Systems* (Edward Elgar, 1996); 8. 'The viability of employee-owned firms: evidence from France' (with S. Estrin), *ILRR*, 45, Jan. 1992; 9. 'Labor managed vs. private firms: an empirical comparison of cooperatives and private firms in central Italy' (with W. Bartlett, J. Cable, S. Estrin, S. Smith), *ILRR*, 45, Oct. 1992; 10. 'Theoretical and empirical studies of producer cooperatives: will the twain ever meet?' (with J. Bonin, L. Putterman), *JEL*, 31, Sept. 1993, repr. in D.L. Prychitko, J. Vanek (eds), *Producer Cooperatives and Labor-Managed Systems* (Edward Elgar, 1996); 11. 'The productivity effects of bonuses and employee ownership: evidence using Japanese panel data' (with T. Kato), *AER*, 85, June 1995; 12. 'Productivity effects of employee ownership: a theoretical framework' (with A. Ben-Ner), *Ind. Relations*, 34, Oct. 1995; 13. 'The determinants of executive compensation in economies in transitional economies: evidence from Bulgaria' (with T. Kato), *Labour Econ.*, 1996; 14. 'The nature and the determinants of labor market transitions in emerging market economies: evidence from Bulgaria' (with T. Kato), *Ind. Relations*, 36, 1997; 15. 'The determinants of investment in employee-owned firms: evidence from France' (with

S. Estrin), *Econ. Analysis*, 1, 1998; 16. 'Productive efficiency during transition: evidence from Bulgarian panel data' (with M. Klinedinst C. Rock), *J Comp E*, 26, 1998; 17. 'Ownership and productive efficiency: evidence from Estonian panel data' (with N. Mygind), *Rev. Devlp. Econ.*, 6, 2002.

Principal Contributions I undertook some of the first econometric analyses of producer cooperatives in western economies (mainly the UK, US, France and Italy). Some findings challenged the conventional wisdom that such firms were inherently inefficient and unstable. Subsequently my work has expanded to include theoretical and empirical analysis of a broader range of forms of corporate governance and employee participation and employee ownership for firms in several developed countries (notably Japan and the UK). A second research area is transition economies, with contributions in several areas including the determinants of economic performance (and the potential benefits of insider ownership), the determinants of CEO compensation, the determinants of wages and the roles of labor unions. This work has concentrated on Bulgaria, the Baltic Republics and Russia. Future contributions are anticipated from work-in-progress in two other areas – economic development in depressed communities and the new economy and internet economics. Note that, as is evident from the list of cited works, I have had the good fortune to work and publish with a number of excellent collaborators.

JONES, Larry E.

Born 1953, Sacramento, CA, USA.

Current Post Prof. Econ., Univ. Minnesota, Minneapolis, MN, USA, 1999–.

Past Post Prof. Managerial Econ., Northwestern Univ., 1981–99.

Degrees BA, BS (Maths), MA, MA (Maths) Univ. California, Davis, 1975, 1975, 1977, 1977; PhD Univ. California, Berkeley, 1981.

Offices and Honours Sloan Foundation Res. Professorship, 1986–88; Fell., Em Soc, 1990.

Editorial Duties Assoc. Ed., *Em*, 1983–86, 1996–99, *J Math E*, 1986–89, *JEDC*, 1991–94.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; D6 Welfare Economics; O0 Economic Development, Technological Change, and Growth: General.

Publications Articles: 1. 'Existence of equilibrium with infinitely many consumers and infinitely many commodities: a theorem based on models of commodity differentiation', *J Math E*, 12, 1983; 2. 'A competitive model of commodity differentiation', *Em*, 52, March 1984; 3. 'Special problems arising in the study of economies with infinitely many commodities', in H. Sonnenschein (ed.), *Models of Economic Dynamics* (S-V, 1986); 4. 'The efficiency of monopolistically competitive equilibria in large economies: commodity differentiation with gross substitutes', *JET*, 41, April 1987; 5. 'Optimum product diversity and the incentives for entry in large economies', *QJE*, 103, Aug. 1987; 6. 'Existence of equilibria with infinitely many commodities: Banach lattices revisited', *J Math E*, 16, 1987; 7. 'The characteristics model, hedonic prices and the clientele effect', *JPE*, 96, June 1988; 8. 'A convex model of equilibrium growth: theory and policy implications' (with R.E. Manuelli), *JPE*, 98, 1990; 9. 'The coordination problem and equilibrium theories of recessions' (with R.E. Manuelli), *AER*, 82, June 1992; 10. 'Finite lifetimes and growth' (with R.E. Manuelli), *JET*, 58, 1992; 11. 'Equilibrium in competitive, infinite dimensional settings', in J.J. Laffont (ed.), *Advances in Economic Theory: Sixth World Congress*

of the *Econometric Society*, Vol. II (CUP, 1992); 12. 'Optimal taxation in models of endogenous growth' (with R.E. Manuelli, P.E. Rossi), *JPE*, 101, 1993; 13. 'The growth effects of monetary policy' (with V.V. Chari, R.E. Manuelli), *Q. Rev. FRB, Minneapolis*, Fall 1995; 14. 'The sources of growth' (with R.E. Manuelli), *JEDC*, 21, 1997; 15. 'On the optimal taxation of capital income' (with R.E. Manuelli, P.E. Rossi), *JET*, 73, 1997; 16. 'The economics of split voting in representative democracies' (with V.V. Chari, R. Marimon), *AER*, 87, 1997; 17. 'A reconsideration of the problem of social cost: free riders and monopolists' (with V.V. Chari), *ET*, 16, 2000; 18. 'Endogenous policy choice: the case of pollution and growth' (with R.E. Manuelli), *Rev. Econ. Dynamics*, 4, 2001; 19. 'Volatile policy and private information: the case of monetary shocks' (with R.E. Manuelli), *JET*, 99, 2001; 20. 'Mortality, fertility and savings decisions' (with M. Boldrin), *Rev. Econ. Dynamics*, forthcoming.

Principal Contributions Most of my recent work has concentrated on the theory underpinning models of growth in dynamic general equilibrium models. My focus has been on the role played by central governments in determining the development possibilities in these settings. In particular, I have studied the relationship between various aspects of fiscal and monetary policy on the equilibrium long-run rate of growth.

JÖNSSON, Bengt Göran

Born 1944, Helsingborg, Sweden.

Current Post Prof. Health Econ., Dept Econ., Stockholm Sch. Econ., Stockholm, Sweden, 1991–.

Past Posts Lect., Dept Econ., Lund Univ., 1970–82; Prof. Health Econ., Univ. Linköping, 1982–91.

Degrees BA, MA (Fil. Lic.), PhD Lund Univ., 1969, 1972, 1976.

Editorial Duties Ed. Bds, *JHE*, 1982–, *PharmacoEcon.*, 1992–, *Europ. J. Health Econ.*, 2000–, *J. Mental Health Pol. and Econ.*, 2000–, *Res. in Healthcare Fin. Mgmt*, 2000–.

Principal Fields of Interest I1 Health; D6 Welfare Economics; H5 National Government Expenditures and Related Policies.

Publications *Books*: 1. *Cost–Benefit Analysis in Public Health and Medical Care* (Liber, 1976); 2. *Public and Private Health Services* (ed. with A.J. Culyer), (Blackwell, 1986); 3. *Reference Pricing and Pharmaceutical Policy, Perspectives on Economics and Innovation* (with G. López-Casanovas), (S-V, 2001).

Articles: 1. 'Application of cost benefit analysis to health problems', in V. Halberstadt, A.J. Culyer (eds), *Public Economics and Human Resources* (Cujas, 1977); 2. 'A review of the macro economic evaluation of cimitidine', in A.J. Culyer, B. Horrisberger (eds), *Economic and Medical Evaluation of Health Care Technologies* (Springer, 1983); 3. 'Market life, age structure and renewal – an analysis of pharmaceutical specialities and substances in Sweden 1960–82', *Managerial and Decision Econ.*, 6, 1984; 4. 'Price and quantity in international comparisons of health care expenditures' (with U. Gerdtham), *Apl. Econ.*, 23, 1991; 5. 'An econometric analysis of health care expenditure: a cross-section study of the OECD countries' (with U. Gerdtham, J. Sogaard, F. Andersson), *JHE*, 11, 1991; 6. 'International comparisons of health care expenditure – conversion factor instability, heteroscedasticity, outliers and robust estimators' (with U. Gerdtham), *JHE*, 12, 1992; 7. 'Willingness to pay for lipid lowering: a health production function approach' (with M. Johannesson, P.O. Johannsson, B. Kristrom, L. Borgquist),

Apl. Econ., 25, 1993. 8. 'Cost-effectiveness of cholesterol lowering, results from the Scandinavian Simvastatin Survival Study (4S)' (with M. Johannesson, J. Kjekshus, A.G. Olsson, T.R. Pedersen, H. Wedel), *Europ. Heart J.*, 17, 1996; 9. 'Impact of inhaled corticosteroids on asthma hospitalization in Sweden' (with U. Gerdtham, P. Hertzman, G. Boman), *Apl. Econ.*, 28, 1996; 10. 'Outcome measurement in economic evaluation' (with M. Johannesson, G. Karlsson), *Health Econ.*, 5, 1996; 11. 'Economic evaluation alongside multinational clinical trials, study considerations for GUSTO IIb' (with M.C. Weinstein), *Intl J. Tech. Assessment in Health Care*, 13, 1997; 12. 'Cost effectiveness of Simvastatin treatment to lower cholesterol levels in patients with coronary heart disease' (with M. Johannesson, J. Kjekshus, A.G. Olsson, T.R. Pedersen, H. Wedel), *New England J. Medicine*, 30, Jan. 1997; 13. 'Economic consequences of the progression of rheumatoid arthritis in Sweden' (with G. Kobelt, K. Eberhardt, L. Jönsson), *Arthritis and Rheumatism*, 42, Feb. 1999; 14. 'International comparisons of health expenditures: theory, data and econometric analysis' (with U.-G. Gerdtham), in A.J. Culyer, J.P. Newhouse (eds), *Handbook of Health Economics*, Vol. 1A (Elsevier, 2000); 15. 'Flat or monotonic pricing of pharmaceuticals: practice and consequences', *Europ. J. Health Econ.*, 2, 2001; 16. 'Economics of drug treatment: for which patients is it cost-effective to lower cholesterol?', *Lancet*, 358, 2001.

Principal Contributions Most of my work is related to economic evaluation of new medical technology, international health care cost comparisons, and the organisation and financing of health care systems. Main contributions are in the areas of methods and application of cost-effectiveness and cost-benefit analysis in health care, and in the analysis of deter-

minants of variations in international health care expenditures.

JORGENSEN, Dale W.

Born 1933, Bozeman, MT, USA.

Current Posts Samuel W. Morris Univ. Prof., Harvard Univ., Cambridge, MA, USA, 2002–; Dir., Program on Tech. Econ. Pol., John F. Kennedy Sch. Govt, 1984–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. California, Berkeley, 1958–61, 1961–63, 1963–69; Ford Foundation Res. Prof. Econ., Prof., Univ. Chicago, 1962–63, 1969–80; Chairman, Dept Econ., Frederic Eaton Abbe Prof. Econ., Harvard Univ., 1994–97, 1984–2002.

Degrees BA Reed Coll., 1955; AM, PhD Harvard Univ., 1957, 1959.

Offices and Honours Fell., Pres., Em Soc, 1964, 1987; Fell., ASA, 1965, AAAS, 1969, Center Adv. Study in Behav. Sc., 1975, AAAS, 1982, Amer. Philo. Soc., 1998; John Bates Clark Medal, Pres., Disting. Fell., AEA, 1971, 2000, 2001; Mem., Chairman, Section 54, Econ. Sc., NAS, 1978, 2000–03; Foreign Mem., Royal Swedish Acad. Sc., 1989; Hon. DPhil, Univs Oslo, Norway, 1991, Uppsala, Sweden, 1991; Mem., Chairman, Bd on Sc., Tech. and Econ. Pol., NRC, 1991–98, 1998–.

Editorial Duties Assoc. Ed., *JASA*, 1962–65, *REStat*, 1969–2002; Amer. Ed., *REStud*, 1963–67; Ed., *AER*, 1967–69; Managing Ed., *Contrib. to Econ. Analysis*, 1969–99; Co-Ed., *Bell JE*, 1970–76.

Principal Fields of Interest C5 Econometric Modeling; E2 Consumption, Saving, Production, Employment, and Investment; O4 Economic Growth and Aggregate Productivity.

Publications Books: 1. *International Comparisons of Economic Growth* (MIT Press, 1995); 2. *Postwar US Economic Growth* (MIT Press, 1995); 3. *Capital*

Theory and Investment Behavior (MIT Press, 1996); 4. *Tax Policy and the Cost of Capital* (MIT Press, 1996); 5. *Aggregate Consumer Behavior* (MIT Press, 1997); 6. *Measuring Social Welfare* (MIT Press, 1997); 7. *Econometric General Equilibrium Modeling* (MIT Press, 1998); 8. *Energy, the Environment, and Economic Growth* (MIT Press, 1998); 9. *Econometric Modeling of Producer Behavior* (MIT Press, 2000); 10. *Lifting the Burden: Tax Reform, the Cost of Capital, and US Economic Growth* (with K.-Y. Yun), (MIT Press 2001); 11. *Economic Growth in the Information Age* (MIT Press, 2002).

Articles: 1. 'Capital theory and investment behavior', *AER*, 53, May 1963; 2. 'The explanation of productivity change' (with Z. Griliches), *REStud*, 34, July 1967; 3. 'Econometric studies of investment behavior: a review', *JEL*, 9, Dec. 1971; 4. 'Transcendental logarithmic production frontiers' (with L.R. Christensen, L.J. Lau), *REStat*, 55, Feb. 1973; 5. 'Econometric methods for modeling producer behavior', in Z. Griliches, M. Intriligator (eds), *Handbook of Econometrics*, Vol. 3 (N-H, 1986); 6. 'Productivity and economic growth', in E. Berndt, J. Triplett (eds), *Fifty Years of Economic Measurement* (UCP, 1990); 7. 'Aggregate consumer behavior and the measurement of social welfare', *Em*, 58, Sept. 1990; 8. 'Energy, the environment, and economic growth' (with P.J. Wilcoxon), in A. Kneese, J. Sweeney (eds), *Handbook of Natural Resource and Energy Economics*, Vol. 3 (N-H, 1993); 9. 'Information technology and the US economy', *AER*, 91, 2001.

Principal Contributions My contributions to economics are in the areas of investment, productivity, econometrics, welfare, and growth. The common element in these five bodies of research is a model of capital as a factor of production introduced by me in 1963. The key innovation

in this model is the concept of the cost of capital, which incorporates the tax structure for capital income as a determinant of demand for capital services. The cost of capital and the closely related notion of the marginal effective tax rate have generated a voluminous literature. The cost of capital has been incorporated into both conventional macro-econometric models and general equilibrium models of the impact of tax policy. Marginal effective tax rates played an important role in the proposals that led to the Tax Reform Act of 1986 in the United States. These measures are now available for literally dozens of countries. My research on productivity, initiated in 1966, has generated complete systems of national accounts suitable for econometric modeling. The cost of capital is imbedded in these systems as the price of capital services. Data from the systems of national accounts underlie the econometric modeling of producer and consumer behavior in my seminal papers of 1971, 1973, and 1975. These papers introduce econometric methods for representing technology and preferences that have been widely applied in practice. Econometric models of producer and consumer behavior are the building blocks of my intertemporal general equilibrium models. The intertemporal price system balances demand and supply for products and factors of production and links asset prices to discounted values of future capital services. This forward-looking feature is combined with backward linkages among investment, capital stock, and capital services in modeling the dynamics of long-run growth empirically.

JORION, Philippe

Born 1955, Brussels, Belgium.

Current Post Prof. Fin., Univ. California, Irvine, CA, USA, 1992–.

Past Posts Asst Prof., UBC, 1983–84; Assoc. Prof., Columbia Univ., 1984–91; Vice-Dean, Univ. California, Irvine, 1998–2001.

Degrees Eng., Univ. Libre de Bruxelles, 1978; MBA, PhD (Fin.) Univ. Chicago, 1980, 1983.

Honours Disting. Paper, Smith–Breedon Prize, 1999; William F. Sharpe Award, *JFQA*, 1999; Best Paper Award, *Europ. Fin. Mgmt.*, 2000.

Editorial Duties Ed., *J. Risk*, 1998–; Assoc. Ed., *J. Multinatl Fin. Mgmt.*, 1989–, *Intl Rev. Fin.*, 2000–, *J. Empirical Fin.*, 1991–, *J. Investing*, 1993–, *Global Fin. J.*, 1994–.

Principal Fields of Interest F3 International Finance; G1 General Financial Markets; G2 Financial Institutions and Services.

Publications Books: 1. *Financial Risk Management: Domestic and International Dimensions* (with S. Khoury), (Blackwell, 1995; trans., Japanese, 1997); 2. *Big Bets Gone Bad: Derivatives and Bankruptcy in Orange County* (Acad. Press, 1995; trans., Chinese, 1997); 3. *Value at Risk: The New Benchmark for Managing Financial Risk* (McGraw-Hill, 2000; trans., Chinese, Hungarian, Japanese, Korean, Polish, Portuguese, Spanish); 4. *Financial Risk Manager Handbook* (Wiley, 2001).

Articles: 1. ‘International portfolio diversification with estimation risk’, *J Bus*, 58, July 1985; 2. ‘Integration vs. segmentation in the Canadian stock market’ (with E. Schwartz), *J Fin*, 41, July 1986; 3. ‘Bayes–Stein estimation for portfolio analysis’, *JFQA*, 21, Sept. 1986; 4. ‘The time-variation of risk and return in the foreign exchange and stock markets’ (with A. Giovannini), *J Fin*, 44, June 1989; 5. ‘Purchasing power parity in the long run’ (with N. Abuaf), *J Fin*, 45, March 1990; 6. ‘The exchange rate exposure of US multinationals’, *J Bus*, 63, July 1990; 7.

‘Portfolio optimization in practice’, *Fin. Analysts J.*, 48, Jan. 1992; 8. ‘Testing the predictive power of dividend yields’ (with W. Goetzmann), *J Fin*, 48, June 1993; 9. ‘Currency hedging for international portfolios’ (with J. Glen), *J Fin*, 48, Dec. 1993; 10. ‘A mean-variance analysis of currency overlays’, *Fin. Analysts J.*, 50, May 1994; 11. ‘Predicting volatility in the foreign exchange market’, *J Fin*, 50, June 1995; 12. ‘Valuing executive stock options with endogenous departure’ (with C. Cuny), *JAЕ*, 20, Sept. 1995; 13. ‘Re-emerging markets’ (with W. Goetzmann), *Fin. Analysts J.*, 34, March 1999; 14. ‘Global stock markets in the twentieth century’ (with W. Goetzmann), *J Fin*, 54, June 1999; 15. ‘Risk management lessons from long-term capital management’, *Europ. Fin. Mgmt.*, 6, Sept. 2000; 16. ‘How informative are value-at-risk disclosures?’, *J. Accounting Res.*, 77, Oct. 2002.

Principal Contributions Most of my work deals with financial risk management. Early research focussed on portfolio optimization in the presence of estimation risk, i.e., uncertainty in parameter inputs. I also studied asset allocation among international investments. This involves forecasting currency movements and volatility. My paper on purchasing power parity (PPP) was the first to show that PPP holds over the recent flexible exchange rate period. The papers with Will Goetzmann deal with the effect of survivorship in equity markets. We show that the high historical equity premium obtained for US stocks is an artifact of survival. Later work focussed on risk measurement methods, learning from financial disasters such as Orange County and long-term capital management. My book on *Value at Risk* (VAR), aimed at finance practitioners, has become a best-seller in its field and has contributed to the spread of risk management practices across the world.

JOSKOW, Paul L.

Born 1947, New York City, NY, USA.

Current Post Elizabeth and James Killian Prof. Econ. and Mgmt, MIT, Cambridge, MA, USA, 1978–.

Past Posts Asst Prof., Assoc. Prof., MIT, 1972–75, 1975–78; Vis. Prof., Vis. Scholar, John F. Kennedy Sch. Govt, Harvard Univ., 1979–80, 1998–99; John M. Olin Vis. Scholar, Harvard Law Sch., 1988–90; Head, Dept Econ., MIT, 1994–98.

Degrees BA Cornell Univ. 1968; MPhil, PhD Yale Univ., 1971, 1972.

Offices and Honours Phi Beta Kappa; Woodrow Wilson Fell.; NSF Grad. Fell.; Fell., Center Adv. Stud. Behav. Sc., Stanford Univ., 1985–86; Best Paper Award (with D. Marron), Intl Assoc. Energy Econ., 1993; Disting. Service Award, Public Utility Res. Center, Univ. Florida, 1993; Edward A. Hewett Prize (with R. Schmalensee, N. Tsukanova), Amer. Assoc. Advancement Slavic Stud., 1995; Fell., Em Soc, AAAS; Vice-Pres., Pres., Intl Soc. New Institutional Econ., 2001–02, 2002–03.

Editorial Duties Co-Ed., *Bell JE*, 1977–78, *JLEO*, 1992–95; Ed. Bds, *Land Econ.*, 1975–80, *Bell JE*, 1976–83, *Energy J.*, 1981–87, *RandJE*, 1984–85, *JLEO*, 1984–, *Intl J. Law and Econ.*, 1987–91, *J. Fin. Intermediation*, 1989–92, *Polit. and Econ*, 1990–94, *Electricity J.*, 1992–, *AER*, 1993–99, *Public Utilities Law Anthology*, 1995–98, *J. Managerial and Decision Econ.*, 1997–, *Utilities Pol.*, 1998–.

Principal Fields of Interest L5 Regulation and Industrial Policy; L2 Firm Objectives, Organization, and Behavior; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Books*: 1. *Electric Power in the United States: Models and Policy Analysis* (with M. Baughman, D. Kamat),

(MIT Press, 1979); 2. *Controlling Hospital Costs: The Role of Government Regulation* (MIT Press, 1981); 3. *Markets for Power: An Analysis of Electric Utility Deregulation* (with R. Schmalensee), (MIT Press, 1983); 4. *Markets for Clean Air: The US Acid Rain Program* (with A.D. Ellerman *et al.*), (CUP, 2000); 5. *Economic Regulation* (ed.), (Edward Elgar, 2000).

Articles: 1. ‘Vertical intergration and long-term contracts: the case of coal-burning electric generating plants’, *JLEO*, 1, Spring 1985, repr. in O.E. Williamson (ed.), *Industrial Organization* (Edward Elgar, 1990, 1996), and O.E. Williamson, S.E. Masten (eds), *Transaction Cost Economics* (Edward Elgar, 1995); 2. ‘Incentive regulation for electric utilities’ (with R. Schmalensee), *Yale J. Regulation*, 4, Dec. 1986, repr. in A.P. Zabriskie (ed.), *Public Utilities Law Anthology* (Intl Library Law Book Publishers, 1986); 3. ‘Contract duration and relationship specific investments: empirical evidence from coal markets’, *AER*, 27, March 1987, repr. in O.W. Williamson, S.E. Masten (eds), *Transaction Cost Economics* (Edward Elgar, 1995, 1999), and S. Masten (ed.), *Case Studies in Contracting and Organization* (OUP, 1996); 4. ‘Price adjustment in long-term contracts: the case of coal’, *J Law E*, 31, April 1988; 5. ‘Regulatory failure, regulatory and structural change in the electric power industry’, *BPEA: Microecon.*, 1989; 6. ‘The performance of long-term contracts: further evidence from coal markets’, *RandJE*, 21, Summer 1990; 7. ‘Competition policy in Russia during and after privatization’ (with R. Schmalensee, N. Tsukanova), *BPEA: Microecon.*, 1994; 8. ‘Political constraints on executive compensation: evidence from the electric utility industry’ (with N. Rose, C. Wolfram), *RandJE*, 27, Spring 1996, repr. in K. Hallock, K. Murphy (eds), *The Economics of Executive Compensation*

(Edward Elgar, 1998); 9. 'The market for sulfur dioxide emissions' (with R. Schmalensee, E. Bailey), *AER*, 88, 1998; 10. 'The political economy of market-based environment policy: the 1990 US acid rain program' (with R. Schmalensee), *J Law E*, 41, April 1998; 11. 'Transmission rights and market power on electric power networks' (with J. Tirole), *RandJE*, 31, Autumn 2000; 12. 'Transaction cost economics, antitrust rules and remedies', *JLEO*, 18, April 2002.

Principal Contributions My research has focused on three primary areas. First, a great deal of my research has been devoted to understanding the causes and consequences of government regulation of industrial markets and, more generally, the relationships between government and business. I believe that to understand the causes and effects of government regulation, one must have an understanding of alternative normative and positive theories of government regulation, a detailed understanding of the industries being regulated, as well as an appreciation for the institutional arrangements that have evolved for regulating them. Thus, my research has focused on conceptual issues associated with government regulation of industry as well as numerous empirical studies of regulation and regulatory reform in the electric power sector, the property casualty insurance industry, the hospital sector, and various primary energy markets. This work has led as well to more general empirical studies of economies of scale, the diffusion of new technologies, and firm performance using data drawn from these industries. More recently, this work has led me to focus on issues associated with the political economy of regulation and the performance of market-based mechanisms for controlling pollution. Second, my research has examined empirically alternative vertical governance arrangements between enterprises

at different levels of the production chain. This work has been motivated by recent theoretical work on incomplete contracts, asset specificity and information asymmetries. I have written several papers examining the choice between vertical integration and contracts between coal suppliers and electric utilities, and the factors that determine the duration and price-adjustment features of long-term contracts. Third, my research has examined alternative normative approaches to economic regulation, antitrust and competition policy. Most recently, these interests have drawn me to work on issues associated with privatization, restructuring, competition and regulatory reform in network industries in developed and developing countries.

JOULFAIAN, David n.e.

JOVANOVIC, Boyan n.e.

JOYCE, Theodore n.e.

JUDD, Kenneth Lewis

Born 1953, Madison, WI, USA.

Current Post Sr Fell., Hoover Inst., Stanford, CA, USA, 1988–.

Past Posts Post-Doctoral Fell., Univ. Chicago, 1980–81; Asst Prof., Assoc. Prof., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1981–84, 1984–86; Natl Fell., Hoover Inst., 1986–87; Vis. Prof., Grad. Sch. Bus., Univ. Chicago, 1987–88.

Degrees BS (Maths), BS (Computer Sc.), MS (Maths), MS, PhD Univ. Wisconsin, 1975, 1975, 1977, 1979, 1981.

Offices and Honours Alfred E. Sloan Fellowship, 1985; Fell., Em Soc, 1990;

Pres., Soc. Computational Econ., 1996–98.

Editorial Duties Bd Eds, *AER*, 1987–90; Co-Ed., *RandJE*, 1988–95, *JEDC*, 2002–; Assoc. Ed., *J Pub E*, 1988–97, *JEDC*, 1998–2001.

Principal Fields of Interest C6 Mathematical Methods and Programming; H2 Taxation, Subsidies, and Revenue; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Book*: 1. *Numerical Methods in Economics* (MIT Press, 1998).

Articles: 1. ‘Tariffs, technology transfers, and welfare’ (with R. Feenstra), *JPE*, 90, Dec. 1982; 2. ‘Equilibrium price dispersion’ (with K. Burdett), *Em*, 51, July 1983; 3. ‘The law of large numbers with a continuum of IID random variables’, *JET*, 35, Feb. 1985; 4. ‘On the performance of patents’, *Em*, 53, May 1985; 5. ‘Credible spatial preemption’, *RandJE*, 16, Summer 1985; 6. ‘Redistributive taxation in a perfect foresight model’, *J Pub E*, 28, Oct. 1985; 7. ‘Liquidity constraints, fiscal policy, and consumption’ (with G. Hubbard), *BPEA*, 1, 1986; 8. ‘The welfare cost of factor taxation in a perfect foresight model’, *JPE*, 95, Aug. 1987; 9. ‘Equilibrium managerial incentives in oligopoly’ (with C. Fershtman), *AER*, 77, Dec. 1987; 10. ‘Projection methods for solving aggregate growth models’, *JET*, 58, Dec. 1992; 11. ‘Price and quality in a new product monopoly’ (with M. Riordan), *REStud*, 61, Oct. 1994; 12. ‘Solving large-scale rational-expectations models’ (with J. Gaspar), *Macroecon. Dynamics*, 1, 1997; 13. ‘Computational economics and economic theory: substitutes or complements?’, *JEDC*, 21, June 1997; 14. ‘Asymptotic methods for aggregate growth models’ (with S.-M. Guu), *JEDC*, 21, June 1997; 15. ‘Optimal taxation and spending in general competitive growth models’, *J Pub E*, 71, Jan. 1999; 16. ‘Asset market equilibrium with general tastes, returns, and informational

asymmetries’ (with A. Bernardo), *J. Fin. Markets*, 1, 2000; 17. ‘The impact of tax reform in modern dynamic economies’, in K.A. Hassett, R.G. Hubbard (eds), *Transition Costs of Fundamental Tax Reform* (AEI Press, 2001); 18. ‘Asymptotic methods for asset market equilibrium analysis’ (with S.-M. Guu), *ET*, 18, 2001; 19. ‘Capital income taxation with imperfect competition’, *AER*, 92, May 2002.

Principal Contributions My principal contributions have been in two areas. First, my papers on taxation in dynamic economies examined both incidence and optimality issues. The principal and consistent finding is that taxing capital income is much more distortionary than taxing consumption or labor income. Second, my papers and book on computation have shown how economists can make use of numerical analysis methods to build reliable and efficient algorithms to solve economic problems.

JUHN, Chinhul n.e.

JUSELIUS, Katarina Ingeborg

Born 1943, Turku, Finland.

Current Post Prof., Inst. Econ., Univ. Copenhagen, Denmark, 1997–.

Past Posts Lect., Dir. Res. Inst., Sr Researcher, Swedish Sch. Econ. and Bus. Admin., Helsinki, 1970–78, 1978–85, 1985–86; Asst Prof., Assoc. Prof., Inst. Econ., Univ. Copenhagen, 1986–87, 1987–97.

Degrees MEcon.Sc. (Bus. Admin.), Lic.Econ.Sc. (Em.), DrEcon.Sc. (Em.) Swedish Sch. Econ. and Bus. Admin., 1970, 1979, 1983.

Offices and Honours Mem., Danish Social Sc. Res. Council, 1995–98.

Editorial Duties Assoc. Ed., *J. Forecasting*, 1983–85, *Intl J. Forecasting*,

1983–90, *JBES*, 1993–98; Ed. Bd, *J. Econ. Methodology*, 2003–.

Principal Fields of Interest C3 Econometric Methods: Multiple/Simultaneous Equation Models; C5 Econometric Modeling; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications Articles: 1. ‘The full information maximum likelihood procedure for inference on cointegration – with applications’ (with S. Johansen), *OBES*, 52, 1990; 2. ‘Testing structural hypotheses in a multivariate cointegration analysis of the PPP and the UIP for the UK’ (with S. Johansen), *J Em*, 53, 1992; 3. ‘Domestic and foreign effects on prices in an open economy. The case of Denmark’, *J. Econ. Pol. Modeling*, 14, 1992; 4. ‘VAR models and Haavelmo’s probability approach to macroeconomic modelling’, *Empirical Econ.*, 18, 1993, repr. in J.-M. Dufour, B. Raj (eds), *New Development in Time Series Econometrics* (S-V, 1994); 5. ‘On the duality between long-run relations and common trends in the I(1) and the I(2) case: an application to aggregate money holdings’, *Em. Rev.*, 13, 1994; 6. ‘Identification of the long-run and short-run structure: an application to the ISLM model’ (with S. Johansen), *J Em*, 63, 1994; 7. ‘Do the purchasing power parity and the uncovered interest rate parity hold in the long run? An application of likelihood inference in a multivariate time series model’, *J Em*, 69, 1995; 8. ‘An empirical analysis of the changing role of the German Bundesbank after 1983’, *OBES*, 58, 1996; 9. ‘Changing monetary transmission mechanisms within the EU’, *Empirical Econ.*, 23, 1998; 10. ‘A structured VAR under changing monetary policy’, *JBES*, 6, 1998; 11. ‘Price convergence in the long run and the medium run: an I(2) analysis of six price indices’, in R. Engle, H. White (eds), *Cointegration, Causality, and Forecasting. Festschrift in Honour of*

Clive W.J. Granger (OUP, 1999); 12. ‘Models and relations in economics and econometrics’, *J. Econ. Methodology*, 6, 1999; 13. ‘Explaining cointegration analysis: Part 1’ (with D. Hendry), *Energy J.*, 21, 2000; 14. ‘Explaining cointegration analysis: Part 2’ (with D. Hendry), *Energy J.*, 21, 2000; 15. ‘European integration and monetary transmission mechanisms: the case of Italy’, *JAE*, 16, 2001; 16. ‘The international parities between the USA and Japan’ (with R. McDonald), *Japan and World Econ.*, forthcoming 2003; 17. ‘Monetary transmission mechanisms in Spain: the effect of monetization, financial deregulation, and the EMS’ (with J. Toro), *Intl J. Money and Fin.*, forthcoming 2003.

Principal Contributions Most of my work has been related to the econometric analysis of the cointegrated VAR-model and how to formulate empirical models that can distinguish between short- and long-term dynamic responses of economic behavior. Focus has been on the role of nonstationarity in empirical economics and reconciling the time-series information in macroeconomic data with available theories. With Søren Johansen I have developed procedures for formulating and testing hypotheses on the cointegration rank, on long-run structural relations, short-run adjustment behavior, and on generic and empirical identification of the short- and long-run structures. For almost two decades I have addressed questions related to the determination of nominal growth in open economies based on the cointegrated VAR model for I(2) data. In this context I have suggested empirical procedures which can distinguish between long- and medium-run price homogeneity, and which can address questions of the dynamics of pulling and pushing forces within a system of equations. Recent work with Johansen has formalized the question of inflation control and mon-

etary policy rules within the VAR framework. I have attempted to explain the mechanisms behind inflation by comparing macroeconomic behavior in small, large, open, closed, regulated, and deregulated economies/regimes. In this context I have used econometric procedures to identify parameter changes, structural breaks, and changing regimes. Some of my recent research includes the analysis of hyperinflation based on the cointegrated VAR model with explosive roots applied to Latin American and Eastern European economies. Lately I have also addressed questions related to the changing macroeconomic environment associated with the European economic integration and the subsequent lifting of restrictions on trade with goods and capital. In particular I have been able to explain empirically the high levels of European unemployment rates and the declining inflation rates with the convergence towards a sustainable European purchasing power parity level.

JUST, Richard E.

Born 1948, Tulsa, OK, USA.

Current Post Disting. Univ. Prof., Univ. Maryland, College Park, MD, USA, 1995–.

Past Posts Assoc. Prof. Agric. Econ. and Stats, Oklahoma State Univ., 1972–75; Prof. Agric. and Resource Econ., Univ. California, Berkeley, 1975–85; Prof. Econ., Brigham Young Univ., 1979–80; Prof. Agric. and Resource Econ., Univ. Maryland, 1985–92; Prof. and Chair Agric. and Resource Econ., Univ. Maryland, 1992–95.

Degrees BS Oklahoma State Univ., 1969; MA (Stats), PhD Univ. California, Berkeley, 1971, 1972.

Offices and Honours Outstanding Publ. Res. Award, Western Agric. Econ.

Assoc., 1975, 1983, 1996; Quality of Res. Discovery Award, AAEA, 1977, 1989, 1996 (Hon. Mention 1980, 1983, 1990, 2002); Outstanding J. Article Award, *AJAE*, 1981 (Hon. Mention, 1993); Fell., AAEA, 1989, Maryland Intl Inst. Ecological Econ., 1991; Publ. Enduring Quality Award, AAEA, 1992, 1994, 1998 (Hon. Mention, 2002); Sr Res. Fell., Inst. Pol. Reform, 1992.

Editorial Duties Ed. Council, *AJAE*, 1978–80, *Western J. Agric. Econ.*, 1982–84; Ed., *AJAE*, 1984–86.

Principal Fields of Interest Q1 Agriculture; D6 Welfare Economics; D2 Production and Organizations.

Publications *Books*: 1. *Econometric Analysis of Production Decisions with Government Intervention* (Univ. California Press, 1974); 2. *Econometric Analysis of Supply Response and Demand for Processing Tomatoes in California* (with W. Chern), (Univ. California Press, 1978); 3. *Applied Welfare Economics and Public Policy* (with D. Hueth, A. Schmitz), (Prentice-Hall, 1982); 4. *Commodity and Resource Policies in Agricultural Systems* (with N. Bockstael), (S-V, 1991); 5. *Conflict and Cooperation on Trans-boundary Water Resources* (with S. Netanyahu), (Kluwer, 1998); 6. *A Comprehensive Assessment of the Role of Risk in US Agriculture* (with R. Pope), (Kluwer, 2002).

Articles: 1. 'An investigation of the importance of risk in farmers' decisions', *AJAE*, 56, Feb. 1974; 2. 'A study of debt servicing capacity applying logit analysis' (with G. Feder), *JDE*, 4, March 1977; 3. 'Existence of stable distributed lags', *Em*, 45, Sept. 1977; 4. 'Storage with price uncertainty in international trade' (with G. Feder, A. Schmitz), *IER*, 18, Oct. 1977; 5. 'Stochastic specification of production functions and economic implications' (with R.D. Pope), *J Em*, 7, Feb. 1978; 6. 'Welfare measures in a multi-market framework' (with D.L. Hueth), *AER*, 69,

Dec. 1979; 7. 'Tomatoes, technology and oligopsony' (with W.S. Chern), *Bell JE*, 11, 1980; 8. 'Stochastic structure, farm size, and technology adoption in developing agriculture' (with D. Zilberman), *OEP*, 35, May 1983; 9. 'Measuring the welfare effects of product contamination with consumer uncertainty', *JEEM*, 17, Nov. 1989; 10. 'Empirical implementation of *ex ante* cost functions' (with R.D. Pope), *J Em*, 25, April 1996; 11. 'Adverse selection in crop insurance: actuarial and asymmetric information incentives' (with L. Calvin, J. Quiggin), *AJAE*, 81, Nov. 1999; 12. 'Addressing the changing nature of uncertainty in agriculture', *AJAE*, 83, Dec. 2001; 13. 'The agricultural producer: theory and statistical measurement' (with R.D. Pope), in *Handbook of Agricultural Economics* (Elsevier/N-H, 2002); 14. 'Distinguishing errors in measurement from errors in optimization', *AJAE*, 84, 2002.

Principal Contributions My contributions, some joint with colleagues, include: (1) developing an econometric approach for estimating importance of risk in aggregate supply; (2) pioneering and applying proper quantitative tools for analysis and prediction of debt-servicing capacity of developing countries in international credit markets; (3) developing a flexible stochastic production function that can allow treatment of both risk-reducing and risk-increasing inputs; (4) theoretical and empirical work showing the role of exchange rates in agricultural trade; (5) proof of the separation result whereby producers separate production decisions from futures markets transactions; (6) identifying price-fixing behavior by examining impacts of major exogenous forces such as technology advances; (7) developing a method for efficient estimation of multi-output production functions in agriculture; (8) developing a method for measuring welfare effects of uncertainty on producers and consumers; (9) developing techniques for

measuring welfare effects that affect many markets through equilibrium approaches; (10) analysis of the role of discrete-continuous technology adoption choices and their impact on the distributional effects of policy; (11) explaining the agricultural land price boom by developing a capitalization model generalized to reflect production risk, land taxes, price expectations, transaction costs, and credit market imperfections; (12) developing duality techniques for production problems with multiple production processes and allocated fixed inputs; (13) developing a technique for estimating the welfare effects of consumption of contaminated products where contamination levels become known only after consumption; (14) developing and applying a method to estimate the structure of producer risk preferences; (15) developing an estimation technique for cost functions under output uncertainty; (16) proving the essentiality of modeling subtechnologies to determine the standard technical properties of nontrivial technologies; and (17) developing and applying an approach for distinguishing errors in optimization from errors in measurement in dual production analyses and demonstration of bias from not doing so.

JUSTER, F. Thomas

Born 1926, Hollis, NY, USA.

Current Posts Prof. Emeritus Econ., Res. Scientist Emeritus, Inst. Social Res., Univ. Michigan, Ann Arbor, MI, USA, 1998–.

Past Posts Asst Prof., Amherst Coll., 1953–59; Res. Staff, Sr Res. Staff, Vice-Pres. Res., NBER, 1959–64, 1964–73, 1969–72; Dir., Inst. for Social Res., Univ. Michigan, 1973–86; Prof. Econ., Res. Scientist, Univ. Michigan, 1973–97.

Degrees BS (Educ.) Rutgers Univ., 1949; PhD Columbia Univ., 1956.

Offices and Honours Fell., ASA, Natl Assoc. Bus. Econ.; Secretary, Chairman, Bus. and Econ. Section, ASA, 1969–71, 1971; Dir., AFA, 1970–71; Committee on Natl Stats, NAS, 1983–89.

Principal Fields of Interest D1 Household Behavior; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications *Books*: 1. *Anticipations and Purchases: An Analysis of Consumer Behavior* (Princeton Univ. Press, 1964); 2. *Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation* (with R. Shay), (Columbia Univ. Press, 1964); 3. *Household Capital Formation and Financing: Growth and Cyclical Behavior, 1897–1962* (Columbia Univ. Press, 1966); 4. *Education, Income and Human Behavior* (ed.), (Columbia Univ. Press, 1975); 5. *The Economic and Political Impact of General Revenue Shared* (ed.), (Survey Res. Center, Univ. Michigan, 1977); 6. *The Distribution of Economic Well-being* (ed.), (Columbia Univ. Press, 1978); 7. *Social Accounting Systems: Essays on the State of the Art* (ed., with K. Land), (Acad. Press, 1981); 8. *Time, Goods, and Well-being* (with F. Stafford), (Survey Res. Center, Inst. Social Res., Univ. Michigan, 1985).

Articles: 1. 'Consumer buying intentions and purchase probabilities: an experiment in survey design', *JASA*, 66, Sept. 1966; 2. 'Consumer asset formation in the United States' (with R.E. Lipsey), *EJ*, 77, Dec. 1967; 3. 'Consumer anticipations and models of durable goods demand', in J. Mincer (ed.), *Economic Forecasts and Expectations* (Columbia Univ. Press for NBER, 1969); 4. 'Microdata, economic research, and the production of economic knowledge', *AER*, 60, May 1970; 5. 'Microdata requirements and public policy decisions', *Annals Econ. and Social Measurement*, 1, Jan. 1972; 6. 'Anticipatory and objective models of dura-

ble goods demand' (with P. Wachtel), *AER*, 62, Sept. 1972; 7. 'The theory and measurement of well-being: a suggested framework for accounting and analysis' (with P. Courant, G.K. Dow), in F.T. Juster, K. Land (eds), *Social Accounting Systems* (Acad. Press, 1981); 8. 'Survey estimates of wealth: an assessment of quality' (with R. Curtin, J. Morgan), in R. Lipsey, H.S. Tice (eds), *The Measurement of Saving, Investment, and Wealth* (UCP, 1989); 9. 'The health and retirement study: an overview' (with R. Suzman), *JHR*, 30, Dec. 1995; 10. 'Improving the quality of economic data: lessons from the HRS and AHEAD' (with J.P. Smith), *JASA*, 92, Dec. 1997; 11. 'The measurement and structure of household wealth' (with J.P. Smith, F. Stafford), *Labour Econ.*, 6, 1999; 12. 'Enhancing the quality of data on income: recent innovations from the HRS' (with M.D. Hurd, J.P. Smith), forthcoming.

Principal Contributions Much of my professional career has been spent in studying the behaviour of households, initially in its cyclical aspects with respect to purchase decisions and saving rates, then in its secular aspects with respect to the use of resources to produce well-being, more recently in its relation to population ageing. In analysis of cyclical behaviour, much of the work has focused on the role of expectational or anticipatory phenomena in explaining consumer decisions. This interest leads naturally to the use of survey data of one kind or another in analysis of purchase and saving decisions. The work on secular trends in household behaviour, which is focused on the generation of well-being, had its original roots in a concern with the degree to which conventional national income measurements misrepresented both the distribution and the change over time in household income. There is a natural progression in this work from a concern over the deficiencies of the conventional trans-

actions-based GNP measures of output and income to the development of a comprehensive framework for the measurement of well-being, where the ultimate resource constraints are represented by the stock of wealth accumulated in the past and available time. The most recent work on population ageing focuses mainly on the analysis of retirement decisions. An important part of the work is the development of measures relating to health,

wealth, and intra-family transfers, and the role of these factors in labour supply decisions at older ages. Another important part of the work in this area revolves around the development of more valid and reliable measures of household wealth, and of the income from wealth, including not only tangible and financial wealth but also wealth in the form of pension and social security rights to future income flows.

K

KAGEL, John H.

Born 1942, New York, USA.

Current Posts Univ. Chaired Prof. Apl. Microecon. and Dir., Econ. Lab., Ohio State Univ., Columbus, OH, USA, 2000–.

Past Posts Asst Prof., Texas A&M Univ., 1969–82; Prof., Univ. Houston, 1982–88; Prof., Univ. Pittsburgh, 1988–2000.

Degrees BA Tufts Univ., 1964; MPA (Econ. Devlp.) Univ. Pittsburgh, 1966; MS, PhD Purdue Univ., 1968, 1970.

Offices and Honours Best *Western Econ. J.* Award, 1973; Nat. Fell., Hoover Inst., 1981–91; Exec. Comm., Econ. Sc. Assoc., 1986–91; Cullen Prof. Econ., Univ. Houston, 1987–88; Disting. Chair Econ., Fulbright Lect., Univ. Sienna, 2002.

Editorial Duties Ed. Bds, *Behav. Analysis Letters*, 1981–83, *AER*, 1989–95, *J. Experimental Econ.*, 1997–.

Principal Fields of Interest D8 Information and Uncertainty; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Books*: 1. *The Handbook of Experimental Economics* (ed. with A. Roth), (Princeton Univ. Press, 1995); 2. *Economic Choice Theory; An Experimental Analysis of Animal Behavior* (CUP, 1995); 3. *Common Value Auctions and the Winner's Curse* (with D. Levin), (Princeton Univ. Press, in press).

Articles: 1. 'Experimental studies of consumer demand behavior using laboratory animals' (with R.C. Battalio), *EI*, 13, March 1975, repr. in brief, in E.D. Dolan (ed.), *Basic Economics* (Dryden Press, 1977), repr. in H. Townsend (ed.), *Price Theory* (Penguin Books, 1979); 2. 'Demand curves for animal consumers' (with R.C. Battalio), *QJE*, 66, Feb. 1981, repr. in H.M. Hochman, E. Saueracker (eds),

Readings in Microeconomics (Mosby, 3rd edn 1985); 3. 'Winner's curse and public information in common value auctions' (with D. Levin), *AER*, 76, Dec. 1986; 4. 'Information impact and allocation rules in auctions with affiliated private values, a laboratory study' (with D. Levin, R. Harstad), *Em*, 55, Nov. 1987; 5. 'Tests of fanning out of indifference curves: results from animal and human experiments' (with R. Battalio, D. MacDonald), *AER*, 80, Sept. 1990; 6. 'Experimental confirmation of the existence of a Giffen good' (with R. Battalio, C. Kogut), *AER*, 81, Sept. 1991; 7. 'Independent private value auctions bidder behavior in first, second and third price auctions with varying numbers of bidders' (with D. Levin), *EJ*, 103, July 1993; 8. 'An experimental study of reputation effects in a chain store game' (with Y.J. Jung, D. Levin), *RandJE*, 25, 1994; 9. 'Revenue effects and information pricing in English common value auctions' (with D. Levin, J.F. Richard), *AER*, 86, 1996; 10. 'Signalling and adaptive learning in an entry limit pricing game', *RandJE*, 28, 1997; 11. 'Adaptive learning versus equilibrium refinements in an entry limit pricing game' (with D. Cooper, S. Garvin), *EJ*, 107, 1997; 12. 'Common value auctions with insider information' (with D. Levin), *Em*, 67, 1999; 13. 'Gaming against managers in incentive systems: experimental results with Chinese students and Chinese managers' (with D. Cooper, W. Lo, Q. Gu), *AER*, 89, 1999; 14. 'The dynamics of reorganization in matching markets: a laboratory experiment motivated by a natural experiment' (with A. Roth), *QJE*, 115, 2000; 15. 'Tests of fairness models based on equity considerations in a three-person ultimatum game' (with K. Wolfe), *J. Experimental Econ.*, 4, 2001; 16. 'Super-experienced bidders in first-price common value auctions: rules of thumb, Nash equilibrium bidding and the winner's curse' (with J. Richard),

REStat, 83, 2001; 17. 'Behavior and multi-unit demand auctions: experiments with uniform price and dynamic Vickery auctions' (with D. Levin), *Em*, 69, 2001.

Principal Contributions The application of experimental methods to the study of economics. Use of laboratory methods provides the opportunity to conduct controlled experiments involving precise and demanding tests of economic theory with rewards and punishments of real consequence. Early work dealt with individual choice, most notably in a series of experiments employing pigeons and rats. This work provides (arguably) the first rigorous empirical support for the Slutsky–Hicks theory of individual choice. It also extends the domain of application of economic principles to animal behavior, contrasting economic choice models with models from psychology and biology. Later work involved the study of game-theoretic models of behavior, auction theory, industrial organization theory, and learning to achieve equilibrium. This work has clearly demonstrated the existence of the winner's curse among inexperienced bidders in common value (mineral rights) auctions and the breakdown of the comparative static (policy) predictions of the theory in the presence of a winner's curse. These breakdowns extend to experienced bidders in novel situations, in part, because learning is context dependent. In contrast, in private value auctions, where there are no item valuation considerations, bidders are responsive to the underlying strategic considerations and behavior is consistent with the comparative static prediction of the theory. In industrial organization theory we have demonstrated the existence of reputation effects (predatory pricing) in the chain-store game and sophisticated signaling behavior in an asymmetric information, entry limit pricing game. Although there is clear evidence of the 'snowball' effects of a little bit of 'ir-

rationality' underlying asymmetric information, sequential equilibrium models of reputation formation, we find important deviations from sequential equilibrium behavior as well. The refinements literature fails to characterize equilibrium outcomes in our signaling games, which are best characterized by a simple adaptive learning model.

KAHN, Charles Milton

Born 1952, Memphis, TN, USA.

Current Posts Bailey Memorial Prof. Fin., Prof. Econ., Co-Dir., Office for Banking Res., Univ. Illinois, Urbana-Champaign, IL, USA, 1998–, 1990–, 1992–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Chicago, 1981–85, 1986–89; Assoc. Prof. Econ., Prof. Fin., Univ. Illinois, Urbana-Champaign, 1988–90, 1996–97; Vis. Prof., Grad. Sch. Bus., Univ. Chicago, 1993–94, 1996; Overseas Fell., Churchill Coll., Cambridge Univ., 1999–2000.

Degrees BA (Apl. Maths), PhD Harvard Univ., 1975, 1981; BA, MA Cambridge Univ., 1977, 1985.

Offices and Honours Marshall Scholar 1975–77; Natl Fell., Hoover Inst., Stanford Univ., 1985–86.

Editorial Duties Ed. Bds, *ET*, 1997–2001, *Econ. Bull.*, 2000–.

Principal Fields of Interest D8 Information and Uncertainty; G2 Financial Institutions and Services; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'The solution of linear difference models under rational expectations' (with O.J. Blanchard), *Em*, 48, July 1980; 2. 'Wage–employment contracts' (with J. Green), *QJE*, 98, suppl., 1983; 3. 'The durable goods monopolist and consistency with increasing costs', *Em*, 54, March 1986; 4. 'Limited contract

enforcement and strategic renegotiation' (with G. Huberman), *AER*, 78, June 1988; 5. 'Two-sided uncertainty and up-or-out contracts' (with G. Huberman), *J Lab E*, 6, Oct. 1988; 6. 'Default, foreclosure and strategic renegotiation' (with G. Huberman), *Law and Contemporary Problems*, 52, Winter 1989; 7. 'The role of demandable debt in structuring optimal banking arrangements' (with C. Calomiris), *AER*, 81, June 1991; 8. 'The good, the bad and the ugly: coalition proof equilibrium in infinite games' (with D. Mookherjee), *Games and Econ. Behav.*, 4, 1992; 9. 'Non existence and inefficiency of equilibria with American options and convertible bonds' (with S. Krasa), *ET*, 3, 1993; 10. 'The existence and characterization of optimal contracts on a continuous state space', *JET*, 59, Feb. 1993; 11. 'Exclusion and moral hazard: the case of identical demand' (with E. Silva), *J Pub E*, 52, Sept. 1993; 12. 'Housing-finance intervention and private incentives: helping minorities and the poor' (with C. Calomiris, S. Longhofer), *JMCB*, 26, Aug. 1994; 13. 'The efficiency of self regulated payments systems: learning from the Suffolk System' (with C. Calomiris), *JMCB*, 28, Nov. 1996; 14. 'Ownership structure, speculation and shareholder information' (with A. Winton), *J Fin*, 53, Feb. 1998; 15. 'Multiunit auctions with uniform prices' (with R. Engelbrecht-Wiggans), *ET*, 12, Sept. 1998; 16. 'Competition and incentives with nonexclusive contracts' (with D. Mookherjee), *RandJE*, 29, Fall 1998; 17. 'Payment system settlement and bank incentives' (with W. Roberds), *Rev. Fin. Stud.*, 11, Winter 1998; 18. 'Bank deposit rate clustering: theory and empirical evidence' (with G. Pennacchi, B. Sopranzetti), *J Fin*, 54, Dec. 1999; 19. 'Performance-based wages in tax collection: the Brazilian tax collection reform and its effects' (with E.C.D. Silva, J.P. Ziliak), *EJ*, 111, Jan. 2001; 20.

'Real time gross settlement and the costs of immediacy' (with W. Roberds), *JME*, 47, April 2001.

Principal Contributions My early work focused on the theory of labour contracts: how overtime, severance pay, or up-or-out clauses can mitigate information differences, and macroeconomic implications of these solutions. Subsequent work has investigated effects of incentives and information on design of financial institutions. Charles Calomiris and I developed a theory of demandable debt as a disciplinary device for monitoring banks, and looked at other historical arrangements for private bank monitoring. Most recently, several papers written with William Roberds have analysed the incentive properties of arrangements, both historical and modern, for making payments, through central banks or private intermediaries, and developed a theory of payment, based on limitations on contract enforcement. Dilip Mookherjee and I developed efficiency standards and methods for analysing side trading by subgroups in economies with imperfect information and uncertainty. Related work with Emilson Silva reformulated the analysis of free riding in local public goods as a problem of moral hazard in teams and used this analysis to examine questions of corruption and tax collection. Other work investigated maintenance of monitoring in financial markets and real estate markets in the presence of trades by third parties. I have also made contributions to more technical issues in economic theory: developing techniques for handling the durable goods monopoly problem in continuous time, for analysing optimal contracts with infinite states, without arbitrarily imposing continuity, and for extending coalition-proof equilibrium to infinite games. With Richard Engelbrecht-Wiggans I characterized equilibria in multiunit simultaneous auctions. With

Stefan Krasa, I have shown pervasive non-existence of competitive general equilibrium in economies with American options. Under the guidance of Robert Fogel, I wrote on technical topics in American economic history. Discussions with Olivier Blanchard while I was a graduate student led to my inclusion in a paper developing the basic technique for solving large classes of linear rational expectations models.

KAHN, Lawrence Max

Born 1950, Spartanburg, SC, USA.

Current Post Prof. Labor Econ. and Collective Bargaining, Cornell Univ., Ithaca, NY, USA, 1994–.

Past Posts Asst. Prof., Assoc. Prof., Prof. Econ. and Labor and Ind. Relations, Univ. Illinois, 1975–94.

Degrees BS (Maths, High Hons and High Distinction) Univ. Michigan, 1971; PhD Univ. California, Berkeley, 1975.

Offices and Honours Second Vice Pres., MEA, 1988–89.

Editorial Duties Bd Eds, *Ind. Relations*, 1982–89; Assoc. Ed., *ILRR*, 1994–; Ed. Bd, *J. Sports Econ.*, 1998–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining; J6 Mobility, Unemployment, and Vacancies.

Publications *Books*: 1. *Wage Indexation in the United States: Cola or Uncola* (with W. Hendricks), (Ballinger, 1985); 2. *At Home and Abroad: US Labor Market Performance in International Perspective* (with F. Blau), (Russell Sage, 2002).

Articles: 1. ‘Union impact: a reduced form approach’, *REStat*, 59, Nov. 1977; 2. ‘The returns to job search: a test of two models’, *REStat*, 60, Nov. 1978; 3. ‘Unions and employment stability: a sequential logit approach’ (with K. Morimune),

IER, 20, Feb. 1979; 4. ‘Race and sex differences in quits by young workers’ (with F. Blau), *ILRR*, 34, July 1981; 5. ‘The relative effects of employed and unemployed job search’ (with S. Low), *REStat*, 64, May 1982; 6. ‘Wage indexation and compensating wage differentials’ (with W. Hendricks), *REStat*, 68, Aug. 1986; 7. ‘Unions and nonunion wage dispersion’ (with M. Curme), *REStat*, 69, Nov. 1987; 8. ‘Racial differences in professional basketball players’ compensation’ (with P. Sherer), *J Lab E*, 6, Jan. 1988; 9. ‘Efficiency wages, monopoly unions and efficient bargaining’ (with W. Hendricks), *EJ*, 101, Sept. 1991; 10. ‘Free agency, long-term contracts and compensation in major league baseball: estimates from panel data’, *REStat*, 75, Feb. 1993; 11. ‘A general experiment on bargaining in demand games with outside options’ (with J. Murnighan), *AER*, 83, Dec. 1993; 12. ‘Wage structure and gender earnings differentials: an international comparison’ (with F. Blau), *Ec*, 63, suppl., May 1996; 13. ‘International differences in male wage inequality: institutions versus market forces’ (with F. Blau), *JPE*, 104, Aug. 1996; 14. ‘Swimming upstream: trends in the gender wage differential in the 1980s’ (with F. Blau), *J Lab E*, 15, Jan. 1997; 15. ‘Against the wind: bargaining recentralisation and wage inequality in Norway 1987–91’, *EJ*, 108, May 1998; 16. ‘Collective bargaining and the interindustry wage structure: international evidence’, *Ec*, 65, Nov. 1998; 17. ‘Wage inequality, collective bargaining and relative employment 1985–94: evidence from fifteen OECD countries’, *REStat*, 82, Nov. 2000; 18. ‘The role of the family in immigrants’ labor-market activity: an evaluation of alternative explanations: comment’ (with F. Blau, J. Moriarty, A. Souza), *AER*, 93, March 2003.

Principal Contributions My research has focussed on aspects of labor econom-

ics including the economic effects of labor market institutions, job search, and discrimination. My early work on search found evidence consistent with the idea that workers search systematically among firms, sampling their preferred firms first, rather than contacting firms at random. I studied the connection between union wages and job search in several papers; for example, Morimune and I found that in highly unionized labor markets, all else equal, nonunion workers had more spells of unemployment than in less highly organized areas, suggesting that workers were queuing for the plum union jobs. Some of my work on race has focussed on customer discrimination in professional sports. Specifically, in research with Sherer, I found that, all else equal, white professional basketball players in the 1980s earned roughly a 20 percent pay premium relative to comparable black players and that adding white players increased fan attendance. These findings suggested the existence of customer discrimination, which may be more resistant to competitive forces than employer or co-worker discrimination. Recently, I have analyzed the impact of labor market institutions on wage and employment outcomes in an international comparative context. In work with Blau, I found that highly centralized wage-setting regimes such as those found in many European countries lead to compressed wage structures in general, due in part to the high wage floors that unions negotiate and that the government or employers extend to nonunion workers. Since women are at the bottom of the wage distribution in all countries, these wage floors greatly reduce the gender pay gap in these countries relative to that in the more *laissez-faire* United States. However, I have also found that a cost associated with these wage floors is reduced employment opportunities of youth in many European countries.

KAHNEMAN, Daniel

Born 1934, Tel Aviv, Israel.

Current Posts Eugene Higgins Prof. Psychology, Princeton Univ. and Prof. Public Affairs, Woodrow Wilson Sch., Princeton Univ., Princeton, NJ, USA, 1993–; Fell., Center for Rationality, Hebrew Univ., Jerusalem, Israel, 2000–.

Past Posts Vis. Scientist, Dept Psychology, Univ. Michigan, 1965–66, Apl. Psychological Res. Unit, Cambridge Univ., 1968–69; Fell., Center for Cognitive Stud., 1966–67, Center for Adv. Stud. Behav. Sc., 1977–78; Lect. Psychology, Harvard Univ., 1966–67; Prof. Psychology, UBC, 1978–86; Assoc. Fell., Canadian Inst. Adv. Res., 1984–86; Prof. Psychology, Univ. California, Berkeley, 1986–94; Vis. Scholar, Russell Sage Foundation, 1991–92.

Degrees BA (Psychology and Maths) Hebrew Univ., Jerusalem, 1954; PhD (Psychology) Univ. California, 1961.

Offices and Honours Katz–Newcomb Lecture in Social Psychology, 1979; Mem., Soc. Experimental Psychologists, 1980, NAS, 2002; Fell., Canadian Psychological Assoc., 1981, AAAS, 1984, Amer. Psychological Assoc., 1985, Em Soc, 1990; Disting. Sc. Contrib. Award, Amer. Psychological Soc., 1982, Soc. Consumer Psychology, 1992; William James Fell., Amer. Psychological Soc., 1985; Fitts Lectures, Univ. Michigan, 1987; Tanner Lecture on Human Values, Univ. Michigan, 1994; Warren Medal, Soc. Experimental Psychologists, 1995; Bartlett Lecture, Experimental Psychology Soc. (UK), 1995; Hilgard Award for Lifetime Contrib. to General Psychology, 1995; Lionel Robbins Lectures, LSE, 1998; Hon. DSc, Univ. Pennsylvania, 2001; George Miller Disting. Lectureship, Cognitive Neuroscience Soc., 2002; Career Achievement Award, Soc. Medical Decision Making, 2002; Doctor (*hc*) Univ. Trento, 2002;

Bank of Sweden Prize in Econ. Sc. in Memory of Alfred Nobel, 2002; Grawemeyer Prize in Psychology (joint with A. Tversky), 2002.

Principal Fields of Interest n.e.

Publications *Books*: 1. *Judgment under Uncertainty: Heuristics and Biases* (ed. with P. Slovic, A. Tversky), (CUP, 1982); 2. *Well-Being: Foundations of Hedonic Psychology* (ed. with E. Diener, N. Schwarz), (Russell Sage Foundation Press, 1999); 3. *Choices, Values and Frames* (ed. with A. Tversky), (CUP and Russell Sage Foundation, 2000); 4. *Heuristics and Biases: The Psychology of Intuitive Judgment* (ed. with T. Gilovich, D. Griffin), (CUP, 2002).

Articles: 1. 'On the psychology of prediction' (with A. Tversky), *Psychological Rev.*, 80, 1973; 2. 'Judgment under uncertainty: heuristics and biases' (with A. Tversky), *Sc.*, 185, 1974; 3. 'Prospect theory: an analysis of decisions under risk' (with A. Tversky), *Em*, 47, 1979; 4. 'Extensional vs. intuitive reasoning: the conjunction fallacy in probability judgment' (with A. Tversky), *Psychological Rev.*, 90, 1983; 5. 'Choices, values and frames' (with A. Tversky), *Amer. Psychologist*, 39, 1984; 6. 'Norm theory: comparing reality to its alternatives' (with D.T. Miller), *Psychological Rev.*, 93, 1986; 7. 'Fairness as a constraint on profit seeking: entitlements in the market' (with J. Knetsch, R. Thaler), *AER*, 76, 1986; 8. 'The endowment effect, loss aversion, and status quo bias' (with J. Knetsch, R. Thaler), *JEP*, 5, 1991; 9. 'Valuing public goods: the purchase of moral satisfaction' (with J. Knetsch), *JEEM*, 22, 1992; 10. 'Timid choices and bold forecasts: a cognitive perspective on risk taking' (with D. Lovallo), *Mgmt Sc.*, 39, 1993; 11. 'New challenges to the rationality assumption', *J. Inst. and Theoretical Econ.*, 150, 1994; 12. 'Back to Bentham? Explorations of experienced utility' (with P.P. Wakker, R.

Sarin), *QJE*, 112, May 1997; 13. 'Shared outrage and erratic awards: the psychology of punitive damages' (with D. Schkade, C. Sunstein), *JRU*, 16, 1998; 14. 'Economic preferences or attitude expressions? An analysis of dollar responses to public issues' (with I. Ritov, D. Schkade), *JRU*, 19, 1999, repr. as chap. 36 in D. Kahneman, A. Tversky (eds), *Choices, Values and Frames* (CUP and Russell Sage Foundation, 2000); 15. 'Experienced utility and objective happiness: a moment-based approach', chap. 37 in D. Kahneman, A. Tversky (eds), *Choices, Values and Frames* (CUP and Russell Sage Foundation, 2000); 16. 'Representativeness revisited: attribute substitution in intuitive judgment' (with S. Frederick), in T. Gilovich, D. Griffin, D. Kahneman (eds), *Heuristics and Biases: The Psychology of Intuitive Judgment* (CUP, 2002).

Principal Contributions Much of my research has been concerned with an exploration of the characteristics and mechanisms of bounded rationality. In a long-standing collaboration with the late Amos Tversky we studied the psychology of judgment under uncertainty and of decision making under risk. We identified several heuristics that are used to simplify judgment tasks. These heuristics, notably representativeness, availability and anchoring on salient values, often lead quickly to reasonable answers but they also produce systematic biases, notably a neglect of base rate, non-regressive predictions, anchoring on uninformative values, overweighting of recent experiences and many others. We offered prospect theory as a descriptive alternative to expected utility theory, which is marked by the attachment of utility to gains and losses, and by loss aversion – overweighting of losses relative to gains. Tversky and I also studied the process of framing, in which people's sensitivity to inconsequential aspects of decision prob-

lems leads them to violate a fundamental rule of rationality, labeled 'extensionality' or 'invariance'. With Richard Thaler and Jack Knetsch I studied the endowment effect and the rules of fairness that govern economic transactions. With Knetsch and with Ilana Ritov I studied the psychology of statements of willingness to pay and the associated flaws of the contingent valuation method. With Cass Sunstein and David Schkade I have studied related issues that arise in the setting of punitive damages by juries, and the characteristics of moral intuitions that are relevant to the law. A major focus of my research is an exploration of the logic and the psychology of a Benthamite conception of utility, using real-time measures of experienced utility, as well as retrospective assessments of episodes and forecast of the utility of future experiences.

KALAI, Ehud

Born 1942, Tel Aviv, Israel.

Current Posts Prof. Maths, Dir., Center Strategic Decision-Making, James J. O'Connor Disting. Prof. Decision and Game Sc., Dept Mgmt Econ. and Decision Sc., Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 1990–, 1995–, 2001–.

Past Posts Asst Prof., Dept Stats, Tel Aviv Univ., 1972–75; Assoc. Prof., Prof., Charles E. Morrison Prof., Dept Mgmt Econ. and Decision Sc., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1976–78, 1978–82, 1982–2001.

Degrees AB (Maths), Univ. California, Berkeley, 1967; MS (Stats), PhD (Maths) Cornell Univ., 1971, 1972.

Offices and Honours Founding Organizer, Nancy L. Schwartz Memorial Lecture series, 1981–; Bd Dirs, 1st Savings Amer., 1986–89; Fell., Em Soc, 1988–; Oskar Morgenstern Res. Prof., NYU,

1991; Sherman Fairchild Disting. Scholar, California Inst. Tech., 1994–95; Founder and Exec. Vice-Pres., Game Theory Soc., 1988–; Chair, 1st World Congress, Game Theory Soc., Bilbao, 2000.

Editorial Duties Founding Ed., *Games and Econ. Behav.*, 1988–; Ed. Bds, *Intl J. Game Theory*, 1984–, *Math. Social Sc.*, 1980–93, *JET*, 1980–88.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D0 Microeconomics: General; D8 Information and Uncertainty.

Publications Articles: 1. 'Other solutions to Nash bargaining problem' (with M. Smorodinsky), *Em*, 43, 1975; 2. 'Collective choice correspondences as admissible outcomes of social bargaining processes' (with E. Pazner, D. Schmeidler), *Em*, 44, 1976; 3. 'Aggregation procedure for cardinal preferences: a formulation and proof of Samuelson's impossibility conjecture' (with D. Schmeidler), *Em*, 45, 1977; 4. 'Proportional solutions to bargaining situations: interpersonal utility comparisons', *Em*, 45, 1977; 5. 'Characterization of the domains admitting non-dictatorial social welfare functions and non-manipulable voting procedures' (with E. Muller), *JET*, 16, 1977; 6. 'Path independent choices' (with N. Mediddo), *Em*, 48, 1980; 7. 'Totally balanced games and games of flow' (with E. Zemel), *Math OR*, 7, 1982; 8. 'Persistent equilibria in strategic games' (with D. Samet), *Int. J. Game Theory*, 13, 1984; 9. 'Monotonic solutions to general cooperative games' (with D. Samet), *Em*, 53, 1985; 10. 'Finite rationality and interpersonal complexity in repeated games' (with W. Stanford), *Em*, 56, 1988; 11. 'Observable contracts: strategic delegation and cooperation' (with C. Fershtman, K. Judd), *IER*, 32, 1991; 12. 'The simplest equilibrium of a majority-rule division game' (with D. Baron), *JET*, 61, 1993; 13. 'On the complexity of eliminating dominated strategies' (with I.

Gilboa, E. Zemel), *Math OR*, 18, 1993; 14. 'Rational learning leads to Nash equilibrium' (with E. Lehrer), *Em*, 61, 1993; 15. 'Subjective equilibrium in repeated games' (with E. Lehrer), *Em*, 61, 1993; 16. 'Subjective games and equilibria' (with E. Lehrer), *Games and Econ. Behav.*, 8, 1995; 17. 'Calibrated forecasting and merging' (with E. Lehrer, R. Smorodinsky), *Games and Econ. Behav.*, 29, 1999; 18. 'Bayesian representations of stochastic processes under learning: definetti revisited' (with M. Jackson, R. Smorodinsky), *Em*, 67, 1999; 19. 'Reputation versus social learning' (with M. Jackson), *JET*, 88, 1999; 20. 'Strategic polarization' (with A. Kalai), *J. Math. Psychology*, 45, 2001.

Principal Contributions My early work concentrated on Nash's bargaining problem. In 1975, with M. Smorodinsky, I showed that Nash's 1953 solution is not unique – different reasonable axioms lead to different solutions. Later, I axiomatized the egalitarian solution, showing that interpersonal utility comparisons of a Rawlsian type are a consequence of primitive assumptions such as monotonicity. Subsequently, with Samet, I generalized the egalitarian solution and results, from bargaining problems to general coalitional games. Also within the area of coalitional games, Postlewaite, Roberts and I studied the effect of restricting trade through partial trading structures, and Zemel and I introduced and studied games of flow. In social choice theory, Schmeidler and I formulated and proved a cardinal-utility version of Arrow's Impossibility Theorem, and with Muller and with Ritz I characterized the domains of individual preferences that escape the Impossibility Theorem. Rosenthal and I constructed arbitration procedures for uninformed arbitrators dealing with informed noncooperative bargainers. Later, I formalized a preplay bargaining procedure

that resolves the prisoner's dilemma, and subsequently, with Samet, I showed that preplay consensus-reaching by unanimity rules is Pareto efficient. The latter study also led us to develop the concept of persistent equilibrium. My recent interests are in large games: complexity, learning and robustness. Motivated by results on game-playing automata of Neyman and Rubinstein, Stanford and I developed a general measure of strategic complexity for repeated games. In learning theory, Lehrer and I established a model of subjectively rational agents, who learn with time to play Nash or correlated equilibrium. Jackson and I studied learning in recurring games, and Ledyard and I applied learning to problems of repeated implementation. I currently study equilibria of games with many anonymous players, showing that they have strong robustness properties that make them more suitable for economic and computer science applications.

KAMIEN, Morton Isaac

Born 1938, Warsaw, Poland.

Current Post Joseph and Carole Levy Prof. Entrepreneurship, J.L. Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 1988–.

Past Posts Asst Prof., Assoc. Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., Pittsburgh, 1963–67, 1967–70; Prof. Mgmt Econ., Harold L. Stuart Prof. Mgmt Econ., J.L. Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1970–79, 1979–88.

Degrees BA City Coll., New York, 1960; PhD Purdue Univ., 1964.

Offices and Honours Fell., Em Soc, 1995; Dr Econ. (*hc*) Purdue Univ., 2001.

Principal Fields of Interest D4 Market Structure and Pricing; L1 Market Structure, Firm Strategy, and Market Performance; O3 Technological Change.

Publications Books: 1. *Dynamic Optimization: The Calculus of Variations and Optimal Control in Economics and Management* (with N.L. Schwartz), (N-H, 1981, 1991); 2. *Market Structure and Innovation* (with N.L. Schwartz), (CUP, 1982; trans., Spanish, 1988).

Articles: 1. 'Optimal induced-technical change' (with N.L. Schwartz), *Em*, 36, Jan. 1968; 2. 'The paradox of voting probability calculations' (with M.B. Garman), *Behav. Sc.* 13, July 1968; 3. 'Optimal maintenance and sale age of a machine subject to failure' (with N.L. Schwartz), *MS*, 17, April 1971; 4. 'Limit pricing and uncertain entry' (with N.L. Schwartz), *Em*, 39, May 1971; 5. 'Timing of innovations under rivalry' (with N.L. Schwartz), *Em*, 40, Jan. 1972; 6. 'Fees versus royalties and the private value of a patent' (with Y. Tauman), *QJE*, 101, Aug. 1986; 7. 'Dynamic duopolistic competition with sticky prices' (with C. Fershtman), *Em*, 55, Sept. 1987; 8. 'Bertrand competition with sub-contracting' (with L. Li, D. Samet), *RandJE*, 20, Winter 1989; 9. 'The limits of monopolization through acquisition' (with I. Zang), *QJE*, 105, May 1990; 10. 'Optimal service speeds in a competitive environment' (with E. Kalai, M. Rubinovitch), *MS*, 38, Aug. 1992; 11. 'Research joint ventures and R&D cartels' (with E. Muller, I. Zang), *AER*, 82, Dec. 1992; 12. 'Meet me halfway: research joint ventures and absorptive capacity' (with I. Zang), *IJIO*, 18, 2000.

Principal Contributions My interest in the economics of technical change stemmed from the claim in the popular press in the late 1950s and early 1960s that automation was reducing job opportunities for the unskilled. Technological advance was thought to be the source of structural unemployment with a bias against the unskilled. I sought to analyse this question by determining the profit-maximising behaviour of a firm through

time when its production function was endogenous and subject to change. My interest then turned to the question of whether a competitive market system led to over- or under-investment in technical advance. On the one hand the inability of firms to capture all the rewards from technical advance suggested under-investment while on the other hand, the race to be first suggested over-investment. N.L. Schwartz and I attempted to analyse this question by determining how rapidly a firm would develop an innovation when faced with the probability that unknown rivals were also attempting to achieve the same innovation. This model was extended in several directions, culminating in an effort to explain empirically observed phenomena which led to the theory of patent races. My interest in limit pricing stemmed from the belief that previous work on this subject was not founded on profit-maximising behaviour of the incumbent firm as it required it to price so as to delay entry for ever, and it also required that it know exactly the cost function of any potential entrant. N.L. Schwartz and I replaced this assumption with the supposition that the probability of entry was an increasing function of the incumbent firm's current price. My interest at present has turned to interaction among firms in formation of cooperative research efforts and competition through time.

KAMINSKY, Graciela L. n.e.

KANBUR, Sanjiv Madhwarao Ravi

Born 1954, Dharwar, India.

Current Posts T.H. Lee Prof. World Affairs and Prof. Econ., Cornell Univ., Ithaca, NY, USA, 1997–.

Past Posts Res. Fell. Econ., Nuffield Coll., Univ. Oxford, 1978–79; Vis. Prof.

Intl Affairs, Princeton Univ., 1985–87; Prof. Econ., Univ. Warwick, 1987–91; Econ. Adviser, Sr Econ. Adviser, Resident Representative in Ghana, Chief Econ. for Africa, Principal Adviser to Chief Econ., World Bank, Washington, DC, 1989–97.

Degrees BA Univ. Cambridge, 1975; BPhil, DPhil Univ. Oxford, 1977, 1981.

Offices and Honours Quality Res. Discovery Award, AA, 1991; Hon. Prof., Univ. Warwick, 1994.

Editorial Duties Ed. Bds, *REStud*, 1980–90, *Social Dimensions of Adjustment Papers*, Africa Region, World Bank, 1989–92, *Rev. Devlp. Econ.*, 1996–, *African Devlp. Rev.*, 1997–, *WBER*, 2001–, *J. Econ. Inequality*, 2001–; Ed. Panel, *Econ. Pol.*, 1985–87; Mem., Chairman, Ed. Bd, *WBER* and *World Bank Res. Observer*, 1989–92; Bd Assoc. Eds, *JDE*, 1990–95; Assoc. Ed., *J. African Econ.*, 1991–; Conseil Scientifique, *Revue d'Économie du Développement*, 1993–.

Principal Fields of Interest D3 Distribution; H0 Public Economics: General; O1 Economic Development.

Publications *Articles*: 1. 'Of risk taking and the personal distribution of income', *JPE*, 87, 1979; 2. 'Impatience, information and risk taking in a general equilibrium model of occupational choice', *REStud*, 46, 1979; 3. 'Measurement and alleviation of poverty: with an application to the impact of macroeconomic adjustment', *IMF Staff Papers*, 34, 1987; 4. 'Food subsidies and poverty alleviation' (with T.J. Besley), *EJ*, 98, 1988; 5. 'Income transitions and income distribution dominance' (with J.O. Stromberg), *JET*, 45, 1988; 6. 'How serious is the neglect of intra-household inequality?' (with L. Haddad), *EJ*, 100, 1990; 7. 'Inequality and development: a critique' (with S. Anand), *JDE*, 41, 1993; 8. 'Tax competition and tax coordination when countries differ in size' (with M. Keen), *AER*, 83, 1993; 9. 'Are better off

households more unequal or less unequal?' (with L. Haddad), *OEP*, 46, 1994; 10. 'Optimal non-linear income taxation for the alleviation of income poverty' (with M. Keen, M. Tuomala), *Europ ER*, 38, 1994; 11. 'Tagging and taxing: the optimal use of categorical and income information in designing tax/transfer schemes' (with R. Immonen, M. Keen, M. Tuomala), *Em*, 65, 1998; 12. 'Economic policy, distribution and poverty: the nature of disagreements', *WD*, 29, 2001.

Principal Contributions My interests lie at the intersection of public economics and development economics, especially with the analysis of income distribution and poverty. I have made contributions to the theoretical and empirical analysis of many topics in this area – the impact of risk taking on income distribution, the Kuznets inverted U hypothesis, the theory of targeting, intrahousehold inequality, macroeconomic policy and income distribution, etc. I have a particular interest in bridging the worlds of academic analysis and policy implementation.

KANDEL, Shmuel

Born 1951, Tel Aviv, Israel.

Current Posts Dean, Prof. Fin., Faculty Mgmt, Tel Aviv Univ., Israel, 1999–, 1988–; Vis. and Adjunct Prof. Fin., Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 1990–.

Past Posts Assoc. Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1983–90.

Degrees MA (Admin. Sc.), MPhil (Admin. Sc.), PhD (OR/Mgmt Sc.) Yale Univ., 1981, 1981, 1983.

Offices and Honours Nimrod Lapid Prize, Stats Dept, Tel Aviv Univ., 1978; Allon Fellowship, 1988; Batterymarch Fellowship, 1988; Smith–Breedon Prize, *J Fin*, 1996; Maurice and Gertrude Deutch Chair, Tel Aviv Univ., 1996–.

Editorial Duties Ed. Bds, *Rev. Fin. Stud.*, 1993–96, *J. Empirical Fin.*, 1993–.

Principal Fields of Interest G1 General Financial Markets; G2 Financial Institutions and Services.

Publications *Articles*: 1. ‘On the exclusion of assets from tests of the mean-variance efficiency of the market portfolio’, *J Fin*, 39, March 1984; 2. ‘A likelihood ratio test of mean variance efficiency in the absence of a riskless asset’, *J Fin E*, 13, Dec. 1984; 3. ‘Mimicking portfolios and exact arbitrage pricing’ (with G. Huberman, R. Stambaugh), *J Fin*, 42, March 1987; 4 ‘On correlations and inferences about mean variance efficiency’ (with R. Stambaugh), *J Fin E*, 18, March 1987; 5. ‘Tests of asset pricing with time-varying risk premiums and market betas’ (with W. Ferson, R. Stambaugh), *J Fin*, 42, June 1987; 6. ‘Mean variance spanning’ (with G. Huberman), *J Fin*, 42, Sept. 1987; 7. ‘A mean-variance framework for tests of asset pricing models’ (with R. Stambaugh), *Rev. Fin. Stud.*, 2, 1989; 8. ‘Market efficiency and value line’s record’ (with G. Huberman), *J Bus*, 63, April 1990; 9. ‘Expectations and volatility of consumption and asset returns’ (with R. Stambaugh), *Rev. Fin. Stud.*, 3, 1990; 10. ‘Asset returns and intertemporal preferences’ (with R. Stambaugh), *JME*, 27, 1991; 11. ‘On the incentives of portfolio managers: a signalling approach’ (with G. Huberman), *Europ ER*, 37, 1993; 12. ‘Learning from trading’ (with A.R. Ofer, O.H. Sarig), *Rev. Fin. Stud.*, 6, 1993; 13. ‘Bayesian inference and portfolio efficiency’ (with R. McCulloch, R. Stambaugh), *Rev. Fin. Stud.*, 8, 1995; 14. ‘Portfolio inefficiency and the cross-section of expected returns’ (with R. Stambaugh), *J Fin*, 50, March 1995; 15. ‘Real interest rates and inflation: an *ex-ante* empirical analysis’ (with A.R. Ofer, O. Sarig), *J Fin*, 51, March 1996; 16. ‘On the predictability of stock returns: an as-

set allocation perspective’ (with R.F. Stambaugh), *J Fin*, 51, June 1996; 17. ‘An index-contingent trading mechanism: economic implications’ (with A. Wohl), *J Bus*, 70, Oct. 1997; 18. ‘The demand for stocks: an analysis of IPO auctions’ (with O. Sarig, A. Wohl), *Rev. Fin. Stud.*, 12, 1999; 19. ‘Do investors prefer round stock prices? Evidence from the Israeli IPO auctions’ (with O. Sarig, A. Wohl), *J Bank Fin*, 25, 2001; 20. ‘Real and nominal effects of central bank monetary policy’ (with M. Kahn, O. Sarig), *JME*, 49, 2002.

Principal Contributions n.e.

KANDORI, Michihiro

Born 1959, Sapporo, Japan.

Current Post Prof. Econ., Univ. Tokyo, Tokyo, Japan, 1999–.

Past Posts Asst Prof. Econ., Univ. Pennsylvania, 1989–90; Asst Prof. Econ., Princeton Univ., 1990–92; Assoc. Prof. Econ., Univ. Tokyo, 1992–99.

Degrees BA Univ. Tokyo, 1982; PhD Stanford Univ., 1989.

Offices and Honours Fell., Em Soc, 1999; Council Mem., Em Soc, 2001; BP Amco-LSE Centennial Vis. Prof., LSE, 1999–2000; Nakahara Prize, Japanese Econ. Assoc., 2002.

Editorial Duties Assoc. Ed., *JET*, 1994–, *Em*, 1998–2001.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Articles*: 1. ‘Equivalent equilibria’, *IER*, 29, Aug. 1988; 2. ‘Correlated demand shocks and price wars during booms’, *REStud*, 58, Jan. 1991; 3. ‘Social norms and community enforcement’, *REStud*, 59, Jan. 1992; 4. ‘Repeated games played by overlapping generations of players’, *REStud*, 59, Jan. 1992; 5. ‘The

use of information in repeated games with imperfect monitoring', *REStud*, 59, July 1992; 6. 'Learning, mutation and long-run equilibria in games' (with G. Mailath, R. Rob), *Em*, 61, Jan. 1993; 7. 'Evolution of equilibria in the long run: a general theory and applications' (with R. Rob), *JET*, 65, April 1995; 8. 'Evolutionary game theory in economics', in D.M. Kreps, K.F. Wallis (eds), *Advances in Economics and Econometrics: Theory and Applications*, Vol. I (CUP, 1997); 9. 'Bandwagon effects and long-run technology choice' (with R. Rob), *Games and Econ. Behav.*, 22, Jan. 1998; 10. 'Private observation, communication and collusion' (with H. Matsushima), *Em*, 66, May 1998; 11. 'Introduction to repeated games with private monitoring', *JET*, 102, Jan. 2002; 12. 'Randomization, communication, and efficiency in repeated games with imperfect public monitoring', *Em*, forthcoming; 13. 'The erosion and sustainability of norms and morale', *Japanese Econ. Rev.*, forthcoming.

Principal Contributions I have been working on the possibility of cooperation in long-term relationships (repeated games). My early works examined how cooperation is sustained when players change their trading partners over time. In particular, I examined such issues as group sanction, cooperation sustained by contagion in anonymous random matching games, and the folk theorem with overlapping generations of players. I also examined what kind of information is necessary to achieve cooperation in long-term relationships. I proved the basic relationship between observability and efficiency and also showed that communication plays a vital role in achieving cooperation, when players receive diverse imperfect information about each other's action (i.e., in repeated games with imperfect private monitoring). I have also been working on the evolution of social

conventions or equilibria and demonstrated that the randomness in adjustment process can uniquely select a particular equilibrium in the long run, even though multiple equilibria or conventions can potentially be present in a society. I and my co-authors introduced a general technique to characterize the long-run stochastically stable outcomes, a basic analytical tool in the stochastic evolutionary game theory. We showed that the risk dominance equilibrium is selected in the long run in coordination games, and I have provided various applications.

KANNINEN, Barbara J. n.e.

KAPLAN, Steven N. n.e.

KAPLOW, Louis

Born 1956, Chicago, IL, USA.

Current Posts Prof. Law, Harvard Law Sch., Harvard Univ., Cambridge, MA, USA, 1987–; Assoc. Dir., John M. Olin Center for Law, Econ., and Bus., Harvard Law Sch., 2000–; Res. Assoc., NBER, Cambridge, MA, USA, 1985–.

Past Posts Law Clerk to Hon. Henry J. Friendly, US Court of Appeals, 2nd Circuit, 1981–82; Asst Prof., Assoc. Dean Res. and special programs, Harvard Law Sch., 1982–87, 1989–91.

Degrees BA (Distinction) Northwestern Univ., 1977; MA, PhD Harvard Univ., 1981, 1987; JD (*mcl*) Harvard Law Sch., 1981.

Offices and Honours NSF Fell., 1977–78; Phi Beta Kappa, 1977.

Editorial Duties Managing Ed., *Harvard Law Rev.*, 1980–81.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; K1 Basic Areas of Law; L4 Antitrust Policy.

Publications Books: 1. *Antitrust Analysis* (with P. Areeda), (Aspen, 5th edn 1997); 2. *Antitrust Analysis: 2000 Supplement* (with P. Areeda), (Aspen, 2000); 3. *Fairness Versus Welfare* (with S. Shavell), (HUP, 2002).

Articles: 1. 'Comment on antitrust issues in the licensing of intellectual property', *BPEA: Microecon.*, 15, 1997; 2. 'Accuracy in adjudication', in P. Newman (ed.), *New Palgrave Dictionary of Economics and the Law* (Macmillan, 1998); 3. 'Tax and non-tax distortions', *J Pub E*, 68, 1998; 4. 'Tax policy and gifts', *AEA Papers and Proceedings*, 88, 1998; 5. 'A note on the optimal supply of public goods and the distortionary cost of taxation', *NTJ*, 51, 1998; 6. 'Accuracy, complexity, and income tax', *JLEO*, 14, 1998; 7. 'The conflict between notions of fairness and the Pareto principle' (with S. Shavell), *Amer. Law and Econ. Rev.*, 1, 1999; 8. 'Families, tax treatment', in *Encyclopedia of Taxation and Tax Policy* (Urban Inst. Press, 1999); 9. 'Should legal rules favor the poor? Clarifying the role of legal rules and the income tax in redistributing income' (with S. Shavell), *J. Legal Stud.*, 29, 2000; 10. 'General characteristics of rules', in B. Bouckaert, G. De Geest (eds), *Encyclopedia of Law and Economics*, Vol. 5 (Edward Elgar, 2000); 11. 'Notions of fairness versus the Pareto principle: on the role of logical consistency' (with S. Shavell), *Yale Law J.*, 110, 2000; 12. 'A framework for assessing estate and gift taxation', in W.G. Gale, J. R. Hines, J. Slemrod (eds), *Rethinking Estate and Gift Taxation* (Brookings Inst., 2001); 13. 'Fairness versus welfare' (with S. Shavell), *Harvard Law Rev.*, 114, 2001; 14. 'Any non-welfarist method of policy assessment violates the Pareto principle' (with S. Shavell), *JPE*, 109, 2001; 15. 'Horizontal equity: new measures, unclear principles. A commentary', in K.A. Hassett, R.G. Hubbard (eds), *Inequality and Tax*

Policy (AEI, 2001); 16. 'On the superiority of corrective taxes to quantity regulation' (with S. Shavell), *Amer. Law and Econ. Rev.*, 4, 2002; 17. 'Economic analysis of law' (with S. Shavell), in A.J. Auerbach, M. Feldstein (eds), *Handbook of Public Economics*, Vol. 3 (Elsevier, 2002).

Principal Contributions I am co-author of numerous articles in economics and law journals, a text on antitrust law, a survey on law and economics and a book, *Fairness versus Welfare*, at the intersection of economics, moral philosophy, and law. I am working on books on distributive justice and on income redistribution and the tax system. I am on the editorial boards of a number of journals and have been an economic and legal consultant to various government entities and private parties.

KARIM, M. Rezaul n.e.

KAROLYI, George Andrew

Born 1962, Vancouver, BC, Canada.

Current Post Dean's Disting. Res. Prof. Fin., Fisher Coll. Bus., Ohio State Univ., Columbus, Oh, USA, 1989–.

Past Posts Econ., Res. Dept, Bank of Canada, 1983–85; Asst Prof., Faculty Bus., Univ. Alberta, 1988–89; Assoc. Prof., Richard Ivey Sch. Bus., Univ. Western Ontario, 1996–98.

Degrees BA (Hons) McGill Univ., 1983; MA Univ. Ottawa, 1985; MBA (Fin.), PhD (Fin.) Grad. Sch. Bus., Univ. Chicago, 1987, 1989.

Offices and Honours Beta Gamma Sigma (Bus.) Hons Soc., 1987; Best Paper Award, Pacific Basin Capital Markets Conf., 1991–92; Phi Alpha Kappa (Fin.) Hons Soc., 1994; Dir., FMA, 1998–2000, Pacific Basin Fin. Mgmt Soc., 1998–2000;

William F. Sharpe Award for Scholarship Fin. Res., 2001; Pace Setters Res. Award, Ohio State Univ., 2001; Nomination Comm. Mem., AFA, 2001–02.

Editorial Duties Assoc. Ed., *J. Empirical Fin.*, 1995–, *Pacific Basin Fin. J.*, 1997–99, *J Bank Fin*, 1998–, *J. Intl Fin. Markets, Insts and Money*, 1999–, *J. Fin. Res.*, 2001–, *Strategic Investor Relations*, 2001–; Co-Ed., *Pacific Basin Fin. J.*, 1999–2003.

Principal Fields of Interest G1 General Financial Markets; F3 International Finance.

Publications Books: 1. *Why Do Companies List Their Shares Abroad? A Survey of the Evidence and its Managerial Implications*, Vol. 7 (Salomon Brothers Monograph series, NYU, 1998); 2. *International Capital Markets* (ed. with R. Stulz), ed. R. Roll, *The International Library of Critical Writings in Financial Economics* series (Edward Elgar, 2003).

Articles: 1. ‘Intraday volatility in the stock index and stock index futures markets’ (with K. Chan, K.C. Chan), *Rev. Fin. Stud.*, 4, 1991; 2. ‘An empirical comparison of alternative models of the short-term interest rates’ (with K.C. Chan, F. Longstaff, A. Sanders), *J Fin*, 47, 1992; 3. ‘Global financial markets and the risk premium on US equity’ (with K.C. Chan, R. Stulz), *J Fin E*, 32, 1992; 4. ‘A Bayesian approach to modeling stock return volatility for option valuation’, *JFQA*, 28, 1993; 5. ‘Why do markets move together? An investigation of US–Japanese stock return comovements’ (with R. Stulz), *J Fin*, 51, 1996; 6. ‘Another look at the role of the industrial structure of markets for international diversification strategies’ (with J. Griffin), *J Fin E*, 47, 1998; 7. ‘The effects of market segmentation and investor recognition on asset prices: evidence from foreign stocks listing in the US’ (with S. Foerster), *J Fin*, 54, 1999; 8. ‘The long-run performance of global eq-

uity offerings’ (with S. Foerster), *JFQA*, 35, 2000; 9. ‘A new approach to measuring financial contagion’ (with K.H. Bae, R. Stulz), *Rev. Fin. Stud.*, forthcoming 2003; 10. ‘Are foreign firms listed in the US worth more?’ (with C. Doige, R. Stulz), *J Fin E*, forthcoming 2003.

Principal Contributions I have made contributions to the analysis of international financial markets, international asset pricing models and models of investment decision-making. My early papers focused on measuring and modeling financial market risks for pricing and trading stocks, bonds, and derivatives. This research program evolved into the study of how market risks are priced differently in international markets. The important methodological contributions arise from the importance of modeling of the joint dynamics of conditional market variance and covariance risks, particularly with high-frequency financial asset price data. My more recent institutional contributions have stemmed from my specialization in the study of internationally cross-listed shares of stocks and their importance for global investors in managing risks, for corporate issuers in raising capital and in governance issues, for market traders in providing liquidity, and for regulators in formulating public policy.

KARRAS, Georgios

Born 1962, Athens, Greece.

Current Post Prof. Econ., Univ. Illinois, Chicago, IL, USA, 2001–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Illinois, Chicago, 1990–96, 1996–2001.

Degrees BA Univ. Athens, 1984; MA (Econ. and Bus.) Athens Univ., 1986; MA, PhD Ohio State Univ., 1987, 1990.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics:

General; F4 Macroeconomic Aspects of International Trade and Finance.

Publications Book: 1. *Macroeconomic Theory* (Erudition Books, 2001).

Articles: 1. 'Money, inflation, and output growth: does the aggregate demand-aggregate supply model explain the international evidence?', *WA*, 29, Dec. 1993; 2. 'Government spending and private consumption: some international evidence', *JMCB*, 26, Feb. 1994; 3. 'Are government activities productive? Evidence from a panel of US states' (with P. Evans), *REStat*, 76, Feb. 1994; 4. 'Sources of output fluctuations during the interwar period: further evidence on the causes of the Great Depression' (with S. Cecchetti), *REStat*, 76, Feb. 1994; 5. 'Sources of business cycles in Europe, 1960–1988: evidence from France, Germany, and the United Kingdom', *Europ ER*, 38, Dec. 1994; 6. 'Convergence revisited' (with P. Evans), *JME*, 37, April 1996; 7. 'The optimal government size: further international evidence on the productivity of government services', *EI*, 34, April 1996; 8. 'Are the output effects of monetary policy asymmetric? Evidence from a sample of European countries', *OBES*, 58, May 1996; 9. 'Economic integration and convergence: lessons from Asia, Europe, and Latin America', *J. Econ. Integration*, 12, Dec. 1997; 10. 'Openness and the effects of monetary policy', *JIMF*, 18, Feb. 1999; 11. 'Taxes and growth in Europe: 1885–1987', *J Eur EH*, 28, Fall 1999; 12. 'Openness to trade and the potency of monetary policy: how strong is the relationship?', *Open Econ. Rev.*, 12, Jan. 2001.

Principal Contributions My research has focused on both the business-cycle and long-run growth aspects of macroeconomics. In various articles I have tested some of the predictions of different growth theories and their convergence implications. In a number of other articles I have examined the sources of business-cycle

fluctuations and the importance of fiscal and monetary policies, including the role of the economy's openness to international trade for the potency of monetary policy, and the consequences of monetary integration and dollarization.

KASHYAP, Anil K. n.e.

KASS, Robert E. n.e.

KATZ, Jonathan N. n.e.

KATZ, Lawrence Francis

Born 1959, Ann Arbor, MI, USA.

Current Posts Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1991–; Res. Assoc., NBER, Cambridge, MA, USA, 1990–.

Past Posts Asst Prof., Sch. Bus. Admin., Univ. California, Berkeley, 1985–86; Faculty Res. Fell., NBER, 1985–90; Asst and Assoc. Prof. Econ., Harvard Univ., 1986–91; Chief Econ., US Dept Labor, 1993–94; Dir., Project on Well-Being of Children, NBER, 1992, 1994–96.

Degrees AB Univ. California, Berkeley, 1981; PhD MIT, 1986.

Offices and Honours Olin Fellowship Econ., NBER, 1988–89; Fell., Em Soc, 1993–, AAAS, 2001–; H. Gregg Lewis Prize for best article, *J Lab E*, 1993; Global Leader of Tomorrow, World Econ. Forum, 1993; Vis. Scholar Fellowship, Russell Sage Foundation, 1997–98; Excellence in Mentoring Award, Harvard Grad. Student Council, 1999; Chair, Harvard Comm. Employment and Contracting Pol., 2001–02.

Editorial Duties Ed., *QJE*, 1991–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; I0

Health, Education, and Welfare: General; N3 Labor and Consumers, Demography, Education, Income, and Wealth.

Publications Book: 1. *Differences and Changes in Wage Structures* (ed. with R. Freeman), (UCP and NBER, 1995).

Articles: 1. 'Cyclical unemployment: sectoral shifts or aggregate disturbances?' (with K. Abraham), *JPE*, 94, June 1986; 2. 'Efficiency wage theories: a partial evaluation', *NBER Macroecon. Annual*, 1, 1986; 3. 'Workers' trust funds and the logic of wage profiles' (with G. Akerlof), *QJE*, 104, Aug. 1989; 4. 'Industry rents: evidence and implications' (with L. Summers), *BPEA: Microecon.*, 1989; 5. 'The impact of the potential duration of unemployment benefits on the duration of unemployment' (with B. Meyer), *J Pub E*, 41, Feb. 1990; 6. 'Unemployment insurance, recall expectations, and unemployment outcomes' (with B. Meyer), *QJE*, 105, Nov. 1990; 7. 'Layoffs and lemons' (with R. Gibbons), *J Lab E*, 9, Oct. 1991; 8. 'Macroeconomic performance and the disadvantaged' (with D. Cutler), *BPEA*, 2, 1991; 9. 'Changes in relative wages, 1963–1987: supply and demand factors' (with K. Murphy), *QJE*, 107, Feb. 1992; 10. 'Does unmeasured ability explain inter-industry wage differentials?' (with R. Gibbons), *RESStud*, 59, July 1992; 11. 'The effect of the minimum wage on the fast food industry' (with A. Krueger), *ILRR*, 46, Oct. 1992; 12. 'Regional evolutions' (with O. Blanchard), *BPEA*, 1, 1992; 13. 'How much do immigration and trade affect labor market outcomes?' (with G. Borjas, R. Freeman), *BPEA*, 1, 1997; 14. 'The origins of technology-skill complementarity' (with C. Goldin), *QJE*, 113, Aug. 1998; 15. 'Computing inequality: have computers changed the labor market?' (with D. Autor, A. Krueger), *QJE*, 113, Nov. 1998; 16. 'The shaping of higher education: the formative years in the United States, 1890 to 1940' (with C.

Goldin), *JEP*, 13, Winter 1999; 17. 'Education and income in the early twentieth century: evidence from the Prairies' (with C. Goldin), *JEH*, 60, Sept. 2000; 18. 'Moving to opportunity in Boston: early results of a randomized mobility experiment' (with J. Kling, J. Liebman), *QJE*, 116, May 2001; 19. 'The power of the pill: oral contraceptives and women's career and marriage decisions' (with C. Goldin), *JPE*, 110, Aug. 2002.

Principal Contributions Most of my research is related to issues in labor economics and the economics of social problems. My early work examined unemployment and wage determination. I helped delineate the role of sectoral shifts and aggregate shocks in unemployment fluctuations, showed the importance of taking account the layoff-recall process in studying US unemployment, and estimated the impacts of unemployment insurance. I also contributed to the development of the theoretical and empirical implications of efficiency wage models. I helped document the nature and persistence of inter-industry wage differentials and helped show how patterns of inter-industry wage differentials could be used to test theories of wage determination. My joint work with Olivier Blanchard developed a new approach to modeling regional labor markets and showed the importance of migration in explaining the adjustment of US states to economic shocks. Much of my recent work has focussed on documenting and understanding changes in the US wage structure and earnings inequality in an historical and international comparative context. I helped develop a supply–demand institutions framework for empirically assessing differences and changes in wage structures across countries and over time. My research has shown the roles played by skill-biased technological changes, fluctuations in the rate of growth of the relative supply of

more-educated workers, and international trade and immigration in shaping the US wage structure. Claudia Goldin and I have been studying the economic history of educational advance, technological change, and economic inequality in the United States over the past 150 years. My research has also examined the economics of social interactions and neighborhood effects; the impact of asymmetric information on the labor market; the effects of the birth control pill on women's careers and on marriage markets; and the evaluation of policies including wage subsidies, minimum wages, and housing mobility programs.

KATZ, Michael Louis

Born 1957, Oakland, CA, USA.

Current Posts Edward J. and Mollie Arnold Prof. Bus. Admin., Prof. Econ., Univ. California, Berkeley, CA, USA, 1995–, 1989–.

Past Posts Asst Prof., Princeton Univ., 1981–87; Assoc. Prof., Univ. California, Berkeley, 1987–89.

Degrees AB (*scl*) Harvard Univ., 1978; DPhil Oxford Univ., 1982.

Offices and Honours Alfred P. Sloan Res. Fell., 1985–88; Earl F. Cheit Outstanding Teaching Award, Berkeley, 1988–89, 1992–93, and Hon. Mention, 1996–97; Chairman's Special Achievement Award, FCC, 1996.

Editorial Duties Co-Ed., *JEMS*.

Principal Fields of Interest D0 Microeconomics: General; L4 Antitrust Policy; L5 Regulation and Industrial Policy.

Publications *Book*: 1. *Intermediate Microeconomics* (H.S. Rosen), (Richard D. Irwin, 1991, 1994, 1997).

Articles: 1. 'Price discrimination and monopolistic competition', *Em*, 52, Nov. 1984; 2. 'Network externalities, competition, and compatibility' (with C. Shapiro),

AER, 75, June 1985; 3. 'How to license intangible property' (C. Shapiro), *QJE*, 101, Aug. 1986; 4. 'An analysis of cooperative research and development', *RandJE*, 17, Winter 1986; 5. 'The welfare effects of third-degree price discrimination in intermediate goods markets', *AER*, 77, March 1987; 6. 'R&D rivalry with licensing or imitation' (with C. Shapiro), *AER*, 77, June 1987; 7. 'Vertical contractual relationships', in R. Schmalensee, R.D. Willig (eds), *The Handbook of Industrial Organization* (N-H, 1989); 8. 'Game-playing agents: unobservable contracts as precommitments', *RandJE*, 22, Autumn 1991; 9. 'Moral hazard and verifiability: the effects of renegotiation in agency' (with B.E. Hermalin), *Em*, 59, Nov. 1991; 10. 'Systems competition and network effects' (with C. Shapiro), *JEP*, 8, Spring 1994.

Principal Contributions One of the founders of the theory of network effects in oligopolistic markets.

KAU, James B.

Born 1943, Pasco, WA, USA.

Current Post C. Herman and Mary Virginia Terry Disting. Chair Bus. Admin., Terry Coll. Bus., Univ. Georgia, Athens, GA, USA, 1988–.

Past Posts Res. Asst, Instr., Univ. Washington, 1967–68, 1968–71; Instr., Seattle Univ., 1969–70; Asst Prof., Univ. Hawaii, 1971–73; Asst Prof. Real Estate, Assoc. Prof., Real Estate, Prof. Real Estate, Univ. Georgia, 1973–76, 1976–80, 1980–88; Vis. Assoc. Prof. Fin., Univ. Illinois, 1976; Vis. Scholar, Fed. Home Loan Mortgage Corp., 1984; Vis. Prof. Fin. Real Estate, Univ. California, Berkeley, 1984; Vis. Scholar, Fed. Home Loan Bank, San Francisco, 1985; Vis. Prof., UCLA, 1988.

Degrees BA (Maths), MA, PhD Univ. Washington, 1967, 1969, 1971.

Offices and Honours Competitive Pa-

per Award, Western Fin. Assoc., 1980; Fell., Homer Hoyt Inst. Sch. Post-Doctoral Stud. Land Econ., 1984; Res. Scholar, Fed. Home Loan Mortgage Corp., Washington, DC, 1984, Fed. Home Loan Bank, San Francisco, 1985; Terry Coll. Bus. Disting. Life-Time Res. Award, 1990; Bd Dirs, AREUEA, 1983–87, Amer. Real Estate Soc., 1992–2000.

Editorial Duties Ed. Bds, *JUE*, 1980–96, *J Reg S*, 1984–88, *J. Real Estate Res.*, 1986–88; Ed., *J. AREUEA*, 1983–87, *J. Real Estate Fin. Econ.*, 1984–, *J. Real Estate Literature*, 1992–2000.

Principal Fields of Interest G1 General Financial Markets; R1 General Regional Economics; H1 Structure and Scope of Government.

Publications *Books*: 1. *Cases in Tax Planning for Real Estate Investing* (Natl Inst. Fin. Planning, 1980); 2. *Congressmen, Constituents and Contributions: An Analysis of Determinants of Roll Call Voting in the House of Representatives* (Martinus Nijhoff, 1981); 3. *Real Estate* (McGraw-Hill, 1985); 4. *Taxation and Real Estate Investment* (Prentice-Hall, 1985); 5. *Urban Econometrics: Model Developments and Empirical Results* (JAI Press, 1986).

Articles: 1. 'Voting on minimum wages: a time series analysis', *JPE*, 86, April 1978; 2. 'The size of government', *Public Choice*, 37, 1981; 3. 'A general equilibrium model of congressional voting', *QJE*, 97, May 1982; 4. 'Inflation, taxes, and housing: a theoretical analysis', *J Pub E*, 21, 1983; 5. 'Structural shifts in urban population density gradients: an empirical investigation', *JUE*, 13, 1983; 6. 'The analysis and valuation of adjustable rate mortgages', *Manag. Sc.*, 36, Dec. 1990; 7. 'A generalized valuation model for fixed-rate residential mortgages', *JMCB*, 24, Aug. 1992; 8. 'Option theory and floating rate securities with a comparison of adjustable and fixed rate mortgages', *J*

Bus, 66, 1993; 9. 'Default probabilities for mortgages', *JUE*, 35, 1994; 10. 'Self-interest, ideology and logrolling in congressional voting', *J Law E*, 52, 1995; 11. 'Patterns of rational default', *J. Reg. Sc. and Econ*, 29, 2000; 12. 'The limits of growth of government and limits', *Public Choice*, 34, 2001; 13. 'Liability distribution for mortgage insurance', *J. Risk and Insurance*, 68, 2001; 14. 'A fixed-rate mortgage model in three state variables', *J. Fixed Income*, 11, 2002; 15. 'Pricing a class of American and European path dependent securities', *Mgmt Sc.*, 51, 1995.

Principal Contributions Initial research was concentrated on urban spatial structure and the examination of urban housing production processes using alternative production functions. Research also studied how land values are determined and how spatial variation affects the land market. Several papers explored urban population density and structure. The second main body of research focuses on the determinants of congressional voting. The research began with the question of the determinants of recent regulatory legislation, much of which does not seem explicable in terms of the now standard economic theory of regulation. The conclusion reached is that ideology appears to be the explanation for much of the new legislation. This result means that those who claim that economic factors are the basis of all legislation should be required to document their claim. Finally, this research led to a very general model of the legislative process. Current research concentrates on the pricing of mortgages as derivative assets, often called the option-pricing approach to mortgage valuation. The research examined fixed rate mortgages as well as insurance on such mortgages, considering both the right to default and to prepay. The analysis employs a model with two-state variables, one for the interest rate process and one

representing the value of the property. Other work developed a similar model to value servicing, guarantee fees, the underlying commercial and multifamily mortgages and mortgage-backed securities. The most recent papers examine adjustable rate mortgages within the same framework with emphasis placed on understanding path-dependence problems.

KAUL, Gautam

Born 1954, Patna, Bihar, India.

Current Post John C. and Sally S. Morley Prof. Fin., Univ. Michigan Bus. Sch., Ann Arbor, MI, USA, 1998–.

Past Posts Lect., Delhi Univ., 1976–77; Assoc. Ed., *Bus. India* (magazine similar to *Bus. Week*), 1980–81; Lect., Univ. Chicago, 1984; Asst Prof. Fin., Assoc. Prof. Fin., Prof. Fin., Univ. Michigan, 1985–91, 1991–93, 1993–98.

Degrees BA Delhi Univ., 1974; MA Delhi Sch. Econ., 1976; PhD Univ. Chicago, 1985.

Offices and Honours Fellowship, Indian Inst. Mgmt, Ahmedabad, 1977–81, Univ. Chicago, 1981–85; Center for Res. Security Prices (CRSP) Prize, 1982; Best Paper Nomination, *J Fin*, 1990, 1993; MBA Excellence in Teaching Award, 1995–96; Best Paper Award, *Rev. Fin. Stud.*, 1995, 1999; Nominated, MBA Excellence in Teaching Award, 1996–97, 1997–98.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1993–97, *JFQA*, 1993–97, *J. Fin. Res.*, 1993–, *J. Fin. Markets*, 1997–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C5 Econometric Modeling; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications *Articles*: 1. 'Stock returns and inflation: the role of the monetary sector', *J Fin E*, 18, June 1987; 2. 'Time-

variation in expected returns' (with J. Conrad), *J Bus*, 61, Oct. 1988; 3. 'Mean reversion in short-horizon expected returns' (with J. Conrad), *Rev. Fin. Stud.*, 2, Summer 1989; 4. 'Relative price variability, real shocks, and the stock market' (with N. Seyhun), *J Fin*, 45, June 1990; 5. 'Monetary regimes and the relation between stock returns and inflationary expectations', *JFQA*, 25, Sept. 1990; 6. 'Price reversals: bid-ask errors or market overreaction?' (with M. Nimalendran), *J Fin E*, 28, Dec. 1990; 7. 'Components of short-horizon individual security returns' (with J. Conrad, M. Nimalendran), *J Fin E*, 29, Oct. 1991; 8. 'Asymmetric predictability of conditional variances' (with J. Conrad, M. Gultekin), *Rev. Fin. Stud.*, 4, 1991; 9. 'Estimation of the bid-ask spread and its components: a new approach' (with T. George, M. Nimalendran), *Rev. Fin. Stud.*, 4, 1991; 10. 'Long-term market overreaction or biases in computed returns?' (with J. Conrad), *J Fin*, 48, March 1993; 11. 'Trading volume and transaction costs in specialist markets' (with T. George, M. Nimalendran), *J Fin*, 49, Sept. 1994; 12. 'Information, trading and volatility' (with M. Lipson, C. Jones), *J Fin E*, 36, 1994; 13. 'Transactions, volume and volatility' (with M. Lipson, C. Jones), *Rev. Fin. Stud.*, 7, 1994; 14. 'Oil and the stock markets' (with C. Jones), *J Fin*, 51, 1996; 15. 'Profitability of short-term contrarian portfolio strategies: implications for market efficiency' (with J. Conrad, M. Gultekin), *JBES*, 15, 1997; 16. 'Predictable components in stock returns', in G.S. Maddala, C.R. Rao (eds), *Handbook of Statistics* (Elsevier Sc., 1997); 17. 'An anatomy of trading strategies' (with J. Conrad), *Rev. Fin. Stud.*, 11, 1998; 18. 'Value versus glamour' (with J. Conrad, M. Cooper), *J Fin*, forthcoming.

Principal Contributions My main contribution to economics is to ask good questions, and then attempt to address them in

the most rigorous fashion. Most of the questions I have been interested in are related to financial economics, and specifically to the workings of financial markets. My research is empirically oriented, with a major focus on methodology.

KEALY, Mary Jo n.e.

KEANE, Michael P. n.e.

KEEBLE, David Etherton

Born 1939, Luton, UK.

Current Posts Emeritus Lect. Econ. Geography, Cambridge Univ., Cambridge, UK, 2001–; Emeritus Fell., St Catharine's Coll., Cambridge, UK, 2000–.

Past Posts Lect. Econ. Geography, Cambridge Univ., 1963–2001; Fell., Tutor and Dir. Stud., St Catharine's Coll., Cambridge, 1964–2000; Founder and Project Dir., Cambridge Univ. Small Bus. Res. Centre, 1989–94; Founder, Asst Dir. and SME Program Dir., Cambridge Univ. Centre for Bus. Res., 1994–99.

Degrees BA (Geography), MA (Geography), PhD Cambridge Univ., 1961, 1965, 1966.

Offices and Honours Chair, Econ. Comm., East Anglia Econ. Planning Council, 1971–79; Chair, Ind. Activity Res. Group, Inst. British Geographers, 1984–87; Royal Geographical Soc. Gill Award, 1985; Mem., Rural Devlp. Commission Econ. Comm., 1990–99; Chair, Europ. Commission Res. Network on Regionally-Clustered High-Tech. SMEs, 1996–99; Royal Geographical Soc. Gold Medal (Patron's Medal), 2002.

Editorial Duties Rev. Ed. in Ind. Geography, *Progress Human Geography*, 1977–79; Ed. Advisory Bds, *Regional Stud.*, *Erkunde*, *Tijdschrift voor Econ. en*

Social Geography, 1977–99; Guest Ed., *Regional Stud.*, special issues, 1978, 1999; Ed., Cambridge Univ. Centre for Bus. Res. Working Papers, 1994–99.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; R3 Production Analysis and Firm Location; O3 Technological Change.

Publications *Books*: 1. *Industrial Location and Planning in the United Kingdom* (Methuen, 1976); 2. *Centrality, Peripherality and EEC Regional Development* (with P.L. Owens, C. Thompson), (HMSO, 1982); 3. *New Firms and Regional Development in Europe* (with E. Wever), (Croom Helm, 1986); 4. *High-Technology Industry and Innovative Environments* (with P. Aydalot), (Routledge, 1988); 5. *Peripheral Regions in a Community of Twelve Member States* (with J. Offord, S. Walker), (Europ. Commission, 1988); 6. *Business Success in the Countryside: The Performance of Rural Enterprise* (with P. Tyler, G. Broom, J. Lewis), (HMSO, 1992); 7. *The Economic Geography Reader: Producing and Consuming Global Capitalism* (with J. Bryson, N. Henry, R. Martin), (Wiley, 1999); 8. *High-Technology Clusters, Networking and Collective Learning in Europe* (with F. Wilkinson), (Ashgate, 2000).

Articles: 1. 'Industrial decline, regional policy and the urban-rural manufacturing shift in the United Kingdom', *Environment and Planning A*, 12, Dec. 1980; 2. 'High-technology industry and regional development in Britain: the case of the Cambridge phenomenon', *Environment and Planning C*, 7, April 1989; 3. 'Small firms, business services growth and regional development in the United Kingdom: some empirical findings' (with J. Bryson, P. Wood), *Regional Stud.*, 25, Sept. 1991; 4. 'New firms, small firms and dead firms: spatial patterns and determinants in the United Kingdom' (with S. Walker), *Regional Stud.*, 28, June 1994;

5. 'Enterprising behaviour and the urban-rural shift' (with P. Tyler), *Urb Stud.*, 32, Sept. 1995; 6. 'Small firm creation and growth, regional development and the north-south divide in Britain' (with J. Bryson), *Environment and Planning A*, 28, Sept. 1996; 7. 'Small firms, innovation and regional development in Britain in the 1990s', *Regional Stud.*, 31, June 1997; 8. 'The creation and growth of small business service firms in post-industrial Britain' (with J. Bryson, P. Wood), *Small Bus. Econ.*, 9, Sept. 1997; 9. 'Internationalisation processes, networking and local embeddedness in technology-intensive small firms' (with C. Lawson, H. Lawton Smith, B. Moore, F. Wilkinson), *Small Bus. Econ.*, 11 Sept. 1998; 10. 'Regional networking, collective learning and innovation in high-technology SMEs in Europe' (with F. Wilkinson), *Regional Stud.*, 33, June 1999; 11. 'Why do business service firms cluster? Small consultancies, clustering and decentralisation in London and southern England' (with L. Nachum), *Transactions Inst. British Geographers*, 27, Jan. 2002; 12. 'Sources of increasing returns and regional innovation in the United Kingdom' (with S. Athreye), *Regional Stud.*, 36, May 2002.

Principal Contributions My work has investigated a range of key theoretical, empirical and policy issues concerned with manufacturing and service industry location dynamics and regional economic restructuring in the UK and European Union. Specifically, it has contributed to understanding the determinants and policy implications of firm relocation and migration, of regional and urban-rural variations in new firm creation and small firm growth and innovativeness, of regional disparities in economic structure and performance especially between central and peripheral regions of western Europe and the UK north-south divide, and of small firm clustering in high-technology activi-

ties, media industries and business services. Key theoretical contributions include a new theory of the urban-rural shift of business activity ('enterprising behaviour theory') and enhanced understanding of the role of collective learning and networking processes in the regional clustering of small high-technology, media and business service firms.

KEELER, Theodore Edwin

Born 1945, Enid, OK, USA.

Current Post Prof. Econ., Univ. California, Berkeley, CA, USA, 1983-.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. California, 1971-77, 1977-83; Sr Fell., Brookings Inst., 1980-82.

Degrees AB Reed Coll., 1967; SM, PhD MIT, 1969, 1971.

Offices and Honours Phi Beta Kappa, 1967; Woodrow Wilson Fell., 1967-68; NSF Fellow, 1967-69, 1970-71; Principal Investigator, Transportation Cost Study (NSF), 1973-75, Sloan Foundation Project in Transportation, 1977-80, DOT Centers Grant, 1988-90, Robert Wood Johnson Res. Grant, 1996-99.

Editorial Duties Ed. Bd, *MIT Press Stud. in Regulation*, 1980-85; Ed., *Res. in Transportation Econ.*, 1980-85; Assoc. Ed., *J Ind E*, 1984-89, *Rev. Ind. Org.*, 1987-2002.

Principal Fields of Interest I1 Health; L5 Regulation and Industrial Policy; L9 Industry Studies: Utilities and Transportation.

Publications *Books*: 1. *Railroads, Freight, and Public Policy* (Brookings Inst., 1983); 2. *Regulating the Automobile* (with R. Crandall, H. Gruenspect, L. Lave), (Brookings Inst., 1986).

Articles: 1. 'The economics of passenger trains', *J Bus*, 44, April 1971; 2. 'Airline regulation and market performance',

Bell JE, 3, Autumn 1972; 3. 'Railroad costs, returns to scale, and excess capacity', *REStat*, 56, May 1974; 4. 'Optimal peakload pricing, investment, and service levels on urban expressways' (with K. Small), *JPE*, 85, Feb. 1977; 5. 'Theories of regulation and the deregulation movement', *Public Choice*, 44, Spring 1984; 6. 'Measuring the benefits of a large public investment: the case of the US federal-aid highway system' (with J. Ying), *J Pub E*, 36, June 1988; 7. 'Deregulation and scale economies in US trucking: an econometric extension of the survivor principle', *J Law E*, 32, Oct. 1989; 8. 'Pricing in a deregulated environment: the motor carrier experience' (with J.S. Ying), *RandJE*, 22, Summer 1991; 9. 'Taxation, regulation, and addiction: a demand function for cigarettes based on time-series evidence' (with T. Hu, P. Barnett, W. Manning), *JHE*, 10, April 1993; 10. 'The regulation of transport markets' (with K. Button), *EJ*, 103, July 1993; 11. 'Highway safety, economic behavior, and driving environment', *AER*, 84, June 1994; 12. 'The state anti-smoking campaign and the industry response: the effects of advertising on cigarette consumption in California' (with T. Hu, H. Sung), *AER*, 84, May 1995; 13. 'Oligopoly structure and the incidence of cigarette excise taxes' (with P. Barnett, T. Hu), *J Pub E*, 57, July 1995; 14. 'Hospital costs and excess bed capacity: a statistical analysis' (with J. Ying), *REStat*, 78, Aug. 1996; 15. 'Do cigarette producers price-discriminate by state? An empirical analysis of local cigarette pricing and taxation' (with T. Hu, P. Barnett, W. Manning, H. Sung), *JHE*, 15, Aug. 1996; 16. 'Cross-subsidization in hospital care: some lessons from the law and economics of regulation' (with D. Banks, S. Foreman), *Health Matrix: J. Law-Medicine*, 9, Winter 1999; 17. 'State tobacco taxation, education and smoking: controlling for the effects of omitted vari-

ables' (with T. Hu, W. Manning, H. Sung), *NTJ*, 54, March 2001; 18. 'The benefits of switching smoking cessation drugs to over-the-counter status' (with T. Hu, A. Keith, R. Manning, M. Marciniak, M. Ong, H. Sung), *Health Econ.*, 11, July 2002.

Principal Contributions My contributions have all been in applied, empirical microeconomics. Early work on the transportation industries included studies of optimal pricing, investment, regulation and taxation in air, rail and truck in intercity transportation, and auto, rail, and bus in urban transportation. A strong focus of this research was the likely benefit of deregulation in the air, rail, and trucking industries. Subsequent work in the 1980s and early 1990s considered the effects of this deregulation (which had occurred subsequent to the previous papers) on the efficiency of transportation markets and the safety of transportation, with the broad result that lower regulation enhanced efficiency without reducing safety. Since the early 1990s, my work has focussed on issues of pricing, taxation, and regulation in the cigarette and hospital service industries. One thread of the work on cigarettes has emphasized the effects of taxation, regulation, advertising, education, and nicotine replacement drugs on cigarette consumption. Another thread has focussed on oligopoly behavior in the cigarette industry and the effects of that behavior on cigarette consumers. Work on the hospital industry has focussed on two themes: excess capacity and regulation. The results indicate, first, that the cost of excess bed capacity is much higher in US hospitals than most previous research would indicate; and second, that government efforts to force cross-subsidization between paying and non-paying hospital patients have not worked as intended and have caused economically inefficient outcomes.

KEEN, Michael James

Born 1956, London, England.

Current Post Head of Tax Pol. Div., IMF, Washington, DC, USA, 1998–.

Past Posts Prof., Inst. Fiscal Stud., England, 1979–84; Prof., Univ. Essex, 1984–2002.

Degrees BA (Modern Hist. and Econ.), MPhil Univ. Oxford, 1977, 1979.

Offices and Honours Pres.-Elect, Intl Inst. Public Fin., 2003–05; Chair, Intl Seminar in Public Econ., 2002.

Editorial Duties Asst Ed., *REStud*, 1987–91; Ed. Bds, *Europ ER*, 1991–97, *Fiscal Stud.*, 1991–, *Econ. Pol.*, 1994–96, *J Pub E*, 1998–2002, *German Econ. Rev.*, 1998–, *Finanzarchiv*, 1998–, *Econ. of Governance*, 1998–, *ITPF*, 1999–, *IMF Staff Papers*, 2002–; Ed., *ITPF*, 1992–99;

Principal Fields of Interest H0 Public Economics: General; D0 Microeconomics: General.

Publications *Book*: 1. *The Modern VAT* (with L. Ebrill, J.-P. Bodin, V. Summers), (IMF, 2001).

Articles: 1. ‘Single-crossing conditions in comparisons of tax progressivity’ (with R. Hemming), *J Pub E*, 20, 1983; 2. ‘Zero expenditures and the estimation of Engel curves’, *JAE*, 1, 1986; 3. ‘Welfare effects of commodity tax harmonisation’, *J Pub E*, 33, 1987; 4. ‘The comparison between *ad valorem* and specific taxation under imperfect competition’ (with S. Delipalla), *J Pub E*, 49, 1992; 5. ‘Public goods, self-selection and optimal income taxation’ (with R. Boadway), *IER*, 34, 1993; 6. ‘Jeux sans frontières: tax competition and tax coordination when countries differ in size’ (with R. Kanbur), *AER*, 83, 1993; 7. ‘Tax competition and Leviathan’ (with J. Edwards), *Europ ER*, 40, 1996; 8. ‘Efficiency and the optimal direction of federal–state transfers’ (with R. Boadway), *ITPF*, 3, 1996; 9. ‘The future of value-added tax in the European Union’ (with

S. Smith), *Econ. Pol.*, 23, 1996; 10. ‘Fiscal competition and the pattern of public spending’ (with M. Marchand), *J Pub E*, 66, 1997; 11. ‘The comparison between destination and origin principles under imperfect competition’ (with S. Lahiri), *J Int E*, 45, 1998; 12. ‘Vertical tax externalities in the theory of fiscal federalism’, *IMF Staff Papers*, 45, 1998; 13. ‘Corruption, extortion and evasion’ (with J. Hindriks, A. Muthoo), *J Pub E*, 74, 1999; 14. ‘Progressivity effects of structural tax reforms’ (with H. Papapanagos, A.F. Shorrocks), *EJ*, 110, 2000; 15. ‘Redistribution’ (with R. Boadway), in A.B. Atkinson, F. Bourguignon (eds), *Handbook of Income Distribution* (N-H, 2000); 16. ‘Coordinating tariff reductions and domestic tax reform’ (with J. Ligthart), *J Int E*, 56, 2001; 17. ‘Preferential regimes can make tax competition *less* harmful’, *NTJ*, 54, 2002; 18. ‘Does federalism lead to excessively high taxes?’ (with C. Kotsogiannis), *AER*, 92, 2002; 19. ‘Pareto efficient international taxation’ (with D. Wildasin), *AER*, forthcoming.

Principal Contributions My work has sought to apply simple theory, and even simpler empirics, to a range of real issues in public finance, including especially international taxation, redistribution, and the design of commodity and corporate taxes.

KEHOE, Patrick J. n.e.

KENKEL, Donald Scott

Born 1959, Ames, IO, USA.

Current Posts Prof. Pol. Analysis and Mgmt, Cornell Univ., Ithaca, NY, USA, 1995–; Res. Assoc., NBER, Health Econ. Program, 2001–.

Past Post Asst Prof. Econ., Pennsylvania State Univ., 1987–95.

Degrees BA Univ. Kentucky, 1981; MA, PhD Univ. Chicago, 1983, 1987.

Principal Field of Interest I1 Health.

Publications *Book*: 1. *Valuing Health for Policy: An Economic Approach* (ed. with G. Tolley, R. Fabian), (UCP, 1994).

Articles: 1. 'Valuing changes in health risks: a comparison of alternative approaches' (with M. Berger, G. Blomquist, G. Tolley), *SEJ*, 4, April 1987; 2. 'Consumer health information and the demand for medical care', *REStat*, 72, Nov. 1990; 3. 'Health behavior, health knowledge, and schooling', *JPE*, 99, April 1991; 4. 'Do drunk drivers pay their way? A note on optimal penalties for drunk driving', *JHE*, 12, July 1993; 5. 'Drinking, driving, and deterrence: the effectiveness and social costs of alternative policies', *J Law E*, 36, Oct. 1993; 6. 'The demand for preventive medical care', *Apl. Econ.*, 26, April 1994; 7. 'Alcohol consumption and young adults' socioeconomic status' (with D. Ribar), *BPEA: Microecon.*, June 1994; 8. 'Should you eat breakfast? Estimates from health production functions', *Health Econ.*, 4, Feb. 1995; 9. 'New estimates of the optimal tax on alcohol', *EI*, 34, April 1996; 10. 'Racial differences in the determinants of smoking onset' (with P. DeCicca, A. Mathios), *JRU*, 21, Nov. 2000; 11. 'The effect of physician advice on alcohol consumption: count data regression with an endogenous treatment effect' (with J. Terza), *JAE*, 16, 2001; 12. 'Putting out the fires: will higher taxes reduce the onset of youth smoking?' (with P. DeCicca, A. Mathios), *JPE*, 110, Feb. 2002.

Principal Contributions Broadly speaking, the goal of my research agenda is to use the economic approach to inform public policy on health promotion and disease prevention. Most of my research has been about health-influencing decisions that are made outside the health care sector. My research suggests that individuals who are better informed and who

have more schooling make healthier choices about smoking, drinking, exercise, and medical care. My contributions to the economics of alcohol and tobacco have been mainly empirical, policy-relevant estimates. For example, I estimated that both deterrence and tax policies can reduce heavy drinking and drunk driving. D. Ribar and I estimated the effects of alcohol abuse on young adults' earnings. With P. DeCicca and A. Mathios, I estimated that higher cigarette taxes may have little impact on youth smoking. In addition to empirical studies of health behaviors, another strand of my research agenda has addressed economic evaluation methods for health, in particular how to place a monetary value on the health effects of public policies for cost-benefit analysis.

KENNAN, John

Born 1947, Dublin, Ireland.

Current Post Prof. Econ., Univ. Wisconsin, Madison, WI, USA, 1992–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Iowa, 1980–82, 1982–87, 1987–92.

Degrees BA Univ. Coll., Dublin, 1968; PhD Northwestern Univ., 1973.

Principal Fields of Interest J0 Labor and Demographic Economics: General; C7 Game Theory and Bargaining Theory; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. 'The estimation of partial adjustment models with rational expectations', *Em*, 47, 1979; 2. 'Bonding and the enforcement of labor contracts', *Econ. Letters*, 1979; 3. 'The employment-real wage relationship: an international study' (with P.T. Geary), *JPE*, 90, 1982; 4. 'The duration of contract strikes in US manufacturing', *J Em*, 28, 1985; 5. 'The economics of strikes', in O. Ashenfelter, R. Layard (eds), *Handbook*

of Labor Economics (N-H, 1986); 6. 'Do big countries win tariff wars?' (with R. Riezman), *IER*, 29, Feb. 1988; 7. 'An econometric analysis of fluctuations in aggregate labor supply and demand', *Em*, 56, March 1988; 8. 'An experimental analysis of strikes in bargaining games with one-sided private information' (with R. Forsythe, B. Sopher), *AER*, March 1991; 9. 'Bargaining with private information' (with R. Wilson), *JEL*, 31, March 1993; 10. 'The elusive effects of minimum wages', *JEL*, 33, Dec. 1995; 11. 'Repeated bargaining with persistent private information', *REStud*, 68, Oct. 2001; 12. 'Uniqueness of positive fixed points for increasing concave functions on R^n : an elementary result', *Rev. Econ. Dynamics*, 4, Oct. 2001; 13. 'Output and price level effects of monetary uncertainty in a matching model' (with B. Katzman, N. Wallace), *JET*, forthcoming.

Principal Contributions n.e.

KIM, Oliver

Born 1947, Seoul, Korea.

Current Post Prof., R.H. Smith Sch. Bus., Univ. Maryland, College Park, MD, USA, 2001–.

Past Posts Asst Prof., Temple Univ., 1981–86; Asst Prof., UCLA, 1989–95; Assoc. Prof., Univ. Maryland, 1995–2001.

Degrees BA Seoul Natl Univ., 1973; PhD SUNY, 1981; PhD (Accounting) Univ. Pennsylvania, 1990.

Offices and Honours Ernst & Young Prof. Accounting, 2000.

Principal Fields of Interest M4 Accounting; D8 Information and Uncertainty; G0 Financial Economics: General.

Publications *Articles*: 1. 'Balanced equilibrium in a consumption loans model', *JET*, 29, 1983; 2. 'Market reaction to anticipated announcements' (with R.E. Verrecchia), *J Fin E*, 30, 1991; 3.

'Disagreements among shareholders over a firm's disclosure policy', *J Fin*, 48, June 1993.

Principal Contributions Most of my articles appear in accounting journals. I examined how trading volume and bid–ask spreads at the time of an information event in financial markets can be used in conjunction with price to infer the properties of the pre-existing and the newly arriving information. I also devised a simple statistical method to infer the properties of financial analysts' information from their forecasts of earnings, namely, the level of uncertainty and consensus. I used this method to find that consensus decreases after public earnings announcements by firms, which I conjecture to arise from vigorous private information gathering triggered by the arrival of public information.

KIMBALL, Miles S. n.e.

KING, Mervyn Allister

Born 1948, Chesham, Buckinghamshire, England.

Current Post Governor, Bank of England, London, UK, 2003–.

Past Posts Jr Res. Officer, Res. Officer, Dept Apl. Econ., Cambridge Univ., 1969–73, 1972–76; Res. Officer, Kennedy Sch., Harvard Univ., 1971–72; Lect., Faculty Econ., Cambridge Univ., 1976–77; Esme Fairbairn Prof. Investment, Univ. Birmingham, 1977–84; Vis. Prof. Econ., Harvard Univ., 1982, 1990, MIT, 1983–84, LSE, 1996–; Prof. Econ., LSE, 1984–95; Res. Assoc., NBER, 1990; Chief Econ. and Exec. Dir., Bank of England, 1991–98; Dep. Governor, Bank of England, 1998–2003.

Degree BA Univ. Cambridge, 1969.

Offices and Honours Richards Prize,

King's Coll., Cambridge, 1969; Wrenbury Scholar, Stevenson Prize, Univ. Cambridge, 1969, 1970; Mem., Cambridge Growth Project, 1969–73; Kennedy Scholar and Harkness Fellowship, Harvard Univ., 1971; Council, Exec. Comm., RES, 1981–86, 1992–; Medal, Univ. Helsinki, 1982; Co-Dir., Fin. Markets Group, LSE, 1987–91; Mem., Acad. Europa, 1992; Pres., Europ. Econ. Assoc., 1993; Hon. degrees, Birmingham Univ., 2001, London Guildhall Univ., 2001; City Univ. London, 2002; Fell., Em Soc, 2002.

Editorial Duties Asst Ed., *EJ*, 1974–75; Ed. Bds, *J Ind E*, 1977–83, *AER*, 1985–88; Managing Ed., *REStud*, 1978–83; Assoc. Ed., *J Pub E*, 1982–.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; E5 Monetary Policy, Central Banking, and the Supply of Money; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications *Books*: 1. *Indexing for Inflation* (ed. with T. Liesner), (Heinemann, 1975); 2. *Public Policy and the Corporation* (Chapman & Hall, 1977); 3. *The British Tax System* (with J.A. Kay), (OUP, 1978, 1983, 1987, 1990); 4. *The Taxation of Income from Capital: A Comparative Study of the US, UK, Sweden and W Germany* (with D. Fullerton *et al.*), (UCP, 1984).

Articles: 1. 'Taxation and investment incentives in a vintage investment model', *J Pub E*, 1, April 1972, repr. in *Aggregate Investment* (with J.F. Helliwell), (Penguin, 1976); 2. 'Taxation and the cost of capital', *REStud*, 41, Jan. 1974; 3. 'The UK profits crisis: myth or reality?', *EJ*, 85, March 1975; 4. 'Savings and taxation', in G.A. Hughes, G.M. Heal (eds), *Public Policy and the Tax System* (A&U, 1980); 5. 'An econometric model of tenure choice and the demand for housing as joint decision', *J Pub E*, 14, July 1980; 6. 'Asset holdings and the life cycle' (with L. Dicks-

Mireaux), *EJ*, 92, June 1982; 7. 'Corporate financial policy with personal and institutional investors' (with A. Auerbach), *J Pub E*, 17, July 1982; 8. 'An index of inequality: with applications to horizontal equity and social mobility', *Em*, 51, Jan. 1983; 9. 'Welfare analysis of tax reforms using household data', *J Pub E*, 21, July 1983; 10. 'Taxation, portfolio choice and debt–equity ratios: a general equilibrium model' (with A. Auerbach), *QJE*, 98, Nov. 1983.

Principal Contributions Study of the economics of capital markets has been divided between economics departments and finance groups in business schools. Interaction between the two has been less than one might have hoped (as a glance at the references to each other's literature demonstrates). I see my own work as an attempt to bridge the gap between the two traditions of public and private finance. This was not my goal when I started research. After I took the Cambridge Tripos, Richard Stone invited me to join his Growth Project, a group concerned with the empirical analysis of the UK economy. My initial interest was in investment but this later broadened into a general concern with public policy and the capital market. Early papers related to dividends, investment, taxation, unanimity of shareholders and corporate financial policy, and culminated in my book *Public Policy and the Corporation*. The systematic analysis of the effects of taxation on corporate financial policy and investment decisions developed by Joseph Stiglitz and myself showed that the traditional view of the incidence of corporate taxation was inadequate. Financial policy was crucial in determining effective tax rates. This led to the so-called 'new view' of corporate taxation (associated with the names of Alan Auerbach, David Bradford and myself) according to which the differential taxation of dividends and capital gains was capitalised in lower stock

market values with no consequence for the incentive to invest out of retained earnings. Empirical studies showed that effective tax rates on investment were much lower than previously thought and that in the UK the tax was virtually non-existent. It is clear that many policies have effects rather different from those believed to result by the government that instituted them, a lesson reinforced by my experience as a member of the Meade Committee and co-author (with John Kay) of the book, *The British Tax System*, and that economic analysis can help to determine the climate of opinion within which policies are formed. More recently I have worked on the theory and practice of inflation targets in the conduct of monetary policy during my appointment at the Bank of England.

KING, Robert G. n.e.

KIRCHSTEIGER, Georg n.e.

KIRMAN, Alan Peter

Born 1939, London, UK.

Current Posts Prof. Sc. Écon., Univ. Aix-Marseille III, France, 1979–; Dir. d'Études, École des Hautes Études en Sc. Sociales (EHESS), Marseilles, 1982–.

Past Posts Asst Prof., Johns Hopkins Univ., 1969–70; Prof. Assoc., CORE, Louvain-La-Neuve, and Prof. Visiteur, Univ. Libre de Bruxelles, 1970–72; Prof. Extraordinaire, Univ. Libre de Bruxelles, 1972–73; Reader Econ., Prof. Econ., Univ. Warwick, 1973–74, 1974–76; Prof. Sc. Écon., Univ. Aix-Marseille II, 1976–79; Prof. Econ., Europ. Univ. Inst. (EUI), Florence, 1987–1995.

Degrees BA, MA Oxford Univ., 1960, 1965; PhD Princeton Univ., 1971.

Offices and Honours Chairman, Dépt

de Sc. Humaines, Faculté des Sc., Luminy, 1978–79; Dir., CNRS Res. Group in Econ. Quant. et Économétrie (GREQE), 1982–87; Dir., Doctoral Programme '3ème cycle en Économie Mathématique et Économétrie, DEA et Doctorat', EHESS and Univ. Aix-Marseille II and III, 1982–87; Chairman, Dept Econ., EUI, Florence, 1989–90; Fell., Em Soc, 1990; Humboldt Prize, 1995; Membre, Inst. Universitaire de France, 1995–2005; Pres., ASSET (Assoc. Sud-Européenne d'Économie Théorique), 2001–03; Council, Europ. Econ. Assoc., 1998–2002.

Editorial Duties Ed. Bds, *J Math E*, 1974–86, *REStud*, 1975–85, *Ricerche Economice*, 1992–96, *Advances in Complex Systems*, 1998–, *J. Evolutionary Econ.*, 1999–; Advisory Ed., *Textbooks in Advanced Economic Theory*, N-H, 1985–95; Assoc. Ed., *JEDC*, 1999–; Co-Ed., *JEBO*, 2000–.

Principal Fields of Interest D0 Micro-economics: General; D4 Market Structure and Pricing; D8 Information and Uncertainty.

Publications *Books*: 1. *Equilibrium Analysis* (with W. Hildenbrand), (N-H, 1988); 2. *Microéconomie* (with A. Lapiéd), (PUF, 1991); 3. *Economic Research in Europe* (with M. Dahl), (EUI Monographs in Econ., EUI, 1996); 4. *Beyond the Representative Agent* (ed. with M. Galegatti), (Edward Elgar, 1999); 5. *Economics with Interacting Agents* (ed. with J.-B. Zimmermann), (S-V, 2001).

Articles: 1. 'Arrow's theorem: many agents and invisible dictators' (with D. Sondermann), *JET*, 5, 1972; 2. 'Fairness, equity and envy' (with A. Feldman), *AER*, 63, Sept. 1973; 3. 'Dynamic oligopoly with inventories' (with M. Sobel), *Em*, 42, March 1974; 4. 'Stochastic communication and coalition formation' (with C. Oddou, S. Weber), *Em*, 54, Jan. 1986; 5. 'What or whom does the representative individual represent?', *JEP*, 6, Spring

1992; 6. 'Ants, rationality and recruitment', *QJE*, 56, Feb. 1993; 7. 'A unique informationally efficient and decentralized mechanism with fair outcomes' (with X. Calsamiglia), *Em*, 61, Sept. 1993; 8. 'Non classical demand: a model-free examination of price quantity relations in the Marseille fish market' (with W. Härdle), *J Em*, 67, 1995; 9. 'The behaviour of the foreign exchange market', *Bank of England Q. Bull.*, Aug. 1995; 10. 'The economy as an evolving network', *J. Evolutionary Econ.*, 7, 1997; 11. 'Exchange rates and oligopoly' (with T. Hens, A. Jaeger, L. Philips), *Europ ER*, 43, 1999; 12. 'Aggregate activity and market organisation', *Revue Européenne des Sc. Sociales*, 37, 1999; 13. 'Market organization and trading relationships' (with G. Weisbuch, D. Herreiner), *EJ*, 110, April 2000; 14. 'Evolving market structure: an ACE model of price dispersion and loyalty' (with N. Vriend), *JEDC*, 25, 2001; 15. 'Micro-economic models for long-memory in the volatility of financial time series' (with G. Teyssiere), *Stud. in Nonlinear Dynamics and Em.*, 5, 2002.

Principal Contributions I started my research by applying non-cooperative game theory to the theory of international trade. But I was advised that this was going nowhere and I moved into general equilibrium theory with excursions into welfare, game theory and social choice. Over the years, however, I have been intrigued by the way in which markets organise themselves and have tried to apply stochastic graph theory and reinforcement learning to understand this sort of problem. I have also looked at herd behaviour, in part, inspired by ants. I have analysed data from markets such as the Marseilles fish market in detail and looked at financial time series to see how the predictions from the simple models derived, in part, from statistical mechanics' hold up. The basic idea is that the aggregate behaviour of an interactive

system of individuals cannot be reduced to that of the average individual. Aggregation in such systems is a complicated affair and the interaction between economic agents other than through markets plays a role. One lesson that we can learn is that the behaviour of individuals may be very simple and much less sophisticated than that normally attributed to them. Yet at the collective level rationality may emerge. The construction and functioning of an ants' nest is complex, yet none of the individual ants has intentions or a view of the whole and each acts within a very limited sphere. Such a model is clearly inappropriate for economics but provides a useful countervailing benchmark to the standard market model. For this reason, I have become convinced that the problem of how rather simplistic individuals organise and coordinate their activities is more important for an understanding of markets than the problem of efficiency and existence of equilibrium which occupy such a central role in economics.

KIYOTAKI, Nobuhiro n.e.

KLEMPERER, Paul David

Born 1956, Southampton, England.

Current Posts Edgeworth Prof. Econ., Oxford Univ., Oxford, UK, 1995–; Mem., UK Competition Comm., 2001–.

Past Posts Mgmt Cons., Andersen Consulting, UK, 1978–80; John Thomson Fell. and Tutor, Econ., St Catherine's Coll., Oxford, 1985–95; Lect. OR and Math. Econ., Reader Econ., Oxford Univ., 1985–90, 1990–95; Vis. positions, MIT, Stanford, Berkeley, Yale Univ., Princeton Univ.; Cons., US FTC, UK Treasury, Radio-communications Ag., DTI, NAO, DETR, DEFRA, OFT, other UK and EU agencies, and private companies.

Degrees BA (Eng., 1st Class Hons with Distinction) Cambridge Univ., 1978; MBA (Top Student Award), PhD Stanford Univ., 1982, 1986.

Offices and Honours Harkness Fell., Commonwealth Fund of NY, 1980–82; *REStud* Lect., 1990; Fell., Council, Em Soc, 1994–, 2001–; Fell., BA, 1999–; Exec. Comm., and Council, RES, 2001–; Hon. Fell., ELSE, 2001–; Alfred Marshall Lecture, 2002; Colin Clark Lecture, 2002; Lim Tay Boh Lecture, 2002; Council, Europ. Econ. Assoc., 2003–.

Editorial Duties Ed. Bds/Assoc. Ed., *OEP*, 1986–00, *REStud*, 1989–97, *J Ind E*, 1989–97, *IJIO*, 1993–2000, *Rev. Econ. Design*, 1997–2000, *Europ ER*, 1997–2001, *EJ*, 2000–, *Frontiers Econ.*, 2000–, *BE-J. EAP*, 2001–; Ed., *RandJE*, 1993–99; Panel Mem., *Econ. Pol.*, 1998–99.

Principal Fields of Interest L0 Industrial Organization: General; D4 Market Structure and Pricing; L4 Antitrust Policy.

Publications *Book*: 1. *The Economic Theory of Auctions* (Edward Elgar, 2000).

Articles: 1. ‘Multimarket oligopoly: strategic substitutes and complements’ (with J. Bulow, J. Geanakoplos), *JPE*, 93, 1985; 2. ‘Dissolving a partnership efficiently’ (with P. Cramton, R. Gibbons), *Em*, 55, 1987; 3. ‘Markets with consumer switching costs’, *QJE*, 102, 1987, repr. in J. Kay (ed.), *The Economics of Business Strategy* (Edward Elgar, forthcoming); 4. ‘Exchange rate pass-through when market share matters’ (with K. Froot), *AER*, 79, 1989; 5. ‘Supply function equilibria in oligopoly under uncertainty’ (with M. Meyer), *Em*, 57, 1989; 6. ‘How broad should the scope of patent protection be?’, *RandJE*, 1, 1990, repr. in R. Towse, R. Holzhauser (eds), *The Economics of Intellectual Property* (Edward Elgar, forthcoming); 7. ‘Equilibrium product lines: competing head-to-head may be less competitive’, *AER*, 82, 1992; 8. ‘Multi-period competition with switching costs’

(with A. Beggs), *Em*, 60, 1992; 9. ‘Rational frenzies and crashes’ (with J. Bulow), *JPE*, 102, 1994; 10. ‘Competition when consumers have switching costs: an overview with applications to industrial organization, macroeconomics, and international trade’, *REStud*, 62, 1995; 11. ‘Auctions vs. negotiations’ (with J. Bulow), *AER*, 86, 1996; 12. ‘Auctions with almost common values’, *Europ ER*, 42, 1998; 13. ‘The tobacco deal’ (with J. Bulow), *BPEA*, 1998; 14. ‘The generalized war of attrition’ (with J. Bulow), *AER*, 89, 1999; 15. ‘Toeholds and takeovers’ (with J. Bulow, M. Huang), *JPE*, 107, 1999, repr. in B. Biais, M. Pagano (eds), *New Research in Corporate Finance and Banking* (OUP, 2002); 16. ‘Why every economist should learn some auction theory’, Invited Paper 8th World Congress, Em Soc, 2000; 17. ‘An equilibrium theory of rationing’ (with R. Gilbert), *RandJE*, 31, 2000; 18. ‘Prices and the winner’s curse’ (with J. Bulow), *RandJE*, 33, 2002; 19. ‘Using and abusing economic theory’, *JEEA*, 1, 2003.

Principal Contributions Article 1 introduced the concept of *strategic complementarity*, commonly used in many fields including macroeconomics, growth theory, oligopoly, trade theory, and game theory. Article 5 develops a framework for analysing the *intensity of competition* in an industry. Others have since used it to analyse management incentive schemes and pricing arrangements between manufacturers and retailers, and for practical applications, e.g., in electricity markets. I developed the theory of competition when consumers have *switching costs* between firms (or are ‘brand loyal’), (articles 3, 8, 10). I generalize to other cases where firms’ current market shares are important for their future profits; explain introductory offers, price wars and limit pricing; examine industry profitability, ease of new entry, and evolution of market

structure; show how the business cycle and exchange-rate expectations affect prices (article 4); analyse firms' product choices; and help explain the existence of multi-product firms and the nature of competition between them (article 7). Article 13 analyses public policy towards *tobacco*. Article 6 was the first economic analysis of optimal *patent breadth*. I have developed connections between *auction theory* and 'standard' economic theory, showing how mainstream economic questions that do not seem related to auctions can be addressed using auction-theoretic techniques (article 16). Examples include explaining why firms may ration customers (article 17); analysing wars of attrition (article 14); demonstrating that rational traders participate in buying 'frenzies' which sometimes lead to crashes in, e.g., stock and housing markets, and explaining investment 'booms' and 'busts' (article 9). In pure auction theory, article 11 compares a public auction (e.g., of a business to be privatized) with negotiating a sale; article 2 shows that private information need not imply inefficiency in trade; articles 12 and 15 show that small asymmetries between bidders can critically affect the profitability of auctions (e.g., takeover battles); and article 18 develops surprising results about common-value auctions. I have designed auctions, including the British telecom auction that raised \$34 billion, and written articles on *practical auction design* (see www.paulklempere.org).

KLEPPER, Steven I. n.e.

KLING, Catherine Louise

Born 1960, Detroit, MI, USA.

Current Posts Prof. Econ. and Head, Resource and Environmental Pol. Div.,

Center for Agric. and Rural Devlp, Iowa State Univ., Ames, IA, USA, 1996–.

Past Posts Asst and Assoc. Prof., Dept Agric. Econ., Univ. California, Davis, 1986–93; Assoc. Prof., Dept Econ., Iowa State Univ., 1993–96.

Degrees BBA Univ. Iowa, 1981; PhD Univ. Maryland, 1986.

Offices and Honours Maryland State Fell., 1982–85; Sloan Dissertation Fell., 1985; Bd Dirs, Vice-Pres, Assoc. Environmental and Resource Econ., 1996–98, 2002–03; Outstanding Publ. Res. Award (with J. Rubin), Western Agric. Econ. Assoc., 1998; Sc. Advisory Bd, Environmental Econ. Advisory Comm., US EPA, 1998–; Bd Dirs, AAEA, 2000–03; Hon. Mention (with J. Herriges), Hon. Mention (with D. Phaneuf, J. Herriges), Quality of Res. Discovery Award, AA, 2000, 2001.

Editorial Duties Ed. Council, *JEEM*, 1988–91, 1998–; Assoc. Ed., *JEEM*, 1992–93, *AJAE*, 1994–96; Ed. Bd, *Land Econ.*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; H2 Taxation, Subsidies, and Revenue.

Publications *Book*: 1. *Valuing Recreation and the Environment: Revealed Preference Methods in Theory and Practice* (ed. with J. Herriges), *New Horizons in Environmental Economics* series (General Ed. W.E. Oates), (Edward Elgar, 1999).

Articles: 1. 'Estimating the value of water quality improvements in a recreational demand framework' (with N. Bockstael, W.M. Hanemann), *Water Resources Res.*, 23, 1987, repr. in K.G. Willis, K. Button, P. Nijkamp (eds), *Environmental Analysis and Economic Policy* (Edward Elgar, 1999); 2. 'Comparing welfare estimates of environmental quality changes from recreation demand models', *JEEM*, 15, 1988; 3. 'Valuing environmental quality

changes when quality is a weak complement to a set of goods' (with N. Bockstael), *AJAE*, 70, 1988; 4. 'Bootstrapping in applied welfare analysis' (with R. Sexton), *AJAE*, 69, 1990; 5. 'Confidence intervals for elasticities and flexibilities: re-evaluating the ratios of normals case' (with J. Dorfman, R. Sexton), *AJAE*, 69, 1990; 6. 'Estimating the precision of welfare measures', *JEEM*, 21, 1991; 7. 'Water markets and water quality' (with M. Weinberg, J. Wilen), *AJAE*, 72, 1993; 8. 'An emission saved is an emission earned: an empirical study of emission banking' (with J. Rubin), *JEEM*, 25, 1993; 9. 'Environmental benefits from marketable discharge permits or an ecological vs. an economical view of marketable permits', *Ecological Econ.*, 11, 1994; 10. 'An empirical investigation of the consistency of nested logit models with utility maximization' (with J. Herriges), *AJAE*, 77, 1995; 11. 'Uncoordinated agricultural and environmental policy-making: an application to irrigated agriculture' (with M. Weinberg), *AJAE*, 78, 1996; 12. 'The implications of model specification for welfare estimation in nested logit models' (with C. Thomson), *AJAE*, 78, 1996; 13. 'Bankable permits for the control of environmental pollution' (with J. Rubin), *JPE*, 64, 1997; 14. 'Nonlinear income effects in random utility models' (with J. Herriges), *REStat*, 81, 1999; 15. 'On the long-run efficiency of auctioned vs. free permits' (with J. Zhao), *Econ. Letters*, 69, 2000; 16. 'Estimation and welfare calculation in a generalized corner solution model with an application to recreation demand' (with D. Phaneuf, J. Herriges), *REStat*, 82, 2000; 17. 'Nonparametric bounds on welfare measures: a new tool for nonmarket valuation' (with J. Crooker), *JEEM*, 39, 2000; 18. 'A new explanation for the WTP/WTA disparity' (with J. Zhao), *Econ. Letters*, 73, 2001; 19. 'Implementing carbon reductions with agri-

cultural and forest sinks' (with H. Feng, J. Zhao), *AJAE*, 84, 2002.

Principal Contributions My research interests focus on two areas of environmental economics: nonmarket valuation and incentive-based systems for the control of pollution, particularly non-point sources from agriculture.

KNETSCH, Jack Louis

Born 1933, Kalamazoo, MI, USA.

Current Posts Prof. Econ. (Emeritus) and Prof. Res. Mgmt (Emeritus), Simon Fraser Univ., Burnaby, BC, Canada, 1974–.

Past Posts Econ., TVA, 1956–61; Res. Assoc., Resources for the Future, Washington, DC, 1961–66; Prof. Econ., George Washington Univ., 1967–70; Sr Staff Econ., US Council Environmental Quality, Washington, DC, 1970–71; Adviser, Malaysia Govt, Harvard Univ. Devlp. Advisory Service, 1971–73; Fulbright Scholar, Vis. Prof., Univ. Newcastle, Australia, 1973; Vis. Prof., Univ. Toronto, 1977–78, Univ. New England, Australia, 1981, Oxford Univ., 1983, Univ. Victoria, 1987, Natl Univ. Singapore, 1998; Vis. Scholar, Univ. Cambridge, 1985, Natl Univ., Singapore, 1989, Nanyang Tech. Univ., Singapore, 2001; Vis. Fell., Macquarie Univ., Australia, 1986; Visitor, Erasmus Univ., Netherlands, 1994, 1996, 1998, 2000, 2001; Lim Chong Yah Prof., Natl Univ., Singapore, 2002.

Degrees BS (Soil Sc.), MS (Agric. Econ.) Michigan State Univ., 1955, 1956; MPA, PhD Harvard Univ., 1960, 1963.

Offices and Honours Pres., WRSA, 1985–86.

Editorial Duties Ed. Bd, *Land Econ.*; Ed. Council, *Annals Regional Sc.*; Ed. *J. Socio-Econ.*, 2001–.

Principal Fields of Interest Q2 Renewable Resources and Conservation; En-

vironmental Management; C9 Design of Experiments; D6 Welfare Economics.

Publications Books: 1. *Economics of Outdoor Recreation* (with M. Clawson), (JHUP, 1967, 1974); 2. *Outdoor Recreation and Water Resources Planning* (Amer. Geophysical Union, 1974); 3. *Property Rights and Compensation: Compulsory Acquisitions and Other Losses* (Butterworths, 1983).

Articles: 1. 'The influence of reservoir projects on land values', *J Farm E*, 46, Feb. 1964; 2. 'Willingness to pay and compensation demanded: experimental evidence of an unexpected disparity in measures of value' (with J.A. Sinden), *QJE*, 99, Aug. 1984; 3. 'Fairness as a constraint on profit-seeking: entitlements in the market' (with D. Kahneman, R.H. Thaler), *AER*, 76, Sept. 1986; 4. 'The endowment effect and evidence of nonreversible indifference curves', *AER*, 79, Dec. 1989; 5. 'Experimental tests of the endowment effect and the Coase theorem' (with D. Kahneman, R.H. Thaler), *JPE*, 86, Dec. 1990; 6. 'Valuing public goods: the purchase of moral satisfaction' (with D. Kahneman), *JEEM*, 22, 1992; 7. 'Assumptions, behavioural findings and policy analysis', *JPAM*, 14, 1995; 8. 'Asymmetric valuation of gains and losses and preference order assumptions', *EI*, 33, Jan. 1995; 9. 'Fragile redistribution choices behind a veil of ignorance' (with E. Buzszar), *JRU*, 14, Jan. 1997; 10. 'Tests of market outcomes with asymmetric valuations of gains and losses: smaller gains, fewer trades, and less value' (with B.F. Borges), *JEBO*, 33, 1998; 11. 'Assessing environmental losses: judgments of importance and damage schedules' (with M.B. Rutherford, T.C. Brown), *Harvard Environmental Law Rev.*, 22, 1998; 12. 'Environmental damage schedules: judgments of importance and assessments of losses' (with R. Chuenpagdee, T.C. Brown), *Land Econ.*, 77, 2001; 13.

'The endowment effect and repeated trials: is the Vickrey auction demand revealing?' (with F.F. Tang, R.H. Thaler), *Experimental Econ.*, 4, 2001.

Principal Contributions One early study was among the first to use land-value changes as an indirect measure of the benefit provided by an amenity resource. Further contributions have been made in the assessment of nonpecuniary values in such areas as recreation and environmental quality. More recent work has centred on alternative techniques of assessing changes in economic welfare. This has included issues of fairness and the appropriate choice of bases for measurement as well as observed differences between people's valuation of gains and losses. Another major area of research has been the economic analysis of various legal rules and institutions. This has included compulsory acquisition, assignments of entitlements, compensation claims, matrimonial property and regulatory change. Current work centres on implications of findings from experimental and behavioural economics research to issues such as environmental valuations and to policy analyses.

KNETTER, Michael M. n.e.

KOCHERLAKOTA, Narayana-R. n.e.

KOHN, Robert n.e.

KOOP, Gary n.e.

KORENMAN, Sanders

Born 1961, New York, NY, USA.

Current Posts Prof., Sch. Public Affairs, Baruch Coll., City Univ., New York,

NY, USA, 1996–; Res. Assoc., NBER, USA, 1991–.

Past Posts Asst Prof. Econ. and Public Affairs, Princeton Univ., 1989–93; Assoc. Prof. Public Affairs, Univ. Minnesota, 1993–96; Sr Econ., US President's Council Econ. Advisers, Washington, DC, 1997–98.

Degrees BA Univ. California, Berkeley, 1983; PhD Harvard Univ., 1989.

Principal Fields of Interest I0 Health, Education, and Welfare: General; J0 Labor and Demographic Economics: General; H0 Public Economics: General.

Publications *Articles*: 1. 'Does marriage really make men more productive?' (with D. Neumark), *JHR*, 26, Spring 1991; 2. 'Marriage, motherhood, and wages' (with D. Neumark), *JHR*, 27, Spring 1992; 3. 'The socioeconomic consequences of teen childbearing reconsidered' (with A.T. Geronimus), *QJE*, 107, Nov. 1992; 4. 'Maternal youth or family background? On the health disadvantages of infants with teenage mothers' (with A.T. Geronimus), *Amer. J. Epidemiology*, 132, Jan. 1993; 5. 'The socioeconomic costs of teenage childbearing: evidence and interpretation' (with A.T. Geronimus), *Demography*, 30, May 1993; 6. 'Sources of bias in women's wage equations: results using sibling data' (with D. Neumark), *JHR*, 39, Spring 1994; 7. 'The declining marital status earnings differential' (with M. Blackburn), *J. Pop. Econ.*, 7, July 1994; 8. 'Poverty and children's nutritional status in the United States' (with J.E. Miller), *Amer. J. Epidemiology*, 140, Aug. 1994; 9. 'Does young maternal age adversely affect child development? Evidence from cousin comparisons' (with A.T. Geronimus, M.M. Hillemeier), *Pop. and Devlp. Rev.*, 20, Sept. 1994; 10. 'Long-term poverty and child development in the United States: results from the NLSY' (with J.E. Miller, J.E. Sjaastad), *Children and Youth Services Rev.*, 17, Jan. 1995; 11. 'Marital sta-

tus and health among the elderly' (with N. Goldman, R. Weinstein), *Social Sc. Medicine*, 40, 1995; 12. 'Employment contacts and differences in wages between minority and white youths' (with S.C. Turner), *Ind. Relations*, 35, Jan. 1996; 13. 'The economic reality of the beauty myth' (with S. Averett), *JHR*, 31, Spring 1996; 14. 'Misclassification bias in estimates of bereavement effects' (with N. Goldman, H. Fu), *Amer. J. Epidemiology*, 145, 1997; 15. 'Black-white differences in social and economic consequences of obesity' (with S. Averett), *Intl J. Obesity*, 23, Feb. 1999; 16. 'Consequences of unintended births for child health and development' (with T. Joyce, R. Kaestner), *Demography*, 37, Feb. 2000; 17. 'The stability of pregnancy intentions and pregnancy-related maternal behaviors' (with T. Joyce, R. Kaestner), *Maternal and Child Health J.*, 4, 2000; 18. 'On the validity of retrospective assessments of pregnancy intention' (with T. Joyce, R. Kaestner), *Demography*, 39, Feb. 2002; 19. 'Consequences for infants of parental disagreement in pregnancy intention' (with T. Joyce, R. Kaestner), *Perspectives on Sexual and Reproductive Health*, 34, July/Aug. 2002; 20. 'The effect of welfare reform on welfare use, fertility and marriage of disadvantaged teenage girls' (with R. Kaestner, J. O'Neill), *JPAM*, 22, Spring 2003.

Principal Contributions n.e.

KOSE, John n.e.

KOTHARI, S.-P. n.e.

KOTLIKOFF, Laurence J.

Born 1951, location n.e.

Current Post Prof. Econ., Boston Univ., Boston, MA, USA, 1984–.

Past Posts Post-Doctoral Fell., UCLA, 1977–80; Res. Assoc., Vis. Scholar, NBER, 1977–, 1978 and 1983; Cons., US Dept Labor, Bureau Intl Labor Affairs, 1978–81; Asst Prof., Assoc. Prof., Yale Univ., 1980–81, 1981–84; Res. Assoc., Cowles Foundation, Yale Univ., 1981–84; Sr Econ., US President’s Council Econ. Advisers, 1981–82; Vis. Scholar, IMF, 1983, 1988; Vis. Fell., Hoover Inst., 1984; Chairman, Dept Econ., Boston Univ., 1986–89; Vis. Prof., MIT, 1990–91.

Degrees BA Univ. Pennsylvania, 1973; MA, PhD Harvard Univ., 1976, 1977.

Offices and Honours Phi Beta Kappa, 1977; Harvard Univ. Scholar, 1977; Hoover Foundation Fell., 1976–77; Foundation Res. Econ., 1977–80; Cons., World Bank, 1985, 1991–93, OECD, 1988, IMF, 1989, Swedish Min. Fin., 1989, Bank Italy, 1990–91, Joint Tax Comm., 1991, Norwegian Min. Fin., 1993, Bank Japan, 1993, Merrill Lynch, 1993–, Fidelity Investments, 1994–, Govt Bolivia, 1993–, New Zealand Treasury, 1995, Amer. Council Life Insurance; Fell., Econ. Soc., 1992.

Editorial Duties Assoc. Ed., *AER*, 1981–84, *Japanese Econ. Rev.*, 1994–.

Principal Field of Interest H5 National Government Expenditures and Related Policies.

Publications *Books*: 1. *Pensions in the American Economy* (with D. Smith), (UCP, 1983); 2. *Dynamic Fiscal Policy* (with A. Auerbach), (CUP, 1987); 3. *The Wage Carrot and the Pension Stick: Retirement Benefits and Labor Force Participation* (with D. Wise), (W.E. Upjohn Inst. Employment Res., 1989); 4. *What Determines Savings?* (MIT Press, 1989); 5. *Generational Accounting* (Free Press, 1992); 6. *Macroeconomics: An Integrated Approach* (with A. Auerbach), (Southwestern, 1994, 1998); 7. *Generational Accounting Around the World* (ed. with A. Auerbach, W. Leibfritz), (UCP, 1998).

Articles: 1. ‘Taxation and savings – a neoclassical perspective’, *JEL*, 22, Dec. 1984; 2. ‘Annuity markets, savings, and the capital stock’ (with J. Shoven, A. Spivak), in *Pensions and Retirement in the United States* (UCP, 1985); 3. ‘Is the extended family altruistically linked?’ (with J. Altonji, F. Hayashi), *AER*, 82, 1992; 4. ‘Understanding the post-war decline in US savings: a cohort analysis’ (with J. Gokhale, J. Sabelhaus), *BPEA*, 1996; 5. ‘Parental altruism and *inter vivos* transfers: theory and evidence’ (with J. Altonji, F. Hayashi), *JPE*, 105, 1997; 6. ‘Simulating the transmission of wealth inequality via bequests’ (with J. Gokhale, J. Sefton, M. Weale), *JPE*, 107, Aug. 1999; 7. ‘The baby boomers’ mega inheritance – myth or reality’ (with J. Gokhale), *FRB Cleveland Econ. Commentary*, Oct. 2000; 8. ‘Distributional effects in a general equilibrium analysis of social security’ (with K. Smetters, J. Walliser), in M. Feldstein (ed.), *The Distributional Effects of Social Security Reform* (UCP, 2000); 9. ‘Social security’s treatment of postwar Americans – how bad can it get?’ (with J. Gokhale), in M. Feldstein (ed.), *The Distributional Effects of Social Security Reform* (UCP, 2000); 10. ‘Generational policy’, in A.J. Auerbach, M.S. Feldstein (eds), *The Handbook of Public Economics* (N-H, 2nd edn 2001); 11. ‘Stimulating fundamental tax reform in the US’ (with D. Altig, A. Auerbach, K. Smetters, J. Walliser), *AER*, 91, 2001; 12. ‘Getting Argentina back to the future’ (with J.P. Nicolini), *LA Times*, June 30, 2002; 13. ‘What Japan must do’ (with A. Auerbach), *Nihon Keizai Shimbun*, Nov. 2002.

Principal Contributions n.e.

KOVENOCK, Dan

Born 1956, Madison, WI, USA.

Current Post Prof., Dept Econ., Krannert Sch. Mgmt, Purdue Univ., West Lafayette, IN, USA, 1994–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Econ. Pol. Chairman, Purdue Univ., 1983–89, 1989–94, 1997–2001; Asst Prof., Econometric Inst., Erasmus Univ., 1989–90.

Degrees BSc (Maths and Econ.) Hebrew Univ., Jerusalem, 1977; PhD Univ. Wisconsin-Madison, 1983.

Offices and Honours Exec. Comm., Europ. Assoc. Res. Ind. Econ., 1999–; Res. Fell., CESifo Res. Network, 1999–.

Editorial Duties Ed., *IJIO*, 1997–; Ed. Bds, *Strategic Mgmt J.*, 1997–, *ET*, 1999–2003; Co-Ed., *Lecture Notes in Econ. and Math. Systems*, 1999–2002, *ET*, 2003–.

Principal Fields of Interest L0 Industrial Organization: General; C7 Game Theory and Bargaining Theory; D0 Microeconomics: General.

Publications *Articles*: 1. ‘A note on the core of the overlapping generations model’ (with K. Hendricks, K. Judd), *Econ. Letters*, 6, 1980; 2. ‘Capital gains taxation in an economy with an “Austrian sector”’ (with M. Rothschild), *J Pub E*, 21, 1983; 3. ‘Property and income taxation in an economy with an Austrian sector’, *Land Econ.*, 62, 1986; 4. ‘Notes on the effect of capital gains taxation on non-Austrian assets’ (with M. Rothschild), in A. Razin, E. Sadka (eds), *Economic Policy in Theory and Practice* (Macmillan, 1987); 5. ‘Asymmetric information, information externalities and efficiency: the case of oil exploration’ (with K. Hendricks), *RandJE*, 20, 1989; 6. ‘It takes two to tango: equilibria in a model of sales’ (with M. Baye, C. de Vries), *Games and Econ. Behav.*, 4, 1992; 7. ‘GATT, dispute settlement and cooperation’ (with M. Thursby), *Econ. and Polit.*, 4, 1992; 8. ‘Price lead-

ership’ (with R. Deneckere), *REStud*, 59, 1992; 9. ‘Rigging the lobbying process: an application of the all-pay auction’ (with M. Baye, C. de Vries), *AER*, 83, 1993; 10. ‘How to sell a pickup truck: “beat or pay” advertisements as facilitating devices’ (with M. Baye), *IJIO*, 12, 1994; 11. ‘The solution to the Tullock rent-seeking game when $R > 2$: mixed-strategy equilibria and mean dissipation rates’ (with M. Baye, C. de Vries), *Public Choice*, 81, 1994; 12. ‘Capital structure and product market rivalry: how do we reconcile theory and evidence?’ (with G. Phillips), *AER*, 85, 1995; 13. ‘Bertrand–Edgeworth duopoly with unit cost asymmetry’ (with R. Deneckere), *ET*, 8, 1996; 14. ‘The all-pay auction with complete information’ (with M. Baye, C. de Vries), *ET*, 8, 1996; 15. ‘Capital structure and product market behavior: an examination of plant exit and investment decisions’ (with G. Phillips), *Rev. Fin. Stud.*, 10, 1997; 16. ‘Dynamic capacity choice in a Bertrand–Edgeworth framework’ (with S. Roy), *J Math E*, 29, 1998; 17. ‘Price leadership and asymmetric price rigidity’ (with K. Widdows), *EJPE*, 14, 1998; 18. ‘Capacity precommitment as a barrier to entry: a Bertrand–Edgeworth approach’ (with B. Allen, R. Deneckere, T. Faith), *ET*, 15, 2000; 19. ‘Fiat exchange in finite economies’ (with C. de Vries), *EI*, 40, 2002; 20. ‘A comparison of multiple-unit all-pay and winner-pay auctions under incomplete information’ (with Y. Barut, C. Noussair), *IER*, 43, 2002.

Principal Contributions My work has focussed primarily on the game-theoretic modeling of strategic interaction in economic environments. My 1980 note with Kenneth Hendricks and Kenneth Judd was the first to examine the use of the core as a solution concept in the context of overlapping generations models. My 1989 paper with Hendricks on the gaming arising in oil exploration was one of

the early theoretical models of an information cascade. In the late 1980s and throughout the 1990s, together with Raymond Deneckere and collaborators, I carried out a lengthy research agenda demonstrating the power of Bertrand–Edgeworth modeling in industrial organization. Among our contributions were the construction of strategic models of dominant firm price leadership and the use of excess capacity as a barrier to entry. We also demonstrated the power and limitations of the price theoretic foundations of the Cournot quantity setting model, by proving that the well-known Kreps–Scheinkman result on the equilibrium of a game of capacity pre-commitment followed by price setting was robust to moderate cost differences, but did not hold for arbitrary cost differentials. Among my other contributions are included some of the early empirical and theoretical analyses (with Gordon Phillips) of the interaction of capital structure choices and product market behavior, and the first theoretical piece (with Michael Baye) on the use of ‘beat or pay’ price advertisements. Together with Baye and Casper G. de Vries, I also contributed to the study of theoretical models of rent seeking in firms and organizations. We were the first to completely characterize the equilibrium in the all-pay auction under complete information and also made contributions to the study of Tullock’s model of rent seeking and linear models of contests under incomplete information.

KREMER, Michael R. n.e.

KREMERS, Jeroen n.e.

KREPS, David M.

Born 1950, New York, NY, USA.

Current Posts Paul B. Holden Prof. Econ. and Sr Assoc. Dean, Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1984–; Sr Prof. by Special Appointment, Bitan Berglas Sch. Econ., Tel Aviv Univ., Tel Aviv, Israel, 1992–.

Past Posts Sr Tech. Aide and Res. Cons.; Bell Telephone Labs, 1970–72; Asst Prof., Assoc. Prof., Prof., Stanford Grad. Sch. Bus., 1975–78, 1978–80, 1980–.

Degrees AB (Maths) Dartmouth Coll., 1972; MA, PhD (OR) Stanford Univ., 1975, 1975.

Offices and Honours Fell., Council Mem., Mem. Exec. Council, Em Soc, 1981–, 1987–92, 1990–92 and 1995–; Sloan Foundation Fell., 1983–85; Panel Mem., Sloan Foundation Fellowships, 1985–91; John Bates Clark Medal, 1989; Fell., Inst. Adv. Stud., Tel Aviv Univ., 1989–90; Guggenheim Foundation Fell., 1989–90; Clarendon Lect. Econ., Oxford, 1990; Fisher–Schultz Lecture, Fifth World Congress 1990; Christiansen Fell., St. Catherine’s Coll., Oxford, 1990; CORE Lect., Univ. Catholique Louvain, Belgium, 1990; Fell., AAAS, 1992–; Program Co-Chair, Sixth World Congress 1995; Mem., NAS, 1997–; Dr (*hc*), Univ. Paris IX, 2001.

Editorial Duties Assoc. Ed., *JET*, 1980–88, *J Math E*, 1980–83; Co-Ed., *Em*, 1984–88; Ed. Bd, *Games and Econ. Behav.*, 1993–97.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *Notes on the Theory of Choice* (Westview Press, 1988); 2. *A Course in Microeconomic Theory* (Princeton Univ. Press, Harvester-Wheatsheaf, 1990); 3. *Game Theory and*

Economic Modelling (OUP, 1990); 4. *Strategic Human Resources: Frameworks for General Managers* (with J.N. Baron), (John Wiley, 1999).

Articles: 1. 'A note on "fulfilled expectations" equilibria', *JET*, 14, 1977; 2. 'Temporal resolution of uncertainty and dynamic choice theory' (with E.L. Porteus), *Em*, 46, 1978; 3. 'A representation theorem for "preference for flexibility"', *Em*, 47, 1979; 4. 'Martingales and arbitrage in multiperiod securities markets' (with J.M. Harrison), *JET*, 20, 1979; 5. 'Reputation and imperfect information' (with R. Wilson), *JET*, 27, 1982; 6. 'Sequential equilibria' (with R. Wilson), *Em*, 50, 1982; 7. 'Quantity pre-commitment and Bertrand competition yield Cournot outcomes' (with J. Scheinkman), *Bell JE*, 14, 1983; 8. 'Corporate culture and economic theory', in M. Tsuchiya (ed.), *Technological Innovation and Business Strategy* (Nippon Keizai Shimbunsha Press, 1986, in Japanese); English version (with R. Wilson), repr. in J.E. Alt, K.A. Shepsle (eds), *Perspectives on Positive Political Economy* (CUP, 1990); 9. 'Signaling games and stable equilibria' (with I. Cho), *QJE*, 102, 1987; 10. 'Reputation in the simultaneous play of multiple opponents' (with D. Fudenberg), *REStat*, 54, 1987; 11. 'Static choice in the presence of unforeseen contingencies', in P. Dasgupta, D. Gale, O. Hart, E. Maskin (eds), *Economic Analysis of Markets and Games* (MIT Press, 1992); 12. 'Learning in extensive-form games, I. Self-confirming equilibria' (with D. Fudenberg), *Games and Econ. Behav.*, 8, 1995; 13. 'Markets and hierarchies and (mathematical) economic theory', *Ind. Corp. Change*, 5, 1996; 14. 'Economics: the current position', *Daedalus*, 126, 1997; 15. 'Intrinsic motivation and extrinsic incentives', *AER*, 87, 1997.

Principal Contributions Early work concerned axiomatic choice theory, espe-

cially in dynamic choice settings where the temporal resolution of uncertainty played a role. I also made contributions to the theory of rational expectations equilibria and arbitrage in multiperiod asset markets. In the 1980s my interests turned to dynamic (extensive form) games and the problem of out-of-equilibrium beliefs and out-of-equilibrium behavior. More recent interests have concerned model choice in the presence of unforeseen contingencies, adaptive learning and equilibrium, the transference of reputation, socially acquired norms and expectations, organizational inertia, and the dynamic formation of preferences. Throughout, the unifying theme in my research is dynamic decision making and how it is significantly richer (and more complex) than a once-and-for-all choice of an optimal strategy.

KRONER, Kenneth F. n.e.

KRUEGER, Alan Bennett

Born 1960, Newark, NJ, USA.

Current Post Bendheim Prof. Econ. Public Pol., Princeton Univ., Princeton, NJ, USA, 1987–.

Past Post Chief Econ., US Dept Labor, 1994–95.

Degrees BS (Ind. and Labor Relations, Hons) Cornell Univ., 1983; MS, PhD Harvard Univ., 1985, 1987.

Offices and Honours Alfred P. Sloan Res. Fell. Econ., 1992–94; Teaching Prize, Woodrow Wilson Sch., Princeton Univ., 1996; Fell., Em Soc, 1996, AAAS, 2002; David N. Kershaw Prize, Assoc. Public Pol. Mgmt, 1997; Mahalanobis Memorial Medal, Indian Em Soc, 2001.

Editorial Duties Co-Ed., *Econ. Letters*, 1992–94; Bd Rev., *Ind. Relations*, 1992–96; Assoc. Ed., *QJE*, 1992–97; Ed., *JEP*, 1996–2002; Bd Rev. Eds, *Sc.*, 2001–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; H0 Public Economics: General; I0 Health, Education, and Welfare: General.

Publications *Book*: 1. *Myth and Measurement: The New Economics of the Minimum Wage* (with D. Card), (Princeton Univ. Press, 1995).

Articles: 1. 'Efficiency wages and the inter-industry wage structure' (with L. Summers), *Em*, 56, March 1988; 2. 'Ownership, agency, and wages: an examination of franchising in the fast food industry', *QJE*, 106, Feb. 1991; 3. 'Does compulsory schooling affect schooling and earnings?' (with J. Angrist), *QJE*, 106, Nov. 1991; 4. 'Does school quality matter? Returns to education and the characteristics of public schools in the United States' (with D. Card), *JPE*, 100, Feb. 1992; 5. 'School quality and black-white relative earnings: a direct assessment' (with D. Card), *QJE*, 107, Feb. 1992; 6. 'The effect of the minimum wage on the fast food industry' (with L. Katz), *ILRR*, 46, Oct. 1992; 7. 'The effect of social security on labor supply: a cohort analysis of the notch generation' (with J.-S. Pischke), *J Lab E*, 10, Oct. 1992; 8. 'How computers have changed the wage structure: evidence from microdata, 1984-1989', *QJE*, 108, Feb. 1993; 9. 'Why do World War II veterans earn more than nonveterans?' (with J. Angrist), *J Lab E*, 12, Jan. 1994; 10. 'Minimum wages and employment: a case study of the fast food industry in New Jersey and Pennsylvania' (with D. Card), *AER*, 84, Sept. 1994; 11. 'Estimates of the economic return to schooling from a new sample of twins' (with O. Ashenfelter), *AER*, 84, Dec. 1994; 12. 'Economic growth and the environment' (with G. Grossman), *QJE*, 110, May 1995; 13. 'Computing inequality: have computers changed the labor market?' (with D. Autor, L. Katz), *QJE*, 113, Nov. 1998; 14. 'Observations and conjectures

on the US employment miracle' (with J.-S. Pischke), in *Third Public German-American Academic Council Symposium*, 1998, Bonn, Germany; 15. 'Jackknife instrumental variables estimation' (with J. Angrist, G. Imbens), *JAE*, 14, Jan.-Feb., 1999; 16. 'Experimental estimates of education production functions', *QJE*, 114, May 1999; 17. 'Empirical strategies in labor economics' (with J. Angrist), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3A (N-H, 1999); 18. 'Education for growth: why and for whom?' (with M. Lindahl), *JEL*, 39, Dec. 2001; 19. 'Estimating the payoff to attending a more selective college: an application of selection on observables and unobservables' (with S. Dale), *QJE*, forthcoming.

Principal Contributions Most of my work has tried to use appropriate empirical methods to test important economic questions, such as estimating the economic value of years of schooling and school quality, the reasons for rising wage dispersion, the impact of the minimum wage on employment, or the impact of growth on the environment. I have sought out 'natural experiments' where one can be reasonably confident that exogenous events were responsible for the key identifying information in the model. The goal has been to provide evidence that would be convincing to an intelligent sceptic, regardless of the direction of the results. Often this has required the collection and use of new data sets. My emphasis has been on providing evidence that can lead to more appropriate theoretical modelling of economic phenomena, broadly defined, and in developing strategies for empirical analyses that can be used to answer a number of questions.

KRUEGER, Anne O.

Born 1934, Endicott, NY, USA.

Current Post 1st Dep. Managing Dir., IMF, Washington, DC, USA, 2001–.

Past Posts Teaching Asst and Doctoral Dissertation Fell., Instr., Univ. Wisconsin, 1955–58, 1958–59; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Univ. Minnesota, 1959–63, 1963–66, 1966–82; Vice Pres., Econ. and Res., World Bank, 1982–86; Arts and Sc. Prof. Econ., Duke Univ., 1987–93; Herald L. and Caroline L. Ritch Prof. Humanities and Sc., Dept Econ. and Sr Fell., Hoover Inst., Stanford Univ., 1993–2001 (currently on leave).

Degrees BA Oberlin Coll., 1953; MS, PhD Univ. Wisconsin, 1956, 1958.

Offices and Honours NAS medal, 1984; Harms Prize, Kiel, 1990; Disting. Fell., Pres., AEA, 1995, 1995; Fell., NAS, 1996.

Editorial Duties Book Rev. Ed., Assoc. Ed., *J Int E*, 1973–76, 1980–84; Bd Eds, *JEL*, 1973–76, *AER*, 1980–83, *Econ. and Fin.*, 1988–; Cons. Ed., *Portfolio*, 1974–82; Bd Mem., *Pakistan Devlp Rev.*, 1979–; Advisory Ed., *Econ. Letters*, 1979–92; Co-Ed., JHUP Devlp. series, 1981–82; Advisory Bd, *Revista de Economia Politica*, 1988–; Assoc Ed., *Econ. and Polit.*, 1988–90; Bd Rev. Eds, *Sc. Magazine*, 2000–02.

Principal Field of Interest F0 International Economics: General.

Publications *Books*: 1. *Trade and Development in Korea* (ed. with W. Hong), (Korea Devlp. Inst., 1975); 2. *Growth, Distortions and Patterns of Trade Among Many Countries* (Princeton Stud. Int. Fin., Princeton Univ., 1977); 3. *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences* (Ballinger, 1978); 4. *The Developmental Role of the Foreign Sector and Aid: Studies in the Modernization of the Republic of Korea: 1945–75* (HUP, 1979, 1982); 5. *Trade and Employment in Developing*

Countries, Vol. 3: Synthesis and Conclusions (UCP, 1983); 6. *Economic Policy Reform in Developing Countries* (Blackwell, 1992); 7. *American Trade Policy: A Tragedy in the Making* (Brookings Inst., 1995); 8. *The WTO as an International Organization* (UCP, 1998); 9. *Economic Policy Reform: The Second Stage* (UCP, 2000); 10. *Economic Policy Reforms and the Indian Economy* (UCP, 2002).

Articles: 1. ‘The political economy of the rent-seeking society’, *AER*, 64, June 1974, repr. in J. Buchanan, R. Tollison, G. Tullock (eds), *Towards a Theory of the Rentseeking Society* (Texas A&M Univ. Press, 1980); 2. ‘Protectionist pressures, imports and employment in the United States’, *Scand JE*, 82, 1980; 3. ‘Alternative trade strategies and employment in LDCs: an overview’, *Pakistan Devlp. Rev.*, 20, Autumn 1981; 4. ‘An empirical test of the infant industry argument’ (with B. Tuncer), *AER*, 72, Dec. 1982; 5. ‘Growth of factor productivity in Turkish manufacturing industries’ (with B. Tuncer), *JDE*, 11, 1982; 6. ‘Government failures in development’, *JEP*, 4, 1990; 7. ‘Trade policy and economic development: how we learn’, *AER*, 87, 1997; 8. ‘Free trade agreements versus customs unions’, *JDE*, 54, 1997; 9. ‘Whither the World Bank and the IMF?’, *JEL*, 36, 1998; 10. ‘Conflicting demands on the International Monetary Fund’, *AER Proceedings*, 2000.

Principal Contributions My early work was focused on international trade and payments theory and its relevance for the understanding of the international economy. This led to asking how much of income differentials was accounted for by differences in factor endowments, whether racial discrimination could be explained in terms of a trade model and how highly restrictionist trade regimes really functioned. This led, first, to the effort to quantify domestic resource costs, and second, to a concern with the broader costs of

individual restrictions, encompassed in part by the concept of rent-seeking. An opportunity to analyse the Korean experience with trade and growth then led to questions about that interrelationship. Questions arising from policy reform efforts while I was at the World Bank led me to concentrate on political economy issues in policy reform.

KRUGMAN, Paul R. n.e.

KUMBHAKAR, Subal Chandra

Born 1954, Kumardihi, Purulia district, West Bengal, India.

Current Post Prof. Econ., SUNY, Binghamton, NY, USA, 2001–.

Past Posts Lect., Burdwan Univ., India, 1977–81; Asst Prof., Assoc. Prof., Prof., Univ. Texas, Austin, 1986–91, 1991–2000, 2000–01.

Degrees BA (Hons), MA Calcutta Univ., 1974, 1977; MA, PhD Univ. Southern California, Los Angeles, 1984, 1986.

Offices and Honours Hon. Dr, Gothenburg Univ., 1997; Fell., *J Em*, 1998; Disting. Res. Fell., SNF (Norway), 2000.

Editorial Duties Assoc. Ed., *AJAE*, 1997–99, *Empirical Econ.*, 2001–; Bd Eds, *Tech. Forecasting and Econ. Change: Intl J.*, 1991–, *J. Productivity Analysis*, 1998–, *IJEB*, 2002–.

Principal Fields of Interest D2 Production and Organizations; C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models.

Publications *Book*: 1. *Stochastic Frontier Analysis* (with C.A.K. Lovell), (CUP, 2000).

Articles: 1. ‘The specification of technical and allocative inefficiency in stochastic production and profit frontiers’, *J*

Em, 34, 1987; 2. ‘Estimation of input-specific technical and allocative inefficiency in stochastic frontier models’, *OEP*, 40, Oct. 1988; 3. ‘On the estimation of technical and allocative inefficiency using stochastic frontier functions: the case of US Class 1 railroads’, *IER*, 29, Nov. 1988; 4. ‘A study of economic efficiency of Utah dairy farmers: a system approach’ (with B. Biswas, D. Bailey), *REStat*, 71, Nov. 1989; 5. ‘Production frontiers, panel data, and time-varying technical inefficiency’, *J Em*, 46, 1990; 6. ‘A generalized production frontier approach for estimating determinants of inefficiency in US dairy farms’ (with S. Ghosh, T. McGuckin), *JBES*, 9, July 1991; 7. ‘Price distortions and resource-use efficiency in Indian agriculture: a restricted profit function approach’ (with A. Bhattacharyya), *REStat*, 74, May 1992; 8. ‘Allocative distortions, technical progress, and input demand in US airlines: 1970–1984’, *IER*, 33, Aug. 1992; 9. ‘The elusive ESOP–productivity link: evidence from US firm-level data’ (with A. Dunbar), *J Pub E*, 52, 1993; 10. ‘Which banks chose deposit insurance? Evidence of adverse selection and moral hazard in a voluntary insurance system’ (with D. Wheelock), *JMCB*, 27, Feb. 1995; 11. ‘Labour-use efficiency in Swedish social insurance offices’ (with L. Hjalmarsson), *JAE*, 10, 1995; 12. ‘Parametric approach to efficiency measurement using a flexible profit function’, *SEJ*, 63, 1996; 13. ‘Modeling allocative inefficiency in a translog cost function and cost share equations: an exact relationship’, *J Em*, 76, 1997; 14. ‘Market imperfections and output loss in the presence of expenditure constraint: a generalized shadow price approach’ (with A. Bhattacharyya), *AJAE*, 79, 1997; 15. ‘Relative performance of public and private ownership under yardstick competition: electricity retail distribution’ (with L. Hjalmarsson), *Europ ER*, 42, 1998; 16. ‘Estimation and

decomposition of productivity change when production is not efficient: a panel data approach', *Em. Rev.*, 19, 2000; 17. 'Estimation of profit function when profit is not maximum', *AJAE*, 83, Feb. 2001; 18. 'The effect of deregulation on the performance of financial institutions: the case of Spanish savings banks' (with A. Vivas, C.A.K. Lovell, I. Hasan), *JMCB*, 33, May 2001; 19. 'Specification and estimation of production risk, risk preferences and technical efficiency', *AJAE*, 84, Feb. 2002.

Principal Contributions My main area of research is applied microeconomics (microeconometrics) with a focus on estimation of efficiency in production. I use production, cost, and profit function approaches to estimate efficiency in production. My research in this area involves use of micro data – both cross-sectional and panel data. My cross-sectional efficiency models are applied to US and Utah dairy farmers, Texas schools, and Indian agriculture. I have formulated a variety of panel data models to measure efficiency, which are applied to US railroads and airlines; Swedish agriculture, banking, manufacturing, electricity distribution, and public administration; electric utilities in Texas; and Spanish banking. Some of my models are now widely used in the efficiency and productivity literature. My book, *Stochastic Frontier Analysis* (with Knox Lovell), (CUP, 2000), is on econometric estimation and modelling of stochastic frontier models incorporating technical and/or allocative inefficiencies under a variety of situations. Determinants of inefficiency and decomposition of productivity growth in the presence of inefficiencies are also addressed. The book also deals with estimation of production and allocative efficiency using an alternative approach (the shadow price approach). Some of my other research, not related to efficiency measurement, includes: measuring the effect of ESOP on productivity;

estimation of adverse selection and moral hazards; estimation of total factor productivity (TFP) in Indian public transportation, electric utilities in Texas, Swedish and Japanese manufacturing industries, and the Spanish and Indian banking industries; and estimation of risk and risk preference function under production and price risks. My current research includes modelling and estimation of price and output risks, dynamic efficiency, dynamic factor demand, deregulation and TFP change, and decomposition of TFP growth. I am also working on non-parametric econometric estimation of stochastic frontier models, input demand systems, simultaneous equation systems based on production and price risks, and Markov switching stochastic frontier models (with E.G. Tsionas).

KUTTNER, Kenneth Neil

Born 1960, Los Angeles, CA, USA.

Current Post Asst Vice Pres., FRB, NY, USA, 1997–.

Past Posts Asst Vice Pres., FRB, Chicago, 1988–95; Vis. Asst Prof., Univ. Wisconsin at Madison, 1992; Vis. Prof., New Econ. Sch., Moscow, 1995, 1997; Vis. Asst Prof., Adjunct Prof., Columbia Bus. Sch., 1995–97, 1997–2000; Adjunct Prof., NYU, 1999–2001.

Degrees AB Univ. California, Berkeley, 1982; PhD Harvard Univ., 1989.

Editorial Duties Assoc. Ed., *JMCB*, 2001–; Macroecon. Co-Ed., *Econ. Letters*, 2002–.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; E4 Money and Interest Rates.

Publications Articles: 1. 'Money, income, prices, and interest rates' (with B.M. Friedman), *AER*, 82, June 1992; 2. 'Another look at the evidence on money-in-

come causality' (with B.M. Friedman), *J Em*, 57, May–June 1993; 3. 'Economic activity and the short-term credit markets' (with B.M. Friedman), *BPEA*, 1, 1993; 4. 'A mixed-frequency model of regional output' (with P.R. Israilevich), *J Reg S*, 33, Aug. 1993; 5. 'Estimating potential output as a latent variable', *JBES*, 12, July 1994; 6. 'A price target for US monetary policy? Lessons from the experience with money growth targets' (with B.M. Friedman), *BPEA*, 1, 1996; 7. 'The Fed funds futures rate as a predictor of Federal Reserve policy' (with J.T. Krueger), *J. Futures Markets*, 16, Dec. 1996; 8. 'Indicator properties of the paper-bill spread: lessons from recent experience' (with B.M. Friedman), *REStat*, 80, Feb. 1998; 9. 'Monetary policy surprises and interest rates: evidence from the Fed funds futures market', *JME*, 47, June 2001; 10. 'Beyond bipolar: a three-dimensional assessment of monetary frameworks' (with A.S. Posen), *Intl J. Fin. Econ.*, 6, Oct. 2001; 11. 'The great recession: lessons for macroeconomic policy from Japan' (with A.S. Posen), *BPEA*, 2, 2001; 12. 'Are there bank effects in borrowers' cost of funds? Evidence from a matched sample of borrowers and banks' (with R.G. Hubbard, D.N. Palia), *J Bus*, 75, Oct. 2002.

Principal Contributions My research has touched on a variety of diverse topics in macroeconomics and financial economics, but three contributions in particular are worth noting. One is on the information content of money and interest rates; and in particular, the spread between commercial paper and Treasury bill rates. A series of papers with B.M. Friedman documented the deteriorating link between money and economic activity, highlighted the predictive properties of the paper-bill spread, identified the source of those properties, and analysed the causes of the decline in the spread's forecasting power

over the 1990s. A second contribution is the development of a new method for estimating potential output, based on multivariate unobserved components models. The method provides a flexible procedure for detrending real output, while incorporating additional information on the state of the economy. The methodology was originally developed for the US, but variations on it have subsequently been used in a number of countries around the world. A third research contribution deals with the financial effects of monetary policy. The main innovation introduced in this work was to use data on the prices of Federal funds futures contracts to separate unanticipated from anticipated policy actions. Research on the bond market's behaviour showed that this distinction is key to understanding the market's response to policy actions. The same is also true for equities, which is a topic of current research.

KWIATKOWSKI, Denis n.e.

KYDLAND, Finn E.

Born 1943, Norway.

Current Post Prof. Econ., Carnegie-Mellon Univ., Pittsburgh, PA, USA, 1982–.

Past Posts Asst Prof. Econ., Norwegian Sch. Econ. Bus. Admin., 1973–76; Vis. Scholar, Univ. Minnesota, Minneapolis, 1976–77; Vis. Fell., Assoc. Prof. Econ., Carnegie-Mellon Univ., 1977–78, 1978–82.

Degrees Siviløkonom (Bus. Admin.) Norwegian Sch. Econ., 1968; MS, PhD Carnegie-Mellon Univ., 1972, 1973.

Offices and Honours John Stauffer Natl Fell. Public Pol., Hoover Inst., Stanford, CA, USA.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E5 Monetary Policy, Central Banking, and

the Supply of Money; J0 Labor and Demographic Economics: General.

Publications n.e.

Principal Contributions n.e.

L

LA PORTA, Rafael n.e.

LABAND, David Neil

Born 1956, Newport News, VA, USA.

Current Post Prof. Forest Econ., Auburn Univ., Auburn, AL, USA, 2000–.

Past Posts Vis. Asst Prof. Econ., Virginia Polytech. Inst. and State Univ. (VP), 1981–82; Asst Prof. Econ., Univ. Maryland, 1982–86; Assoc. Prof. Econ., Clemson Univ., 1986–92; Prof. Econ., Salisbury State Univ., 1992–94; Prof. Econ., Auburn Univ., 1994–2000.

Degrees BA, MA, PhD VP, 1978, 1980, 1981.

Offices and Honours Phi Beta Kappa, 1978; Pres., Gamma Chap., Alabama, Phi Beta Kappa, 2001–02.

Principal Fields of Interest A1 General Economics; D0 Microeconomics: General; H0 Public Economics: General.

Publications *Books*: 1. *Foreign Ownership of US Farmland: An Economic Perspective of Regulation* (Lexington Books, 1984); 2. *The Roots of Success: Why Children Follow in Their Parents' Career Footsteps* (with B.F. Lentz), (Praeger, 1985); 3. *Blue Laws: The History, Economics, and Politics of Sunday Closing Laws* (with D.H. Heinbuch), (Lexington Books, 1987); 4. *Sex Discrimination in the Legal Profession* (with B.F. Lentz), (Quorum Books, 1995); 5. *Transfer Activity in the United States* (with G.C. McClintock), (Cato Inst., 2001).

Articles: 1. 'Like father, like son: toward an economic theory of occupational following' (with B.F. Lentz), *SEJ*, 50, Oct. 1983; 2. 'Favorite sons: intergenerational wealth transfers among politicians' (with B.F. Lentz), *EI*, 23, July 1985; 3. 'Article popularity', *EI*, 24, Jan. 1986; 4. 'Adver-

tising as information: an empirical note', *REStat*, 69, Aug. 1986; 5. 'The durability of informational signals and the content of advertising', *J. Advertising*, 18, March 1989; 6. 'Why so many children of doctors become doctors: nepotism versus human capital transfers' (with B.F. Lentz), *JHR*, 24, Summer 1989; 7. 'Is there value added from the review process in economics? Preliminary evidence from authors', *QJE*, 105, May 1990; 8. 'An estimate of resource expenditures on transfer activity in the United States' (with J.P. Sophocleus), *QJE*, 107, Aug. 1992; 9. 'Favoritism versus search for good papers: empirical evidence on the behavior of journal editors' (with M.J. Piette), *JPE*, 102, Feb. 1994; 10. 'Rent seeking and hidden resource distortion: some empirical evidence' (with F. Mixon, R.B. Ekelund), *Public Choice*, 78, Feb. 1994; 11. 'The relative impact of economics journals: 1970–1990' (with M.J. Piette), *JEL*, 32, June 1994; 12. 'A citation analysis of the impact of blinded peer review' (with M.J. Piette), *J. Amer. Medical Assoc.*, 272, July 1994; 13. 'Are economists more selfish than other "social" scientists?' (with R.O. Beil), *Public Choice*, 100, July 1999; 14. 'Intellectual collaboration' (with R.D. Tollison), *JPE*, 108, June 2000; 15. 'The impact of unfunded environmental mandates when environmental quality and timber are produced jointly', *Europ. J. Law Econ.*, 10, Nov. 2000.

Principal Contributions Most of my work is empirically based and has centered around four major themes: (1) the production of scientific knowledge, (2) occupational following, (3) the informational content of advertising, and (4) transfer activity.

LAFFONT, Jean-Jacques Marcel

Born 1947, Toulouse, France.

Current Post Prof. Econ., Univ. Sc. Sociales, Toulouse, France, 1980–.

Past Posts Res. Assoc., CNRS, Paris, 1974–78; Prof. Econ., Amiens, France, 1978–80.

Degrees Diplôme Eng., Paris, 1970; Doctorat Trois-cycle (Maths), Paris, 1972; PhD Harvard Univ., 1975.

Offices and Honours David A. Wells Prize, Harvard Univ.; Council, Chairman, Europ. Symposia Comm.; Fell., Em Soc; Membre, Comité Dir. de l'Assoc. Française de Sc. Écon., Conseil Supérieur des Univs Françaises; UAP Prize, 1991; Légion d'Honneur, 1991; Pres., Em Soc, 1992; Nouvel Économiste, Best 1993 Econ.; Yrjö Jahnsson Award.

Editorial Duties Assoc. Ed., *Econ. Letters*, *REP*, *IJEB*.

Principal Fields of Interest A1 General Economics; C0 Mathematical and Quantitative Methods: General.

Publications *Books*: 1. *Effets externes et théorie économique* (CNRS, 1977); 2. *Incentives in Public Decision Making* (with J. Green), (N-H, 1979); 3. *Aggregation and Revelation of Preferences* (ed.), (N-H, 1979); 4. *Essays in the Economics of Uncertainty* (HUP, 1980); 5. *Cours de théorie microéconomique, 1, Fondements de l'économie publique* (Economica, 1982); 6. *A Theory of Incentives in Public Decision Making* (with J. Tirole), (MIT Press, 1993).

Articles: 1. 'Efficient estimation of nonlinear simultaneous equations with additive disturbances' (with D.W. Jorgenson), *Annals Social and Econ. Measurement*, 3, Oct. 1974; 2. 'On moral hazard in general equilibrium theory' (with E. Helpman), *JET*, 10, Feb. 1975; 3. 'Optimism and experts against adverse selection in a competitive economy', *JET*, 10, June 1975; 4. 'Existence d'un équilibre

général de concurrence imparfaite' (with G. Laroque), *Em*, 44, March 1976; 5. 'More on prices versus quantities', *REStud*, 44, Feb. 1977; 6. 'Characterization of satisfactory mechanisms for the revelation of preferences for public goods' (with J. Green), *Em*, 45, March 1977; 7. 'Disequilibrium econometrics for business loans' (with R. Jancia), *Em*, 45, July 1977; 8. 'Disequilibrium econometrics in simultaneous equation systems' (with A. Monfort, C. Gowrieroux), *Em*, 48, Jan. 1980; 9. 'A differentiable approach to dominant strategy mechanisms' (with E. Maskin), *Em*, 48, Sept. 1980; 10. 'The non-existence of a free entry Cournot equilibrium in labor-managed economies' (with M. Moneaux), *Em*, 51, March 1983.

Principal Contributions Contributions to the theory of incentives, to general equilibrium theory and to the methods of econometrics.

LAFONTAINE, Francine

Born 1958, Montreal, Quebec, Canada.

Current Post Prof. Bus. Econ. and Public Pol., Univ. Michigan Bus. Sch., Ann Arbor, MI, USA, 2000–.

Past Posts Res. Fell. Econ. and Marketing, Asst Prof. Econ. and Marketing, Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1988–89, 1989–93 (on leave, 1991–93); Asst Prof. Bus. Econ., Assoc. Prof. Bus. Econ., Univ. Michigan Bus. Sch., 1991–95, 1995–2000; Vis. Assoc. Prof. Econ., Univ. Florida, 1997–98, Univ. Paris I – Panthéon Sorbonne, 1999, 2000.

Degrees BBA, MSc (Apl. Econ.) École des Hautes Études Commerciales, Univ. Montréal, 1980, 1982; PhD UBC, 1988.

Offices and Honours Doctoral Fellowship, SSHRCC, 1983–87; Sanford R. Robertson Assoc. Professorship, Univ. Michigan Bus. Sch., 1995–96; Chair, Soc. Franchising, 1997–98.

Editorial Duties Ed. Bd, *CJ*, 1993–96, *Franchising Res.: Intl J.*, 1996–97, *Actualité Écon.*, 1996–99, *J. Retailing*, 1996–, *EI*, 1997–2001; Special Co-Ed. (with S. Masten), *J. Corp. Fin.: Contracting Governance, and Org.*, special issue on ‘Franchise contracting, org. and regulation’, 1995; Assoc. Ed., *Rand JE*, 1997–; Co-Ed., *JEMS*, 1997–.

Principal Fields of Interest L2 Firm Objectives, Organization, and Behavior; D2 Production and Organizations; M5 Personnel Economics.

Publications *Articles*: 1. ‘Agency theory and franchising: some empirical results’, *RandJE*, 23, 1992; 2. ‘Contractual arrangements as signaling devices: evidence from franchising’, *JLEO*, 9, 1993; 3. ‘The evolution of franchise systems’ (with P.J. Kaufmann), *J. Retailing*, 70, 1994; 4. ‘Costs of control: the source of economic rents for McDonald’s franchisees’ (with P.J. Kaufmann), *J Law E*, 37, Oct. 1994; 5. ‘The role of risk in franchising’ (with S. Bhattacharyya), *J. Corp. Fin.: Contracting Governance, and Org.*, 2, 1995; 6. ‘Double-sided moral hazard and the nature of share contracts’ (with S. Bhattacharyya), *RandJE*, 26, 1995; 7. ‘Retail contracting and costly monitoring: theory and evidence’ (with M. Slade), *Europ ER Papers and Proceedings*, 40, 1996; 8. ‘Retail contracting: theory and practice’ (with M. Slade), *J Ind E*, 45, 1997; 9. ‘Franchising growth and franchisor entry and exit in the US market: myth and reality’ (with K.L. Shaw), *J. Bus. Venturing*, 13, 1998; 10. ‘Franchising or corporate ownership: the effect on price dispersion’, *J. Bus. Venturing*, 14, 1999; 11. ‘Will Khan foster or hinder franchising? An economic analysis of maximum resale price maintenance’ (with R. Blair), *J. Public Pol. in Marketing*, 18, 1999; 12. ‘The dynamics of franchise contracting: evidence from panel data’ (with K.L. Shaw), *JPE*, 107,

1999; 13. ‘Incentive contracting and the franchise decision’, in K. Chatterjee, W. Samuelson (eds), *Advances in Business Applications of Game Theory* (Kluwer Acad., 2001); 14. ‘Les mécanismes incitatifs dans les contrats de franchise’ (with E. Raynaud), *Revue d’économie industrielle*, 92, 2000.

Principal Contributions Most of my work consists of empirical analyses of various aspects of franchising and franchise contracting, using incentive and contract theory perspectives. In particular I have examined empirically what leads firms to adopt franchising as a way of doing business, what determines the terms of the contracts they use, and the effect of franchising for example on pricing decisions. I have also analysed public policy issues as they apply to franchising. Finally, in recent years, I have examined empirically the reasons behind certain contractual arrangements in the motor carrier industry.

LAI, Kon Sun n.e.

LAKE, David A.

Born 1956, Middletown, CT, USA.

Current Post Prof., Dept Polit. Sc., Univ. California, San Diego, CA, USA, 1992–.

Past Posts Asst Prof., Assoc. Prof., UCLA, 1983–88, 1988–92.

Degrees BA (Govt and Intl Relations) Clark Univ., 1978; MA (Govt), PhD (Govt) Cornell Univ., 1981, 1984.

Offices and Honours Founding Chair, Section on Polit. Econ., Amer. Polit. Sc. Assoc., 1990–92; Res. Dir., Intl Relations, Inst. Global Conflict and Co-op., 1992–96, 2000–01.

Editorial Duties Co-Ed., *Intl Org.*, 1997–2001.

Principal Fields of Interest F0 International Economics: General; H0 Public Economics: General; N4 Government, War, Law, and Regulation.

Publications *Books*: 1. *Power, Protection, and Free Trade: International Sources of U.S. Commercial Strategy, 1887–1939* (Cornell Univ. Press, 1988); 2. *The State and American Foreign Economic Policy* (ed. with G.J. Ikenberry, M. Mastanduno), (Cornell Univ. Press, 1988); 3. *The International Political Economy of Trade*, 2 vols (ed.), (Edward Elgar, 1993); 4. *Entangling Relations: American Foreign Policy in its Century* (Princeton Univ. Press, 1999); 5. *Strategic Choice in International Relations* (with R. Powell), (Princeton Univ. Press, 1999); 6. *Governance in a Global Economy: Political Authority in Transition* (ed. with M. Kahler), (Princeton Univ. Press, 2003).

Articles: 1. 'International economic structures and American foreign economic policy, 1887–1934', *World Polit.*, 35, July 1983; 2. 'Beneath the commerce of nations: a theory of international economic structures', *Intl Stud. Q.*, 28, June 1984; 3. 'Power and the third world: toward a realist political economy of north–south relations', *Intl Stud. Q.*, 31, June 1987; 4. 'Export, die, or subsidize: the international political economy of American agriculture, 1875–1940', *CSSH*, 31, Jan. 1989; 5. 'The second face of hegemony: Britain's repeal of the corn laws and the American Walker tariff of 1846' (with S.C. James), *Intl Org.*, 43, Winter 1989; 6. 'British and American hegemony compared: lessons for the current era of decline', in M.G. Fry (ed.), *History, the White House, and the Kremlin: Statesmen as Historians* (Columbia Univ. Press, 1991); 7. 'Powerful pacifists: democratic states and war', *Amer. Polit. Sc. Rev.*, 86, March 1992; 8. 'Leadership, hegemony, and the international economy: naked emperor or tattered monarch with potential',

Intl Stud. Q., 37, Dec. 1993; 9. 'Containing fear: the origins and management of ethnic conflict' (with D. Rothchild), *Intl Security*, 21, Fall 1996; 10. 'Anarchy, hierarchy and the variety of international relations', *Intl Org.*, 50, Winter 1996; 11. 'The rise, fall, and future of the Russian empire: a theoretical interpretation', in K. Dawisha, B. Parrott (eds), *The End of Empire? The Transformation of the USSR in Comparative Perspective* (M.E. Sharpe, 1997); 12. 'Global governance: a relational contracting approach', in A. Prakash, J.A. Hart (eds), *Globalization and Governance* (Routledge, 1999); 13. 'The invisible hand of democracy: political control and the provision of public services' (with M.A. Baum), *Comparative Polit. Stud.*, 34, Aug. 2001; 14. 'Beyond anarchy: the importance of security institutions', *Intl Security*, 26, Summer 2001.

Principal Contributions My principal contributions are in international political economy and the application of economic theory to political phenomena. Three areas of work are of direct relevance to economics. First, debunking the widely held idea, originally associated with Charles Kindleberger, that a single leader is required for international economic order, I demonstrate that hegemony is neither a necessary nor a sufficient condition for international economic openness or stability. I also show, however, that British trade policy strongly conditioned American policy in the 19th and early 20th centuries, permitting the latter to free ride until just before World War I. Second, where the literature on public goods has emphasized the free-rider problem, I focus on the monopoly power of the state and democracy as a constraint on the state's ability to extract monopoly rents when providing public services. I show that democracies (1) provide higher levels of public health and education; (2) create more human capital and enjoy

higher rates of growth; (3) are smaller, if unitary, and larger, if federal, than autocracies; and (4) are less likely to fight wars with one another and more likely to win those wars they do fight. Third, I use insights from transaction costs economics to study political relationships between states, such as alliances, economic unions, or empires. Examining the range of possible institutions between otherwise sovereign entities, I find that states are more likely to enter hierarchical relationships when there are large benefits from pooling resources and efforts, there are specific assets at risk, and the costs to the dominant party of governing the subordinate are not too large. I apply this approach to American security policy, the rise and decline of the Russian empire, and governance institutions in the global economy.

LAKONISHOK, Josef n.e.

LAL, Rajiv n.e.

LALONDE, Robert J. n.e.

LAM, Pok-Sang

Born 1958, Hong Kong.

Current Post Assoc. Prof., Ohio State Univ., Columbus, OH, USA, 1985–.

Past Post Vis. Asst Prof., Stanford Univ., 1988–90.

Degrees BSS Chinese Univ., Hong Kong, 1981; MA, PhD Harvard Univ., 1985, 1986.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles; G1 General Financial Markets.

Publications Articles: 1. ‘Irreversibility and consumer durables expenditures’, *JME*, 23, Jan. 1989; 2. ‘Mean reversion in equilibrium asset prices’ (with S.G. Cecchetti, N.C. Mark), *AER*, 80, June 1990; 3. ‘The Hamilton model with a general autoregressive component: estimation and comparison with other models of economic time series’, *JME*, 26, Dec. 1990; 4. ‘Permanent income, liquidity and adjustments of automobile stocks: evidence from panel data’, *QJE*, 106, Feb. 1991; 5. ‘The equity premium and the risk free rate: matching the moments’ (with S.G. Cecchetti, N.C. Mark), *JME*, 31, Feb. 1993; 6. ‘Testing volatility restrictions on intertemporal marginal rate of substitution implied by asset returns’ (with S.G. Cecchetti, N.C. Mark), *J Fin*, 49, March 1994; 7. ‘Asset pricing with distorted beliefs: are equity returns too good to be true’ (with S.G. Cecchetti, N.C. Mark), *AER*, 90, Sept. 2000.

Principal Contributions Most of my work has related to three areas. The first area is the macroeconomics of consumer durable goods expenditures. I numerically investigated the (S, s) policy rule for the consumers facing transaction costs and uncertainty in labor income. I found evidence for this policy rule in panel data. I further showed that the aggregate expenditures based on this policy rule match the observed persistence of the time series. The second area is the Markov switching model in time-series analysis. The seminal work was due to J.D. Hamilton. I generalized his model to handle the cases in which the noise component is stationary, the probabilities of switching are duration dependent, and the mean growth rates are duration dependent. I implemented the generalized models to US GNP data. The third area is the consumption asset pricing model. In a sequence of papers, S.G. Cecchetti, N.C. Mark and I investigated the ability of the Lucas asset

pricing model in matching several important dimensions of data. Our contributions to this area include a methodology to combine calibration and statistical inference, estimation of the market fundamentals using the Markov switching model, and the development of a partially rational version of the model.

LAMOUREUX, Christopher G. n.e.

LANG, Larry Hsien Ping

Born 1956, Taiwan.

Current Post Chair Prof. Fin., Chinese Univ. Hong Kong, Hong Kong PRC, 1997–.

Past Posts Lect. Fin., Wharton Sch. Bus., Univ. Pennsylvania, 1987–87; Asst Prof. Fin., Grad. Sch. Bus., Michigan State Univ., 1987–88; Vis. Asst Prof. Fin., Coll. Bus., Ohio State Univ., 1988–89; Asst Prof. Fin., Assoc. Prof. Fin., Stern Sch. Bus., NYU, 1989–93, 1993–94; Prof. Fin., Faculty Bus. Admin., Chinese Univ. Hong Kong, 1994–97; Vis. Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1998–99; Cons., Corp. Governance to World Bank, 1998–2000.

Degrees BA Tunghai Univ., Taiwan, 1978; MA Natl Taiwan Univ., 1980; MA (Fin.), PhD (Fin.) Wharton Sch., Univ. Pennsylvania, 1985, 1986.

Offices and Honours Pres., Assoc. Fin. Econ., 1999–2000.

Editorial Duties Ed., *Res. Intl Bus. Fin.*, 1992–95, *Europ. Fin. Mgmt.*, 1998–; Assoc. Ed., *Pacific Basin Fin. J.*, 1994–, *J. Fin. Stud.*, 1996–, *Intl Rev. Fin.*, 2000–; Special issue Co-Ed., *Pacific Econ. Rev.*, 1998.

Principal Fields of Interest G3 Corporate Finance and Governance; G1 General Financial Markets; G0 Financial Economics: General.

Publications Book: 1. *Project Finance in Asia* (N-H, Elsevier Sc., 1998).

Articles: 1. ‘An empirical test of the impact of managerial self interest on corporate capital structure’ (with I. Friend), *J Fin E*, 43, 1988; 2. ‘Dividend announcements: cash flow signalling vs. free cash flow hypotheses’ (with R. Litzenberger), *J Fin E*, 24, 1989; 3. ‘Managerial performance, Tobin’s q and successful tender offers’ (with R. Stulz, R. Walkling), *J Fin E*, 24, 1989; 4. ‘Troubled debt restructuring: an empirical study of private reorganization of firms in default’ (with S. Gilson, K. John), *J Fin E*, 27, 1990; 5. ‘The forecast accuracy of individual analysts: evidence of systematic optimism and pessimism’ (with K. Butler), *J. Accounting Res.*, 29, 1991; 6. ‘Insider trading around dividend announcements: theory and evidence’ (with K. John), *J Fin*, 46, 1991; 7. ‘A test of the free cash flow hypothesis: the case of bidder returns’ (with R. Stulz, R. Walkling), *J Fin E*, 29, 1991; 8. ‘Testing financial market equilibrium under asymmetric information’ (with R. Litzenberger, V. Madrigal), *JPE*, 100, 1992; 9. ‘Contagion and competition intra-industry effects of bankruptcy announcements: an empirical analysis’ (with R. Stulz), *J Fin E*, 32, 1992; 10. ‘Voluntary restructuring of large firms in response to performance decline’ (with K. John, J. Netter), *J Fin*, 47, 1992; 11. ‘Tobin’s q , corporate diversification and firm performance’ (with R. Stulz), *JPE*, 102, 1994; 12. ‘Asset sales, firm performance and the agency costs of managerial discretion’ (with A. Poulsen, R. Stulz), *J Fin E*, 37, 1995; 13. ‘Leverage, investment and firm growth’ (with E. Ofek, R. Stulz), *J Fin E*, 40, 1996; 14. ‘Does money explain asset returns? Theory and evidence’ (with K.C. Chan, S. Foresi), *J Fin*, 51, 1996; 15. ‘The measurement of relatedness: an application to corporate diversification’ (with J. Fan), *J Bus*, 73,

2000; 16. 'Separation of ownership from control of East Asian firms' (with S. Claessens, S. Djankov), *J Fin E*, 58, 2000; 17. 'Expropriation and dividends' (with M. Faccio, L. Young), *AER*, 91, 2001; 18. 'Disentangling the incentive and entrenchment effects of large shareholdings' (with S. Claessens, S. Djankov, J. Fan), *J Fin*, forthcoming; 19. 'The ultimate ownership of Western European corporations' (with M. Faccio), *J Fin E*, forthcoming.

Principal Contributions I have contributed to the economics literature mainly in the area of corporate finance and governance. I have worked on the following areas. First, I worked on how default companies choose private workout or Chapter 11. I further analyzed the determinants of the choices. This bankruptcy paper was published in 1990 in *J Fin E*. Second, from the late 1980s to the mid-1990s, I applied the concept of Tobin's q to corporate finance and governance areas. I separated US firms into firms with q greater than unity and firms with q less than unity. I found supporting evidence that firms with $q > 1$ are firms with good investment opportunities and firms with $q < 1$ are firms with overinvestment. I successfully explained the dividend announcement effects, merger and acquisitions announcement effects, and corporate leverage decisions. All four papers testing this idea were published in *J Fin E* (2 in 1989, 1 in 1992 and 1 in 1996). Third, I worked on the performance of corporate diversification and I found that corporate diversification hurts corporate performance. This paper was published in 1994 in *JPE*. Fourth, starting from 1998 until now, I have worked on the area of ultimate ownership around the world and the expropriation of minority shareholders. I have documented the ultimate ownership structures for nine East Asian countries (*J Fin E*, 2000) and 13 Western European countries (*J Fin E*, forthcoming). Using Asian

and European ultimate ownership data, I have worked on the topics about the effect of the separation of ownership from control. I have documented that the separation of ownership and control explains dividend policies in Asia and Europe (*AER*, 2001). I have also documented that this separation hurts share value (*J Fin*, forthcoming).

LARCKER, David F. n.e.

LAROQUE, Guy Raymond

Born 1946, Paris, France.

Current Post Prof., École Polytech., Head, Macroecon., CREST-INSEE, Paris, France, 2001–.

Past Posts Vis. Res. Fell., Harvard Univ., 1975–76; Dean Stud. (Econ.), ENSAE, 1979–82; Head, Div. Q. Natl Accounts, INSEE, Paris, France, 1982–85; Vis. Prof., NYU, 1985–86, Princeton Univ., 1985–86; Mem., Unité de Recherche, INSEE, 1986–94; Head, Dépt Recherche, INSEE, 1994–96, Head, Dir. Études Synthèses Écon., INSEE, 1996–2001.

Degrees Eng. Diploma École Polytech., 1965; DES Univ. Paris I, 1971; DEA (Maths Appliquées) Univ. Paris VI, 1971.

Offices and Honours Fell., Pres., Em Soc, 1979–, 2002; Mem., Academia Europaea.

Editorial Duties Ed., *Em*, 1992–96.

Principal Fields of Interest D5 General Equilibrium and Disequilibrium; E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles.

Publications Books: 1. *Fondements de l'Analyse Macroéconomique à Court Terme* (Édns du CNRS, 1986); 2. *Finance et Économie de l'Incertain* (with G. Demange), (*Economica*, 2001).

Articles: 1. 'On Keynesian temporary equilibria' (with J.M. Grandmont), *REStud*, 43, Feb. 1976; 2. 'The fixed price equilibria: some results in local comparative statics', *Em*, 46, Sept. 1978; 3. 'Fair allocations in large economies' (with P. Champsaur), *JET*, 25, Oct. 1981; 4. 'Estimation of multi-market fix-price models: an application of pseudo maximum likelihood methods' (with B. Salanie), *Em*, 57, July 1989; 5. 'On the inventory cycle and instability of the competitive mechanism', *Em*, 57, July 1989; 6. 'Asset pricing and optimal portfolio choice in the presence of illiquid durable consumption goods' (with S.J. Grossman), *Em*, 58, Jan. 1990; 7. 'On the behaviour of commodity prices' (with A. Deaton), *REStud*, 59, Jan. 1992; 8. 'Using privileged information to manipulate markets: insiders, gurus and credibility' (with R. Benabou), *QJE*, 107, Aug. 1992; 9. 'Polynomial cointegration: estimation and test' (with S. Gregoir), *J Em*, 63, 1994; 10. 'Private information and the design of securities' (with G. Demange), *JET*, 65, 1995; 11. 'The inventory cycle: from theory to empirical evidence' (with G. Rabault), *EJ*, 105, 1995; 12. 'Social security and demographic shocks' (with G. Demange), *Em*, 67, 1999; 13. 'Labour market institutions and employment in France' (with B. Salanié), *JAE*, 17, 2002.

Principal Contributions n.e.

LASTRAPES, William Dean

Born 1958, Lafayette, LA, USA.

Current Posts Prof. Econ. and Dept Head, Univ. Georgia, Athens, GA, USA, 2002–.

Past Posts Asst Prof. Econ., Louisiana State Univ., 1985–90; Asst Prof. Econ., Assoc. Prof. Econ., Univ. Georgia, 1990–94, 1994–2002; Vis. Lect., Univ. Lyon III, France, 1998, 2001; Vis. Scholar, FRB, Atlanta, 1999, 2001, 2002.

Degrees BS (Fin., *cl*) Louisiana State Univ., 1980; PhD Univ. North Carolina, 1986.

Honours Swift Award for Undergrad. Teaching of Econ., Univ. Georgia, 1995; Kamerschen–Hampton Award for Outstanding Res. Econ., Univ. Georgia, 2000.

Editorial Duties Assoc. Ed., *J. Macroecon.*, 1999–, *J. Econ. and Bus.*, 1999–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F4 Macroeconomic Aspects of International Trade and Finance; G0 Financial Economics: General.

Publications *Articles:* 1. 'Exchange rate volatility and US monetary policy: an ARCH application', *JMCB*, 21, Feb. 1989; 2. 'Real exchange rate volatility and US bilateral trade: a VAR approach' (with F. Koray), *REStat*, 71, Nov. 1989; 3. 'Heteroskedasticity in stock return data: volume versus GARCH effects' (with C.G. Lamoureux), *J Fin*, 45, March 1990; 4. 'Persistence-in-variance, structural change and the GARCH model' (with C.G. Lamoureux), *JBES*, 8, April 1990; 5. 'Exchange rate volatility and US multilateral trade flows' (with F. Koray), *J. Macroecon.*, 12, Summer 1990; 6. 'International transmission of aggregate shocks under fixed and flexible exchange rate regimes: United Kingdom, France and Germany, 1959 to 1985' (with F. Koray), *JIMF*, 9, Dec. 1990; 7. 'Sources of fluctuations in real and nominal exchange rates', *REStat*, 74, Aug. 1992; 8. 'The impact of exchange rate volatility on international trade: reduced form estimates using the GARCH-in-mean model' (with K.F. Kroner), *JIMF*, 12, June 1993; 9. 'Forecasting stock return variance: toward an understanding of stochastic implied volatilities' (with C.G. Lamoureux), *Rev. Fin. Stud.*, 6, 1993; 10. 'Buffer stock money: interpreting short-run dynamics using long-run restrictions' (with G. Selgin), *JMCB*, 26, Feb. 1994; 11. 'Endogenous trading volume and mo-

mentum in stock return volatility' (with C.G. Lamoureux), *JBES*, 12, April 1994; 12. 'The liquidity effect: identifying short-run interest rate dynamics using long-run restrictions' (with G. Selgin), *J. Macroecon.*, 17, Summer 1995; 13. 'The dynamic responses of crop and livestock prices to money supply shocks: a Bayesian analysis using long-run identifying restrictions' (with J.H. Dorfman), *AJAE*, Aug. 1996; 14. 'The check tax: fiscal folly and the great monetary contraction' (with G. Selgin), *JEH*, 57, Dec. 1997; 15. 'Identifying the effects of money supply shocks on industry-level output' (with C.M. Loo), *J. Macroecon.*, 20, Summer 1998; 16. 'International evidence on equity prices, interest rates and money', *JIMF*, June 1998; 17. 'Abnormal returns in the acquisition market: the case of bank holding companies' (with S. Frame), *J. Fin. Services Res.*, Oct. 1998; 18. 'The dynamic effects of money: combining short-run and long-run identifying restrictions using Bayesian techniques', *REStat*, Nov. 1998; 19. 'The real price of housing and money supply shocks: time series evidence and theoretical simulations', *J. Housing Econ.*, 11, March 2002.

Principal Contributions Chris Lamoureux and I have uncovered a number of important patterns regarding stock return volatility using the ARCH class of models – that information flows as proxied by trading volume can explain persistence in return volatility, that discrete regime shifts can lead to the appearance of permanent volatility shocks, and that implied volatilities from options prices do not account entirely for the time-series structure of return variance. Most of my other work has been a careful application of vector autoregression (VAR) methods to understanding the sources of fluctuations in the economy. In sole-authored research, as well as in collaboration with others such as George Selgin, I have estimated the dy-

namic responses of interest rates, equity prices, home prices, wages and exchange rates to nominal shocks. These empirical findings have influenced the development of macroeconomic theory.

LAZEAR, Edward Paul

Born 1948, New York City, NY, USA.

Current Posts Morris Arnold Cox Sr Fell., Hoover Inst., Stanford, CA, USA, 2002–; Jack Steele Parker Prof. Human Resources Mgmt and Econ., Grad. Sch. Bus., Stanford Univ., CA, USA, 1995–; Res. Assoc., NBER, USA, 1974–.

Past Posts Res. Assoc., Natl Opinion Res. Center, 1978–92; Asst Prof. Econ., Assoc. Prof. Ind. Relations, Prof. Ind. Relations, Univ. Chicago, 1974–78, 1978–81, 1981–85; Isidore and Gladys Brown Prof. Urban and Labor Econ., Grad. Sch. Bus., Univ. Chicago, 1985–92; Coordinator, Domestic Stud., Hoover Inst., Stanford, 1987–90; Prof. Human Resource Mgmt and Econ., Grad. Sch. Bus., Stanford Univ., 1992–95; Sr Fell., Hoover Inst., Stanford, 1985–2002.

Degrees BA, MA UCLA, 1971, 1971; PhD Harvard Univ., 1974.

Offices and Honours Fell., Em Soc, 1988–; Grad. Fell., Fell., NSF, 1971–74, 1979–; Wicksell Lect., Sweden, 1993; Disting. Teaching Award, Grad. Sch. Bus., Stanford Univ., 1994; Vice-Pres., Pres., Soc. Labor Econ., 1996–97, 1997–98; Leo Melamed Biennial Prize for Outstanding Res., 1998; Fell., AAAS, 2000–; Disting. Service Award, PhD Faculty, Stanford Univ., 2000; Michael and Monica Spence Faculty Fell., 2000–01; Bd Testing and Assessment, NAS, 2001–; Adam Smith Prize, Europ. Assoc. Labor Econ., 2003.

Editorial Duties Founding Ed., *J Lab E*, 1982–2001; Assoc. Ed., *JEP*, 1986–89, *German Econ. Rev.*, 2000–04; Co-Ed., *J. Labor Abstracts*, 1996–.

Principal Fields of Interest D0 Microeconomics: General; J0 Labor and Demographic Economics: General; M3 Marketing and Advertising.

Publications *Books*: 1. *Allocation of Income Within the Household* (with R.T. Michael), (UCP, 1988); 2. *Issues in Contemporary Retirement* (ed. with R. Ricardo-Campbell), (Hoover Press, 1988); 3. *Microeconomic Theory* (with J.P. Gould, Jr), (R.D. Irwin, 6th edn 1989); 4. *Searching for Alternatives: Drug-Control Policy in the United States* (ed. with M.B. Krauss), (Hoover Inst. Press, 1991); 5. *Economic Transition in Eastern Europe and Russia: Realities of Reform* (ed.), (Hoover Inst. Press, 1995); 6. *Personal Economics*, 1993 Wicksell Lectures (MIT Press, 1995); 7. *Personnel Economics for Managers* (Wiley, 1998); 8. *Education in the 21st Century* (ed. and introduction), (Hoover Inst. Press, 2002).

Articles: 1. 'Why is there mandatory retirement?', *JPE*, 87, Dec. 1979; 2. 'Rank-order tournaments as optimum labor contracts' (with S. Rosen), *JPE*, 89, Oct. 1981; 3. 'Retail pricing and clearance sales', *AER*, 76, March 1986; 4. 'Salaries and piece rates', *J Bus*, 59, July 1986; 5. 'Pay equality and industrial politics', *JPE*, 97, June 1989; 6. 'Job security provisions and employment', *QJE*, 105, Aug. 1990; 7. 'Labor economics and the psychology of organizations', *JEP*, 5, Spring 1991; 8. 'Peer pressure and partnerships' (with E. Kandel), *JPE*, 100, Aug. 1992; 9. 'Bait and switch', *JPE*, 103, Aug. 1995; 10. 'Culture and language', *JPE*, 107, Dec. 1999; 11. 'Performance pay and productivity', *AER*, 90, Dec. 2000; 12. 'The Peter principle: a theory of decline', *JPE*, forthcoming.

Principal Contributions Personnel economics, culture and language, pricing strategies, emerging economies.

LE-BRETON, Michael n.e.

LEAHY, John V. n.e.

LEBARON, Blake D. n.e.

LEE, Charles M.C. n.e.

LEE, Jong-Wha

Born 1960, Taebaek, Korea.

Current Posts Prof. Econ., Korea Univ., Seoul, Korea, 1993–; Adjunct Prof., Econ., Div., Res. Sch. Asia and Pacific Stud., ANU, Canberra, Australia, 2001–.

Past Posts Econ., Res. Dept, IMF, 1992–93; Faculty Res. Fell., NBER, 1993–96; Vis. Prof., Harvard Univ., 1999–2000.

Degrees BA, MA Korea Univ., 1981, 1983; MA, PhD Harvard Univ., 1990, 1992.

Honours Fulbright Grad. Degree Study Award, 1987–91; China–Korea Young Scholar Award, 1996; Mae-Kyung Econ. Award, 1997; Chung-Ram Award, 1997.

Editorial Duties Co-Ed., *J. Korean Econ.*, 2000–; Advisory Bd, *J. Human Devlp.*, 2000–; Bd Eds, *Korean Econ. Rev.*, 2001–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; O0 Economic Development, Technological Change and Growth: General; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Articles*: 1. 'International trade, distortions and long-run economic growth', *IMF Staff Papers*, 40, June 1993; 2. 'International comparisons of educational attainment' (with R. Barro), *JME*, 32, Dec. 1993; 3. 'Sources of economic growth' (with R. Barro), *C-RPP*, 40, June

1994; 4. 'Capital goods imports and long-run growth', *JDE*, 33, Sept. 1995; 5. 'International measures of schooling years and schooling quality' (with R. Barro), *AER*, 86, May 1996; 6. 'Government interventions and productivity growth', *JEG*, 1, Sept. 1996; 7. 'Trade barriers and trade flows across countries and industries' (with P. Swagel), *REStat*, 79, 1997; 8. 'How does foreign direct investment affect economic growth?' (with E. Borensztein, J. De Gregorio), *J Int E*, 45, June 1998; 9. 'International data on educational attainment: updates and implications' (with R. Barro), *OEP*, 53, 2001; 10. 'Determinants and prospects of economic growth in Asia' (with S. Radelet, J.D. Sachs), *Intl Econ. J.*, 15, 2001; 11. 'Schooling quality in a cross-section of countries' (with R.J. Barro), *Ec*, 68, 2001; 12. 'Financial crisis and credit crunch: evidence from the Korean firm level data' (with E. Borensztein), *JME*, 49, May 2002.

Principal Contributions Empirical analysis of the determination of economic growth; new measurement of human capital across countries; on the role of trade and foreign direct investment in economic development; issues related to East Asian economies.

LEE, Ronald Demos

Born 1941, Poughkeepsie, NY, USA.

Current Post Prof., Demography and Econ., Univ. California, Berkeley, CA, USA, 1979–.

Past Posts Peace Corps Volunteer, Ethiopia, 1963–65; Post-Doctoral Res., Natl Inst. Demographic Stud., Paris, 1970–71; Res. Assoc., Pop. Stud. Center, Univ. Michigan, 1971–79; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Univ. Michigan, 1971–79; Dir., Center for Demography and Econ. of Aging, 1994–;

Dir., Natl Inst. of Aging Training Grant in Demography and Econ., Univ. California, Berkeley, 1995–; Res. Assoc., NBER, 2001–.

Degrees BA (Philo.) Reed Coll., 1963; MA (Demography) Univ. California, Berkeley, 1967; PhD Harvard Univ., 1971.

Offices and Honours Mindel C. Sheps Award, PAA for Outstanding Res. in Math. Demography and Demographic Methods, PAA, 1984; Pres., PAA, 1987; Mem., NAS, 1992–; Taeuber Award, Bi-annual for Outstanding Achievement in Demographic Res., PAA and Princeton Univ., 1999; Corres. Fell., BA, 1999.

Editorial Duties Assoc. Ed., Univ. California Press *Population* series, 1982–93, *JDE*, 1985–90, *J. Pop. Econ.*, 1987–; Co-Ed., *Math. Pop. Stud.*, 1986–96; Ed. Bd, *Explor. in Econ. Hist.*, 1992–97.

Principal Fields of Interest J1 Demographic Economics; H6 National Budget, Deficit, and Debt.

Publications *Articles*: 1. 'Population in pre-industrial England: an econometric analysis', *QJE*, 87, Nov. 1973; 2. 'Forecasting births in post-transition populations: stochastic renewal with serially correlated fertility', *JASA*, 69, Sept. 1974; 3. 'The formal dynamics of controlled populations and the echo, the boom and the bust', *Demography*, 11, Nov. 1974; 4. 'Estimating series of vital rates and age structures from baptisms and burials: a new technique, with applications to pre-industrial England', *Pop. Stud.*, 28, Nov. 1974; 5. 'Aiming at a moving target: period fertility and changing reproductive goals', *Pop. Stud.*, 34, July 1980; 6. 'Shortrun fluctuations of vital rates, prices and weather in England, 1539 to 1840', chap. 9, in E.A. Wrigley, R. Schofield (eds), *The Population History of England 1541–1871: A Reconstruction* (Edward Arnold/HUP, 1981); 7. 'Malthus and Boserup: a dynamic synthesis', in D. Coleman, R. Schofield (eds), *The State of*

Population Theory (Blackwell, 1986); 8. 'Population dynamics of humans and other animals', Pres. Address to PAA, *Demography*, 24, Nov. 1987; 9. 'Intergenerational flows of time and goods, and consequences of slowing population growth' (with S. Lapkoff), *JPE*, 96, June 1988; 10. 'Population growth, externalities to childbearing, and fertility policy in the Third World' (with T. Miller), *Proceedings of World Bank Annual Conference on Development Economics, 1990*, suppl. to *WBER* and *World Bank Res. Observer*, 1990; 11. 'Modeling and forecasting US mortality' and 'Rejoinder' (with L. Carter), *JASA*, 87, Sept. 1992; 12. 'Fertility decline in Prussia: a pooled cross-section time-series analysis, 1875–1910' (with P.R. Galloway, E.A. Hammel), *Pop. Stud.*, 48, March 1994; 13. 'Stochastic population projections for the US: beyond high, medium and low' (with S. Tuljapurkar), *JASA*, 89, Dec. 1994; 14. 'The formal demography of population aging, transfers, and the economic life cycle', in L. Martin, S. Preston (eds), *The Demography of Aging* (Natl Acad. Press, 1994); 15. 'Probabilistic approaches to population forecasting', in W. Lutz, J. Vaupel, D. Ahlburg (eds), 'Rethinking population projections', suppl. *Pop. and Devlp. Res.*, 24, 1999; 16. 'Will aging baby boomers bust the federal budget? Longevity, health status, and medical costs in the next century' (with J. Skinner), *JEP*, 13, Winter 1999; 17. 'Immigration, social security, and broader fiscal impacts' (with T. Miller), *AER Papers and Proceedings*, 90, May 2000; 18. 'Malthus in state space: macroeconomic–demographic relations in English history' (with M. Anderson), *J. Pop. Econ.*, 15, 2002; 19. 'The fiscal impact of population aging in the US: assessing the uncertainties' (with R. Edwards), in J.M. Poterba (ed.), *Tax Policy and Econ.*, 16 (NBER/MIT Press, 2002); 20. 'Overlapping generations models with

realistic demography' (with A. Bommier), *J. Pop. Econ.*, forthcoming.

Principal Contributions In a series of papers, I developed, estimated, and interpreted Malthusian models of the interaction of population size, fertility, mortality, and real wages in pre-industrial England. I found that rapid population growth depressed the real wage, and conversely. Higher real wages induced more rapid population growth, through both fertility and mortality. In the resulting system, external shocks had a half-life of about 70 years, so convergence was slow. Another series of papers developed new methods for stochastic forecasts of fertility, mortality, and population size and age distributions. The mortality forecasting method has been widely accepted and used, including by government agencies. These stochastic population forecasts then formed the core of stochastic projections of government budgets over long (75-year) horizons. The stochastic budget forecasts have been particularly influential for social security. Related work estimated the fiscal impact of immigration based on an innovative longitudinal approach, finding that on average immigrants had a large fiscally beneficial effect at the Federal level, and a smaller adverse effect at the state and local level. Similar analysis showed that, on average, a birth in the US has a positive long-term fiscal impact of about \$200,000 around the year 2000. This positive fiscal impact is an externality to childbearing. I have chaired two influential reports of the National Academy of Sciences, one on the effects of population on economic development in the Third World, and another on the determinants of fertility in the Third World.

LEEPER, Eric M.

Born 1958, Isfahan, Iran.

Current Posts Assoc. Prof. Econ., Indiana Univ., Bloomington, IN, USA, 1995–; Faculty Res. Fell., NBER, USA.

Past Posts Res. Asst, Brookings Inst., 1980–81; Teaching Asst, Univ. Minnesota, 1982–87; Econ., Intl Fin. Divn, Fed. Reserve Bd, 1987–91; Res. Officer, FRB, Atlanta, 1991–95; Vis. Scholar, Bank Canada, 1996, FRBs, Atlanta, Cleveland, Kansas City, various years, 1996–2003, Fed. Reserve Bd, 1999, Sveriges Riksbank, 1999; Cons., Sveriges Riksbank, 2003.

Degrees BS George Mason Univ., 1980; PhD Univ. Minnesota, 1989.

Editorial Duties Guest Ed., *C-RPP*, Nov. 1998.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E5 Monetary Policy, Central Banking, and the Supply of Money; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications Articles: 1. ‘Equilibria under “active” and “passive” monetary and fiscal policies’, *JME*, 27, Feb. 1991; 2. ‘Facing up to our ignorance about measuring monetary policy effects’, *FRB Atlanta Econ. Rev.*, 77, May/June 1992; 3. ‘In search of the liquidity effect’ (with D.B. Gordon), *JME*, 29, June 1992; 4. ‘Consumer attitudes: king of a day’, *FRB Atlanta Econ. Rev.*, 77, July/Aug. 1992; 5. ‘The policy tango: toward a holistic view of monetary and fiscal effects’, *FRB Atlanta Econ. Rev.*, 78 July/Aug. 1993; 6. ‘Toward a modern macroeconomic model usable for policy analysis’ (with C.A. Sims), in *NBER Macroecon. Annual*, 9 (MIT Press 1994); 7. ‘The dynamic impacts of monetary policy: an exercise in tentative identification’ (with D.B. Gordon), *JPE*, 102, Dec. 1994; 8. ‘Reducing our ignorance about monetary

policy effects’, *FRB Atlanta Econ. Rev.*, 80, July/Aug. 1995; 9. ‘What does monetary policy do?’ (with C.A. Sims, T. Zha), *BPEA*, 2, 1996; 10. ‘When do long-run identifying restrictions give reliable results?’ (with J. Faust), *JBES*, 15, July 1997; 11. ‘Narrative and VAR approaches to monetary policy: common identification problems’, *JME*, 40, Dec. 1997; 12. ‘Trends in velocity and policy expectations’ (with D.B. Gordon, T. Zha), *C-RPP*, 49, Dec. 1998; 13. ‘Assessing simply policy rules: a view from a complete macro model’ (with T. Zha), *FRB St. Louis Econ. Rev.*, 83, July/Aug. 2001; 14. ‘Modest policy interventions’ (with T. Zha), *JME*, forthcoming 2003.

Principal Contributions Most of my work is related to macro policy. In my work on the interactions between monetary and fiscal policy I showed that the price level is uniquely determined even under a nominal interest rate peg if fiscal behavior makes the net-of-interest deficit insensitive to the state of government indebtedness. That work also established that fiscal policy can have impacts of nominal demand even if taxes are lump sum – in contrast to the Ricardian proposition. My empirical work focuses on identifying exogenous shifts in monetary policy to separate the effects of policy on the economy from the endogenous response of purposeful policy to the economy. This work has succeeded in identifying the dynamic impacts of exogenous changes in monetary policy. It has also tried to link various empirical approaches to this important problem. Extensions of that work assess use of an empirical model as a basis for central bank choices will destabilize the model in the way the Lucas critique predicts.

LEHRER, Ehud n.e.

LEIDERMAN, Leonardo n.e.

LELAND, Hayne E.

Born 1941, Boston, MA, USA.

Current Post Arno Rayner Prof. Fin. and Mgmt, Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1978–.

Past Posts Asst Prof., Stanford Univ., 1968–74; Assoc. Prof., Univ. California, Berkeley, 1974–78.

Degrees BA, PhD Harvard Univ. 1964, 1968; MSc LSE, 1965.

Offices and Honours Dir., Pres., AFA, 1997; Dir., Leland O'Brien Rubinstein (LOR) Assoc. Inc.; Fell., AFA, 2000–, FMA, 2001–.

Editorial Duties Assoc. Ed., *IER*, 1973–78, *JET*, 1976–79, *Fin. Mgmt*, 1999–.

Principal Fields of Interest D8 Information and Uncertainty; G2 Financial Institutions and Services; G1 General Financial Markets.

Publications *Articles*: 1. 'Savings and uncertainty: the precautionary demand for saving', *QJE*, 82, Aug. 1968, repr. in P. Diamond, M. Rothschild (eds), *A Book of Readings* (UCP, 1979); 2. 'Theory of the firm facing uncertain demand', *AER*, 62, June 1972; 3. 'Information asymmetries, financial structure and financial intermediation' (with D. Pyle), *J Fin*, 31, May 1976; 4. 'Information, managerial choice, and stockholder unanimity', *REStud*, 44, 1977; 5. 'Quacks, lemons, and licensing: a theory of minimum quality standards', *JPE*, 87, 1979; 6. 'Who should buy portfolio insurance?', *J. Fin*, 35, May 1980; 7. 'Replicating options with positions in stock and cash' (with M. Rubinstein), *Fin. Analysts J.*, 37, July–Aug. 1981; 8. 'An economic model of the brain drain' (with

V. Kwok), *AER*, 72, March 1982; 9. 'Option pricing and replication with transactions costs', *J Fin*, 40, Dec. 1985; 10. 'Market liquidity, hedging, and crashes' (with G. Gennotte), *AER*, 80, Dec. 1990; 11. 'Insider trading: should it be prohibited?', *JPE*, 100, Dec. 1992; 12. 'On equilibrium price processes' (with H. He), *Rev. Fin. Stud.*, 6, Dec. 1993; 13. 'Corporate debt value, bond covenants, and optimal capital structure', *J Fin*, 49, Sept. 1994; 14. 'Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads' (with K. Toft), *J Fin*, 51, July 1996; 15. 'Agency costs, risk management, and capital structure', *J Fin*, Aug. 1998; 16. 'Beyond mean-variance: risk and performance measurement in a non-symmetrical world', *Fin. Analysts J.*, 55, Jan.–Feb. 1999; 17. 'On dynamic investment strategies' (with J. Cox), *JEDC*, 23, 2000; 18. 'An EBIT-based model of dynamic capital structure' (with R. Goldstein, N. Ju), *J Bus*, 74, Oct. 2001.

Principal Contributions Theory of the firm and capital structure under uncertainty; markets with asymmetric information, financial structure and intermediation; dynamic investment strategies, transactions costs, and portfolio insurance.

LEMIEUX, Thomas n.e.

LERNER, Josh

Born 1960, Chicago, IL, USA.

Current Posts Jacob H. Schiff Prof. Investment Banking, Harvard Bus. Sch., Cambridge, MA, USA, 1991–; Res. Assoc., NBER, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Harvard Bus. Sch., 1991–95, 1995–98; Faculty Res. Fell., 1995–99.

Degrees BA Yale Univ., 1982; PhD Harvard Univ., 1992.

Offices and Honours Faculty Res. Fell., Corp. Fin. and Productivity Programs, 1995–99; Coorganizer, Innovation Pol. and Econ. Group, NBER, 1999–.

Principal Fields of Interest G2 Financial Institutions and Services; O3 Technological Change.

Publications *Books*: 1. *The Venture Capital Cycle* (with P. Gompers), (MIT Press, 1999); 2. *The Money of Invention* (with P. Gompers), (Harvard Bus. Sch. Press, 2001); 3. *Venture Capital and Private Equity: A Casebook* (John Wiley, 2002, 2nd edn with F. Hardymon).

Articles: 1. ‘Venture capitalists and the decision to go public’, *J Fin E*, 35, June 1994; 2. ‘The importance of patent scope: an empirical analysis’, *RandJE*, 25, Summer 1994; 3. ‘Venture capitalists and the oversight of private firms’, *J Fin*, 50, March 1995; 4. ‘Patenting in the shadow of competitors’, *J Law E*, 38, Oct. 1995; 5. ‘The use of covenants: an empirical analysis of venture partnership agreements’ (with P. Gompers), *J Law E*, 39, Oct. 1996; 6. ‘An empirical analysis of a technology race’, *RandJE*, 28, Summer 1997; 7. ‘The control of technology alliances: an empirical analysis of the biotechnology industry’ (with R.P. Merges), *J Ind E*, 46, June 1998; 8. ‘Venture capital distributions: short-run and long-run reactions’ (with P. Gompers), *J Fin*, 53, Dec. 1998; 9. ‘An analysis of compensation in the US venture capital partnership’ (with P. Gompers), *J Fin E*, 51, Jan. 1999; 10. ‘Conflict of interest and reputation in the issuance of public securities: evidence from venture capital’ (with P. Gompers), *J Law E*, 42, April 1999; 11. ‘The government as venture capitalist: the long-run effects of the SBIR program’, *J Bus*, 72, July 1999; 12. ‘Money chasing deals? The impact of fund inflows on the valuation of private equity investments’ (with P. Gompers), *J Fin E*, 55, Feb. 2000; 13. ‘Assessing the contribution of venture

capital to innovation’ (with S. Kortum), *RandJE*, 31, Winter 2000; 14. ‘Reinventing public R&D: patent law and technology transfer from federal laboratories’ (with A. Jaffe), *RandJE*, 32, Spring 2001; 15. ‘Do equity financing cycles matter? Evidence from biotechnology alliances’ (with H. Shane, A. Tsai), *J Fin E*, forthcoming; 16. ‘The really long-run performance of initial public offerings: the pre-NASDAQ evidence’ (with P. Gompers), *J Fin*, forthcoming; 17. ‘Where does state street lead? A first look at finance patents, 1971–2000’, *J Fin*, 57, 2002.

Principal Contributions My research focusses on the structure of venture capital organizations, and their role in transforming scientific discoveries into commercial products. I also examine the impact of intellectual property protection, particularly patents, on the competitive strategies of firms in high-technology industries.

LEVINE, David I.

Born 1960, Phoenix, AZ, USA.

Current Posts Prof. Org. Behav. and Ind. Relations, Econ. Analysis and Pol. Groups, Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 2002–.

Past Posts Asst Prof., Haas Sch. Bus., Univ. California, 1987–93; Vis. Scholar, Ind. Relations Group, Sloan Sch., MIT, 1991; Assoc. Prof., Haas Sch. Bus., Univ. California, 1993–2002; Sr Econ., US President’s Council Econ. Advisers, 1994–95; Sr Res. Econ., Office Amer. Workplace, Dept Labor, USA, 1994.

Degrees BA (Econ. and Computer Sc.) Univ. California, Berkeley, 1982; AM, PhD Harvard Univ., 1985, 1987.

Editorial Duties Ed., *Ind. Relations*, 1993–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J5

Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications Books: 1. *Reinventing the Workplace: How Business and Employees Can Both Win* (Brookings Inst., 1995); 2. *Working in the 21st Century: Government Policies to Promote Opportunity, Learning and Productivity in the New Economy* (Sharpe, 1998); 3. *The American Workplace: Skills, Pay, and Employee Involvement* (ed. with C. Ichniowski, C. Olson, G. Strauss), (CUP, 2000); 4. *How New is the ‘New’ Employment Contract?* (with D. Belman, G. Charness, E. Groshen, K.C. O’Shaughnessy), (Upjohn Inst., 2002); 5. *Carve-outs in Workers’ Compensation Programs in California Construction* (with C. Echeverria, F. Neuhauser, R. Reuben, J.S. Petersen), (Upjohn Inst., 2003).

Articles: 1. ‘Participation, productivity, and the firm’s environment’ (with L. D’Andrea Tyson), in A. Blinder (ed.), *Paying for Productivity* (Brookings Inst., 1990); 2. ‘Just cause employment policies in the presence of worker adverse selection’, *J Lab E*, 9, July 1991; 3. ‘Can wage increases pay for themselves? Tests with a production function’, *EJ*, 102, Sept. 1992; 4. ‘Long-term supplier relations and product market structure’ (with S. Helper), *JLEO*, 8, Oct. 1992; 5. ‘Do corporate executives have rational expectations?’, *J Bus*, 66, April 1993; 6. ‘What do wages buy?’, *Admin. Sc. Q.*, 38, Sept. 1993, repr. in *Proceedings of Industrial Relations Research Association* (IRRA, 1993); 7. ‘Fairness, markets and ability to pay: evidence from compensation executives’, *AER*, 83, Dec. 1993; 8. ‘Work organization, employment security, and macroeconomic stability’ (with R. Parkin), *JEB*, 24, Aug. 1994; 9. ‘Ergonomics, employee involvement, and the Toyota production system: a case study of NUMMI’s 1993 model introduction’ (with P.S. Adler, B. Goldoftas), *ILRR*, 50, 1996; 10. ‘When

are layoffs acceptable? Evidence from a quasi-experiment’ (with G. Charness), *ILRR*, 53, April 2000; 11. ‘Family structure and youths: outcomes: which correlations are causal?’ (with G. Painter), *JHR*, 35, Summer 2000; 12. ‘Changes in managerial pay structures 1986–1992: tests of human capital and other explanations’ (with K.C. O’Shaughnessy, P. Cappelli), *OEP*, 3, 2001; 13. ‘Changes in the employment contract’ (with G. Charness), *JEB*, 47, April 2002; 14. ‘“Carve-outs” from the workers’ compensation system’ (with J.S. Petersen, F. Neuhauser), *JPAM*, 21, Summer 2002; 15. ‘Employee involvement and pay at American auto suppliers’ (with S. Helper, E. Bendoly), *JEMS*, 11, Summer 2002.

Principal Contributions My research focuses on how market factors, fairness, ability to pay, and incentives determine compensation. I also examine what combinations of human resource practices such as training and employee involvement can contribute to effective workplaces; what market and government failures may inhibit such workplaces; and what public policies can help. My recent focus is understanding how institutions such as microfinance and community groups affect the process of economic development, particularly investments in children.

LEVINE, David K.

Born 1955, New Haven, CT, USA.

Current Posts Armen Alchian Prof. Econ. Theory, Dept Econ., UCLA, Los Angeles, CA, USA, 1997–; Dir., California Social Sc. Experimental Lab., Los Angeles, CA, USA, 1999–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., UCLA, 1981–86, 1986–87, 1987–97; Joint Appointee, UCLA Inst. Ind. Relations, 1982–84; Vis. Scholar, Dept Apl. Econ., Cambridge

Univ., 1985, Inst. d'Análisis Econ., Univ. Autònoma de Barcelona, 1990, Carlos III Univ., Madrid, 1995; Visitor, Math. Sc. Res. Inst., 1985, FRB, Minneapolis, 1987–88; Vice-Chairman, Econ. Dept, Grad. Affairs, UCLA, 1986–87; Assoc. Prof. Econ., Univ. Minnesota, 1987–88; Vis. Prof. Econ., California Inst. Tech., 1990–91; Council on Acad. Personnel, UCLA, 1992–95; Comm. on Acad. Personnel, Univ. Carolina, 1993–95; Econ. Panel, NSF, 1995–97; Vis. Prof., Tel Aviv Univ., 1996, Dept Econ., Torcuato Di Tella Univ., 2001; Chair, Econ. Dept, UCLA, 1999–2000; Subcomm. on Human Subjects, NSF, 2001–02.

Degrees BA (Maths), MA UCLA, 1977, 1977; PhD MIT, 1981.

Offices and Honours Departmental Scholar Econ., Phi Beta Kappa (Maths, *scl*), Daus Prize in Maths, UCLA, 1975–77, 1977, 1977; Foundation for Res. in Educ. and Econ. Fellowship, 1976–77; Grad. Fellowship, MIT, 1977–81; Principal Investigator, NSF Grants, 1985–; Fell., Em Soc, 1989.

Editorial Duties Assoc. Ed., Abstracts of Working Papers Econ., 1987, *JET*, 1987–96, *ET*, 1990–92, 1997–99, *Em*, 1996–99, Assoc. Ed., *Econ. Bull.*, 2000–; Co-Ed., *ET*, 1992–96, *Rev. Econ. Dynamics*, 1996–2001, Co-Ed., *NAJE*, 2001–.

Principal Fields of Interest C6 Mathematical Methods and Programming; C7 Game Theory and Bargaining Theory.

Publications *Book*: 1. *Theory of Learning in Games* (with D. Fudenberg), (MIT Press, 1998).

Articles: 1. 'Comparative statics and perfect foresight in infinite horizon economies' (with T. Kehoe), *Em*, 53, 1985; 2. 'Reputation and equilibrium selection in games with a patient player' (with D. Fudenberg), *Em*, 57, 1989; 3. 'Efficiency and the value of money', *REStud*, 56, 1989; 4. 'Maintaining a reputation when strategies are imperfectly observed' (with

D. Fudenberg), *REStud*, 59, 1992; 5. 'On characterizing equilibria of models with externalities and taxes as solutions to optimization problems' (with T. Kehoe, P. Romer), *ET*, 2, 1992; 6. 'Steady state learning and Nash equilibrium' (with D. Fudenberg), *Em*, 61, 1993; 7. 'Self-confirming equilibrium' (with D. Fudenberg), *Em*, 61, 1993; 8. 'Debt constrained asset markets' (with T. Kehoe), *REStud*, 60, 1993; 9. 'The folk theorem with imperfect public information' (with D. Fudenberg, E. Maskin), *Em*, 62, 1994; 10. 'When are agents negligible?' (with W. Pesendorfer), *AER*, 85, 1995; 11. 'Debt constraints and equilibrium in infinite horizon economies with incomplete markets' (with W. Zame), *J Math E*, 26, 1996; 12. 'Measuring subject's losses in experimental games' (with D. Fudenberg), *QJE*, 112, 1997; 13. 'Modeling altruism and spitefulness in experiments', *Rev. Econ. Dynamics*, 1, 1998; 14. 'Conditional universal consistency' (with D. Fudenberg), *Games and Econ. Behav.*, 29, 1999; 15. 'Liquidity constrained vs. debt constrained markets' (with T. Kehoe), *Em*, 69, 2001; 16. 'The case against intellectual property' (with M. Boldrin), *AER*, 92, 2002; 17. 'Factor saving innovation' (with M. Boldrin), *JET*, forthcoming; 18. 'Information aggregation, currency swaps, and the design of derivative securities' (with B. Chowdhry, M. Grinblatt), *JPE*, forthcoming; 19. 'Does market incompleteness matter?' (with W. Zame), *Em*, forthcoming.

Principal Contributions In the early 1980s Timothy Kehoe and I worked on self-fulfilling prophecies. With others we established a series of results showing that with a finite number of traders equilibria are, at least locally, unique. On the other hand, with overlapping generations of consumers, or other frictions, there can be many equilibria representing different self-fulfilling prophecies. Later researchers have used these models to explain a vari-

ety of macroeconomic phenomena. Subsequently, we focussed on the issue of asset market imperfections. We developed a widely used model of how endogenous debt limits arise when individual borrowers can default on debt. This gives a simple explanation of idiosyncratic risk bearing and low real interest rates, and has implications for other asset market puzzles. My recent general equilibrium research has been an investigation with Michele Boldrin of growth theory, innovation and intellectual property. There is little evidence for increasing returns at the aggregate level, and we argue that there is no theoretical reason to believe that increasing returns play an important role in growth. Our theory has important implications for intellectual property, with the conclusion that existing claims for the necessity of intellectual property are greatly overstated. My other main area of research has been in dynamic games. Work in the mid-1980s with Drew Fudenberg established that a long-lived player playing against short-lived opponents could substitute reputation for commitment. Together with Eric Maskin, we established the first 'folk theorem' for games in which players do not directly observe each other's decisions. Our recent research has turned to the issue of learning in games, culminating in our book on the subject. We argue that while it is naive to believe that learning theories can provide detailed descriptions of non-equilibrium behavior, they are a useful tool in understanding which equilibria are likely to emerge.

LEVINE, Ross

Born 1960, New York, NY, USA.

Current Post Curtis L. Carlson Prof. Fin., Carlson Sch. Mgmt, Univ. Minnesota, Minneapolis, MN, USA, 1999–.

Past Posts Econ., Bd Governors, Fed.

Reserve System, Washington, DC, 1987–90; Principal Econ., World Bank, Washington, DC, 1990–99; Assoc. Prof. Econ., Univ. Virginia, 1997–99.

Degrees BA Cornell Univ., 1982; PhD UCLA, 1987.

Honours Selected by students as one of four best profs, Univ. Virginia, 1997; Best Paper Prize, *J. Fin. Intermediation*, 1999; Outstanding Paper of Year, Milken Inst. Award, 2001.

Editorial Duties Advisory Bd, *Social Sc. Res. Network, Econ. Growth* series, 2000–; Assoc. Ed., *JDE*, 2001–.

Principal Fields of Interest G0 Financial Economics: General; O0 Economic Development, Technological Change, and Growth: General; F3 International Finance.

Publications Book: 1. *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development* (with A. Demirguc-Kunt), (MIT Press, 2001).

Articles: 1. 'Stock markets, growth, and tax policy', *J Fin*, 46, 1991; 2. 'An empirical inquiry into the nature of the forward exchange rate bias', *J Int E*, 30, 1991; 3. 'A sensitivity analysis of cross country growth regressions' (with D. Renelt), *AER*, 82, Sept. 1992; 4. 'Finance and growth: Schumpeter might be right' (with R.G. King), *QJE*, 153, 1993; 5. 'Finance, entrepreneurship, and growth: theory and evidence' (with R.G. King), *JME*, 32, 1993; 6. 'Financial development and economic growth: views and agenda', *JEL*, 35, June 1997; 7. 'Africa's growth tragedy: policies and ethnic divisions' (with W. Easterly), *QJE*, 112, Nov. 1997; 8. 'The legal environment, banks, and long-run economic growth', *JMCB*, 3, 1998; 9. 'Stock markets, banks, and economic growth' (with S. Zervos), *AER*, 3, 1998; 10. 'Law, finance, and economic growth', *J. Fin. Intermediation*, 8, 1999; 11. 'Finance and the sources of growth'

(with T. Beck, N. Loayza), *J Fin E*, 58, 2000; 12. 'Financial intermediation and growth: causality and causes' (with T. Beck, N. Loayza), *JME*, 46, 2000; 13. 'How much bang for the buck? Mexico and dollarization' (with M. Carkovic), *JMCB*, 33, 2001; 14. 'The impact of inflation on financial sector performance' (with J.H. Boyd, B.D. Smith), *JME*, 47, 2001; 15. 'Industry growth and capital allocation: does having a market- or bank-based system matter?' (with T. Beck), *J Fin E*, 64, 2002; 16. 'Bank-based or market-based financial systems: which is better?', *J. Fin. Intermediation*, 11, 2002; 17. 'Tropics, germs, and crops: how endowments influence economic development' (with W. Easterly), *JME*, forthcoming; 18. 'Law, endowments, and finance' (with T. Beck, A. Demirguc-Kunt), *J Fin E*, forthcoming; 19. 'Bank supervision and regulation: what works best?' (with J. Barth, G. Capiro), *J. Fin. Intermediation*, forthcoming.

Principal Contributions My work focuses on examining the linkages between the operation of financial markets and intermediaries and economic growth, capital accumulation, and productivity growth. My research examines how natural resource endowments, legal systems, regulatory and supervisory policies, international financial policies, and macroeconomic policies influence differences in the operation of financial markets, financial intermediaries, and other institutions. I have also assessed which factors are most strongly associated with economic success over the long run.

LEVINSOHN, James A. n.e.

LEVITT, Steven D. n.e.

LEVY, Frank Seth

Born 1941, Yonkers, NY, USA.

Current Post Daniel Rose Prof. Urban Econ., MIT, Cambridge, MA, USA, 1992–.

Past Posts Asst Prof. and Assoc. Prof. Econ., Assoc. Prof. Public Pol., Univ. California, Berkeley, 1967–75, 1975–77; Sr Res. Assoc., Urban Inst., Washington, DC, 1977–81; Prof. Public Affairs, Univ. Maryland, 1981–92.

Degrees SB MIT, 1959; MA, PhD Yale Univ., 1965, 1969.

Offices and Honours Guggenheim Fellowship, 1986–87; Taubman Lect. Public Pol., Brown Univ., 1988; Clair Wilcox Lect. Econ., Swarthmore Coll., 1991; Vis. Scholar, Russell Sage Foundation, 2000–01, Rockefeller Study Center, Bellagio Italy, 2001.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; D3 Distribution.

Publications Books: 1. *Urban Outcomes* (with A. Meltsner, A. Wildavsky), (Univ. California Press, 1974); 2. *Dollars and Dreams: The Changing American Income Distribution* (Russell Sage, 1987; pb W.W. Norton, 1988, revised edn Russell Sage, 1998); 3. *Teaching the New Basic Skills* (with R. Murnane), (Free Press, 1996).

Articles: 1. 'What Ronald Reagan can teach the US about welfare reform', in M. Weinberg, W.D. Burnham (eds), *American Politics and Public Policy* (MIT Press, 1978); 2. 'On understanding proposition 13', *Public Interest*, 56, Summer 1979; 3. 'The labor supply of female household heads, or, AFDC work incentives don't work too well', *JHR*, 14, Winter 1979; 4. 'Changes in the employment prospects for black males', *BPEA*, 2, 1980; 5. 'Changes in the distribution of American family incomes', *Sc.*, 1236, 1987; 6. 'Recent trends in US earnings and family incomes',

NBER Macroecon. Annual, 1989; 7. 'US earnings levels and earnings inequality: a review of recent trends and proposed explanations' (with R.J. Murnane), *JEL*, 30, Sept. 1992; 8. 'The growing role of cognitive skills in wages' (with J. Willett, R.J. Murnane), *REStat*, 77, May 1995; 9. 'With what skills are computers a complement' (with R.J. Murnane), *AER Papers and Proceedings*, 86, May 1996; 10. 'Upstairs downstairs: computer-skill complementarity and computer-labor substitution on two floors of a large bank' (with D. Autor, R.J. Murnane), *ILLR*, 55, April 2002.

Principal Contributions My earlier work (e.g., *Dollars and Dreams*) documented the sharp slowdown in income and wage growth after 1973 and showed how the slowdown was masked by demographic changes which permitted per capita income to keep rising. Subsequent work (e.g., 1989 *NBER Macroeconomics Annual*) was among the first pieces to document the collapse of wages of men with a high school education and the rising rate of return to education. My current work with Richard Murnane and David Autor provides a detailed examination of the tasks computers can perform and the way in which computerization alters labor demand.

LEWBEL, Arthur n.e.

LEWIS, Karen K. n.e.

LEWIS, Tracy R. n.e.

LEYBOURNE, Stephen J. n.e.

LI, Qi

Born 1956, Beijing, PRC.

Current Post Prof. Econ., Texas A&M Univ., College Station, TX, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Prof., Dept Econ., Univ. Guelph, 1991–98; Asst Prof., Dept Econ., Indiana Univ., 1993; Vis. Prof., Univ. Southern California, 1997.

Degrees BS (Astrophysics) Peking Univ., 1982; MS (Physics) Nankai Univ., 1985; PhD Texas A&M Univ., 1991.

Offices and Honours Fell., *J Em*, 1998; Ontario's Premier's Res. Excellence Awards, 1999; Hugh Roy Cullen Prof. Liberal Arts, Texas A&M Univ., 2001; Best Paper Award, Academics of Intl Bus., US Southwest Chap. Conf., 2003.

Editorial Duties Assoc. Ed., *Em. Theory*, 1997–, *J. Nonparametric Stats*, 1999–, *J. Intl Bus. and Econ.*, 2001–, *J Em*, 2002–; Co-Ed., *Annals Econ. and Fin.*, 2000–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C2 Econometric Methods: Single Equation Models.

Publications Articles: 1. 'Relativistic Vlasov-Uehling-Uhlenbeck equation for nucleus-nucleus collisions' (with C.M. Ko, J. Wu), *Physics Rev. C*, 39, 1989; 2. 'A transformation that will circumvent the problem of autocorrelation in an error component model' (with B.H. Baltagi), *J Em*, 48, 1991; 3. 'Monotonic property for iterative GLS in the two-way random effects model' (with B.H. Baltagi), *J Em*, 53, 1992; 4. 'An implementable state-ownership system with general variable returns' (with G. Tian), *JET*, 64, 1994; 5. 'Nash-implementation of the Lindahl correspondences with decreasing return to scale technology' (with S. Nakamura, G. Tian), *IER*, 36, 1995; 6. 'Semi-parametric estimation of partially linear panel data models' (with T. Stengos), *J Em*, 71, 1996; 7. 'Semiparametric esti-

mation of stochastic production frontier' (with Y. Fan, A. Weersink), *JBES*, 14, 1996; 8. 'Consistent model specification tests: omitted variables, semiparametric functional forms' (with Y. Fan), *Em*, 64, 1996; 9. 'Testing independence by nonparametric kernel method' (with I. Ahmad), *Stats and Probability Letters*, 34, 1997; 10. 'A simple bootstrap test for a parametric regression function' (with S. Wang), *J Em*, 87, 1998; 11. 'Testing serial correlation in semiparametric panel data models' (with C. Hsiao), *J Em*, 87, 1998; 12. 'Central limit theorem for degenerate U-statistics of absolute regular processes with applications to model specification testing' (with Y. Fan), *J. Nonparametric Stats*, 10, 1999; 13. 'Consistent model specification tests for time series econometric models', *J Em*, 92, 1999; 14. 'Nonparametric testing the similarity between two unknown distribution functions: local power and bootstrap analysis', *J. Nonparametric Stats*, 11, 1999; 15. 'Efficient estimation of additive partially linear models', *IER*, 41, 2000; 16. 'European stock market integration: does EMU matter?' (with I. Min, J. Yang), *J. Bus. Fin. and Accounting*, forthcoming 2003; 17. 'On estimating additive partially linear models' (with Y. Fan), *Stat. Sinica*, forthcoming 2003; 18. 'Nonparametric estimation of joint density with categorical and continuous data with applications' (with J. Racine), *J. Multivariate Analysis*, forthcoming 2003; 19. 'Consistent model specification tests based on serial estimation method' (with C. Hsiao, J. Zinn), *J Em*, forthcoming 2003; 20. 'Nonparametric estimation of regression functions with mixed discrete and continuous regressors' (with J. Racine), *J Em*, forthcoming 2003.

Principal Contributions My early research focused on estimation of panel data econometric models, and mechanism designs that solve the free-rider problem in public goods economies. Since 1994 I

have switched my research interests to nonparametric/semiparametric methods and their applications in economics. I have worked on proposing estimation methods of various semiparametric econometric models (additive partially linear model, partially linear varying coefficient model), and constructing test statistics for model specification tests. Some of them are joint works with Y. Fan. Recently, P. Hall, J. Racine and I have studied the problem of using data-driven cross-validation methods to select smoothing parameters in a model with a mixture of discrete and continuous variables. The new results on the cross-validation methods are expected to make the nonparametric/semiparametric methods applicable to many more social science data with discrete variables, while the conventional frequency-based estimation method often cannot be applied to data with many discrete variables. J. Yang and I have also done some research in the area of applied financial econometrics.

LICHTENBERG, Frank R. n.e.

LIEBOWITZ, Stan J.

Born 1950, Brooklyn, NY, USA.

Current Post Prof. Managerial Econ., Sch. Mgmt, Univ. Texas, Dallas, Richardson, TX, USA, 1991–.

Past Posts Asst Prof., Univ. Western Ontario, 1977–82; Asst Prof., Univ. Rochester, 1982–86; Olin Faculty Fell., Univ. Chicago, 1985–86; Assoc. Prof., North Carolina State Univ., 1986–90.

Degrees BS Johns Hopkins Univ., 1971; MA, PhD UCLA, 1975, 1978.

Editorial Duties Ed. Bd, *J. Network Econ.*, 1999–2002.

Principal Fields of Interest K0 Law and Economics: General; L0 Industrial Organization: General.

Publications Books: 1. *Winners, Losers and Microsoft* (with S. Margolis), (Independent Inst., 1998, revised edn 2001); 2. *The Economics of QWERTY: History Theory and Policy. Essays by Stan. J. Liebowitz and Stephen E. Margolis* (ed. P. Lewin), (Palgrave, 2002); 3. *Rethinking the Networked Economy* (Amacom, 2002).

Articles: 1. 'Journals as shared goods: comment' (with S.E. Margolis), *AER*, 72, June 1982; 2. 'Measuring industrial disequilibria', *SEJ*, 49, July 1982; 3. 'The impacts of cable retransmission on television broadcasters', *CJ*, 15, Aug. 1982; 4. 'Durability, market structure and new-used goods models', *AER*, 72, Sept. 1982; 5. 'What do census price-cost margins measure?', *J Law E*, 25, Oct. 1982; 6. 'Tie-in sales, risk reduction and price discrimination', *EI*, 21, July 1983; 7. 'Assessing the relative impacts of economic journals' (with J. Palmer), *JEL*, 22, March 1984; 8. 'Copying and indirect appropriability: photocopying of journals', *JPE*, 93, Oct. 1985; 9. 'Copyright law, photocopying and price discrimination', *Res. Law and Econ.*, 6, 1986; 10. 'On the measurement and mismeasurement of monopoly power', *Intl Rev. Law and Econ.*, 3, June 1987; 11. 'Some puzzling behavior by the owners of intellectual products', *Contemporary Pol. Issues*, 5, July 1987; 12. 'The fable of the keys' (with S.E. Margolis), *J Law E*, 33, April 1990; 13. 'Network externality: an uncommon tragedy' (with S.E. Margolis), *JEP*, 8, Spring 1994; 14. 'Are network externalities a new source of market failure?' (with S.E. Margolis), *Res. Law and Econ.*, 17, 1995; 15. 'Path dependence, lock-in and history' (with S. Margolis), *JLEO*, 16, April 1995; 16. 'Should technology choice be a concern for antitrust?' (with S. Margolis), *Harvard J. Law and Tech.*, 10, Summer 1996; 17. 'Mortgage discrimination in Boston: where's the bias?' (with T. Day), *EI*, 36, Jan. 1998.

Principal Contributions My work has tended to be in industrial organization and law and economics. The major thrust has been on examining the workings of markets where new technology and intellectual property interact. Originally this led to work on the impacts of new technology on copyright – such as photocopying and cable retransmission. I modelled this by borrowing models of durability. After working on these topics I moved on to the economics of standards, another form of intellectual product, and this set of investigations led to my papers and books with Stephen Margolis on the concepts of lock-in and path dependence. Several papers based on my dissertation were concerned with more traditional concepts of market structure, antitrust, and competition, and this interest has arisen from time to time in the later work on standards, and in particular, with aspects of the Microsoft case. A paper on tie-in sales presented a novel critique of the subject, but has not had the impact I had hoped. My recent book examines the intellectual antecedents that helped lead to the internet meltdown, the business strategies that might work on the internet, and copyright issues for digital products.

LIN, Justin Yifu

Born 1952, Yilan, Taiwan, China.

Current Posts Prof. and Founding Dir., China Centre Econ. Res., Peking Univ., Peking, China, 1993–; Prof., Dept Econ., Hong Kong Univ. Sc. and Tech., Hong Kong, 1997–.

Past Posts Postdoctoral Fell., Econ. Growth Center, Yale Univ., 1986–87; Dep. Dir., Devlp. Inst., Res. Center for Rural Devlp. of State Council, 1987–89; Assoc. Prof., Peking Univ., 1987–93; Dep. Dir., Dept Rural Econ. Devlp., Devlp. Res. Centre of State Council, 1990–94; Adjunct

Prof., ANU, 1990–99; Vis. Assoc. Prof., Dept Econ. and Center for Chinese Stud., UCLA, 1989–93., Dept Econ., Duke Univ., 1994; Reader, Hong Kong Univ. Sc. and Tech., 1995–96.

Degrees MBA Natl Chengchi Univ., 1978; MA (Polit. Econ.) Peking Univ., 1982; PhD Univ. Chicago, 1986.

Offices and Honours David Lam Econ., Chinese Univ. Hong Kong, 1993; Fell., Chinese Econ. Soc., 1993; Sun Yefang Prize, 1993, 2001; Pol. Article Prize, Center for Intl Food and Agric. Pol., Univ. Minnesota, 1993; First Prize, Fifth Sc. Res. Award, Peking Univ., 1996; First Prize, Fourth Philo. and Social Sc. Award, Beijing Univ., 1996; Sir John Crawford Award, 1997; Annual Disting. Econ. Lecture, CIMMYT (Intl Maize and Wheat Improvement Center), 1998; Best Article Award, *Peking Univ. Bull.*, 1998–2000; Nichols Disting. Lecture, Asian/Pacific Stud. Inst., Duke Univ., 1999; Fell., World Econ. Forum, 1999; Vice Pres., Chinese Agric. Econ. Assoc., 1999–2002; 1999 Best Article Award, *Australian J. Agric. and Resource Econ.*, 2000; Citation Classics Award, Inst. Sc. Info., 2000; First Prize, Sixth Philo. and Social Sc. Award, Beijing Municipality Govt, 2000; First Prize, Sixth Philo. and Social Sc. Award, Peking Univ., 2000; First Prize, Eighth Philo. and Social Sc. Award, Peking Univ., 2000; Inaugural Lecture, Annual D. Gale Johnson Lecture series, Univ. Chicago, 2001; William Davidson Vis. Prof., William Davidson Inst., Univ. Michigan, 2002.

Editorial Duties Ed. Bds, *Jingji Yu Shehui Tizhi Bijiao Zazhi (J. Comparative Econ. and Social System)*, 1988–2002, *Zhongguo Nongcun Jingji (China Rural Econ.)*, 1990–, *Pacific Econ. Rev.*, 1995–, *Jingji Yanjiu (Econ. Res.)*, 1996–, *Seoul J. Econ.*, 1996–, *Asian Case Res. J.*, 1996–, *China Rev.*, 2000–, *WBER*, 2000–, *China: An Intl J.*, 2002–, *Intl J. Devlp.*

Issues, 2002–; Ed. Advisory Bd, *Agric. Econ.*, 1992–94, *China Econ. Rev.*, 1994–, *Hong Kong J. Bus. Admin.*, 1995–, *China Econ. Q.*, 2001–; Acad. Advisory Bd, *China Q. J. Social Sc.*, 1992–2000; Assoc. Ed., *Agric. Econ.*, 1995–97; Intl Advisory Bd, *Asian-Pacific Econ. Literature*, 1997–; Advisory Ed., *Asian J. Agric. Econ.*, 1997–; Intl Advisory Comm., *Devlp. and Soc.*, 1999–.

Principal Fields of Interest Q1 Agriculture; O1 Economic Development; P0 Economic Systems: General.

Publications *Books*: 1. *China Miracle: Development Strategy and Economic Reform* (with F. Cai, Z. Li), (Chinese Univ. Press, 1996); 2. *Sufficient Information and State Enterprise Reform in China* (with F. Cai, Z. Li), (Chinese Univ. Press, 2001).

Articles: 1. ‘The household responsibility system in China’s agricultural reform: a theoretical and empirical study’, *EDCC*, 36, April 1988; 2. ‘An economic theory of institutional change: induced and imposed change’, *Cato J.*, 9, Sept. 1989; 3. ‘Collectivisation and China’s agricultural crisis in 1959–1961’, *JPE*, 98, Dec. 1990; 4. ‘Prohibition of factor market exchanges and technological choice in Chinese agriculture’, *J Dev Stud*, 27, July 1991; 5. ‘Public research resource allocation in Chinese agriculture: a test of induced technological innovation hypotheses’, *EDCC*, 40, Oct. 1991; 6. ‘Hybrid rice innovation in China: a study of market-demand induced innovation in a centrally-planned economy’, *REStat*, 74, Feb. 1992; 7. ‘Rural reforms and agricultural growth in China’, *AER*, 82, March 1992; 8. ‘The Needham puzzle: why the industrial revolution did not originate in China?’, *EDCC*, 41, Jan. 1995; 9. ‘Endowments, technology and factor markets: a natural experiment from China’s rural institutional reform’, *AJAE*, 77, May 1995; 10. ‘The lessons of China’s transition to a

market economy', *Cato J.*, 16, Fall, 1996; 11. 'Competition, policy burdens, and state-owned enterprise reform', *AER*, 88, May 1998; 12. 'Policy burdens, accountability, and the soft budget constraint' (with G. Tan), *AER*, 89, May 1999; 13. 'Technological change and agricultural household income distribution: theory and evidence from China', *Australian J. Agric. and Res. Econ.*, 43, June 1999; 14. 'Food availability, entitlements and the Chinese famine of 1959–61' (with D. Yang), *EJ*, 110, Jan. 2000; 15. 'Fiscal decentralization and economic growth in China' (with Z. Liu), *EDCC*, 49, Oct. 2000; 16. 'Development strategy, viability, and economic convergence', *EDCC*, 51, Jan. 2002.

Principal Contributions Most of my work has related to the effects of an economy's endowment structure on the economy's industrial structure and the effects of a government's development strategy on the economy's economic institutions and performance. I have shown that the Stalinist planning system is endogenously determined by the attempt to develop capital-intensive heavy industries in a capital-scarce developing economy because such an attempt makes the firms in the priority sectors nonviable in an open, competitive market. The survival of those nonviable firms requires the government's subsidies/protections through administrative interventions in the economy. The existence of financial suppression, trade interventions and other distortions in many developing countries is rooted in a similar attempt. The government's interventions lead to rent seeking, soft-budget constraints, income disparities, macro instability, and failure of convergence. I argue that the government should adopt a comparative-advantage following strategy and aim to upgrade the endowment structure. As such, the economy will be competitive and firms will be guided by the mar-

ket signal to upgrade their technologies and industries along with the upgrading of the economy's endowment structure. Currently most firms in the transitional economies and many other developing countries are not viable even with normal management due to their inappropriate choices of technologies and industries under the influences of governments' development strategies. However, the existing neo-classical economics implicitly assume that firms are viable. Therefore, transition and reform policies based on neo-classical economics often fail to achieve intended goals or even cause great difficulties to the economy. I argue that the viability issue should be formally incorporated in the economic theories that deal with economic development and transition. I have also made contributions to analysis of collective farming and technological changes in Chinese agriculture and why China failed to have an indigenous industrial revolution in spite of its technological advancement in the pre-modern ages.

LINDBECK, Assar Carl Eugen

Born 1930, Umeå, Sweden.

Current Post Prof., Inst. Intl Econ. Stud., Univ. Stockholm, Sweden, 1971–.

Past Posts Swedish Treasury Dept, 1953–56; Vis. Asst Prof., Univ. Michigan, 1958; Lect., Reader, Univ. Stockholm, 1959–60, 1962–63; Prof., Stockholm Sch. Econ., 1964–71; Wesley Clair Mitchell Res. Prof., Columbia Univ., 1968–69; Ford Rotating Res. Prof., Univ. California, 1969; Vis. Fell., ANU, Canberra, 1970; Irving Fisher Vis. Prof., Yale Univ., 1976–77; Vis. Scholar, Simon Fraser Univ., 1981; Chairman, Nobel Prize Comm. Econ., 1980–95; Expert Cons., Swedish Govt, Sveriges Riksbank, OECD, World Bank, UNCTAD, UNIDO.

Degrees MS (Social Sc.) Uppsala Univ., 1953; PhD Univ. Stockholm, 1963.

Offices and Honours Rockefeller Fell., 1957–58; Erik Lindahl Prize, 1963; Ahrnberg Prize, Swedish Royal Acad. Sc., 1964; Herbert Tingsten Prize, 1977; Albert Bonnier Popular Sc. Writing Award, 1978; Olle Engkvist Prize Scholarly Work, 1980; Natur och Kultur Prize, 1981; Bernhard Harms Prize, Kiel, Germany; Seidman Award, Memphis, USA; Mem., Swedish Royal Acad. Sc., Swedish Acad. Eng. Sc., Finnish and Danish Acad. Sc.; Fell., Em Soc; Hon. Mem., AEA.

Editorial Duties Ed. Bds, *J. Econ. Systems*, 1977–81, *J Int E*, 1971–, *Ekonomisk Debatt*, 1973.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; H0 Public Economics: General; P5 Comparative Economic Systems.

Publications *Books*: 1. *The Short-Run Effects of the Government Budget* (Swedish), (Treasury Dept, 1956); 2. *The 'New' Theory of Credit Control in the United States* (Almqvist & Wiksell, 1959); 3. *A Study in Monetary Analysis* (Almqvist & Wiksell, 1963; trans., Italian, Unione Tipografico-Editrice Torinese, 1971, Japanese, 1968); 4. *Monetary-Fiscal Analysis and General Equilibrium* (Yrjö Jahnsson Lectures, 1967); 5. *The Political Economy of the New Left* (Harper & Row, 1971; trans., 14 languages); 6. *Swedish Economic Policy* (Univ. California Press, 1974, Macmillan, 1975; trans., Swedish, 1968, 1975, Italian, Liguori Editore, 1976, Japanese, Tokai Univ. Press, 1981); 7. *Inflation and Unemployment in Open Economies* (ed.), (N-H, 1979); 8. *The Insider-Outsider Theory of Employment and Unemployment* (with D.S. Snower), (MIT Press, 1988); 9. *Macroeconomics and Unemployment* (MIT Press, 1993); 10. *The Swedish Experiment* (SNS, 1997).

Articles: 1. 'The method of isolation in economic statics', *Swed JE*, 68, Sept. 1966;

2. 'Is stabilization policy possible? Time lags and conflicts of goals', *Public Finance and Stabilization Policy in Honor of Richard Musgrave* (N-H, 1974); 3. 'Economic systems and the economics of the new left', *Der Streit um die Gesellschaftsordnung* (Schulthess Polygraphischer Verlag, 1975); 4. 'Stabilization policy in open economies with endogenous politicians', *AER*, 66, May 1976; 5. 'Economic dependence and interdependence in the industrialized world', *From Marshall Plan to Global Interdependence* (OECD, 1978); 6. 'Work incentives in the welfare state', *National-ökonomische Gesellschaft Lectures 1979–80* (Manz, 1981); 7. 'Emerging arteriosclerosis of the Western economies – consequences for the less developed countries', *India Intl Centre Q.*, 1, March 1982; 8. 'Tax effects versus budget effects on labor supply', *EI*, 20, Oct. 1982; 9. 'The recent slowdown of productivity growth', *EJ*, 93, March 1983; 10. 'Competing wage claims, cost inflation and capacity utilization' (with T. Gylfason), *Europ ER*, 26, Dec. 1984.

Principal Contributions Development and empirical application on Swedish data of methods to analyse direct (impact) effects on aggregate demand of discretionary and automatic fiscal policies without using complete econometric model – a simplified version (with unweighted effects) being estimates of 'full employment budget surpluses' (1956). Early demonstration, in *A Study in Monetary Analysis*, of how demand functions in terms of relative prices are transformed into a Keynesian-type aggregate demand function in terms of disposable income if income is constrained by involuntary unemployment. Explanation of credit rationing as the consequence of the attitudes of lenders towards risk as there is risk associated not only with the principal of a loan but also with the interest. Demonstration that changes in initial wealth

holdings exert a weaker influence on demand for products than do changes in income (both with the same capital value) if preferences between consumption and wealth are endogenous in the sense that the marginal evaluation of wealth relative to consumption rises by higher initial wealth holdings. Study of theories and problems of Swedish economic development and policy, in particular after World War II. Attempts to endogenize the behaviour of economic policy ('endogenous politicians') in the context of stabilization policy ('political business cycles') and distribution policy. An explanation of persistent unemployment by the insider-outsider theory of employment determination (with Dennis S. Snower). Studies of transmission mechanisms of product demand shocks to the labour market. Various studies of problems of the welfare state and analysis of alternative reform possibilities. Studies of the consequences for the labour market, including for wage formation, of contemporary trends to reorganize firms.

LO, Andrew W.

Born 1960, Hong Kong.

Current Posts Harris & Harris Group Prof., MIT, Cambridge, MA, USA, 1994–; Chief Sc. Officer, AlphaSimplex Group LLC, Cambridge, MA, USA, 1999–.

Past Posts W.P. Carey Asst Prof. Fin., W.P. Carey Assoc. Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1984–87, 1987–88; Assoc. Prof. Fin., Assoc. Prof. Fin. (tenure), Prof. Fin., Sloan Sch. Mgmt, MIT, 1988–90, 1990–92, 1992–94.

Degrees BA Yale Univ., 1980; AM, PhD Harvard Univ., 1984, 1984.

Offices and Honours Wharton Sch. Grad. Excellence in Teaching Award, 1985; Batterymarch Fellowship, 1989–90; Olin Fellowship, 1988–89; Amer. Assoc.

Individual Investors Award, 1989; *Rev. Fin. Stud.* Award, Best Paper of 1990; Teacher of Year Award, Sloan Sch. Mgmt, MIT, 1991–92; First Prize, Inquire-Europe Award, 1992–93; Alfred P. Sloan Foundation Fellowship, 1992–94; Paul A. Samuelson Award, 1998; Graham and Dodd Award, 1999; Fin. Eng. of Year, Intl Assoc. Fin. Eng./SunGard, 2001; Guggenheim Foundation Fellowship, 2002–03.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1990–91, *JBES*, 1990–91, *Math. Fin.*, 1990–93, *Annals Apl. Probability*, 1991–96, *J. Portfolio Mgmt*, 1991–, *Rev. Quant. Fin. Accounting*, 1991–, *J. Computational Fin.*, 1997–, *REStat*, 1998–, *Fin. Analysts J.*, 1998–, *Quant. Fin.*, 2001–; Ed., *Rev. Fin. Stud.*, 1992–95.

Principal Field of Interest G0 Financial Economics: General; C1 Econometric and Statistical Methods: General; C5 Econometric Modeling.

Publications *Books*: 1. *The Econometrics of Financial Markets* (with J.Y. Campbell, A.C. MacKinlay), (Princeton Univ. Press, 1997); 2. *A Non-Random Walk Down Wall Street* (with A.C. MacKinlay), (Princeton Univ. Press, 1999).

Articles: 1. 'Statistical tests of contingent claims asset-pricing models: a new methodology', *J Fin E*, 17, 1986; 2. 'Maximum likelihood estimation of generalized Itô processes with discretely-sampled data', *ET*, 4, 1988; 3. 'Stock market prices do not follow random walks: evidence from a simple specification test' (with A.C. MacKinlay), *Rev. Fin. Stud.*, 1, 1988; 4. 'Games of survival in the newspaper industry' (with R. Bucklin, R. Caves), *Apl. Econ.*, 21, 1989; 5. 'When are contrarian profits due to stock market overreaction?' (with A.C. MacKinlay), *Rev. Fin. Stud.*, 3, 1990; 6. 'Data snooping biases in tests of financial asset pricing models' (with A.C. MacKinlay), *Rev. Fin. Stud.*, 3, 1990; 7. 'Long-term memory

in stock market prices', *Em*, 59, 1991; 8. 'An ordered probit analysis of transaction stock prices' (with J.A. Hausman, A.C. MacKinlay), *J Fin E*, 31, 1992; 9. 'A nonparametric approach to pricing and hedging derivative securities via learning networks' (with J. Hutchinson, T. Poggio), *J Fin*, 49, 1994; 10. 'Implementing option pricing models when asset returns are predictable' (with J. Wang), *J Fin*, 50, 1995; 11. 'Nonparametric estimation of state-price densities implicit in financial asset prices' (with Y. Aït-Sahalia), *J Fin*, 52, 1998; 12. 'Frontiers of finance: evolution and efficient markets' (with J.D. Farmer), *Proceedings of NAS*, 96, 1999; 13. 'Nonparametric risk management and implied risk aversion' (with Y. Aït-Sahalia), *J Em*, 94, 2000; 14. 'Trading volume: definitions, data analysis, and implications of portfolio theory' (with J. Wang), *Rev. Fin. Stud.*, 13, 2000; 15. 'When is time continuous?' (with D. Bertsimas, L. Kogan), *J Fin E*, 55, 2000; 16. 'Foundations of technical analysis: computational algorithms, statistical inference, and empirical implementation' (with H. Mamaysky, J. Wang), *J Fin*, 55, 2000; 17. 'Hedging derivative securities and incomplete markets: An e-arbitrage approach' (with D. Bertsimas, L. Kogan), *OR*, 49, 2001; 18. 'The psychophysiology of real-time financial risk processing' (with D. Repin), *J. Cognitive Neuroscience*, 14, 2002.

Principal Contributions My principal contributions lie in the fields of financial econometrics, empirical finance, and financial engineering. My early research focussed on applying statistical methods to the empirical analysis of financial markets – developing estimators for parameters of continuous-time stochastic processes, constructing tests of derivative pricing models, the Random Walk Hypothesis, and discriminant analysis using asymptotic statistical theory; quantifying

the biases associated with data-snooping, overfitting and other data-intensive search algorithms; and improving methods for detecting long-range dependence in financial time series. These contributions led to the publication of the first graduate-level textbook in financial econometrics, *The Econometrics of Financial Markets*, which I co-authored with John Campbell and Craig MacKinlay. The second part of my research career revolved around various theoretical and empirical issues in financial markets – the rejection of the Random Walk Hypothesis for the stock market and related empirical regularities implying short-term predictability in stock prices; the role of trading volume in equilibrium asset-pricing models; nonparametric methods for estimating preferences, state prices, and derivatives pricing models; foundations of technical analysis using automated pattern recognition algorithms; and the microstructure of securities markets, including econometric models of transactions prices and limit-order execution times, and dynamic optimal trading algorithms for minimizing price impact. Most recently, my research has focussed on the intersection of finance and the cognitive sciences. Using a variety of approaches – mathematical and statistical models of evolution and natural selection in financial markets, experimental evidence both in the laboratory and in the field that links psychophysiological characteristics with real-time financial decisionmaking, and clinical studies of professional securities traders and gamblers, which are leading to therapies for risk-bearing behavior modification – I hope to show that there is no contradiction between market efficiency and behavioral regularities, but that they are both aspects of human cognition with deep roots in our evolutionary past.

LOCKWOOD, Benjamin

Born 1957, London, England.

Current Post Prof. Econ., Univ. Warwick, Coventry, UK, 1998–.

Past Posts Res. Fell., Dept Apl. Econ., Univ. Cambridge, 1981–83; Lect. Econ., Birkbeck Coll., Univ. London, 1983–91; Prof. Econ., Univ. Exeter, 1992–97.

Degrees BA Univ. Sussex, 1978; PhD Univ. Warwick, 1987.

Offices and Honours Fell., CEPR, 1990.

Editorial Duties Ed. Bds, *REStud*, 1988–95, *EJ*, 1998–2000, *ITPF*, 1998–, *Econ. Pol.*, 1999–2000, *FinanzArchiv*, 2000–.

Principal Fields of Interest D0 Microeconomics: General; H0 Public Economics: General; H7 State and Local Government; Intergovernmental Relations.

Publications *Articles*: 1. ‘Informational externalities in the labour market and their implications for the duration of employment’, *REStud*, 58, 1991; 2. ‘Tax competition under destination and origin principles’, *J Pub E*, 52, 1993; 3. ‘Wage setting and the tax system: theory and evidence for the UK’, *J Pub E*, 52, 1993; 4. ‘Insider power, employment dynamics, and multiple inflation equilibria’, *Em*, 61, 1994; 5. ‘When are origin and destination regimes equivalent?’, *ITPF*, 1, 1994; 6. ‘Can commodity tax harmonization be Pareto-improving when governments supply public goods?’, *J Int E*, 43, 1997; 7. ‘State-contingent inflation contracts and unemployment persistence’, *JMCB*, 29, 1997; 8. ‘Rogoff’s “conservative” central banker restored’, *JMCB*, 29, 1998; 9. ‘Does asset ownership really motivate managers? The property-rights theory of the firm with alternating offers bargaining’, *QJE*, 113, 1998; 10. ‘Inter-regional insurance’, *J Pub E*, 72, 1999; 11. ‘Two-way distortions in principal–multi-agent problems’, *JET*, 61, 2000; 12. ‘Tax com-

petition and co-ordination under origin and destination principles: a synthesis’, *J Pub E*, 81, 2001; 13. ‘Gradualism and irreversibility’ (with J. Thomas), *REStud*, 69, 2002; 14. ‘Distributive politics and the benefits of decentralization’, *REStud*, 69, 2002.

Principal Contributions Most of my work has been focused on the analysis of government policy, especially fiscal and monetary policy, although I have also published in labour economics and on the theory of the firm. Within fiscal policy, my first principal contribution has been a ‘political economy’ theory of the costs of centralized fiscal policy, where the economic inefficiencies resulting from the political process are explicitly modelled. This is an advance on the widely made assumption that with centralization, fiscal policy is uniform, and leads to distinctive predictions about when decentralization is desirable. My second contribution is to the literature on tax competition, both theoretical, and more recently empirical, and principally concerning indirect taxes: my main finding is that the outcome of uncoordinated setting of indirect taxes (excises and VAT) is complex, and may not result in a simple ‘race to the bottom’. In fiscal policy, I have also studied the effects of progressivity of the income tax on real wage determination, both theoretically and empirically. My work on monetary policy showed how the influential positive theory of monetary policy based on time-inconsistency (due to Kydland, Prescott, Barro and Gordon) is modified in the presence of structural dynamics in unemployment or output, and the studied implications for the delegation of monetary policy. My more recent interests continue to be in the intergovernmental aspects of fiscal policy, with an emphasis on studying the performance of actual political institutions.

LOEWENSTEIN, George

Born 1955, Boston, MA, USA.

Current Post Prof. Econ. and Psychology, Carnegie-Mellon Univ., Pittsburgh, PA, USA, 1990–.

Past Post Asst Prof., Grad. Sch. Bus., Univ. Chicago, 1986–90.

Degrees BA (*mcl*) Brandeis Univ., 1977; PhD Yale Univ., 1985.

Offices and Honours Pres., Soc. Judgment and Decision Making, 2001–02.

Principal Fields of Interest D0 Microeconomics: General; D9 Intertemporal Choice and Growth.

Publications *Articles*: 1. ‘Anticipation and the valuation of delayed consumption’, *EJ*, 97, 1987; 2. ‘Anomalies: intertemporal choice’ (with R. Thaler), *JEP*, 3, 1989; 3. ‘The curse of knowledge in economic settings: an experimental analysis’ (with C. Camerer, M. Weber), *JPE*, 97, 1989; 4. ‘Do workers prefer increasing wage profiles?’ (with N. Sicherman), *J Lab E*, 9, 1991; 5. ‘Negative time preference’ (with D. Prelec), *AER Papers and Proceedings*, 82, 1991; 6. ‘Anomalies in intertemporal choice: evidence and an interpretation’ (with D. Prelec), *QJE*, 107, May 1992; 7. ‘Self-serving assessments of fairness and pretrial bargaining’ (with S. Issacharoff, C. Camerer, L. Babcock), *J. Legal Stud.*, 22, 1992; 8. ‘A bias in the prediction of tastes’ (with D. Adler), *EJ*, 105, July 1995; 9. ‘Biased judgments of fairness in bargaining’ (with L. Babcock, S. Issacharoff, C. Camerer), *AER*, 85, Dec. 1995; 10. ‘Choosing the wrong pond: social comparisons that reflect a self-serving bias’ (with L. Babcock, X. Wang), *QJE*, 111, 1996; 11. ‘Explaining bargaining impasse: the role of self-serving biases’ (with L. Babcock), *JEP*, 11, 1997; 12. ‘Labor supply of New York City taxi drivers: one day at a time’ (with C. Camerer, L. Babcock, R. Thaler), *QJE*, 112, May 1997; 13. ‘Choice bracketing’

(with D. Read, M. Rabin), *JRU*, 19, 1999; 14. ‘Because it is there: the challenge of mountaineering for utility theory’, *Kyk*, 52, 1999; 15. ‘Emotions in economic theory and economic behavior’, *AER Papers and Proceedings*, 90, 2000; 16. ‘Time discounting and time preference: a critical review’ (with S. Frederick, T. O’Donoghue), *JEL*, 40, 2002; 17. ‘Coherent arbitrariness: stable demand curves without stable preferences’ (with D. Ariely, D. Prelec), *QJE*, Feb. 2003; 18. ‘Regulation for conservatives: Behavioral economics and the case for “asymmetric paternalism”’ (with C. Camerer, S. Issacharoff, T. O’Donoghue, M. Rabin), *Univ. Pennsylvania Law Rev.*, forthcoming; 19. ‘Gray matters: how neuroscience can inform economics’ (with C. Camerer, D. Prelec), *JEP*, forthcoming.

Principal Contributions Contributor to field of behavioral economics, which involves the application of theory and findings from psychology to economics.

LOGAN, John R. n.e.**LOHMANN, Susanne** n.e.**LONGSTAFF, Francis A.** n.e.**LOOMES, Graham Christopher**

Born 1950, London, England.

Current Posts Prof. Econ. Behav. and Decision Theory, and Dir., Centre for Econ. and Behavioural Analysis of Risk and Decision (CEBARD), Univ. East Anglia, Norwich, UK, 2001–.

Past Posts Res. Officer, Lect. Econ., Dept Econ., Health Care Res. Unit, Univ. Newcastle, 1978–84; Co-Dir., Centre for Experimental Econ. (EXEC), Univ. York,

1984–91; Sr Lect., and Dir., Grad. Programme in Health Econ., Univ. York, 1988–91; Prof. Econ. and Co-Dir., Centre for Experimental Econ., Univ. York, 1991–95; Prof. Econ. and Co-Dir., Centre for Analysis of Safety Pol. and Attitudes to Risk (CASPAR), Univ. Newcastle, 1996–2000.

Degrees BA Univ. Essex, 1970; MSc Univ. London, 1978.

Editorial Duties Ed. Bd, *Experimental Econ.*, 1998–.

Principal Fields of Interest C9 Design of Experiments; D6 Welfare Economics; D8 Information and Uncertainty.

Publications *Articles*: 1. ‘Choices involving a risk of death: an empirical study’, *SJPE*, 29, 1982; 2. ‘Regret theory: an alternative theory of rational choice under uncertainty’ (with R. Sugden), *EJ*, 92, 1982; 3. ‘A rationale for preference reversal’ (with R. Sugden), *AER*, 73, 1983; 4. ‘Disappointment and dynamic consistency in choice under uncertainty’ (with R. Sugden), *REStud*, 53, 1986; 5. ‘Some implications of a more general form of regret theory’ (with R. Sugden), *JET*, 41, 1987; 6. ‘When actions speak louder than prospects’, *AER*, 78, 1988; 7. ‘The use of QALYs in health care decision making’ (with L. McKenzie), *Social Sc. and Medicine*, 28, 1989; 8. ‘Evidence of a new violation of the independence axiom’, *JRU*, 4, 1991; 9. ‘Testing decision theories by using value equivalences’, *OEP*, 43, 1991; 10. ‘Observing violations of transitivity by experimental methods’ (with C. Starmer, R. Sugden), *Em*, 59, 1991; 11. ‘Violations of the reduction principle in an Ellsberg-type problem’ (with M. Bernasconi), *Theory and Decision*, 32, 1992; 12. ‘Imprecise preferences and the WTP–WTA disparity’ (with R. Dubourg, M. Jones-Lee), *JRU*, 9, 1994; 13. ‘Incorporating a stochastic element into decision theories’ (with R. Sugden), *Europ ER*, 39, 1995; 14. ‘Valuing the prevention

of non-fatal road injuries: contingent valuation vs standard gambles’ (with M. Jones-Lee, P. Philips), *OEP*, 47, 1995; 15. ‘Imprecise preferences and survey design in contingent valuation’ (with R. Dubourg, M. Jones-Lee), *Ec*, 64, 1997; 16. ‘Probabilities vs money: a test of some fundamental assumptions about rational decision making’, *EJ*, 108, 1998; 17. ‘Testing different stochastic specifications of risky choice’ (with R. Sugden), *Ec*, 65, 1998; 18. ‘The contingent valuation of safety and the safety of contingent valuation, Pt 2: The CV/SG “chained” approach’ (with T. Carthy, S. Chilton, J. Covey, L. Hopkins, M. Jones-Lee, N. Pidgeon, A. Spencer), *JRU*, 17, 1999; 19. ‘A microeconomic test of alternative stochastic theories of risky choice’ (with P. Moffatt, R. Sugden), *JRU*, 24, 2002; 20. ‘Do anomalies disappear in repeated markets?’ (with C. Starmer, R. Sugden), *EJ*, 113, 2003.

Principal Contributions I hope that I have added something to the understanding and modelling of preferences, particularly with respect to the ways in which psychological considerations might influence the patterns of choice and valuation in experiments and in field studies. The use of experimental methods in economics has grown considerably during the past three decades, and I hope I have participated in that process in a constructive and critical way. The work on modelling preferences, together with the experience of developing techniques for eliciting people’s choices and values, has fed into surveys undertaken on behalf of branches of government. The results of a number of those surveys have had an impact on practical public policy, especially in relation to valuing health and safety benefits. Ongoing work on the theory, methodology and application of preference elicitation will, I hope, help to influence resource allocation in ways which improve social welfare.

LOOMIS, John B. n.e.

LORETAN, Mico n.e.

LOTHIAN, James Robert

Born 1945, Long Island City, NY, USA.

Current Post Disting. Prof. Fin., Fordham Univ., New York, NY, USA, 1998–.

Past Posts Econ., Citibank, 1972–76; Asst Vice-Pres., Intl Res., Citibank, 1976–79; Vice-Pres., Head, Fin. Res. Citibank, 1978–83; Vice-Pres., Citicorp Investment Bank, 1983–88; Vis. Prof., NYU, 1988–90; Prof., Fordham Univ., 1990–98.

Degrees BA Catholic Univ. America, 1967; MA, PhD Univ. Chicago, 1969, 1973.

Honour Phi Beta Kappa, 1967.

Editorial Duties Ed. Bds, *JIMF*, 1982–86, *Res. Fin. Banking*, 2000–, *Intl Fin. Rev.*, 2000–, *Emerging Market Fin. J.*, 2002–; Ed., *JIMF*, 1986–.

Principal Fields of Interest F3 International Finance; E0 Macroeconomics and Monetary Economics: General; N2 Financial Markets and Institutions.

Publications *Book*: 1. *The International Transmission of Inflation* (with M.R. Darby, A.E. Gandolfi, A.C. Stockman, A.J. Schwartz), (UCP for NBER, 1983).

Articles: 1. ‘The demand for high-powered money’, *AER*, 66, March 1976; 2. ‘The demand for money from the Great Depression to the present’ (with A.E. Gandolfi), *AER*, 66, May 1976; 3. ‘Did monetary forces cause the Great Depression, a review essay’ (with A.E. Gandolfi), *JMCB*, 9, Nov. 1977; 4. ‘Money in the United Kingdom: 1833–1880’ (with W.E. Huffman), *JMCB*, 12, May 1980; 5. ‘The timing of monetary and price changes and the international transmission of inflation’ (with A. Cassese), *JME*, 10, 1982; 6. ‘Brit-

ish economic policy under Margaret Thatcher: a midterm examination’ (with M.R. Darby), *C-RPP*, 18, Spring 1983; 7. ‘International price behavior and the demand for money’ (with A.E. Gandolfi), *EI*, 21, July 1983; 8. ‘Equilibrium relationships between money and other economic variables’, *AER*, 75, Sept. 1985; 9. ‘Real dollar exchange rates under the Bretton-Woods and floating-rate regimes’, *JIMF*, 5, Dec. 1986; 10. ‘A century plus of Japanese exchange-rate behavior’, *Japan World Econ.*, 2, Feb./March 1990; 11. ‘The response of real exchange rates to permanent and transitory shocks’ (with M.D.D. Evans), *JIMF*, 12, Dec. 1993; 12. ‘Real exchange rate behavior: the recent float from the perspective of the past two centuries’ (with M.P. Taylor), *JPE*, 104, June 1996; 13. ‘Multi-country evidence on the behavior of purchasing power parity under the current float’, *JIMF*, 17, Feb. 1997; 14. ‘Some new stylized facts of exchange rate behavior’, *JIMF*, 18, Feb. 1998; 15. ‘Real exchange-rate behaviour under fixed and floating exchange rate regimes’ (with C. McCarthy), *MS*, 70, Feb. 2002; 16. ‘The internationalization of money and finance and the globalization of financial markets’, *JIMF*, 22, Nov. 2002.

Principal Contributions The bulk of my research has been in the areas of money-macro and international finance. My earlier work dealt with issues surrounding the demand for money – its instability in the aftermath of financial innovation, its behaviour across countries, during the Great Depression, and over the course of the nineteenth century – and with the international transmission of cyclical fluctuations and inflation. The last was the subject of my co-authored NBER monograph and several related journal articles. My later work has been more heavily focused on international financial issues. Using a variety of econometric

procedures and data sets, I have presented evidence on the question of real-exchange-rate stability that has challenged, and at least in part reversed, conventional thinking on the subject. More recent research has centred on the question of international financial integration, both currently and over the broad span of history beginning with the breakdown of the Western Roman Empire.

LOTT, Jr, John Richard

Born 1958, Detroit, MI, USA.

Current Post Resident Scholar, AEI, Washington, DC, USA, 2001–.

Past Posts Lect., California State Univ., 1983–84; Vis. Asst Prof. Texas A&M Univ., 1984, Rice Univ., 1987–88, UCLA, 1989–91, Sch. Bus., Univ. Chicago, 1994–95; Fell., Hoover Inst., Stanford Univ., 1986–87, Sch. Law, Univ. Chicago, 1995–99; Chief Econ., US Sentencing Commission, 1988–89; Asst Prof., Wharton Sch., Univ. Pennsylvania, 1991–95; Sr Res. Scholar, Sch. Law, Yale Univ., 1999–2001.

Degrees BA, MA, PhD UCLA, 1980, 1982, 1984.

Editorial Duties Ed. Bds, *Regulation*, 1989–, *Public Choice*, 1994–; Co-Ed., special issue *EI*, 1996, *EI*, 1996–98, special issue *J Law E* on ‘Penalties: public and private’, 1999.

Principal Fields of Interest K0 Law and Economics: General; L0 Industrial Organization: General; D0 Microeconomics: General.

Publications *Books*: 1. *More Guns, Less Crime: Analyzing Crime and Gun Control Laws* (UCP, 1998, 2000; trans., Portuguese, 1999); 2. *Are Predatory Commitments Credible?: Who Should the Courts Believe?* (UCP, 1999); 3. *The Bias Against Guns* (Regnery Press, 2003).

Articles: 1. ‘The effect of nontransferable property rights on the efficiency of

political markets: some evidence’, *J Pub E*, 32, March 1987; 2. ‘Licensing and non-transferable rents’, *AER*, 77, June 1987; 3. ‘Should the wealthy be able to “buy justice”?’’, *JPE*, 95, Dec. 1987; 4. ‘Time dependent information costs, price controls, and successive government intervention’ (with G. Fremling), *JLEO*, 5, Fall 1989; 5. ‘An explanation for public provision of schooling: the importance of indoctrination’, *J Law E*, 33, April 1990; 6. ‘Predation by public enterprises’, *J Pub E*, 43, Nov. 1990; 7. ‘The winner’s curse and public information in common value auctions: comment’ (with R.G. Hansen), *AER*, 81, March 1991; 8. ‘The reputational penalty firms bear for committing fraud’ (with J. Karpoff), *J Law E*, 36, Oct. 1993; 9. ‘An explanation for why senators from the same state vote differently so frequently’ (with G. Jung, L. Kenny), *J Pub E*, 54, May 1994; 10. ‘Testing whether predatory commitments are credible’ (with T. Opler), *J Bus*, 69, July 1996; 11. ‘Crime, deterrence, and right-to-carry concealed handguns’ (with D. Mustard), *J. Legal Stud.*, 26, Jan. 1997; 12. ‘Do campaign donations alter how a politician votes?’ (with S. Bronars), *J Law E*, 40, Oct. 1997; 13. ‘Punitive damages: their determinants, effects on firm value, and the impact of supreme court and congressional attempts to limit awards’ (with J. Karpoff), *J Law E*, 42, April 1999; 14. ‘Did women’s suffrage change the size and scope of government?’ (with L. Kenny), *JPE*, 107, Dec. 1999; 15. ‘Public schooling, indoctrination, and totalitarianism’, *JPE*, 107, Dec. 1999; 16. ‘A simple explanation for why campaign donations are increasing: the government is getting bigger’, *J Law E*, 42, Oct. 2000; 17. ‘Safe storage gun laws: accidental deaths, suicides, and crime’ (with J. Whitley), *J Law E*, 44, Oct. 2001.

Principal Contributions My research encompasses primarily the fields of law

and economics and public choice, and to a lesser extent industrial organization, public finance, and labor. While these fields appear diverse, a common theme runs throughout the vast majority of my papers focussing on what possible efficiency explanations exist for institutional arrangements, both in the government and the private sector. While many economists ask how to design an optimal tax or an optimal criminal penalty, I have investigated why we fail to observe those taxes or criminal penalties if they are 'optimal'. The institutional arrangements examined include the legal system and its reliance on reputational penalties, the methods by which voters can prevent last period problems in political markets, and the public provision of education. These are all areas in which my papers provide efficiency explanations for observed institutional arrangements. I have also provided efficiency explanations for court decisions on workers' compensation rules and firms' pricing behavior both in terms of price discrimination and monopolistic competition. In other areas my research has tested game-theoretic models of firm behavior and the evaluation of different gun control laws. I have produced both theoretical and empirical papers on the above topics.

LOUGHRAN, Tim n.e.

LOVELL, C.A. Knox

Born 1942, Teaneck, NJ, USA.

Current Post C. Herman and Mary Virginia Terry Prof., Terry Coll. Bus., Univ. Georgia, Athens, GA, USA, 1994–.

Past Posts Prof., Dir., Centre Apl. Econ. Res., Sch. Econ., Univ. NSW, 1999–2000; Prof., Dept Econ., Univ. North Carolina, 1977–93.

Degrees AB Coll. William and Mary 1963; PhD Duke Univ., 1966.

Editorial Duties Bd Eds, *SEJ*, 1972–74; Assoc. Ed., *Mgmt Sc.*, 1991–95, *OR*, 1996–99; Ed.-in-Chief, *J. Productivity Analysis*, 1992–2002; Ed. Bds, *Managerial and Decision Econ.*, 2000–, *Intl J. Bus. Econ.*, 2001–.

Principal Fields of Interest O4 Economic Growth and Aggregate Productivity; D2 Production and Organizations; C5 Econometric Modeling.

Publications *Books*: 1. *The Measurement of Efficiency of Production* (with R. Färe, S. Grosskopf), (Kluwer-Nijhoff, 1985); 2. *The Measurement of Productive Efficiency: Techniques and Applications* (with H.O. Fried, S.S. Schmidt), (OUP, 1993); 3. *Production Frontiers* (with R. Färe, S. Grosskopf), (CUP, 1994); 4. *Stochastic Frontier Analysis* (with S.C. Kumbhakar), (CUP, 2000).

Articles: 1. 'Extended Hicks neutral technical change' (with C. Blackorby, M. Thursby), *EJ*, 86, Dec. 1976; 2. 'Formulation and estimation of stochastic frontier production function models' (with D. Aigner, P. Schmidt), *J Em*, 6, July 1977; 3. 'Measuring the technical efficiency of production' (with R. Färe), *JET*, 19, Oct. 1978; 4. 'Estimating technical and allocative inefficiency relative to stochastic production and cost frontiers' (with P. Schmidt), *J Em*, 9, Feb. 1979; 5. 'A survey of frontier production functions and of their relationship to efficiency measurement' (with F. Førsund, P. Schmidt), *J Em*, 13, May 1980; 6. 'On the estimation of technical inefficiency in the stochastic frontier production model' (with J. Jondrow, I. Materov, P. Schmidt), *J Em*, 19, Aug. 1982; 7. 'A comparison of the performance of three flexible functional forms' (with D. Guilkey, R. Sickles), *IER*, 24, Oct. 1983; 8. 'An indirect efficiency approach to the evaluation of producer performance' (with R. Färe, S. Grosskopf),

JPE, 37, Oct. 1988; 9. 'Multilateral productivity comparisons when some outputs are undesirable; a nonparametric approach' (with R. Färe, S. Grosskopf, C. Pasurka), *REStat*, 71, Feb. 1989; 10. 'Measuring cost efficiency in banking: econometric and linear programming evidence' (with G. Ferrier), *J Em*, 46, Oct./Nov. 1990; 11. 'Evaluating the performance of US credit unions' (with H. Fried, P. Vanden Eeckaut), *J Bank Fin*, 17, April 1993; 12. 'Derivation of shadow prices for undesirable outputs: a distance function approach' (with R. Färe, S. Grosskopf, S. Yaisawarnng), *REStat*, 75, May 1993; 13. 'Chance constrained data envelopment analysis' (with K. Land, S. Thore), *Mgmt and Decision Econ.*, 14, Nov./Dec. 1993; 14. 'A note on the Malmquist productivity index' (with E. Grifell-Tatjé), *Econ. Letters*, 47, Feb. 1995; 15. 'Econometric estimation of technical and environmental efficiency: an application to Dutch dairy farms' (with S. Reinhard, G. Thijssen), *AJAE*, 81, Feb. 1999; 16. 'Profits and productivity' (with E. Grifell-Tatjé), *Mgmt Sc.*, 45, Sept. 1999.

Principal Contributions Much of my work has been devoted to the theory, measurement, and empirical estimation of efficiency in production. The empirical estimation has developed and implemented both econometric and mathematical programming techniques. This research has led me into several related fields, including an exploration of productive efficiency as a source of productivity growth; the link between productive efficiency and conventional financial indicators of business performance; environmental economics, where dual variables provide indicators of marginal abatement costs; and public economics, in which behavioral objectives are unconventional and where incentive regulation raises issues related to efficiency and productivity.

LUCAS, Deborah Jean

Born 1958, Seattle, WA, USA.

Current Post Donald C. Clark Household Intl Prof. Fin., Northwestern Univ., Evanston, IL, USA, 1996–.

Past Posts Asst Prof., John L. and Helen Kellogg Disting. Assoc. Prof., Northwestern Univ., 1985–92, 1992–96; Vis. Asst Prof., MIT, 1990–91; Sr Staff Econ., US President's Council Econ. Advisers, 1992–93; Chief Econ., CBO, 2000–02.

Degrees BA (Econ. and Apl. Maths), MA, PhD Univ. Chicago, 1980, 1983, 1986.

Offices and Honours Iddo Sarnat Award, 1987; Smith–Breedon Award, 1990; Winner, best paper in *Rev. Fin. Stud.*, 1991; Dir., AFA, 2003–.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1993–95, *JMCB*, 1996–, *Em*, 2000–; Ed. Bd, *J. Fin. Educ.*; Advisory Bd, FRB NY.

Principal Fields of Interest G0 Financial Economics: General; E0 Macroeconomics and Monetary Economics: General; H6 National Budget, Deficit, and Debt.

Publications Articles: 1. 'Bank portfolio choice with private information about loan quality: theory and implications for regulation' (with R. McDonald), *J Bank Fin*, 11, 1987; 2. 'Equity issues and stock price dynamics' (with R. McDonald), *J Fin*, 45, 1990; 3. 'The variability of velocity in cash-in-advance models' (with N. Kocherlakota, R. Hodrick), *JPE*, 99, April 1991; 4. 'The effect of information releases on the pricing and timing of equity issues' (with R. Korajczyk, R. McDonald), *Rev. Fin. Stud.*, 4, 1991; 5. 'Asset pricing with undiversifiable income risk and short sales constraints: deepening the equity premium puzzle', *JME*, 38, Dec. 1994; 6. 'Managed competition with prefunding – the solution for long-term care?', *Milbank Q.*, Nov. 1996; 7. 'Evalu-

ating the effects of incomplete markets on risk sharing and asset pricing' (with J. Heaton), *JPE*, 104, 1996; 8. 'The role of adverse selection in the choice between dividends and repurchases' (with R. McDonald), *JFQA*, 33, 1998; 9. 'Portfolio choice in the presence of background risk' (with J. Heaton), *EJ*, 110, 2000; 10. 'Stock prices and fundamentals' (with J. Heaton), *NBER Macroecon. Annual*, 2000; 11. 'Asset pricing and portfolio choice: the role of entrepreneurial risk' (with J. Heaton), *J Fin*, 55, 2000.

Principal Contributions Most of my recent work with J. Heaton considers the implications of incomplete markets, borrowing constraints, transactions costs, and labor income or other non-diversifiable risk on portfolio choice and asset prices. The results of those computational models suggest that while in theory these imperfections can affect financial markets, the deviations from the standard complete markets model are only quantitatively significant if people are assumed to be highly constrained. The accompanying empirical work highlights the heterogeneity in financial market behavior – the extreme concentration of stock holdings among older and wealthier households, and the important role of private business owners as investors more broadly. These empirical findings, juxtaposed with the theoretical results, suggest that the standard models are in some sense theoretically robust, but that it is difficult to reconcile observed investor and price behavior in a realistically calibrated optimizing model. My earlier work with R. McDonald examined the dynamic implications of asymmetric information on stock prices around events such as equity issues and dividend payments, and found that it helped to explain a number of empirical regularities. My current interests include the economic and welfare effects of introducing private accounts in social security, and how to do

policy analysis in non-stationary environments.

LUCAS, Jr, Robert E.

Born 1937, Yakima, WA, USA.

Current Post John Dewey Disting. Service Prof. Econ., Univ. Chicago, Chicago, IL, USA, 1980–.

Past Posts Lect., Univ. Chicago, 1962–63; Asst Prof., Assoc. Prof., Prof., Econ., Carnegie-Mellon Univ., 1963–67, 1967–70, 1970–74; Ford Foundation Vis. Res. Prof., Prof., Univ. Chicago, 1974–75, 1975–80; Vis. Prof. Econ., Northwestern Univ., 1981–82.

Degrees BA (Hist.), PhD Univ. Chicago, 1959, 1964.

Offices and Honours Proctor & Gamble Scholar, 1955–59; Phi Beta Kappa, 1959; Woodrow Wilson Fell., 1959–60; Brookings Fell., 1961–62; Woodrow Wilson Dissertation Fell., 1963; Ford Foundation Faculty Fell., 1966–67; Mem., Exec. Comm., AEA, 1979–82; Fell., AAAS, 1980; Mem., NAS, 1981; Guggenheim Foundation Fell., 1981–82; Council, Em Soc, 1982–84; Nobel Prize in Econ., 1995.

Editorial Duties Assoc. Ed., *JET*, 1972–78, *JME*, 1977–; Ed., *JPE*, 1978–81.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications Books: 1. *Rational Expectations and Econometric Practice* (ed.), (with T.J. Sargent), (Univ. Minnesota Press, 1981); 2. *Studies in Business-cycle Theory* (MIT Press, 1981); 3. *Models of Business Cycles* (Blackwell, 1987); 4. *Recursive Methods in Economic Dynamics* (with N.L. Stokey, E.C. Prescott), (HUP, 1989).

Articles: 1. 'Adjustment costs and the theory of supply', *JPE*, 75, Aug. 1967; 2. 'Capital-labor substitution in US manu-

facturing', in A.C. Harberger, M.J. Bailey (eds), *The Taxation of Income from Capital* (Brookings Inst., 1969); 3. 'Real wages, employment and inflation' (with L.A. Rapping), in E.S. Phelps *et al.* (eds), *The New Microeconomics in Employment and Inflation Theory* (W.W. Norton, 1970); 4. 'Expectations and the neutrality of money', *JET*, 4, April 1972, repr. in P. Diamond, M. Rothschild (eds), *Uncertainty in Economics* (UCP, 1974); 5. 'Econometric policy evaluation: a critique', in K. Brunner, A. Meltzer (eds), *The Phillips Curve and Labor Markets* (N-H, 1975); 6. 'Supply-side economics: an analytical review', *OEP*, 42, 1990.

Principal Contributions Econometric studies of capital-labour substitution and variations in capacity utilisation; theory of investment and technological change at the firm and industry level; theoretical and econometric work on labour supply; business-cycle theory and capital theory, motivated by the concept of rational expectations.

LUCE, R. Duncan

Born 1925, Scranton, PA, USA.

Current Posts Emeritus and Disting. Res. Prof. Cognitive Sc. and Res. Prof. Econ., Univ. California, Irvine, CA, USA, 1994-.

Past Posts Co-Dir., Group Networks Lab., Res. Lab. Electronics, MIT, 1950-53; Managing Dir., Behavioral Models Project, Asst Prof. Math. Stats and Sociology, Columbia Univ., 1953-57, 1954-57; Lect. Social Relations, Harvard Univ., 1957-59; Prof. Psychology, Benjamin Franklin Prof. Psychology, Univ. Pennsylvania: 1959-68, 1968-69; Vis. Prof., Inst. Adv. Study, 1969-72; Prof. Social Sc., Disting. Prof. Cognitive Sc., Prof. Econ., Univ. California, Irvine, 1972-75, 1988-94, 1993-94; Alfred North White-

head Prof. Psychology, Victor S. Thomas Prof. Psychology, Victor S. Thomas Prof. Psychology Emeritus, Harvard Univ., 1976-81, 1983-88, 1988-; Prof. and Chairman, Dept Psychology and Social Relations, Harvard Univ., 1981-84; Dir., Irvine Res. Unit Math. Behav. Sc., Univ. California, Irvine, 1988-92; Dir., Inst. Math. Behav. Sc., Univ. California, Irvine, 1992-98.

Degrees BS (Aeronautical Eng.), PhD (Maths) MIT, 1945, 1950.

Offices and Honours Tau Beta Pi, Sigma Xi, 1945; Fell., Center Adv. Study in Behav. Sc., 1954-55, 1966-67, 1987-88; Mem., Soc. Experimental Psychologists, 1963, AAAS, 1966, NAS, 1972, Amer. Philo. Soc., 1994; Lester R. Ford Award for expository paper in *Amer. Math. Monthly*, 1965; Sr Post-Doctoral Fellowship, NSF, 1966-67; Vis. Prof., Org. Amer. States, Rio de Janeiro, 1968-69; Disting. Sc. Contris Award, Amer. Physiological Assoc., 1970; Phi Beta Kappa, 1975; MA (Hons) Harvard Univ., 1976; Pres., Psychometric Soc., 1976-77; Chairman, Assembly Behav. and Social Sc., NRC, 1976-79; Exec. Comm., Pres., Soc. Math. Psychology, 1978-80, 1979; Guggenheim Fellowship, 1980-81; Chairman, Psychology Section, Chairman, Class V, Behav. and Social Sc., NAS, 1980-83, 1983-86; Vis., AT&T Bell Labs, 1984-85; Vice Pres., Pres., Federation of Behav., Psychological, and Cognitive Sc., 1984-87, 1988-91; Amer. Assoc. Adv. Sc. Prize for Behav. Sc. Res., 1986-87; Exec. Comm., Soc. Judgment/Decision Making, 1987-90; Bd Dirs, Fell., Amer. Psychological Soc., 1989-91; Exec. Comm. Div. 1 and Fell., Divs 1, 3, 5, Amer. Psychological Assoc., 1993-96; UC Irvine Disting. Faculty Lectureship Award for Res., 1994; F.J. McGuigan Lect., Amer. Psychological Foundation, 1994; Intl Man of Millennium, Intl Biographical Centre, Cambridge, England, 1996, 1999; Fell., Amer.

Assoc. Adv. Sc., 1999–2000; UC Irvine Medal, 2001; Gold Medal Award for Life Achievement in Sc. of Psychology, Amer. Psychological Foundation, 2001.

Editorial Duties currently – Ed. Bds, *British J. Math. and Stat. Psychology*, *J. Math. Psychology*; Disting. Hon. Mem. Ed. Bd, *Intl Soc. Group-Theoretic Cognitive Sc.*; Advisory Bd, *JRU, Math. Social Sc.*; Cons. Ed., *Theory and Decision*.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Books*: 1. *Games and Decisions: Introduction and Critical Survey* (with H. Raiffa), (Wiley, 1957, Dover Publications, 1989); 2. *Individual Choice Behavior: A Theoretical Analysis* (Wiley, 1959); 3. *Contributions to the Theory of Games*, Vol. IV, (ed. with A.W. Tucker), (Princeton Univ. Press, 1959); 4. *Foundations of Measurement*, Vols I, II, III (with D.H. Krantz, P. Suppes, A. Tversky), (Acad. Press, 1971, 1989, 1990); 5. *Utility of Gains and Losses: Measurement-Theoretical and Experimental Approaches* (Erlbaum Assoc., 2000).

Articles: 1. ‘Semiordeers and a theory of utility discrimination’, *Em*, 24, 1956; 2. ‘A game theoretic analysis of congressional power distribution for a stable two party system’ (with A.A. Rogow), *Behav. Sc.*, 1, 1956; 3. ‘A probabilistic theory of utility’, *Em*, 26, 1958; 4. ‘Simultaneous conjoint measurement: a new type of fundamental measurement’ (with J. Tukey), *J. Math. Psychology*, 1, 1964; 5. ‘Preference, utility, and subjective probability’ (with P. Suppes), in R.D. Luce, R.R. Bush, E. Galanter (eds), *Handbook of Mathematical Psychology*, Vol. 3 (Wiley, 1965); 6. ‘Measuring equal increments of utility for money without measuring utility itself’ (with E. Lowenton), *Psychonomic Sc.*, 6, 1966; 7. ‘How we may have been misled into believing in the inter-personal

comparability of utility’ (with L. Narens), *Theory and Decision*, 15, 1983; 8. ‘Rank-dependent, subjective-utility representations’, *JRU*, 1, 1988; 9. ‘Rank- and sign-dependent linear utility models for binary gambles’, *JET*, 53, 1991; 10. ‘Rank- and sign-dependent linear utility models for finite first-order gambles’ (with P.C. Fishburn), *JRU*, 4, 1991; 11. ‘Where does subjective expected utility fail descriptively?’, *JRU*, 5, 1992; 12. ‘When four distinct ways to measure utility are the same’, *J. Math. Psychology*, 40, 1996; 13. ‘Associative joint receipts’, *Math. Social Sc.*, 34, 1997; 14. ‘Coalescing, event commutativity, and theories of utility’, *JRU*, 16, 1998; 15. ‘Ranked weighted utilities and qualitative convolution’ (with A.A.J. Marley), *JRU*, 23, 2001.

Principal Contributions After initial work on game theory, especially n -person theory, my interests gravitated to individual choice, which forms an interface between individual psychology and economics. Initially, I contributed to both probabilistic and algebraic approaches. The monograph *Individual Choice Behavior* introduced what has come to be known as Luce’s Choice Axiom and the representation that economists call the strict utility model. A number of new issues about choice and ranking were raised and a large literature ensued. The best-known algebraic work was the related concept of a semiordeer and its threshold representation. This too led to a substantial literature. Following that, much effort was focussed on the various types of ordered algebraic structures that can be represented numerically. Perhaps my best-known contributions in this area were additive conjoint measurement, with the late John Tukey, and the three-volume treatise *Foundations of Measurement* with David Krantz, Patrick Suppes, and the late Amos Tversky. Conjoint measurement was similar to, but more general than, the topo-

logical results of Gerard Debreu. *Foundations* attempted to pull together in a systematic fashion what was then known about measurement representations. During the past 15 years I have focussed on using measurement results and functional equations to gain a deeper understanding of utility theory. The key primitives are uncertain alternatives, gains and losses, and joint receipt and their properties including a distributivity interlock. The results through 1999 are summarized in the monograph *Utility of Gains and Losses*. New, improved, and more general results will continue to be published.

LUMSDAINE, Robin L. n.e.

LUNDBERG, Shelly J. n.e.

LÜTKEPOHL, Helmut

Born 1951, Volmerdingsen, Germany.

Current Post Prof. Em., Europ. Univ. Inst., Florence, Italy, 2002–.

Past Posts Jr Teaching and Res. Position, Dept Econ., Univ. Bielefeld, 1979–81; Teaching Position, Dept Econ., Univ. Osnabrück, 1981–84; Vis. Asst Prof., Dept Econ., Univ. California, San Diego, 1984–85; Prof. Stats, Dept Econ., Univ. Hamburg, 1985–87; Prof. Stats, Faculty Econ. and Social Sc., Univ. Kiel, 1987–92; Prof. Em., Sch. Econ. and Bus. Admin., Humboldt Univ., Berlin, 1992–2001.

Degrees Diplom (Maths), Dr rer. pol., Univ. Bielefeld, 1977, 1981; Dr rer. pol. habil., Univ. Osnabrück, 1984.

Offices and Honours Fell., *J Em*, 1989; Univ. Medal, Univ. Helsinki, 1994; Dean, Sch. Econ. and Bus. Admin., Humboldt Univ. Berlin, 1998–2000.

Editorial Duties Assoc. Ed., *J Em*, 1992–97, *ET*, 1994–, *Econometric Rev.*,

1996–, *Macroecon. Dynamics*, 1997–, *JAE*, 1998–, *Empirical Econ.*, 1998–; Advisor, *Stat. Papers*, 1992–.

Principal Fields of Interest C3 Econometric Methods: Multiple/Simultaneous Equation Models; C5 Econometric Modeling; E4 Money and Interest Rates.

Publications *Books*: 1. *Introduction to the Theory and Practice of Econometrics* (with G.G. Judge, R.C. Hill, W.E. Griffiths, T.-C. Lee), (Wiley, 1982, 1988; trans., Chinese, 1989); 2. *The Theory and Practice of Econometrics* (with G.G. Judge, R.C. Hill, W.E. Griffiths, T.-C. Lee), (Wiley, 2nd edn 1985); 3. *Forecasting Aggregated Vector ARMA Processes* (S-V, 1987); 4. *Introduction to Multiple Time Series Analysis* (S-V, 1991, 1993); 5. *Handbook of Matrices* (Wiley, 1996).

Articles: 1. 'Non-causality due to omitted variables', *J Em*, 19, 1982; 2. 'Differencing multiple time series: another look at Canadian money and income data', *J. Time Series Analysis*, 3, 1982; 3. 'Linear transformations of vector ARMA processes', *J Em*, 26, 1984; 4. 'Comparison of criteria for estimating the order of a vector autoregressive process', *J. Time Series Analysis*, 6, 1985, and 8, 1987; 5. 'Asymptotic distributions of impulse response functions and forecast error variance decompositions of vector autoregressive models', *REStat*, 72, 1990; 6. 'Impulse response analysis of co-integrated systems' (with H.-E. Reimers), *JEDC*, 16, 1992; 7. 'Specification of echelon-form VARMA models' (with D.S. Poskitt), *JBES*, 14, 1996; 8. 'Infinite order cointegrated vector autoregressive processes: estimation and inference' (with P. Saikkonen), *ET*, 12, 1996; 9. 'Making Wald tests work for cointegrated VAR systems' (with J.J. Dolado), *Econometric Rev.*, 15, 1996; 10. 'Analysis of co-integrated VARMA processes' (with H. Claessen), *J Em*, 80, 1997; 11. 'Modeling the demand for M3 in the unified Ger-

many' (with J. Wolters, T. Teräsvirta), *REStat*, 80, 1998; 12. 'Trend adjustment prior to testing for the cointegrating rank of a vector autoregressive process' (with P. Saikkonen), *J. Time Series Analysis*, 21, 2000; 13. 'Problems related to bootstrapping impulse responses of autoregressive processes' (with A. Benkwitz, M. Neumann), *Em. Rev.*, 19, 2000; 14. 'Testing for the cointegrating rank of a VAR process with structural shifts' (with P. Saikkonen), *JBES*, 18, 2000; 15. 'A review of systems cointegration tests' (with K. Hubrich, P. Saikkonen), *Em. Rev.*, 20, 2001.

Principal Contributions Most of my work is related to time-series econometrics. In particular I have worked on the consequences of aggregating time-series data. Moreover I have worked on the properties of estimated impulse responses from vector autoregressive models and I have pointed out some pitfalls in using usual inference procedures in this context. I have also contributed to the literature on unit root and cointegration testing. Specifically I have proposed and investigated tests which take into account structural shifts. My applied work has mainly focussed on money demand analysis and the transmission of monetary policy.

LYNCH, Jr, John G. n.e.

LYNCH, Lisa Michele

Born 1956, Waterbury, CT, USA.

Current Post Acad. Dean and William L. Clayton Prof. Intl Econ. Affairs, Fletcher Sch. Law and Diplomacy, Tufts Univ., Medford, MA, USA, 1993–.

Past Posts Lect., Dept Econ., Bristol Univ., 1982–83; Asst Prof. Mgmt and Human Resources, Ohio State Univ., 1983–

85; Assoc. Prof. Ind. Relations, MIT, 1985–93; Chief Econ., US Dept Labor, 1995–97.

Degrees BA Wellesley Coll. 1978; MSc, PhD LSE, 1979, 1983.

Honours Grad. Student Council Teaching Award, MIT, 1988; James Paddock Teaching Award, Fletcher Sch. Law and Diplomacy, 1998; Outstanding Faculty Award, Tufts Univ., 2000.

Editorial Duties Assoc. Ed., *Labour Econ.*, 1991–96; Co-Ed., *J Lab E*, 1993–2002.

Principal Fields of Interest J2 Time Allocation; Work Behavior; Employment Determination and Creation; J3 Wages, Compensation, and Labor Costs; D2 Production and Organizations.

Publications *Book*: 1. *Training and the Private Sector: International Comparisons* (UCP, 1994).

Articles: 1. 'Strike frequency in British coal mining: 1950–1974', *BJIR*, 16, March 1978; 2. 'Unemployment of young workers in Britain' (with R. Richardson), *BJIR*, 20, Nov. 1982; 3. 'Job search and youth unemployment', *OEP*, 35, Oct. 1983; 4. 'State dependency in youth unemployment: a lost generation?', *J Em*, 28, April 1985; 5. 'The youth labor market in the 80s: determinants of re-employment probabilities for young men and women', *REStat*, 71, Feb. 1989; 6. 'Technological innovation and employment in telecommunications' (with P. Osterman), *Ind. Relations*, 28, Spring 1989; 7. 'The role of off-the-job versus on-the-job training for the job mobility of women workers', *AER*, 81, May 1991; 8. 'Private sector training and its impact on the earnings of young workers', *AER*, 82, March 1992; 9. 'Entry level jobs: first rung on the employment ladder or economic dead end?', *J. Labor Res.*, 14, April 1993; 10. 'The economics of youth training in the United States', *EJ*, 103, Nov. 1993; 11. 'Payoffs to alternative training strategies at work',

in R. Freeman (ed.), *Working Under Different Rules* (Russell Sage, 1994); 12. 'Human capital investments and productivity' (with S. Black), *AER*, 86, May 1996; 13. 'Wage inequality and long-term unemployment: is human capital the answer?', *Swedish Econ. Pol. Rev.*, 5, Spring 1998; 14. 'Beyond the incidence of training: evidence from a national employers' survey' (with S. Black), *ILRR*, 52, Oct. 1998; 15. 'A needs analysis of training data', in J. Haltiwanger, M. Manser, R. Topel (eds), *NBER Conference on Research in Income and Wealth: Labor Statistics Measurement Issues* (UCP, 1998); 16. 'What can we do? Remedies for reducing inequality', in K. Parker, A. Fishlow (eds), *Growing Apart: The Causes and Consequences of Income Inequality* (Council on Foreign Relations, 1999); 17. 'Payoffs to investments in children: an overview', in J. Waldfogel, S. Danziger (eds), *Securing the Future* (Russell Sage, 2000); 18. 'Rising productivity and falling unemployment: can the US experience be sustained and replicated?' (with S. Nickell), in A. Krueger, R. Solow (eds), *The Roaring Nineties* (Russell Sage, 2001); 19. 'How to compete: the impact of workplace practices and information technology on productivity', *REStat*, 83, Aug. 2001.

Principal Contributions In general, my work in labor economics uses rigorous micro econometrics techniques and applies them to labor market issues of public policy interest. In addition, I have always had an interest in international comparisons of labor market institutions and outcomes. Initially my research focussed on analyzing the youth labor market, especially the transition from school to work. Questions I examined included whether or not young people were scarred by early spells of unemployment and how public-funded programs such as unemployment insurance and training affected the transition probability of unem-

ployed youth into employment. I then moved on to examine the impact of human capital investments, especially employer-provided training, on the labor market experience of young workers. My work in this area documented rates of return to employer-provided training and examined variations in these returns across countries. I tried to understand why the incidence and duration of employer training varied so much across countries and how public policy might affect the ultimate amount of employer-provided training within a country given its labor market institutions. Much of my research on this topic benefitted from the development of large longitudinal databases that followed people as they transited from school to work. Most recently my work has focussed on the impact of technological change and workplace practices (especially training) on productivity firms and workers' wages. While my career has been largely based in academia, I was fortunate to have served as Chief Economist of the US Department of Labor from 1995–97. A major function of this position was to bring an economist's perspective on issues such as economic constraints, opportunity costs, and implementation costs into high-level social policy discussions in a way that had seldom been done.

LYON, John D. n.e.

LYONS, Richard Kent

Born 1961, Palo Alto, CA, USA.

Current Post Prof., Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1993–.

Past Posts Asst Prof., Assoc. Prof., Grad. Sch. Bus., Columbia Univ., 1987–93.

Degrees BS (Fin., Highest Hons) Univ.

California, Berkeley, 1982; PhD MIT, 1987.

Offices and Honours Phi Beta Kappa, 1981; Grad. Fellowship, NSF, 1984–87; Res. Assoc., NBER, 1989–; Highest Teaching Award, Univ. California, Berkeley, 1998; Mem., Council on Foreign Relations, 1999–; Nominating Comm., AFA, 2000; Chair, Fin. Group, Haas Sch., Univ. California, Berkeley, 2001–; Dir., Barclays Global Investors Funds, 2001–.

Editorial Duties Assoc. Ed., *California Mgmt Rev.*, 1995–, *J. Fin. Markets*, 1997–, *Emerging Markets Rev.*, 2000–; Co-Ed., *J. Intl Fin. Markets, Insts, and Money*, 1997–2001.

Principal Fields of Interest F3 International Finance; G1 General Financial Markets.

Publications Book: 1. *The Microstructure Approach to Exchange Rates* (MIT Press, 2001).

Articles: 1. ‘Internal versus external economies in European industry’ (with R. Caballero), *Europ ER*, 34, June 1990; 2. ‘External effects in US procyclical pro-

ductivity’ (with R. Caballero), *JME*, 29, April 1992; 3. ‘Customer- and supplier-driven externalities’ (with R. Caballero, E. Bartelsman), *AER*, 84, Sept. 1994; 4. ‘Tests of microstructural hypotheses in the foreign exchange market’, *J Fin E*, 39, Oct. 1995; 5. ‘A simultaneous trade model of the foreign exchange hot potato’, *J Int E*, 42, May 1997; 6. ‘Is there private information in the FX market? The Tokyo experiment’ (with T. Ito, M. Melvin), *J Fin*, 53, June 1998; 7. ‘Order flow and exchange rate dynamics’ (with M. Evans), *JPE*, 110, Feb. 2002; 8. ‘Foreign exchange: macro puzzles, micro tools’, *FRB San Francisco Econ. Rev.*, June 2002; 9. ‘Time-varying liquidity in foreign exchange’ (with M. Evans), *JME*, 49, July 2002.

Principal Contributions I have launched a new approach to exchange rate economics called the new micro approach. The focus of the approach is information economics, specifically, how the foreign exchange market aggregates dispersed bits of information.

M

MACDONALD, Ronald

Born 1955, Glasgow, Scotland, UK.

Current Post Prof. Intl Fin., Univ. Strathclyde, Glasgow, UK, 1992–.

Past Posts Midland Bank Res. Fell. Monetary Econ., Loughborough Univ., 1982–84; Lect., Sr Lect., Econ. Dept, Aberdeen Univ., 1984–88, 1988–89; Robert Fleming Prof. Fin. and Investment, Dundee Univ., 1989–91.

Degrees BA Heriot Watt Univ., 1978; MA, PhD Manchester Univ., 1979, 1983.

Offices and Honours Council Mem., Scottish Econ. Soc., 1999–2001; Res. Fell., CESifo Network, Munich, 2000; Fell., Royal Soc. of Edinburgh, 2002.

Editorial Duties Assoc. Ed., *SJPE*, 1997–98, *J. Intl Fin. Markets, Insts and Money*, 2000–, *CESifo Econ. Stud.*, 2002–.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *International Money: Theory, Evidence and Institutions* (with P. Hallwood), (Blackwell, 1986, 1994, 2000); 2. *Floating Exchange Rates: Theories and Evidence* (A&U, 1988); 3. *Equilibrium Exchange Rates* (with J. Stein), (Kluwer, 1999); 4. *Exchange Rate Modelling* (with I.W. Marsh), (Kluwer, 1999).

Articles: 1. ‘Intervention and sterilisation under floating exchange rates’ (with C. Kearney), *Europ ER*, 30, 1986; 2. ‘Sterling M3 surprises and asset prices’ (with T.S. Torrance), *Ec*, 54, 1987; 3. ‘Expectations formation and risk in four foreign exchange markets’ (with T.S. Torrance), *OEP*, 42, 1990; 4. ‘Exchange rate economics: a survey’ (with M.P. Taylor), *IMF Staff Papers*, 39, 1992; 5. ‘Long-run pur-

chasing power parity: is it for real?’, *REStat*, 75, Nov. 1993; 6. ‘The monetary model of the exchange rate: long-run relationships, short-run dynamics and the finale for the random walk?’ (with M.P. Taylor), *JIMF*, 13, 1994; 7. ‘On the expectations view of the term structure, term premia and survey-based expectations’ (with P. Macmillan), *EJ*, 104, Sept. 1994; 8. ‘Stock prices, dividends and retention: long-run relationships and short-run dynamics’ (with D. Power), *J. Empirical Fin.*, 2, 1995; 9. ‘Consumption, income and capital market integration’ (with T. Bayoumi), *IMF Staff Papers*, 42, 1995; 10. ‘Long-run exchange rate modeling: a survey of the recent literature’, *IMF Staff Papers*, 42, 1995; 11. ‘On fundamentals and exchange rates: a Casselian perspective’ (with I.W. Marsh), *REStat*, 79, Nov. 1997; 12. ‘On the mean reverting properties of target zone exchange rates: some evidence from the ERM’ (with M. Anthony), *Europ ER*, 42, 1998; 13. ‘What determines real exchange rates? The long and the short of it’, *J. Intl Fin. Markets, Insts and Money*, 8, 1998; 14. ‘Exchange rate behaviour: are fundamentals important?’, *EJ*, 109, Nov. 1999; 15. ‘Modelling the ECU against the US dollar: a structural monetary interpretation’ (with L. la Cour), *JBES*, 18, July 2000; 16. ‘Realignment expectations and the US dollar: the world’s longest “peso” problem, 1879–1897?’ (with C.P. Hallwood, I.W. Marsh), *JME*, 46, 2000.

Principal Contributions I have made a number of contributions in the area of macroeconomics, particularly with respect to the modelling of consumer expenditure and the demand for money, and in the area of financial economics, in terms of testing present value models. Most of my contributions, however, have been in the area of international finance, particularly in terms of the economics of exchange rates. For example, I have investigated the

operation of fixed exchange rate regimes, ranging from the classical gold standard through to the Bretton Woods regime, and issues of speculative attack and contagion. Perhaps my main contribution has involved demonstrating that when exchange rates are flexible they are forecastable at horizons as short as two months ahead using a standard set of fundamentals. The exchange rate forecasting methods I have proposed have been adopted by a number of leading financial institutions. I have also demonstrated that sensible measures of a country's equilibrium exchange rate may be obtained, and shown how this may be used to obtain measures of exchange rate misalignment. These methods have been widely adopted by central banks. Other contributions in the area of international finance involve proposing a new test of international capital mobility and testing the expectations formation processes of participants in bond and foreign exchange markets.

MACDUFFIE, John Paul n.e.

MACHIN, Steve n.e.

MACKIE-MASON, Jeffrey K. (aka Jeffrey M. Mason)

Born 1959, New York City, NY, USA.

Current Posts Dir., Program Res. Info. Econ., Arthur W. Burks Collegiate Prof., Computer and Info. Sc., Prof. Econ. and Public Pol., Univ. Michigan, Ann Arbor, MI, USA, 1996–, 1999–, 1999–.

Past Posts Cons., Natl Audubon Soc., Washington, DC, 1979; Res. Resident, US Dept Energy, Office Pol., Planning and Evaluation, 1981; Asst Prof. Econ. and Public Pol., Assoc. Prof. Econ., Assoc. Prof. Public Pol., Assoc. Prof. Info., Univ.

Michigan, 1986–92, 1992–99, 1992–99, 1996–98; Asst Res. Scientist, Assoc. Res. Scientist, Inst. Public Pol. Stud., Univ. Michigan, 1986–92, 1992–95; Faculty Res. Fell., Res. Assoc., NBER, 1987–93, 1993–99.

Degrees AB (Environmental Pol., *scl*) Dartmouth Coll., 1980; Master Public Pol., Univ. Michigan, 1982; PhD MIT, 1986.

Offices and Honours Paul R. Richter Fellowship, 1979–80; Andrew W. Mellon Natural Resource Econ. Fellowship, 1980; Phi Beta Kappa, Highest Distinction Hons, 1980; Rackham First Year Grad. Fellowship, 1980–81; Energy Res. Fellowship, Phoenix Memorial Lab., 1981–82; NSF Fellowship, 1982–85; Alfred P. Sloan Foundation Fellowship, 1985–86; Outstanding Doctoral Dissertation Award, NTA, 1986; Collegiate Council Fell., Univ. Michigan, 1987–88; Joseph A. Livingston Res. Scholar, Univ. Michigan, 1989–90; Natl Fell., Hoover Inst., Stanford, 1990–91; Univ. Partnership Fell., IBM, 1998–99, 1999–2000, 2000–01.

Editorial Duties Assoc. Ed., *RandJE*, 1995–2002; Ed. Bd, *Telecommunication Systems*, 1996–; Founding Ed. Bd, *Netnomics: Econ. Res. and Electronic Networking*, 1996–, *Electronic Commerce Res.*, 1999–2002.

Principal Fields of Interest D4 Market Structure and Pricing; L4 Antitrust Policy; D8 Information and Uncertainty.

Publications *Articles*: 1. 'Price discrimination and patent policy' (J.A. Hausman), *RandJE*, 19, Summer 1988; 2. 'Some nonlinear tax effects on asset values and investment decisions under uncertainty', *J Pub E*, 42, Aug. 1990; 3. 'Do taxes affect corporate financing decisions?', *J Fin*, 45, Dec. 1990; 4. 'Do firms care who provides their financing?', in R.G. Hubbard (ed.), *Asymmetric Information, Corporate Finance, and Investment* (UCP, 1990); 5. 'Some simple analytics

of peak-load pricing' (with T. Bergstrom), *RandJE*, 22, Summer 1991; 6. 'Why do countries and industries with large seasonal cycles also have large business cycles?' (with J. Beaulieu, J. Miron), *QJE*, 107, May 1992; 7. 'Economic FAQs about the Internet' (with H. Varian), *JEP*, 8, Summer 1994; 8. 'Tax distortions to the choice of organizational form' (with R.H. Gordon), *J Pub E*, 55, Oct. 1994; 9. 'Why is there corporate taxation in a small open economy?' (with R.H. Gordon), in M. Feldstein, J. Hines, R.G. Hubbard (eds), *International Taxation* (UCP, 1995); 10. 'Pricing the Internet' (with H. Varian), in B. Kahin, J. Keller (eds), *Public Access to the Internet* (MIT Press, 1995); 11. 'Pricing congestible resources' (with H. Varian), *IEEE-J. Selected Areas in Communications*, 13, Sept. 1995; 12. 'Antitrust policy in aftermarkets' (with S. Borenstein, J. Netz), *Antitrust Law J.*, 63, Winter 1995; 13. 'Service architecture and content provision: the network provider as editor' (with S. Shenker, H. Varian), *Telecomm. Pol.*, 20, April 1996; 14. 'How much do taxes discourage incorporation?' (with R.H. Gordon), *J Fin*, June 1997; 15. 'Two-sided learning in an agent economy for information bundles' (with J. Kephart, R. Das), *Agent-mediated Electronic Commerce* (Lecture Notes in Artificial Intelligence), (S-V, 2000); 16. 'Exercising market power in proprietary aftermarkets' (with S. Borenstein, J. Netz), *JEMS*, 9, 2000; 17. 'Auction protocols for decentralized scheduling' (with M. Wellman, W. Walsh, P. Wurman), *Games and Econ. Behav.*, 35, 2001; 18. 'A market-based approach to optimal resource allocation in integrated-services connection-oriented networks' (with P. Thomas, D. Teneketzis), *OR*, 50, July–Aug. 2002; 19. 'Model selection in an information economy: choosing what to learn' (with C. Brooks, R. Gazzale, R. Das, J. Kephart, E. Durfee), *Computational Intelligence*,

18, Nov. 2002; 20. 'Variable QoS from shared Web caches: user-centered design and value-sensitive replacement' (with T. Kelly, S. Jamin), in L. McKnight (ed.), *Internet Service Quality Economics* (MIT Press, in press).

Principal Contributions My early contributions were in taxation and corporate behavior. My empirical studies were the first to demonstrate that taxes affect corporate financing (articles 3, 4). With Roger Gordon I then demonstrated the magnitude of the tax effect on the choice of organizational form (articles 7, 14), and implications for income shifting and tax policy (article 8). In an early application of real options theory I demonstrated surprising effects that nonlinear tax policies have on investment decisions (article 2). I also contributed to antitrust economics, notably by demonstrating that even when the market for a durable is competitive, a firm that has locked-in customers will charge above competitive prices for its complementary aftermarket products (articles 1, 11, 17). My most influential work is in the area of Internet economics, which Hal Varian and I largely initiated in the early 1990s (articles 9, 10, 12, 19). We explained the economic implications of the technological difference between Internet and telecom networks. Our proposed 'smart market' to manage Internet congestion led to much research by others, and influenced the design of new Internet protocols and services. In related work I designed and tested market-based schemes for allocating Internet caching resources to improve quality of service (article 15). I also studied the implications of network architecture for the variety and quantity of digital content that will be created and delivered over networks (article 13). Recently I have contributed to the economics and computer science literatures on the design of infrastructure for electronic transactions. In one

ongoing project I contributed to the design of pragmatic on-line auction systems for complex allocation problems, such as scheduling (article 18). In another ongoing project I contributed to the design of economically-intelligent software agents for participation in electronic commerce (articles 16, 20), which contributed as well to the bundling literature.

MACKINLAY, A. Craig n.e.

MACKINNON, James Gordon

Born 1951, Charlottetown, Prince Edward Island, Canada.

Current Post Sir Edward Peacock Prof. Em., Queen's Univ., Kingston, Ontario, Canada, 1991–.

Past Posts Asst Prof., Assoc. Prof., Prof., Queen's Univ., 1975–78, 1978–82, 1982–91.

Degrees BA York Univ., Toronto, 1971; MA, PhD Princeton Univ., 1974, 1975.

Offices and Honours Woodrow Wilson Fell., 1971–72; Fell., Em Soc, 1991–, Royal Soc. Canada, 1995–; Queen's Univ. Prize for Excellence in Res., 1995; Vice-Pres., Pres.-Elect, Pres., Past-Pres., Canadian Econ. Assoc., 1999–2000, 2000–01, 2001–02, 2002–03.

Editorial Duties Ed. Bds, *CJ*, 1984–87, *JAE*, 1989–91, *J Em*, 1992–, *J. Fin. Em.*, 2001–; Software Rev. Ed., *JAE*, 1992–.

Principal Field of Interest C1 Econometric and Statistical Methods: General.

Publications *Book*: 1. *Estimation and Inference in Econometrics* (with R. Davidson), (OUP, 1993).

Articles: 1. 'The sandwich method for finding fixed points' (with H.W. Kuhn), *J. Optimization Theory and Apl.*, 17, 1975; 2. 'Market and shadow land rents with congestion' (with R.J. Arnott), *AER*, 68,

1978; 3. 'A maximum likelihood procedure for regression with autocorrelated errors' (with C.M. Beach), *Em*, 46, 1978; 4. 'Computing equilibria with increasing returns', *Europ ER*, 12, 1979; 5. 'Several tests for model specification in the presence of alternative hypotheses' (with R. Davidson), *Em*, 49, 1981; 6. 'Tests for model specification in the presence of alternative hypotheses: some further results' (with R. Davidson, H. White), *J Em*, 21, 1983; 7. 'Some heteroskedasticity consistent covariance matrix estimators with improved finite sample properties' (with H. White), *J Em*, 29, 1985; 8. 'Implicit alternatives and the local power of test statistics' (with R. Davidson), *Em*, 55, 1987; 9. 'Transforming the dependent variable in regression models' (with L. Magee), *IER*, 31, 1990; 10. 'Regression-based methods for using control variates in Monte Carlo experiments' (with R. Davidson), *J Em*, 54, 1992; 11. 'A new form of the information matrix test' (with R. Davidson), *Em*, 60, 1992; 12. 'Approximate asymptotic distribution functions for unit-root and cointegration tests', *JBES*, 12, 1994; 13. 'Numerical distribution functions for unit root and cointegration tests', *JAE*, 11, 1996; 14. 'Approximate bias correction in econometrics' (with A.A. Smith), *J Em*, 85, 1998; 15. 'Bootstrap testing in nonlinear models' (with R. Davidson), *IER*, 40, 1999; 16. 'Numerical distribution functions of likelihood ratio tests for cointegration' (with A.A. Haug, L. Michelis), *JAE*, 14, 1999; 17. 'Bootstrap J tests of nonnested linear regression models' (with R. Davidson), *J Em*, 109, 2002; 18. 'Distributions of error correction tests for cointegration' (with N.R. Ericsson), *J Em*, 5, 2002; 19. 'Bootstrap inference in econometrics', *CJ*, 35, 2002.

Principal Contributions Much of my early work dealt with methods for computing economic general equilibrium mod-

els and applications of those methods to urban and spatial models. However, in the late 1970s, my interests turned towards econometrics, and I wrote several papers with Charles Beach on methods for estimating models with autocorrelated errors. Shortly afterwards, I began my long collaboration with Russell Davidson. Our first papers dealt with non-nested hypothesis tests, in particular the J test, which has become very well known. We went on to write a large number of papers together, many dealing with various aspects of model specification testing. Some of our work is quite theoretical, notably article 8, which, in our view, cleared up a great deal of confusion about how to interpret test statistics in econometrics. However, most of our papers are aimed at applied econometricians; they propose easily implemented procedures which have reasonably good finite-sample properties. In the late 1980s and early 1990s, believing that our way of looking at econometrics was worth expositing, we wrote our graduate textbook. Writing it was an enormous undertaking, and we are relieved that it has been quite successful. In recent years, driven by advances in computer technology, my research has been concerned principally with two topics. One is ways of computing accurate numerical distribution functions for test statistics with non-standard distributions, such as unit-root and cointegration tests. The other is using the bootstrap to obtain accurate inferences in finite samples.

MACKUEN, Michael B. n.e.

MACLEOD, William Bentley

Born 1954, Iserlohn, Germany.

Current Posts Prof. Econ. and Law, Dir., Center for Law, Econ. and Org., Univ.

Southern California, Los Angeles, CA, USA, 1998–, 2000–; Res. Assoc., CIRANO, Montreal, Canada, 2000–; Res. Assoc., Center for Econ. Stud., Univ. Munich, Germany, 2002–.

Past Posts Res. Asst, Physics Dept, Queen's Univ., Canada, 1972–73; Physics and Maths Teacher, Boki Boys Secondary Sch., Nigeria, 1975–77; Lect., Asst Prof., Assoc. Prof., Queen's Univ., Canada, 1982–84, 1984–87, 1987–91; Res. Fell., Vis. Prof., CORE, Univ. Catholique de Louvain, 1983, 1984, Univ. Autonoma de Barcelona, 1989–90, Princeton Univ., 2003–04; Assoc. Prof. Sc. Écon., Prof. Sc. Écon., Univ. Montréal, 1990–92, 1992–96; Mem., Dep. Dir., Centre de Recherche et Dévlp. en Écon., Univ. Montréal, 1990–2000, 1994–95; Olin Visitor, Princeton Univ., 1991; Prof. Econ., Boston Coll., 1996–97; Vis. Scholar, Univ. Munich, 2001; Vis. Prof. Econ. and Law, California Inst. Tech., 2002.

Degrees BA (Maths, Distinction), MSc Queen's Univ., 1975, 1979; PhD UBC, 1984.

Offices and Honours William Coombs Baker Prize for Physics, 1973; Doctoral Scholarship, Postdoctoral Fellowship, SSHRCC, 1980–82, 1985–87; Dal Grauer Memorial Prize for Econ., 1981; Exec. Comm., Assoc. Comparative Econ., 1996–97; Res. Fellowship, Univ. Catholique de Louvain, 1983; H. Gregg Lewis Prize, Soc. Labor Econ., 2002.

Editorial Duties Ed. Bd, *J Comp E*, 1994–96; Assoc. Ed., *JEBO*, 2001–.

Principal Fields of Interest D0 Microeconomics: General; J0 Labor and Demographic Economics: General; K0 Law and Economics: General.

Publications *Articles*: 1. 'On adjustment costs and the stability of equilibria', *REStud*, 52, 1985; 2. 'A theory of conscious parallelism', *Europ ER*, 27, 1985; 3. 'Price discrimination and equilibrium in monopolistic competition' (with G. Nor-

man, J. Thisse), *IJIO*, 6, 1988, repr. in A. Gee, G. Norman (eds), *The Economics of Price Discrimination, The International Library of Critical Writings in Economics* series (ed. M. Blaug), (Edward Elgar, 2000); 4. 'Reputation and hierarchy in dynamic models of employment' (with J. Malcomson), *JPE*, 96, 1988; 5. 'Equity, efficiency and incentives in co-operative teams', in *Advances in the Economic Analysis of Participatory and Labor Managed Firms*, Vol. 3 (JAI Press, 1988); 6. 'Implicit contracts, incentive compatibility and involuntary unemployment' (with J. Malcomson), *Em*, 56, March 1989; 7. 'The ratchet effect and the market for second-hand workers' (with Y. Kanemoto), *J Lab E*, 10, 1992; 8. 'Efficiency and renegotiation in repeated games' (with J. Bergin), *JET*, 61, 1993; 9. 'Multi-skilling, technical change and the Japanese firm' (with L. Carmichael), *EJ*, 103, Jan. 1993; 10. 'Efficient specific investments, incomplete contracts and the role of market alternatives' (with J. Malcomson), *AER*, 83, 1993; 11. 'Administrative corruption and efficient taxation' (with F. Flatters), *ITPF*, 2, 1995, repr. in G. Fiorentini, S. Zamagni (eds), *The Economics of Corruption and Illegal Markets* (Edward Elgar, 2000); 12. 'Incentives in organizations: an overview of some of the evidence and theory', in H. Siebert (ed.), *Trends in Business Organization* (Kiel Inst. World Econ., 1995); 13. 'On the strategic stability of equilibria in experimental games' (with J. Brandts), *Games and Econ. Behav.*, 11, 1995; 14. 'Gift giving and the evolution of cooperation' (with L. Carmichael), *IER*, 38, July 1997; 15. 'Motivation and markets' (with J. Malcomson), *AER*, 88, July 1998; 16. 'Job characteristics and the form of compensation' (with D. Parent), *Res. Labor Econ.*, 18, 1999; 17. 'Worker cooperation and the ratchet effect' (with L. Carmichael), *J Lab E*, 18, Jan. 2000; 18. 'Complexity and contract', in E.

Brousseau, J.-M. Glachant (eds), *The Economics of Contract in Prospect and Retrospect* (CUP, 2002); 19. 'Caring about sunk costs: a behavioral solution to hold-up problems with small stakes' (with L. Carmichael), *JLEO*, 19, Spring 2003; 20. 'Optimal contracts with subjective evaluation', *AER*, 93, March 2003.

Principal Contributions My work is mainly concerned with understanding incentive contracts in dynamic settings, and how optimal contracts are the consequence of a complex interplay between reputation effects, market competition and social norms. In article 2 it is shown that norms in price setting may lead to collusion between firms. Article 5 shows that the free-riding problem with team production can be solved in relationships as long as the gains from membership are sufficiently large. This work is extended in article 6 to provide a complete characterization of two-party incomplete contracts. A feature of these contracts is that this may entail *ex post* inefficient outcomes, which is shown in article 8 to have no satisfactory solution, and hence efficient exchange in the presence of incomplete contracts necessarily entails some form of social costs. In article 14, it is shown that sinking costs up-front, as is done with gift exchange, is a unique stable social norm that can solve the free-rider problem in anonymous markets. Article 20 uses this observation to characterize contracts when evaluations are subjective and imperfectly correlated, and formally shows how biased evaluations can lead to lower pay and performance. In article 19 it is shown that incomplete contract theory can be used to derive a unique fair division rule that can explain why individuals exhibit endowment effects, while article 10 shows that it can explain nominal rigid wages. Recent work, including articles 12, 16, and 18, shows greater transactions complexity results in

an increased use of rewards based upon subjective evaluations.

MACPHERSON, David Allan

Born 1960, Sydney, Australia.

Current Post Abba Lerner Prof. Econ., Florida State Univ., Tallahassee, FL, USA, 2000–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Miami Univ., 1987–91, 1991–93; Assoc. Prof. Econ., Prof. Econ., Florida State Univ., 1993–96, 1996–2000.

Degrees BS, PhD Pennsylvania State Univ., 1981, 1987.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J2 Time Allocation; Work Behavior; Employment Determination and Creation; J4 Particular Labor Markets.

Publications *Books*: 1. *Union Membership and Earnings Data Book: Compilations from the Current Population Survey* (with B. Hirsch), (Bureau Natl Affairs, 1993); 2. *Pensions and Productivity* (with S. Dorsey, C. Cornwell), (W.E. Upjohn Inst., 1998); 3. *Contemporary Labor Economics* (with C. McConnell, S. Brue), (McGraw-Hill, 1999, 2003); 4. *Economics: Private and Public Choice* (with J. Gwartney, R. Stroup, R. Sobel), (Southwestern, 2003).

Articles: 1. ‘The effect of international competition on union and nonunion wages’ (with J. Stewart), *Ind. Labor Rev.*, 43, April 1990; 2. ‘The gender gap in pensions and wages’ (with W. Even), *REStat*, 72, May 1990; 3. ‘The decline of private-sector unionism and the gender wage gap’ (with W. Even), *JHR*, 28, Spring 1993; 4. ‘Unionism and gross employment flows’ (with T. Dunne), *SEJ*, 60, Jan. 1994; 5. ‘Why did male pension coverage decline in the 1980s?’ (with W. Even), *Ind. Labor Rev.*, 47, April 1994; 6. ‘Gender differences in pensions’ (with W.

Even), *JHR*, 29, Spring 1994; 7. ‘Wages and gender composition: why do women’s jobs pay less?’ (with B. Hirsch), *J Lab E*, 13, July 1995; 8. ‘Employer size and labor turnover: the role of pensions’ (with W. Even), *Ind. Labor Rev.*, 49, July 1996; 9. ‘Pensions and training’ (with S. Dorsey), *Ind. Relations*, 36, Jan. 1997; 10. ‘Workers’ compensation reciprocity in union and nonunion workplaces’ (with B. Hirsch, J.M. DuMond), *Ind. Labor Rev.*, 50, Jan. 1997; 11. ‘Estimating wage differentials: when does cost-of-living matter?’ (with B. Hirsch, J.M. DuMond), *EI*, 17, Oct. 1999; 12. ‘Earnings, rents, and competition in the airline labor market’ (with B. Hirsch), *J Lab E*, 18, Jan. 2000; 13. ‘Occupational age structure and access for older workers’ (with B. Hirsch, M. Hardy), *Ind. Labor Rev.*, 53, April 2000; 14. ‘The changing distribution of pension coverage’ (with W. Even), *Ind. Relations*, 39, April 2000; 15. ‘The wage and employment dynamics of minimum wage workers’ (with W. Even), *SEJ*, 2003; 16. ‘Wages, sorting on skill, and the racial composition of jobs’ (with B. Hirsch), *J Lab E*, 2003.

Principal Contributions Economists since Adam Smith have argued that competitive forces should tend to equalize wages across similar workers in similar jobs. My research has been concentrated on examining factors that cause deviations from wage equalization. In particular, I have focussed on the role of trade unions, wage discrimination, and pensions.

MADHAVEN, Ananth n.e.

MAHESWAREN, Durairaj n.e.

MAHONEY, Martha R. n.e.

MAILATH, George Joseph Martin

Born 1957, Perth, Western Australia, Australia.

Current Posts Edmund J. and Louise W. Kahn Endowed Term Prof., Prof. Econ., Univ. Pennsylvania, Philadelphia, PA, USA, 1998–, 1995–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Pennsylvania, 1985–92, 1992–95; Vis. Lect., Melbourne Univ., 1990; Visitor, Dept Econ., Univ. Bonn, 1992, 1995; Hon. Fell., Univ. Wisconsin, 1995; Vis. Fell., ANU, 1996; Adjunct Prof. Econ., NYU, 1998, Disting. Vis., STICERD, LSE, 2002.

Degrees BEc (1st Class Hons) ANU, 1980; MA, PhD Princeton Univ., 1983, 1985.

Offices and Honours Fell., Em Soc, 1995.

Editorial Duties Ed. Bds, *ET*, 1990–, *IER*, 1993–96, 1997–2001, *Games and Econ. Behav.*, 1996–; Assoc. Ed., *JET*, 1991–2001, *IER*, 1997; Foreign Ed., *REStud*, 1995–, *Em*, 2001–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D7 Analysis of Collective Decision-Making; D8 Information and Uncertainty.

Publications *Articles*: 1. ‘Incentive compatibility in signaling games with a continuum of types’, *Em*, 55, Nov. 1987; 2. ‘Asymmetric information bargaining problems with many agents’ (with A. Postlewaite), *REStud*, 57, July 1990; 3. ‘Workers versus firms: bargaining over a firm’s value’ (with A. Postlewaite), *REStud*, 57, July 1990; 4. ‘Social norms, savings behavior, and growth’ (with H.L. Cole, A. Postlewaite), *JPE*, 100, Dec. 1992; 5. ‘Learning, mutation, and long run equilibria in games’ (with M. Kandori, R. Rob), *Em*, 61, Jan. 1993; 6. ‘Extensive form reasoning in normal form games’ (with L. Samuelson, J. Swinkels), *Em*, 61, March 1993; 7. ‘Belief-based refinements

in signalling games’ (with M. Okuno-Fujiwara, A. Postlewaite), *JET*, 60, Aug. 1993; 8. ‘A positive analysis of bank closure’ (with L.J. Mester), *J. Fin. Intermediation*, 3, June 1994; 9. ‘Normal form structures in extensive form games’ (with L. Samuelson, J. Swinkels), *JET*, 64, Dec. 1994; 10. ‘How proper is sequential equilibrium?’ (with L. Samuelson, J. Swinkels), *Games and Econ. Behav.*, 18, Feb. 1997; 11. ‘Endogenous inequality in integrated labor markets with two-sided search’ (with L. Samuelson, A. Shaked), *AER*, 90, March 2000; 12. ‘Efficient non-contractible investments in finite economies’ (with H.L. Cole, A. Postlewaite), *Adv. Theoretical Econ.*, 1, 2001; 13. ‘Who wants a good reputation?’ (with L. Samuelson), *REStud*, 68, April 2001; 14. ‘Efficient non-contractible investments in large economies’ (with H.L. Cole, A. Postlewaite), *JET*, 101, Dec. 2001; 15. ‘Repeated games with almost-public monitoring’ (with S. Morris), *JET*, 102, Jan. 2002.

Principal Contributions Article 2 proves the general impossibility of public provision in settings with veto power, private information, and a large number of agents. Article 4 was one of the first papers to endogenously derive a concern for relative position. Article 5 presents a simple model of stochastic evolution, providing a criterion for selecting between strict Nash equilibria. Articles 6, 9 and 10 provide a complete description of the relationship between the extensive and the normal form of a game. Articles 12 and 14 investigate the extent to which competition can alleviate the hold-up problem. Article 13 explores a new model of reputations based on separation rather than pooling considerations. Article 15 studies repeated games with imperfect private monitoring where the monitoring is close to public.

MAKSIMOVIC, Vojislav

Born 1955, Belgrade, Yugoslavia.

Current Post Bank of Amer. Prof. Fin., Robert H. Smith Sch. Bus., Univ. Maryland, College Park, MD, USA, 2000–.

Past Posts Temp. Econ., IMF, 1980; Teaching Fell., Instr., Dept Econ., Harvard Univ., 1980–83, 1983–85; Asst Prof., Assoc. Prof., Faculty Commerce, UBC, 1985–91, 1991–92; Vis. Asst Prof., Coll. Bus., Univ. Maryland, 1989; Assoc. Prof., Coll. Bus. and Mgmt, Univ. Maryland, 1992–99; Prof., Robert H. Smith Sch. Bus., Univ. Maryland, 1999–2000.

Degrees BSc, MSc (Math. Econ. and Em.) LSE, 1976, 1977; PhD (Bus. Econ.) Harvard Univ., 1986.

Editorial Duties Assoc. Ed., *Mgmt Sc.*, 1990–96, *Fin. Mgmt*, 1999–, *J. Fin. Services Res.*, 1999–, *Intl Rev. Fin.*, 1999–.

Principal Fields of Interest G3 Corporate Finance and Governance; O1 Economic Development; L0 Industrial Organization: General.

Publications *Articles*: 1. ‘Vendor financing’ (with M.J. Brennan, J. Zechner), *J Fin*, 37, 1988; 2. ‘Capital structure in a repeated oligopoly’, *RandJE*, 19, 1988; 3. ‘Debt and input misallocation’ (with M. Kim), *J Fin*, 45, 1990; 4. ‘Truncation bias and cross-sectional estimates in event studies: econometric issues with an application to horizontal mergers’ (with E. Eckbo, J. Williams), *Rev. Fin. Stud.*, 3, 1990; 5. ‘Product market imperfections and loan commitments’, *J Fin*, 45, 1990; 6. ‘Pooling, separating and semi-separating equilibria in financial markets: some experimental evidence’ (with B. Cadsby, M. Frank), *Rev. Fin. Stud.*, 4, 1991; 7. ‘Financial policy and reputation for product quality’ (with S. Titman), *Rev. Fin. Stud.*, 4, 1991; 8. ‘Debt, agency costs and industry equilibrium’ (with J. Zechner), *J Fin*, 46, 1991; 9. ‘Issue size and underpricing in thrift mutual-to-stock conver-

sions’ (with H. Unal), *J Fin*, 48, 1993; 10. ‘Stock market development, and firm financing choices’ (with A. Demirguc-Kunt), *WBER*, 10, 1996; 11. ‘Equilibrium dominance in experimental financial markets’ (with B. Cadsby, M. Frank), *Rev. Fin. Stud.*, 11, 1998; 12. ‘Asset efficiency and reallocation decisions of bankrupt firms’ (with G. Phillips), *J Fin*, 55, 1998; 13. ‘Law, finance, and firm growth’ (with A. Demirguc-Kunt), *J Fin*, 55, 1998; 14. ‘Institutions, financial markets, and firms’ debt maturity’ (with A. Demirguc-Kunt), *J Fin E*, 56, 1999; 15. ‘Capital structures in developing countries’ (with A. Aivazian, L. Booth, A. Demirguc-Kunt), *J Fin*, 56, 2001; 16. ‘Technological innovation and initial public offerings’ (with P. Pichler), *Rev. Fin. Stud.*, 14, 2001; 17. ‘The market for corporate assets: who engages in mergers and asset sales, and are there any gains?’ (with G. Phillips), *J Fin*, 56, 2001; 18. ‘Do conglomerate firms allocate resources inefficiently? Evidence from plant-level data’ (with G. Phillips), *J Fin*, 57, 2002; 19. ‘Funding growth in bank-based and market-based financial systems: evidence from firm-level data’, *J Fin*, 57, 2002.

Principal Contributions My initial research focused on how firms can strategically choose their financial structure to exploit product market imperfections. I also showed that capital structures which might appear to create incentives for agency conflicts when viewed in isolation can be optimal when viewed in industry equilibrium. My more recent research has used plant-level US Census data to analyse the efficiency of conglomerate firms, firms in bankruptcy proceedings and firms engaged in takeover activity. Most recently I have analysed how legal and financial institutions affect access to external financing in different countries.

MALCOMSON, James Martin

Born 1946, Staunton-on-Wye, Herefordshire, England.

Current Posts Prof. Econ., Univ. Oxford and Fell., All Souls Coll., Oxford, England, 1999–.

Past Posts Teaching Fell. Econ., Harvard Univ., 1969–71; Ellis Hunter Memorial Fell. Econ., Lect., Sr Lect. Econ., Univ. York, UK, 1971–72, 1972–83, 1983–85; Vis. Fell. Econ., Univ. Catholique de Louvain, 1983–84; Prof. Econ., Univ. Southampton, 1985–99.

Degrees BA, MA Univ. Cambridge, 1967, 1971; MA, PhD Harvard Univ., 1969, 1973.

Honours Fell., BA, 2000.

Principal Fields of Interest D8 Information and Uncertainty; I1 Health; J3 Wages, Compensation, and Labor Costs.

Publications *Articles*: 1. ‘Replacement and the rental value of capital equipment subject to obsolescence’, *JET*, 10, Feb. 1975; 2. ‘The estimation of a vintage model of production for UK manufacturing’ (with M.J. Prior), *REStud*, 46, Oct. 1979; 3. ‘Corporate tax policy and the service life of capital equipment’, *REStud*, 48, April 1981; 4. ‘Unemployment and the efficiency wage hypothesis’, *EJ*, 91, Dec. 1981; 5. ‘Work incentives, hierarchy, and internal labor markets’, *JPE*, 92, June 1984, repr. in G.A. Akerlof, J.L. Yellen (eds), *Efficiency Wage Models of the Labor Market* (CUP, 1986); 6. ‘Dynamic inconsistency, rational expectations, and optimal government policy’ (with B. Hillier), *Em*, 52, Nov. 1984; 7. ‘Rank-order contracts for a principal with many agents’, *REStud*, 53, Oct. 1986; 8. ‘The multiperiod principal agent problem’ (with F. Spinnewyn), *REStud*, 55, July 1988; 9. ‘Reputation and hierarchy in dynamic models of employment’ (with W.B. MacLeod), *JPE*, 96, Aug. 1988; 10. ‘Implicit contracts, incentive compatibility,

and involuntary unemployment’ (with W.B. MacLeod), *Em*, 57, March 1989; 11. ‘Investments, holdup, and the form of market contracts’ (with W.B. MacLeod), *AER*, 83, Sept. 1993; 12. ‘Labor turnover and the natural rate of unemployment: efficiency wage versus frictional unemployment’ (with W.B. MacLeod, P. Gomme), *J Lab E*, 12, April 1994; 13. ‘Contracts, hold-up, and labor markets’, *JEL*, 35, Dec. 1997; 14. ‘Contracting for health services when patient demand does not reflect quality’ (with M. Chalkley), *JHE*, 17, Jan. 1998; 15. ‘Motivation and markets’ (with W.B. MacLeod), *AER*, 88, June 1998; 16. ‘Contracting for health services with unmonitored quality’ (with M. Chalkley), *EJ*, 108, July 1998; 17. ‘Individual employment contracts’, in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3B, chap. 35 (Elsevier, 1999); 18. ‘Government purchasing of health services’ (with M. Chalkley), in A.J. Culyer, J.P. Newhouse (eds), *Handbook of Health Economics*, Vol. 1A, chap. 15 (Elsevier, 2000); 19. ‘Performance, promotion, and the Peter Principle’ (with J.A. Fairburn), *REStud*, 68, Jan. 2001; 20. ‘Cost sharing in health service provision: an empirical assessment of cost savings’ (with M. Chalkley), *J Pub E*, 84, May 2002.

Principal Contributions My early research analysed vintage effects in investment, especially the implications for obsolescence, replacement and utilisation of capital equipment, and the effects of tax policy on these. I derived rigorous theoretical models of optimal investment and replacement that did not rely on stationarity, showed how optimal policies relate to simple rules, and derived analytic results for the effects of changes in tax policy on investment and replacement. I also devised ways to estimate such models empirically without imposing stationarity, an essential step in predicting the short-run effects of tax policy changes.

My empirical research on production convinced me of the need for economists to understand better the labour side of the production process and most of my more recent research has been directed towards that. One of my main concerns has been the different ways of motivating employees when important aspects of performance are not easily specified in the employment contract: performance-related pay in dynamic settings, high wages coupled with the threat of dismissal for unsatisfactory performance (efficiency wages), tournaments, and competition for promotion. In this research (some joint with co-researchers, most notably Bentley MacLeod) I have shown that tournaments and competition for promotion can provide effective methods of motivation provided that employees are sufficiently heterogeneous in their abilities and capture many of the features of internal labour markets. Performance-related bonuses are effective even when employees are homogeneous but may result in less efficient outcomes than efficiency wages when prospective employees are plentiful, relative to jobs. These results have implications for dual economies and for cyclical behaviour of wages and employment. Other recent research has shown that the types of contracts used in many practical situations have properties that theory suggests are appropriate for protecting investments in general and specific assets and has analysed the form of contracts appropriate for the provision of health services.

MANASTER, Steven n.e.

MANKIW, Nicholas Gregory

Born 1958, Trenton, NJ, USA.

Current Post Allie S. Freed Prof. Econ.,

Harvard Univ., Cambridge, MA, USA, 2002–.

Past Posts Staff Econ., US President's Council Econ. Advisers, 1982–83; Instr., MIT, 1984–85; Asst Prof. Econ., Harvard Univ., 1985–87; Prof. Econ., Harvard Univ, 1987–2002.

Degrees AB Princeton Univ., 1980; PhD MIT, 1984.

Offices and Honours Faculty Res. Fell., Olin Fell., NBER, 1985–87, 1987–88; Presidential Young Investigators Award, NSF, 1987–92; Res. Assoc., NBER, 1987–; Galbraith Teaching Prize, 1991; Dir., Monetary Econ. Program, NBER, 1993–2000, 2002–; Panel Adviser, Brookings Panel on Econ. Activity, 1993–; Panel Acad. Advisers, CBO, 1995–; Bower Award, Natl Council Econ. Educ., 2000.

Editorial Duties Assoc. Ed., *JEP*, 1988–98, *REStat*, 1989–; Advisory Ed., McGraw-Hill *Adv. Textbook* series, 1992–98.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications Books: 1. *Macroeconomics* (Worth Publishers, 1992, 1994, 1997, 2000, 2003); 2. *Principles of Economics* (Dryden Press, 1998, Harcourt Coll. Publishers, 2001, Thomson-Southwestern, 2004).

Articles: 1. 'Hall's consumption hypothesis and durable goods', *JME*, 10, Nov. 1982; 2. 'Intertemporal substitution in macroeconomics' (with J. Rotemberg, L. Summers), *QJE*, 100, Feb. 1985; 3. 'Small menu costs and large business cycles: a macroeconomic model of monopoly', *QJE*, 100, May 1985; 4. 'Free entry and social inefficiency' (with M. Whinston), *RandJE*, 17, Spring 1986; 5. 'The changing behavior of the term structure of interest rates' (with J. Miron), *QJE*, 101, May 1986; 6. 'Are output fluctuations transitory?' (with J. Campbell), *QJE*, 102,

Nov. 1987; 7. 'The new Keynesian economics and the output–inflation tradeoff' (with L. Ball, D. Romer), *BPEA*, 1, 1988; 8. 'Assessing dynamic efficiency: theory and evidence' (with A. Abel, L. Summers, R. Zeckhauser), *REStud*, 56, Jan. 1989; 9. 'Consumption, income, and interest rates: reinterpreting the time series evidence' (with J. Campbell), *NBER Macroecon. Annual*, 4, 1989; 10. 'The baby boom, the baby bust, and the housing market' (with D. Weil), *RSUE*, 19, 1989; 11. 'The consumption of stockholders and non-stockholders' (with S. Zeldes), *J Fin E*, 29, March 1991; 12. 'A contribution to the empirics of economic growth' (with D. Romer, D. Weil), *QJE*, 107, May 1992; 13. 'Asymmetric price adjustment and economic fluctuations' (with L. Ball), *EJ*, 104, March 1994; 14. 'Capital mobility in neo-classical models of growth' (with R. Barro, X. Sala-i-Martin), *AER*, 85, March 1995; 15. 'The growth of nations', *BPEA*, 1, 1995; 16. 'An asset allocation puzzle' (with N. Canner, D. Weil), *AER*, 87, March 1997; 17. 'The inexorable and mysterious tradeoff between inflation and unemployment', *EJ*, 111, May 2001; 18. 'Sticky information versus sticky prices: a proposal to replace the new Keynesian Phillips curve' (with R. Reis), *QJE*, 117, Nov. 2002.

Principal Contributions One of my continuing research interests is the theory of short-run price adjustment. This work often goes by the label 'new Keynesian', although it builds on the views of monetarists such as Milton Friedman as much as on the views of Keynes. Much of my work highlights the behavior of monopolistically competitive firms that must incur 'menu costs' to change prices. My 1985 paper on this topic examined the incentives that firms face when deciding whether to adjust prices and the divergence between the private and social benefits of price adjustment. Later papers emphasized the difficulty of explaining the inertial behavior of inflation. My

2002 paper with Reis proposed that inflation inertia could be explained by the slow dissemination of information among price setters. A second continuing research interest is the determinants of consumption. A paper in 1982 extended Hall's rational-expectations framework to durable goods. My 1989 paper with Campbell found that predictable changes in income are associated with predictable changes in consumption and concluded that current income has a stronger influence on consumer spending than can be explained by the permanent income hypothesis. My joint work with Zeldes detected systematic differences between consumers who hold equities and those who don't, suggesting that these differences might help resolve the equity premium puzzle. A third continuing research interest is the theory and empirics of long-run growth. My 1989 paper with Abel, Summers, and Zeckhauser derived sufficient conditions for evaluating the efficiency of capital accumulation in economies with uncertainty. My 1992 paper with Romer and Weil examined international data on living standards and concluded that these data were consistent with a Solow growth model augmented to include a role for human capital.

MANNING, Alan n.e.

MANSKI, Charles F.

Born 1948, Boston, MA, USA.

Current Post Bd Trustees Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof. Econ., Carnegie-Mellon Univ., 1973–79; Assoc. Prof. Econ., Hebrew Univ., Jerusalem, 1979–83; Prof. Econ., Univ. Wisconsin-Madison, 1983–98.

Degrees BS, PhD MIT, 1970, 1973.

Offices and Honours Fell., Em Soc, 1984, Amer. Assoc. Adv. Sc., 1991, AAAS, 1994, Center Adv. Study in Behav. Sc., 1992; Dir., Inst. Res. Poverty, 1988–91; Chair, Bd Overseers of Panel Study of Income Dynamics; 1994–98; Chair, Comm. Data and Res. for Pol. on Illegal Drugs, NRC, 1998–2001; Natl Assoc., Natl Academies, 2001.

Editorial Duties Assoc. Ed., *Transportation Sc.*, 1978–84, *Em*, 1980–88, *JASA Apl.*, 1983–85, *JEP*, 1986–89, *JASA Theory and Methods*, 2002–; Co-Ed., *Em Soc Monograph* series, 1983–88; Ed., *JHR*, 1991–94.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; D1 Household Behavior; I0 Health, Education, and Welfare: General.

Publications *Books*: 1. *Structural Analysis of Discrete Data with Econometric Applications* (ed. with D. McFadden), (MIT Press, 1981); 2. *College Choice in America* (with D. Wise), (HUP, 1983); 3. *Analog Estimation Methods in Econometrics* (Chapman & Hall, 1988); 4. *Evaluating Welfare and Training Programs* (ed. with I. Garfinkel), (HUP, 1992); 5. *Identification Problems in the Social Sciences* (HUP, 1995); 6. *Partial Identification of Probability Distributions* (S-V, 2003).

Articles: 1. ‘Maximum score estimation of the stochastic utility model of choice’, *J Em*, 3, 1975; 2. ‘The estimation of choice probabilities from choice based samples’ (with S. Lerman), *Em*, 45, 1977; 3. ‘Closest empirical distribution estimation’, *Em*, 51, 1983; 4. ‘Semi-parametric analysis of discrete response: asymptotic properties of the maximum score estimator’, *J Em*, 27, 1985; 5. ‘Identification of binary response models’, *JASA*, 83, 1988; 6. ‘The use of intentions data to predict behavior: a best case analysis’, *JASA*, 85, 1990; 7. ‘Identification of endogenous social effects: the

reflection problem’, *REStud*, 60, 1993; 8. ‘The selection problem’, in C. Sims (ed.), *Advances in Econometrics, Sixth World Congress* (CUP, 1994); 9. ‘Identification and robustness with contaminated and corrupted data’ (with J. Horowitz), *Em*, 63, 1995; 10. ‘Monotone treatment response’, *Em*, 65, 1997; 11. ‘Perceptions of economic insecurity: evidence from the survey of economic expectations’ (with J. Dominitz), *Public Opinion Q.*, 61, 1997; 12. ‘Identification problems and decisions under ambiguity: empirical analysis of treatment response and normative analysis of treatment choice’, *J Em*, 95, 2000; 13. ‘Economic analysis of social interactions’, *JEP*, 14, 2000; 14. ‘Inference on regressions with interval data on a regressor or outcome’ (with E. Tamer), *Em*, 70, 2002.

Principal Contributions n.e.

MANTON, Kenneth Grant

Born 1947, Toronto, Canada.

Current Posts Res. Prof., Sc. Dir., Center Demographic Stud. (CDS), Duke Univ., Durham, NC, USA, 1985–, 2002–; Sr Fell., Center for Study of Aging and Human Devlp., Duke Univ. Medical Center (DUMC), 1980–; Medical Res. Prof., Dept Community and Family Medicine, DUMC, 1986–; Head, WHO Collaborating Center for Res. and Training in Methods of Assessing Risk and Forecasting Health Status Trends, CDS, Duke Univ., 1986–.

Past Posts Res. Assoc., Asst Res. Prof., Assoc. Res. Prof., CDS, Duke Univ., 1977–82, 1978–82, 1982–84; Asst Medical Res. Prof., Assoc. Medical Res. Prof., Dept Community and Family Medicine, DUMC, 1978–82, 1982–85; Asst Dir., Dir., CDS, Duke Univ., 1979–95, 1996–2001.

Degrees BA (Sociology) Princeton

Univ., 1969; MA (Sociology), PhD (Sociology) Duke Univ., 1971, 1974.

Offices and Honours James B. Duke Fell., 1969–72; Canada Council Fell., 1972–73; Post-Doctoral Fellowship, Duke Univ., 1974; Sandoz Foundation Fell., 1982–83; Mindel C. Sheps Award in Math. Demography and Demographic Methodology, 1990; Third Place Paper in Intl Prize in Actuarial Sc. Competition, SCOR (Sycor Intl), 1991; Allied-Signal Inc. Achievement Award in Aging, Johns Hopkins Center on Aging, 1991; Irene M. Ferrer Award for Outstanding Original Res. in Gender-Specific Medicine, Partnership for Women's Health at Columbia Univ., 2000.

Editorial Duties Assoc. Ed., *J. Gerontology*, 1995–2000; Ed. Advisory Bd, *Encyclopedia of Public Health*, 2001–04.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C3 Econometric Methods: Multiple/Simultaneous Equation Models; C4 Econometric and Statistical Methods: Special Topics.

Publications Books: 1. *Chronic Disease Modeling* (with E. Stallard), (Charles Griffin, 1988); 2. *Forecasting the Health of Elderly Populations* (with B.H. Singer, R.M. Suzman), (S-V, 1993); 3. *Statistical Applications Using Fuzzy Sets* (M.A. Woodbury, H.D. Tolley), (Wiley, 1994); 4. *Mechanisms of Aging and Mortality: Searches for New Paradigms*, Monographs on Population Aging, 7 (with A.I. Yashin), (Odense Univ. Press, 2000).

Articles: 1. 'Effects of unobserved and partially observed covariate processes on system failure: a review of models and estimation strategies' (with A.I. Yashin), *Stat. Sc.*, 12, 1997; 2. 'Monitoring changes in the health of the US elderly population: correlates with biomedical research and clinical innovations' (with L.S. Corder, E. Stallard), *J. Federation of Amer. Socs for Experimental Biology*, 11, 1997;

3. 'Health and disability differences among racial and ethnic groups' (with E. Stallard), chap. 7 in *Racial and Ethnic Differences in the Health of Older Americans* (NRC Comm. on Pop., 1997); 4. 'Chronic disability trends in the elderly US population: 1982–1994' (with L.S. Corder, E. Stallard), *Proceedings NAS USA*, 94, 1997; 5. 'Demographic trends among the aging female population', *J. Amer. Medical Women's Assoc.*, 52, 1997; 6. 'The effects of health changes on projections of health service needs for the US elderly population' (with B.H. Singer), *Proceedings NAS USA*, 95, 1998; 7. 'Effects of medical research on health care and the economy' (with H. Pardes, E.S. Lander, A.D. Ullian *et al.*), *Sc.*, 283, 1999; 8. 'Dynamic paradigms for human mortality and aging', *J. Gerontology and Biological Sc.*, 54A, 1999; 9. 'The vital role of economists in realizing medicine's golden age', *Chronicles Higher Educ.*, 18, Feb. 2000; 10. 'Gender differences in the cross-sectional and cohort age dependence of cause specific mortality: the US 1962 to 1995', *J. Gender-Specific Medicine*, 3, 2000; 11. 'Active life expectancy estimates for the US elderly population: multidimensional continuous mixture model of function and change applied to completed cohorts' (with K.C. Land), *Demography*, 37, 2000; 12. 'Demography of populations and global aging: societal implications of the oldest-old', chap. 1 in V.J. Cristofalo, D. Adelman (eds), *Modern Topics in the Biology of Aging* (S-V, 2001); 13. 'Changes in the prevalence of chronic disability in the US black and nonblack population above age 65 from 1982 to 1999' (with X. Gu), *Proceedings NAS USA*, 98, 2001; 14. 'State variable methods for demographic analysis' (with I. Akushevich), *Proceedings of XI Annual Seminar 'Non-linear Phenomena in Complex Systems'*, Minsk, Belarus, 2002; 15. 'The future of old age', in *Brocklehurst's Textbook of*

Geriatric Medicine and Gerontology (Churchill-Livingston, 6th edn 2002); 16. 'Aging and health in old age', in *International Encyclopedia of Social and Behavioral Science* (Elsevier, forthcoming).

Principal Contributions My contribution to economics centers on my measurement and analysis of national long-term trends in the production of human capital at later ages in the US population. My work contravened the assumption that, whatever the financial and technological inputs, the stock of human capital declined monotonically with age. I found, in contrast, that financial and technological ingredients in the national health care delivery system (including public components such as Medicare and Medicaid) could enhance the productivity of that system – for a fixed cohort of longitudinally-followed individuals this implies that the trajectory with age of human capital loss (populations) and individual functional capacity was not necessarily always downward. This has implications for retirement and tax policies, social security, and private pension programs and for the maintenance of wealth in the face of rapidly aging populations. I extended my work into the study of market mechanisms by examining how incentives for increased productivity (improved health outcomes) could be built into Medicare projective payment reimbursement systems – reimbursement systems which are often adopted by private health insurers. To conduct these analyses, I had to formulate new mathematical and statistical models that correctly interpreted the physiological systems being modified with fiscal and capital inputs in a non-linear multivariate diffusion process. This work involved (a) design of appropriate longitudinal national data; (b) development of statistical methods to estimate parameters from non-standard time-series data; and (c) developing mathematical models using those

parameter estimates for simulation and forecasting exercises – exercises that were used by federal planners and congressional staffs to plan future investments in biomedical research and in Medicare policy.

MANUELLI, Rodolfo E. n.e.

MAOZ, Zeev n.e.

MARGO, Robert Andrew

Born 1954, Detroit, MI, USA.

Current Posts Prof. Econ. and Hist., Vanderbilt Univ., Nashville, TN, USA, 1989–; Res. Assoc., NBER, Cambridge, MA, USA, 1987–; Mem., Conf. on Res. on Income and Wealth, 1989–.

Past Posts Lect. Econ., Asst Prof. Econ., Univ. Pennsylvania, 1981, 1982–86; Faculty Res. Fell., NBER, 1982–86; Assoc. Prof. Econ., Colgate Univ., 1986–89; Fell., Robert Penn Warren Center for Humanities, Vanderbilt Univ., 1992; Mem., Econ. Advisory Panel, NSF, 1996–97; Vis. Prof. Econ., Harvard Univ., 1997; Vis. Sr Fell., Jerome Levy Econ. Inst., Bard Coll., 2000; Vis. Prof. Econ., Bard Coll., 2000.

Degrees BA Univ. Michigan, 1976; MA, PhD Harvard Univ., 1978, 1982.

Offices and Honours Grad. Fellowship, NSF, 1976–78; V.O. Key Dissertation Fellowship and Schumpeter Prize Fellowship, Harvard Univ., 1980; Arthur H. Cole Prize, EHA, 1988; Noteworthy Books in Ind. Relations and Labor Econ., Ind. Relations Section, Princeton Univ., 1990; Outstanding Acad. Book, *Choice*, 1992; Trustee, SEA, 1999–, Cliometrics Soc., 2001–.

Editorial Duties Co-Ed., *SEJ*, 2001–03; Ed., *Explor. in Econ. Hist.*, 2003–.

Principal Field of Interest N3 Labor

and Consumers, Demography, Education, Income and Wealth.

Publications Books: 1. *Disenfranchisement, School Finance, and the Economics of Segregated Schools in the US South, 1890–1910* (Garland, 1985); 2. *Race and Schooling in the South, 1880–1950: An Economic History* (UCP, 1990, 1994); 3. *Wages and Labor Markets in the United States, 1820–1860* (UCP, 2000); 4. *Women’s Work? American Schoolteachers, 1650–1920* (with J. Perlmann), (UCP, 2001).

Articles: 1. ‘The heights of American slaves: new evidence on slave nutrition and health’ (with R. Steckel), *Social Sc. Hist.*, 6, Fall 1982; 2. ‘Race differences in public school expenditures: disenfranchisement and school finance in Louisiana, 1890–1910’, *Social Sc. Hist.*, 6, Winter 1982; 3. ‘Heights of native born whites during the antebellum period’ (with R. Steckel), *JEH*, 43, March 1983; 4. ‘Accumulation of property by southern blacks before World War One: comment and further evidence’, *AER*, 74, Sept. 1984; 5. ‘Educational achievement in segregated school systems: the effects of separate-but-equal’, *AER*, 76, Sept. 1986; 6. ‘The growth of wages in antebellum America: new evidence’ (with G. Villaflor), *JEH*, 47, Dec. 1987; 7. ‘The poor at birth: birthweights and infant mortality at Philadelphia’s almshouse hospital, 1848–1873’ (with C. Goldin), *Explor. in Econ. Hist.*, 26, July 1989; 8. ‘Segregated schools and the mobility hypothesis: a model of local government discrimination’, *QJE*, 106, Feb. 1991; 9. ‘The great compression: the wage structure in the United States at mid-century’ (with C. Goldin), *QJE*, 107, Feb. 1992; 10. ‘The decline in black teenage labor force participation in the south, 1900 to 1970: the role of schooling’ (with T.A. Finegan), *AER*, 83, March 1993; 11. ‘Employment and unemployment in the 1930s’, *JEP*, 7, Spring 1993; 12. ‘Work

relief and the labor force participation of married women in 1940’ (with T.A. Finegan), *JEH*, 54, March 1994; 13. ‘Explaining black–white wage convergence, 1940–1950’, *ILRR*, 48, April 1995; 14. ‘The rental price of housing in New York City, 1830–1860’, *JEH*, 56, Sept. 1996; 15. ‘Regional wage gaps and the settlement of the mid-west’, *Explor. in Econ. Hist.*, 36, April 1999; 16. ‘Race and homeownership: a century’s view’ (with W. Collins), *Explor. in Econ. Hist.*, 38, Jan. 2001.

Principal Contributions Most of my work has related to the economic history of education, health, labor, and labor markets in American history. My first two books traced the economic history of segregated schools in the American South from the late nineteenth to the middle of the twentieth century. In my third book, I used archival data to produce new time series of nominal and real wages for different occupations and regions in the United States from 1820 to 1860. My fourth book, co-authored with J. Perlmann, studied the economic and social factors behind the shift from male to female teachers in the nineteenth-century United States. I have written articles using historical data on height and weight to study levels and changes in nutritional status in the past. Other articles have examined racial differences in wealth accumulation in the South after the American Civil War, the rental price of housing in the nineteenth century, employment and unemployment and their effects during the Great Depression, the evolution of the wage structure in the 1940s, and racial differences in home ownership and housing values in the twentieth century. One current project, with J. Atack and F. Bateman, examines the growth of manufacturing in the United States from 1850–80. Another, with W. Collins, examines racial differences in housing in the United States during the twentieth century.

MARGOLIS, Stephen Edward

Born 1950, New York City, NY, USA.

Current Posts Prof. Econ. Dept Econ., North Carolina State Univ. (NCSU), Raleigh, NC, USA, 1982–; Dept Head, NCSU, 1997–.

Past Post Asst Prof., Univ. Western Ontario, 1978–82.

Degrees BA Northwestern Univ., 1972; PhD UCLA, 1978.

Offices and Honours Res. Award, NCSU, 1990, 1991; Extension Service Award, NCSU, 1994; Teaching Awards, NCSU, 1996, Fuqua Sch. Bus., 1999.

Principal Fields of Interest K0 Law and Economics: General; L0 Industrial Organization: General; L4 Antitrust Policy.

Publications *Books*: 1. *Consumer Problems in the Automobile Repair Industry: An Exploratory Study* (Consumer & Corp. Affairs Canada, 1983); 2. *Winners, Losers and Microsoft: Competition and Antitrust in High Technology* (Independent Inst., 1999; revised edn 2001); 3. *The Economics of QWERTY: History Theory and Policy. Essays by Stan J. Liebowitz and Stephen E. Margolis* (ed. P. Lewin), (Palgrave/NYU Press, 2002).

Articles: 1. 'Depreciation and maintenance of houses', *Land Econ.*, 57, Feb. 1981; 2. 'Depreciation of housing: an empirical consideration of the filtering hypothesis', *REStat*, 64, Feb. 1982; 3. 'Journals as shared goods: a comment' (with S.J. Liebowitz), *AER*, 72, June 1982; 4. 'The pricing of physicians' services', *JHR*, 18, Fall 1983; 5. 'The excess capacity controversy: a critique of recent criticism', *EI*, 24, April 1985; 6. 'Comments on "copyright and computer software"', *Res. Law and Econ.*, 8, 1986; 7. 'Asbestos fiber supply and the regulation of asbestos exposure' (with G. Morris), *Resources Pol.*, 12, Dec. 1986; 8. 'Two definitions of efficiency in law and economics', *J. Legal Stud.*, 16, June 1987; 9. 'Monopolistic

competition and multiproduct brand names', *J Bus*, 62, April 1989; 10. 'The fable of the keys' (with S.J. Liebowitz), *J Law E*, 33, April 1990; 11. 'Network externalities: an uncommon tragedy' (with S.J. Liebowitz), *JEP*, 8, Spring 1994; 12. 'Path dependence, lock-in, and history' (with S.J. Liebowitz), *JLEO*, 11, April 1995; 13. 'Are network externalities a new market failure?' (with S.J. Liebowitz), *Res. Law and Econ.*, 17, 1995; 14. 'Should technology choice be a concern for anti-trust policy?' (with S.J. Liebowitz), *Harvard J. Law and Tech.*, 9, Summer 1996; 15. 'Network effects and externality' (with S.J. Liebowitz), in *NPDE*, 2 (Macmillan, 1998); 16. 'Path dependence' (with S.J. Liebowitz), in *NPDE*, 3 (Macmillan, 1998); 17. 'Network effects and the microsoft case', in *Dynamic Competition and Public Policy: Technology, Innovation and Antitrust Issues* (with S. Liebowitz), (CUP, 2001).

Principal Contributions My most recent work is concerned with increasing returns, standards, network effects and other circumstances that lead consumers or producers to make choices that are common to large groups of people. The choice of a network, technology, or standard may be more complicated than choices of other private goods. Stan Liebowitz and I have critically examined theoretical claims that such choices are not likely to be made efficiently through decentralized decision making. We have argued that the theories that support these market failure claims are based on very restrictive implicit and explicit assumptions. Further, we argue that the empirical support for these claims is insubstantial. Our paper on the typewriter keyboard (*J Law E*, 1990) considers the best-known claim of real-world 'lock in' to an inferior standard. We have also offered a taxonomy of lock-in effects associated with these common-choice problems. Some of my earlier work dealt

with markets for differentiated goods and the pricing of services by medical specialists. I have also studied depreciation of the housing stock and the effect of housing depreciation on urban neighborhoods. On several different topics, my work has offered definitions of economic terms. I have argued in these cases that some of our differences in conclusions or estimates are the result of different understandings of the meanings of these terms.

MARIMON, Ramon n.e.

MARK, Nelson C.

Born 1955, Chicago, IL, USA.

Current Posts Prof. Econ., Ohio State Univ., Columbus, OH, USA and Alfred DeCrane Jr Prof. Intl Econ., Univ. Notre Dame, Notre Dame, IN, USA, 2002–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Ohio State Univ., 1983–89, 1989–94, 1994–2002.

Degrees BA Univ. California, Santa Barbara, 1978; PhD Univ. Chicago, 1983.

Editorial Duties Book Rev. Ed., *JMCB*, 1991–94; Assoc. Ed., *J Int E*, 1995–, *Intl J. Fin. Econ.*, 1995–; Ed., *JMCB*, 1997–99.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance; G0 Financial Economics: General.

Publications *Book*: 1. *International Macroeconomics and Finance: Theory and Empirical Methods* (Blackwell, 2001).

Articles: 1. ‘Some evidence on the international inequality of real interest rates’, *JIMF*, 4, June 1985; 2. ‘On time varying risk premia in the foreign exchange market: an econometric analysis’, *JME*, 16, July 1985; 3. ‘The international transmission of real business cycles’ (with R. Cantor), *IER*, 29, Aug. 1988; 4. ‘Time-vary-

ing betas and risk premia in the pricing of forward foreign exchange contracts’, *J Fin E*, 22, Dec. 1988; 5. ‘Real and nominal exchange rates in the long run: an empirical investigation’, *J Int E*, 28, Feb. 1990; 6. ‘Mean reversion in equilibrium asset prices’ (with S.G. Cecchetti, P.S. Lam), *AER*, 80, June 1990; 7. ‘Testing the CAPM with time-varying risks and returns’ (with J.N. Bodurtha, Jr), *J Fin*, 46, Sept. 1991; 8. ‘Some evidence in favor of a monetary rational expectations exchange rate model with imperfect capital substitutability’ (with R.A. Driskill, S.M. Sheffrin), *IER*, 33, Feb. 1992; 9. ‘The equity premium and the risk free rate: matching the moments’ (with S.G. Cecchetti, P.S. Lam), *JME*, 31, Feb. 1993; 10. ‘Testing volatility restrictions on intertemporal marginal rates of substitution implied by Euler equations and asset returns’ (with S.G. Cecchetti, P.-s. Lam), *J Fin*, 49, March 1994; 11. ‘Exchange rates and fundamentals: evidence on long-horizon predictability’, *AER*, 85, March 1995; 12. ‘Alternative long-horizon exchange rate predictors’ (with J. Chen), *Intl J. Fin. Econ.*, 1, Oct. 1996; 13. ‘The economic content of indicators of developing country creditworthiness’ (with N. Haque, M.S. Kumar, D.J. Mathieson), *IMF Staff Papers*, 43, Dec. 1996; 14. ‘Real exchange-rate prediction over long horizons’ (with D.Y. Choi), *J Int E*, 43, Aug. 1997; 15. ‘Understanding spot and forward exchange rate regressions’ (with Y. Wu, W. Hai), *JAE*, 12, 1997; 16. ‘Rethinking deviations from uncovered interest parity: the role of covariance risk and noise’ (with Y. Wu), *EJ*, 108, Nov. 1998; 17. ‘Asset pricing under distorted beliefs: are equity returns too good to be true?’ (with S.G. Cecchetti, P.-s. Lam), *AER*, 90, Sept. 2000; 18. ‘Nominal exchange rates and monetary fundamentals: evidence from a small post-Bretton Woods panel’ (with D. Sul), *J Int E*, 53, Feb. 2001; 19. ‘Price level convergence

among United States cities: lessons for the European central bank' (with S.G. Cecchetti, R. Sonora), *IER*, forthcoming.

Principal Contributions My work on empirical exchange rate modeling (and work with J. Chen, D.Y. Choi and D. Sul) demonstrated that exchange rates revert to their fundamental valuations in the long run and that the pricing error (the current deviation from the fundamental value) has predictive content for the future path of the exchange rate. Some of my work on aggregate asset pricing consists of econometric tests of conventional asset pricing theories, investigations of the noise-trader framework (with Y. Wu), and the effects of central bank foreign exchange intervention as the underlying cause of an asset pricing puzzle known as the forward premium anomaly. Another line of my asset pricing research, with S.G. Cecchetti and P.-s. Lam, combines the popular calibration and simulation methodology with classical statistical inference procedures to allow formal tests of the theory's predictions on the equity premium puzzle, asset return volatility, and the long-horizon predictability of excess returns.

MARKUSEN, Ann Roell

Born 1946, Minneapolis, MN, USA.

Current Posts Prof. Planning and Public Pol., Dir., Project on Regional and Ind. Econ., Humphrey Inst. Public Affairs, Univ. Minnesota, Minneapolis, MN, USA, 1999–; Sr Fell., Council on Foreign Relations, New York, USA, 1995–.

Past Posts Res. Econ., Office of the Speaker, Michigan House of Representatives, 1970–72; Asst Prof., Dept Econ., Univ. Colorado, 1973–77; Econ. Pol. Fell., Brookings Inst., Washington, DC, 1976–77; Asst Prof., Assoc. Prof., Dept City and Regional Planning, Univ. California, Berkeley, 1977–83, 1983–86; Fulbright

Lect. Regional Devlp. Econ., Univ. Federal de Minas Gerais, Brazil, 1983; Prof. Social Pol. and Urban Affairs, Northwestern Univ., 1986–89; State of NJ Prof. Urban Planning and Pol. Devlp. and Dir., Project on Regional and Ind. Econ., Rutgers Univ., 1989–99.

Degrees BSFS (Hist., Govt, Econ.) Georgetown Univ., 1968; MA, PhD Michigan State Univ., 1972, 1974.

Offices and Honours Phi Beta Kappa, Hons, Natl History and Polit. Sc. Hons Socs, Georgetown Univ., 1968; William F. Notz Medal for Outstanding Econ. Student, Georgetown Univ., Class of 1968; NDEA Fellowship, Dept Econ., Michigan State Univ., 1968–69; Grad. Sch. Scholarships, Michigan State Univ., 1968, 1970; Outstanding Doctoral Dissertation Award, NTA/Tax Inst. Amer., 1974; Outstanding Teacher, Univ. Colorado Teaching Award, 1974–75; Chester Rapkin Award, best article in *J. Planning Educ. and Res.*, 1988, 1992; Joe Magarac Lifetime Achievement Award, 1993; Tri-State Conf. on Steel, Pittsburgh, 1993; George F. Kennan Award for Contris to Peace; NJ Peace Action, 1993; Walter Isard Award for Outstanding Scholarly Achievement, North Amer. Regional Sc. Assoc., 1996; Vis. Faculty Fellowship, German Acad. Res. Foundation, Univ. Dortmund, 1997; Chair, Comm. Sc., Eng. and Public Pol., AAAS, 1998–2000; Amer. Coll. Schs Planning/US Dept Housing and Urban Devlp., Award of Excellence in Urban Pol. Scholarship, 2000; Pres., North Amer. Regional Sc. Assoc., 2000; Mem., President's Council on Offsets in Commercial Trade, 2000–, Natl Commission on Use of Offsets in Defense Trade, 2000–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; L0 Industrial Organization: General; O1 Economic Development.

Publications *Books*: 1. *Silicon Landscapes* (with P. Hall), (A&U, 1985); 2.

Profit Cycles, Oligopoly and Regional Development (MIT Press, 1985); 3. *High Tech America* (with P. Hall, A. Glasmeier), (A&U, 1986); 4. *Regions: The Economics and Politics of Territory* (Rowman & Allenheld, 1987); 5. *The Rise of the Gunbelt* (with P. Hall, S. Deitrick, S. Campbell), (OUP, 1991); 6. *Dismantling the Cold War Economy* (with J. Yudken), (Basic Books, 1992); 7. *Second Tier Cities: Rapid Growth outside the Metropole in Brazil, Korea, Japan and the United States* (with Y.S. Lee, S. DiGiovanna), (Univ. Minnesota Press, 1999); 8. *Arming the Future: A Defense Industry for the Twenty-First Century* (with S. Costigan), (Council on Foreign Relations Press, 1999); 9. *From Defense to Development?* (with S. DiGiovanna), (Routledge, 2003).

Articles: 1. 'Regional economic contraction and intergovernmental finance: a theoretical perspective', *NTA Papers and Proceedings*, May 1979; 2. 'Planning for communities in decline: lessons from steel communities', *J. Planning Educ. and Res.*, 7, Sept. 1988; 3. 'International trade, productivity and regional growth: a shift-share interpretation' (with H. Noponen, K. Driessen), *Intl Regional Sc. Rev.*, 14, Jan. 1991; 4. 'Government as market: industrial location in the US defense industry', in H. Herzog, A. Schlottmann (eds), *Industrial Location and Public Policy* (Univ. Tennessee Press, 1991); 5. 'Defense spending and interregional labor migration' (with M. Ellis, R. Barff), *Econ. Geography*, 29, April 1993; 6. 'Multi-polarity and the layering of functions in world cities: New York City's struggle to stay on top' (with V. Gwiasda), *Intl J. Urban and Regional Res.*, 18, April 1993; 7. 'American federalism and regional policy', *Intl Regional Sc. Rev.*, 16, April 1994; 8. 'Studying regions by studying firms', *Professional Geographer*, 46, Sept. 1994; 9. 'Sticky places in slippery space: a typology of industrial districts', *Econ. Geog-*

raphy, 72, April 1996; 10. 'Fuzzy concepts, scanty evidence, policy distance: the case for rigor and policy relevance in critical regional studies', *Regional Stud.*, 33, Sept. 1999; 11. 'Two frontiers for regional science: regional policy and interdisciplinary reach', *Papers Regional Sc. Assoc. Intl*, 81, April 2002.

Principal Contributions My work explores the relationships among industrial structure, state behavior and regional development. My first book posits that industries' profitability derives from disparate sources over stages of maturation with differential and dynamic consequences for host regions. I worked on a theory of spatial diffusion as a function of oligopolistic structure and tested it on steel and several high-tech industries. I have written on the role of the state, deliberative and structural, in regional development, including an extension of location theory when government is the market and when strategic concerns trump efficiency. My work on the defense sector with P. Hall, S. Campbell and S. Deitrick concludes that decades of government military investments dramatically altered American economic and political geography. In work on trade with H. Noponen and K. Driessen, I have demonstrated that some subnational regions lose absolutely with trade liberalization and that regions benefitting from trade are those already possessing strong national market standing, including federal government procurement receipts. More recently, I have developed a model for studying regions by studying firms, nesting the latter in their industrial groups. I have also pioneered qualitative methods, chiefly interviewing, as a way of researching locational and expansionary behavior. In recent debates with economic geographers and regional scientists, I have defended the need for clear, testable hypotheses and for interdisciplinary and policy-relevant analysis. In recent

work on the post-Cold War defense industry, I made the case for active transitional conversion policy, for the maintenance of competition in the defense industry, and against using arms exports as an industrial policy. I have been engaged in policy-making deliberation including serving on a Presidential Commission on offsets in the arms trade.

MARKUSEN, James Roell

Born 1948, Minneapolis, MN, USA.

Current Post Prof. Econ., Univ. Colorado, Boulder, CO, USA, 1990–.

Past Post Prof. Econ., Univ. Western Ontario, 1972–90.

Degrees BA, PhD Boston Coll., 1970, 1973.

Offices and Honours Social Sc. Res. Prof., Univ. Western Ontario, 1986–87; Chairman, Dept Econ., Univ. Colorado, 1991–95; Res. Excellence Award, Univ. Colorado, 1996–97; Bhagwati award, best article, *J Int E* for two-year period 1998–2000.

Editorial Duties Assoc. Ed., *J Int E*, 1958–88, 1996–99, 2002–, *Rev. Intl Econ.*, 1997–; Co-Ed., *J Int E*, 1999–2001.

Principal Fields of Interest F1 Trade; F2 International Factor Movements and International Business.

Publications *Book*: 1. *Multinational Firms and the Theory of International Trade* (MIT Press, 2002).

Articles: 1. ‘Trade and the gains from trade with imperfect competition’, *J Int E*, 11, 1981, repr. in G. Grossman (ed.), *Imperfect Competition in International Trade* (MIT Press, 1992); 2. ‘Factor movements and commodity trade as complements’, *J Int E*, 13, 1983, repr. in J.P. Neary (ed.), *International Trade* (Edward Elgar, 1995); 3. ‘Multinationals, multi-plant economies, and the gains from trade’, *J Int E*, 16, 1984, repr. in J.

Bhagwati (ed.), *International Trade: Selected Readings* (MIT Press, 2nd edn 1988); 4. ‘Up the average cost curve: inefficient entry and the new protectionism’ (with I. Horstmann), *J Int E*, 20, 1986, repr. in J.P. Neary (ed.), *International Trade* (Edward Elgar, 1995); 5. ‘Explaining the volume of trade: an eclectic approach’, *AER*, 76, 1986; 6. ‘Strategic investments and the development of multinationals’ (with I. Horstmann), *IER*, 28, 1987, repr. in M. Casson (ed.), *Multinational Corporations* (Edward Elgar, 1990), and M. Greenhut, G. Norman (eds), *The Economics of Location* (Edward Elgar, 1995); 7. ‘Trade policy with increasing returns and imperfect competition: contradictory results from competing assumptions’ (with A. Venables), *J Int E*, 24, 1988, repr. in G. Grossman (ed.), *Imperfect Competition in International Trade* (MIT Press, 1992); 8. ‘Trade in producer services and in other specialized intermediate inputs’, *AER*, 79, 1990; 9. ‘Endogenous market structures in international trade’ (with I. Horstmann), *J Int E*, 32, 1992, repr. in J.P. Neary (ed.), *International Trade* (Edward Elgar, 1995); 10. ‘Multinational firms and the new trade theory’ (with A.J. Venables), *J Int E*, 46, 1998; 11. ‘Foreign direct investment as a catalyst for industrial development’ (with A. Venables), *Europ ER*, 43, 1999; 12. ‘Vertical multinationals and host-country characteristics’ (with K. Zhang), *JDE*, 59, 1999; 13. ‘The theory of endowment, intra-industry, and multinational trade’ (with A. Venables), *J Int E*, 52, 2000; 14. ‘Contracts, intellectual property rights, and multinational investment in developing countries’, *J Int E*, 53, 2001; 15. ‘Estimating the knowledge-capital model of the multinational enterprise’ (with D. Carr, K. Maskus), *AER*, 91, 2001.

Principal Contributions I have contributed extensively to the industrial-organization approach to trade. I have been

particularly interested in endogenizing multinational firms into the theory of trade, and in linking trade with investment and factor mobility in the new-trade-theory models. My work shows how investment liberalization leads firms to pursue strategies of horizontal and/or vertical integration across markets, and the circumstances under which trade and investment are substitutes or complements. I have led in the development of applied general-equilibrium models with imperfect competition, increasing returns to scale, and endogenous location decisions.

MARRON, J.-S. n.e.

MARSDEN, Terry

Born n.e.

Current Post Head, Dept City and Regional Planning, Cardiff Univ., Cardiff, Wales, UK, 2002–.

Past Posts Sr and Principal Lect. Planning, South Bank Polytech., 1983–90; Co-Dir., Rural Stud. Res. Centre and ESRC Countryside Change Centre, Univ. Coll. London, 1988–93; Vis. Prof., Dept Rural Sociology, Univ. Wisconsin-Madison, 1990, Univ. Pernambuco, 1993, 1995, Reader Human Geography, Univ. Hull, 1993; Dir., Res. and Grad. Sch. Social Sc., Cardiff Univ., 2001–02; Vis. Intl Readership Europ. Rural Devlp., Swedish Sch. Social Sc., Univ. Helsinki, 2001–03.

Degrees n.e.

Offices and Honours Bd Mem., Regeneration Inst. Cardiff Univ.; Special Advisor, Welsh Affairs Select Comm., 1997–98, 2001, Rural Affairs, Natl Assembly of Wales, 2000–01; Advisor, Local Govt Assoc.; Mem., DETR Planning Res. Advisory Group, ESRC Planning Res. Training Panel.

Editorial Duties Co-Ed., *J. Environmental Pol. and Planning*.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; Q0 Agricultural and Natural Resource Economics: General; Q2 Renewable Resources and Conservation: Environmental Management.

Publications *Books*: 1. *Constructing the Countryside* (UCL Press/Westview Press, 1993); 2. *Reconstituting Rurality* (UCL Press, 1995); 3. *The Condition of Sustainability* (Routledge, 1999); 4. *Consuming Interests: The Social Provision of Foods* (Taylor & Francis, 2000); 5. *Rural Sustainability (Town and Country Planning Tomorrow* series No. 4, 2000).

Articles: 1. 'Reshaping environments', *Transactions Inst. British Geographers*, 22, 1997; 2. 'Retailing, regulation and food consumption: the public interest in a privatised world', *Agribusiness*, 13, 1997; 3. 'Contested regulatory practice, the local state and the implementation of food policy', *Transactions Inst. British Geographers*, 22, 1997; 4. 'Creating competitive space: exploring the social and political maintenance of retail power', *Environment and Planning A*, 30, 1998; 5. 'New rural territories: regulating the differentiating rural spaces', *J. Rural Stud.*, 14, 1998; 6. 'The road towards sustainable rural development: issues of theory, policy and research practice', *J. Environmental Pol. and Planning*, 3, 2001.

Principal Contributions n.e.

MARTIN, Ronald Leonard

Born 1948, Colchester, Essex, UK.

Current Post Prof. Econ. Geography, Univ. Cambridge, Cambridgeshire, UK, 2000–.

Past Posts Res. Fell., St Catharine's Coll., Cambridge Univ., 1976–79; Lect. Econ. Geography, Reader Econ. Geogra-

phy, Univ. Cambridge, 1979–98, 1998–2000.

Degrees BA (Geography, 1st Class Hons), MA (Geography), PhD (Econ. Geography) Univ. Cambridge, 1972, 1975, 1977.

Offices and Honours ‘Thank-Offering to Britain’ Sr Res. Fellowship, BA, 1997–98; Academician, Acad. Social Sc., 2001; Fell., Cambridge-MIT Inst., 2002.

Editorial Duties Ed., Routledge *Regional Development and Public Policy* series, 1995–; Hon. Ed., *Transactions Inst. British Geographers*, 1998–2002; Co-Ed., *Camb JE*, 1998–, *Regional Stud.*, 2002–04; Assoc. Ed., *J. Econ. Geography*, 2001–, *Géographie, Économie et Soc.*, 2000–.

Principal Fields of Interest R1 General Regional Economics; J1 Demographic Economics; G2 Financial Institutions and Services.

Publications Books: 1. *The Geography of Deindustrialisation* (with R.E. Rowthorn), (Macmillan, 1986); 2. *Money, Power and Space* (with S. Corbridge, N. Thrift), (Blackwell, 1994); 3. *Union Retreat and the Regions: The Shrinking Landscape of Organised Labour* (with P. Sunley, J. Wills), (Jessica Kingsley, 1996); 4. *Money and the Space Economy* (Wiley, 1999); 5. *The Economic Geography Reader* (with J. Bryson, N. Henry, D.E. Keeble), (Wiley, 1999); 6. *Geographies of Labour Market Inequality* (with P.S. Morrison), (Routledge, 2002).

Articles: 1. ‘The political economy of Britain’s north–south divide’, *Transactions Inst. British Geographers*, 13, 1988; 2. ‘Undermining the financial basis of regions: the spatial structure and implications of the UK pension fund system’ (with R. Minns), *Regional Stud.*, 29, 1995; 3. ‘Paul Krugman’s geographical economics and its implications for regional development theory: a critical assessment’ (with P. Sunley), *Econ. Geography*, 72,

1996; 4. ‘Regional unemployment disparities and their dynamics’, *Regional Stud.*, 31, 1997; 5. ‘Slow convergence? The new endogenous growth theory and regional development’, *Econ. Geography*, 74, 1998; 6. ‘European regional unemployment disparities: convergence or persistence?’ (with P. Tyler, M. Baddeley), *Europ. Urban and Regional Stud.*, 5, 1998; 7. ‘Unemployment flow regimes and regional unemployment disparities’ (with P. Sunley), *Environment and Planning A*, 31, 1999; 8. ‘The new “geographical turn” in economics: some critical reflections’, *Camb JE*, 23, 1999; 9. ‘Regional wage rigidity in the European Union and the United States compared’, *J Reg S*, 40, 2000; 10. ‘The geographies of the national minimum wage’, *Environment and Planning A*, 32, 2000; 11. ‘EMU versus the regions? Regional convergence and divergence in Euroland’, *J. Econ. Geography*, 2, 2001; 12. ‘Mapping the New Deal: mapping local disparities in the performance of welfare-to-work’, *Transactions Inst. British Geographers*, 26, 2001; 13. ‘Taking risks in regions: the geographical anatomy of Europe’s emerging venture capital market’ (with P. Sunley, D. Turner), *J. Econ. Geography*, 2, 2002; 14. ‘Deconstructing clusters: chaotic conception or policy panacea?’, *Econ. Geography*, 3, 2003.

Principal Contributions As an economic geographer, my main contributions to economics have been in exploring the ways in which the spatial structure and organisation of the economy influence its operation, performance and regulation. One strand has focused on regional development and restructuring, including work on the geographies of deindustrialisation, on the application of endogenous growth theory and notions of path dependence to regional development issues, on the question of long-run regional convergence, and, more recently, on the geo-

graphical foundations of the 'new economy'. This research has involved examining the interface between economics and geography, and particularly the new 'geographical economics' developed by Krugman and others (see for example, my papers in *Economic Geography* and the *Cambridge Journal of Economics*). A second strand has been on the theory and empirics of regional and local labour markets, particularly their wage and employment dynamics, the spatialities of trade union organisation, and the geographies of income inequality. A third concern has been to highlight the role of finance in shaping uneven regional development. Topics covered here include the geographies of different circuits of finance, such as pension funds and venture capital, global financial flows, and the regional aspects of banking. Fourthly, a recurring emphasis in my research has been the relevance of geography to public policy: how national economic policies shape uneven regional development; how the latter in turn impacts on national economic management; and what sort of policies are most effective for promoting regional growth. This policy interest has led me to be closely involved with the evaluation of a number of key policy initiatives in the UK, including the New Deal for the Unemployed, the identification of business clusters and the analysis of regional competitiveness, as well as assessing the impacts of EMU on regional economic inequalities in the EU.

MASKIN, Eric Stark

Born 1950, New York, NY, USA.

Current Post Albert O. Hirschman Prof. Social Sc., Inst. Adv. Study, Princeton, NJ, USA, 2000–.

Past Posts Res. Fell., Jesus Coll., Cambridge Univ., 1976–77; Asst Prof., Assoc.

Prof., Prof., MIT, 1977–84; Prof., Louis Berkman Prof. Econ., Harvard Univ., 1985–2000, 1997–2000.

Degrees AB (Maths), AM (Apl. Maths), PhD (Apl. Maths) Harvard Univ., 1972, 1974, 1976.

Offices and Honours Guggenheim Fell., 1980–81; Fell., Em Soc, 1981, AAAS, 1994; Sloan Res. Fell., 1983–85; Galbraith Teaching Prize, 1990, 1992; Churchill Lect., 1994; Arrow Lect., 1998; Schwartz Lect., 2002; Pres., Em Soc, 2003.

Editorial Duties Ed., *QJE*, 1984–90, *Econ. Letters*, 1992–.

Principal Fields of Interest D8 Information and Uncertainty; D7 Analysis of Collective Decision-Making; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'Nash equilibrium and welfare optimality', mimeo, 1977, revised version, *REStud*, 66, 1999; 2. 'A theorem on utilitarianism', *REStud*, 46, 1978; 3. 'An equilibrium analysis of search and breach contract' (with P. Diamond), *Bell JE*, 10, 1979; 4. 'The implementation of social choice rules' (with P. Dasgupta, P. Hammond), *REStud*, 46, April 1979; 5. 'The theory of incentives' (with J.J. Laffont), in W. Hildenbrand (ed.), *Advances in Economic Theory* (CUP, 1982); 6. 'Monopoly with incomplete information' (with J. Riley), *RandJE*, 15, Summer 1984; 7. 'Optimal auctions with risk-averse buyers' (with J. Riley), *Em*, 52, Nov. 1984; 8. 'The folk theorem in repeated games with discounting or with incomplete information' (with D. Fudenberg), *Em*, 54, 1986; 9. 'The existence of equilibrium in discontinuous economic games, I and II' (with P. Dasgupta), *REStud*, 53, 1986; 10. 'A theory of dynamic oligopoly, I and II' (with J. Tirole), *Em*, 53, 1988; 11. 'Evolution and cooperation in noisy repeated games' (with D. Fudenberg), *AER*, 80, 1990; 12. 'The principal-agent relationship with an informed

principal, I and II' (with J. Tirole), *Em*, 58, 1990 and 60, 1992; 13. 'Auctions and privatization', in H. Siebert (ed.), *Privatization* (J.C.B. Mohr, 1992); 14. 'The folk theorem with imperfect public information' (with D. Fudenberg, D. Levine), *Em*, 54, 1994; 15. 'A Walrasian theory of money and barter' (with A. Banerjee), *QJE*, 109, 1996; 16. 'Credit and efficiency in centralized and decentralized economies' (with M. Dewatripont), *REStud*, 62, 1999; 17. 'Unforeseen contingencies and incomplete contracts' (with J. Tirole), *REStud*, 66, 1999; 18. 'Implementation and renegotiation' (with J. Moore), *REStud*, 66, 1999; 19. 'Efficient auctions' (with P. Dasgupta), *QJE*, 115, 2000; 20. 'Asymmetric auctions' (with J. Riley), *REStud*, 67, 2000.

Principal Contributions Contributions to the theory of incentives, implementation theory, game theory, social choice theory, theory of contracts, auction theory.

MASSEY, Douglas S.

Born 1952, Olympia, WA, USA.

Current Post Dorothy Swaine Thomas Prof., Pop. Stud. Center, Univ. Pennsylvania, Philadelphia, PA, USA, 1994–.

Past Posts Asst Prof. Sociology, Assoc. Prof. Sociology, Univ. Pennsylvania, 1980–85, 1985–87; Prof. Sociology, Univ. Chicago, 1987–94.

Degrees BA (Sociology) Western Washington Univ., 1974; MA (Sociology), PhD (Sociology) Princeton Univ., 1977, 1978.

Offices and Honours Guggenheim Fell., 1991; Disting. Publication Award, Amer. Sociological Assoc., 1995; Fell., AAAS, 1995–; Pres., PAA, 1996, Amer. Sociological Assoc., 2000–01; Clifford C. Clogg Award for Outstanding Early Career, PAA, 1998; Mem., NAS, 1998–.

Editorial Duties Assoc. Ed., *Demography*, 1984–87, *Social Sc. Q.*, 1991–,

Race and Soc., 1996–, *Ethnicities*, 1998–, *Social Sc. Res.*, 1999–, *Intl Migration Rev.*, 2001–, *Annual Rev. Sociology*, 2002–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J7 Discrimination; R0 Urban, Rural, and Regional Economics: General.

Publications Books: 1. *Return to Aztlan* (with R. Alarcon, J. Durand, H. Gonzalez), (Univ. California Press, 1987); 2. *American Apartheid* (with N. Denton), (HUP, 1993); 3. *Miracles on the Border* (with J. Durand), (Univ. Arizona Press, 1995); 4. *Worlds in Motion* (with J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino, J.E. Taylor), (OUP, 1998); 5. *Problem of the Century* (with E. Anderson), (Russell Sage, 2001); 6. *Beyond Smoke and Mirrors* (with J. Durand, N. Malone), (Russell Sage, 2002); 7. *Source of the River* (with C. Charles, G. Lundy, M. Fischer), (Princeton Univ. Press, 2003).

Principal Contributions My research falls into two broad areas, the first of which is racial and ethnic relations, focussing in particular on the role that residential segregation plays in perpetuating socioeconomic disadvantage among minority group members. In the course of two decades of research, I have made fundamental contributions to the conceptualization and measurement of segregation in urban society, to the theoretical understanding of segregation's role in concentrating poverty geographically, to substantive knowledge about the effects of neighborhood poverty on individual life chances, and to documenting continuing practices of racial discrimination in US housing markets. My second area of research is international migration, focussing in particular on the movement of workers from developing to developed nations. I began my work on this subject by studying migration between Mexico and the United States. I documented the micro-social foundations of immigration and first

introduced the concept of social capital to the study of international migration. Using a blend of quantitative and qualitative methods, I showed how interpersonal networks linking migrants and non-migrants were transformed into a source of social capital that poor Mexicans could draw upon to cross the border and gain access to US jobs.

MASSON, Paul Robert Leon

Born 1946, Montreal, Quebec, Canada.

Current Post Vis. Fell., Brookings Inst., Washington, DC, USA, 2002–.

Past Posts Econ., Asst Chief and Dep. Chief, Bank of Canada, Ottawa, 1973–76, 1979–83; Admin., Principal Admin., OECD, Paris, 1976–79, 1983–84; Econ., Sr Econ., Div. Chief, Sr Advisor, IMF, Washington, DC, 1984–2002.

Degrees BA McGill Univ., 1968; PhD LSE, 1973.

Offices and Honours Canada Council Scholarship, 1970–73; Res. Fell., C.D. Howe Inst., 2002–.

Editorial Duties Ed. Comm., *IMF Staff Papers*, 1986–98, *Écon. Internationale*, 1992–2000, *Econ. Modeling*, 1990–.

Principal Fields of Interest F3 International Finance; C5 Econometric Modeling; H6 National Budget, Deficit, and Debt.

Publications *Books*: 1. *Policy Issues in the Operation of Currency Unions* (ed. with M. Taylor), (CUP, 1993); 2. *Economic Cooperation in an Uncertain World* (with A. Ghosh), (Blackwell, 1994); 3. *Open Doors: Foreign Participation in Financial Systems in Developing Countries* (ed. with R. Litan, M. Pomerleano), (Brookings Inst., 2001).

Articles: 1. ‘Exchange rates in the short run: the dollar–deutschmark rate’ (with W.H. Branson, H. Halttunen), *Europ ER*, 10, 1977; 2. ‘Structural models of the de-

mand for bonds and the term structure of interest rates’, *Ec*, 45, Nov. 1978; 3. ‘Dynamic stability of portfolio balance models of the exchange rate’, *J Int E*, 11, 1981; 4. ‘Fiscal policy and the exchange rate in the big seven: transmission of US government spending shocks’ (with A. Blundell-Wignall), *Europ ER*, 28, June–July 1985; 5. ‘The sustainability of fiscal deficits’, *IMF Staff Papers*, 32, Dec. 1985; 6. ‘Macroeconomic effects of projected population aging in industrial countries’ (with R.W. Tryon), *IMF Staff Papers*, 37, Sept. 1990; 7. ‘Model uncertainty, learning, and the gains from coordination’ (with A. Ghosh), *AER*, 81, June 1991; 8. ‘Credibility of policies versus credibility of policymakers’ (with A. Drazen), *QJE*, 109, Aug. 1994; 9. ‘Fiscal flows in the United States and Canada: lessons for monetary union in Europe’ (with T. Bayoumi), *Europ ER*, 39, 1995; 10. ‘Gaining and losing ERM credibility: the case of the United Kingdom’, *EJ*, 105, May 1995; 11. ‘Long-term tendencies in budget deficits and debt’ (with M. Mussa), in *Budget Deficits and Debt: Issues and Options* (FRB, Kansas City, 1995); 12. ‘Fiscal dimensions of EMU’, *EJ*, 106, July 1996; 13. ‘German unification: what have we learned from multi-country models?’ (with J.E. Gagnon, W.J. McKibbin), *Econ. Modelling*, 13, Oct. 1996; 14. ‘International evidence on the determinants of private saving’ (with T. Bayoumi, H. Samiei), *WBER*, 12, Sept. 1998; 15. ‘Contagion: macroeconomic models with multiple equilibria’, *JIMF*, 18, Aug. 1999; 16. ‘Currency crises, sunspots and Markov-switching regimes’ (with O. Jeanne), *J Int E*, 50, April 2000; 17. ‘Exchange rate regime transitions’, *JDE*, 64, 2001.

Principal Contributions I have long been interested in capturing interesting features of the economy by a few equations, and rigorously comparing the predictions of such models to real data. My

original and continuing interest has been on financial models, and my early work on portfolio models of the exchange rate and of government bonds helped understand their empirical limitations but also an important difference between countries that were net creditors and net debtors. With colleagues at the IMF, I built a consistent global macro model (Multimod) which proved to have a number of useful applications, some in papers cited above: on the current account implications of population aging, for studying government deficits, and German unification. Work with Atish Ghosh explored the effect of model uncertainty on policy coordination, showing that uncertainty could make coordination more desirable. Several papers with Tam Bayoumi studied the effects of fiscal federalism on monetary union, showing that fiscal stabilization seems as effective in Europe as in the US or Canada, and arguing that fiscal redistribution, which is lower in Europe, does not have to accompany monetary union. I proposed a framework for understanding the financial contagion that emerged during the crises in Mexico, Asia, and elsewhere, making the distinction between macroeconomic interdependence, response to a common (global) event, and coincidence of crises that go beyond such fundamentals and that involve purely expectational factors. Much of my recent work has involved exchange rate regime choice, and has been based on a pragmatic view that this choice will not solve underlying problems, so that one should not expect it to be a panacea. My work has shown that the hypothesis of hollowing-out of intermediate regimes has very little empirical support, and the need to coordinate and discipline fiscal policies in order to make a success of a monetary union.

MASTEN, Scott Edward

Born 1955, Nashua, NH, USA.

Current Posts Prof. Bus. Econ. and Public Pol., and Adjunct Prof. Law, Univ. Michigan, Ann Arbor, MI, USA, 1984–.

Past Posts Asst Prof. Econ., Univ. Virginia, 1982–84; Cons., FTC, 1983–84, World Bank, 1997; Vis. Fell. Econ., Univ. Warwick, 1996; Vis. Prof., Univ. Paris I Panthéon-Sorbonne, 1997.

Degrees AB Dartmouth Coll., 1977; MA, PhD Univ. Pennsylvania, 1979, 1982.

Offices and Honours John M. Olin Faculty Res. Fell. Law, Yale Univ. 1990–91; Louis and Myrtle Moskowitz Res. Prof. Bus. and Law, Univ. Michigan, 1998–99; John M. Olin Disting. Vis. Prof. Law, Univ. Virginia, 1999.

Editorial Duties Ed. Advisory Bd, *Managerial and Decision Econ.*, 1993–; Assoc. Ed., *J. Corp. Fin.*, 1993–, *JEBO*, 1995–; Co-Ed., *EI*, 1997–2001, *JEMS*, 1997–; Ed. Bd, *JLEO*, 1997–; General Ed., *Bus. Econ.*, Edward Elgar, 2002–.

Principal Fields of Interest L2 Firm Objectives, Organization, and Behavior; D2 Production and Organizations; K1 Basic Areas of Law.

Publications *Books*: 1. *Transaction Cost Economics*, Vols I, II (ed. with O.E. Williamson), (Edward Elgar, 1995); 2. *Case Studies in Contracting and Organization* (OUP, 1996); 3. *The Economics of Transaction Costs* (ed. with O.E. Williamson), (Edward Elgar, 1999).

Articles: 1. ‘The organization of production: evidence from the aerospace industry’, *J Law E*, 27, Oct. 1984; 2. ‘Efficient adaptation in long-term contracts: take-or-pay provisions for natural gas’ (with K.J. Crocker), *AER*, 75, Dec. 1985; 3. ‘Equity, opportunism, and the design of contractual relations’, *ZGS*, 144, Feb. 1988; 4. ‘A legal basis for the firm’, *JLEO*, 4, Spring 1988; 5. ‘Minimum bill contracts: theory and policy’, *J Ind E*, 37,

Sept. 1988; 6. 'Mitigating contractual hazards: unilateral options and contract length' (with K.J. Crocker), *RandJE*, 19, Autumn 1988; 7. 'The design and duration of contracts: strategic and efficiency considerations' (with E.A. Snyder), *Law and Contemporary Problems*, 52, Winter 1989; 8. 'Vertical integration in the US auto industry: a note on the influence of transaction-specific assets' (with J.W. Meehan, Jr, E.A. Snyder), *JEBO*, 12, Oct. 1989; 9. 'The costs of organization' (with J.W. Meehan, Jr, E.A. Snyder), *JLEO*, 7, Spring 1991; 10. 'Pretia ex machina? Prices and process in long-term contracts' (with K.J. Crocker), *J Law E*, 34, April 1991; 11. 'Transaction costs, mistakes, and performance: assessing the importance of governance', *Managerial and Decision Econ.*, 14, March–April 1993; 12. 'United States v. United Shoe Machinery Corporation: on the merits' (with E.A. Snyder), *J Law E*, 36, April 1993; 13. 'Old school ties: financial aid coordination and the governance of higher education', *JEBO*, 28, Sept. 1995; 14. 'Regulation and administered contracts revisited: lessons from transaction-cost economics for public utility regulation' (with K.J. Crocker), *J. Regulatory Econ.*, 9, Jan. 1996; 15. 'Econometrics of contracts: an assessment of recent developments in the empirical literature on contracting' (with S. Saussier), *Revue d'Économie Industrielle*, 92, 2000; 16. 'Modern evidence on the firm', *AER*, 92, May 2002.

Principal Contributions My research examines the nature, determinants and implications of organizations. Working primarily from a transaction cost perspective, I have sought to contribute especially to the debates over the nature and boundaries of the firm and the functions and limitations of contracting, developing for that purpose several original data sets. My first and most frequently cited article, on the organization of procurement in the aero-

space industry (article 1), provided early support for the role of relationship-specific investments and complexity in determining the relative efficiency of internal and market exchange. In formulating the 'make-or-buy decision' as a cost-minimization problem, this research also illuminated for the first time the relation between the parameters of qualitative choice models and transaction costs. In subsequent research with J.W. Meehan and E.A. Snyder (article 9), I explored further the determinants of firm boundaries (introducing the concept of 'temporal specificity') and, extending insights from my earlier research, showed how estimation techniques for sample selection could be used to separate out the costs of transacting under different organizational arrangements and to quantify the costs of 'mistaken organization'. A related article (article 11) elaborated on the problems of evaluating the efficiency consequences of organizational form and has contributed to more consistent and rigorous analysis of the effects of business organization and strategy on firm performance. My research on contracting includes analyses of take-or-pay (minimum bill) provisions (articles 2, 5), contract duration (article 6), price adjustment provisions (article 10) and the use and design of equipment leasing (article 12). These studies have helped to demonstrate the efficiency – primarily transaction-cost economizing – purposes of a variety of common contractual arrangements. I have also applied the lessons from this research to assess possible anticompetitive motives for contracting and their implications for antitrust policy (articles 7, 12), and to analyze financial aid coordination among universities (article 13).

MASULIS, Ronald W.

Born 1948, Boston, MA, USA.

Current Post Frank K. Houston Prof. Fin., Owen Grad. Sch. Mgmt, Vanderbilt Univ., Nashville, TN, USA, 1990–.

Past Posts Asst Prof., Assoc. Prof., Andersen Grad. Sch. Mgmt, UCLA, 1976–86; Econ. Fell., Securities and Exchange Commission, 1979–80; Vis. Scholar, Federal Home Loan Bank Bd, 1980–81, Sch. Bus., Indiana Univ., 1995; Fin. Econ., Federal Savings and Loan Insurance Corp., 1981–82; James M. Collins Prof. Fin., Edwin Cox Sch. Bus., Southern Methodist Univ., 1986–90; State Bank NSW Vis. Prof., Australian Grad. Sch. Mgmt, 1991; Vis. Prof. Fin., INSEAD, 1993, Norwegian Sch. Mgmt, Oslo Norway, 1996; Vis. Prof. Fin. and Res. Fell., Tuck Sch. Bus., Dartmouth Coll., 2002.

Degrees BA Northeastern Univ., 1971; MBA, PhD Univ. Chicago, 1974, 1978.

Offices and Honours Bd Dirs, AFA, 1988–90; Exec. Comm., Western Fin. Assoc., 1988–90.

Editorial Duties Assoc. Ed., *J Fin*, 1985–88, 1993–2000, *JFQA*, 1985–, *Rev. Fin. Stud.*, 1987–89, *J Fin E*, 1987–90, *J. Fin. Intermediation*, 1989–95, *J. Fin. Res.*, 1991–99, *J. Corp. Fin.*, 1993–2001; Co-Ed., *Fin. Mgmt*, special issue on ‘Market microstructure and corporate finance’, Winter 1992.

Principal Fields of Interest G3 Corporate Finance and Governance; G2 Financial Institutions and Services.

Publications *Book*: 1. *The Debt–Equity Choice* (Ballinger Press, 1988).

Articles: 1. ‘The option pricing model and the risk factor of stock’ (with D. Galai), *J Fin E*, 3, Jan./March 1976; 2. ‘Optimal capital structure under corporate and personal taxation’ (with H. DeAngelo), *J Fin E*, 8, March 1980; 3. ‘Stock repurchase by tender offer, an analysis of the causes of common stock

price changes’, *J Fin*, 35, May 1980; 4. ‘The effects of capital structure change on security prices: a study of exchange offers’, *J Fin E*, 8, June 1980; 5. ‘Government intervention in the mortgage market, a study of anti-redlining regulations’, *JME*, 10, Sept. 1982; 6. ‘The valuation effects of stock splits and stock dividends’ (with M. Grinblatt, S. Titman), *J Fin E*, 13, Dec. 1984; 7. ‘Seasoned equity offerings: an empirical investigation’ (with A. Korwar), *J Fin E*, 15, Jan./Feb. 1986; 8. ‘Changes in ownership structure: conversions of mutual savings and loans to stock charter’, *J Fin E*, 18, March 1987; 9. ‘Corporate investment and dividend decisions under differential personal taxation’ (with B. Trueman), *JFQA*, 23, Dec. 1988; 10. ‘Correlations in price changes and volatility across international stock markets’ (with Y. Hamao, V. Ng), *Rev. Fin. Stud.*, 3, 1990; 11. ‘An investigation of market microstructure impacts on event study returns’ (with R. Lease, J. Page), *J Fin*, 46, Sept. 1991; 12. ‘An investigation of the earnings information content in issuer tender offers’ (with L. Dann, D. Mayers), *J. Accounting and Econ.*, 14, Sept. 1991; 13. ‘Adverse selection and the rights offer paradox’ (with E. Eckbo), *J Fin E*, 32, Dec. 1992; 14. ‘Common stock offerings across the business cycle: theory and evidence’ (H. Choe, V. Nanda), *J. Empirical Fin.*, 1, 1993; 15. ‘Overnight and daytime stock return dynamics on the London Stock Exchange: the impacts of “Big Bang” and the 1987 stock market crash’ (with V. Ng), *JBES*, 13, Oct. 1995; 16. ‘FX spreads and dealer competition across the 24 hour day’ (with R. Huang), *Rev. Fin. Stud.*, 12, Spring 1999; 17. ‘Seasoned public offerings: resolution of the “New Issues Puzzle”’ (with E. Eckbo, O. Norli), *J Fin E*, 56, May 2000; 18. ‘Does market structure affect the immediacy of stock price responses to news?’ (with L. Shivakumar), *JFQA*, 37, Dec. 2002; 19.

'Trading activity and stock price volatility: evidence from the London Stock Exchange' (with R. Huang), *J. Empirical Fin.*, forthcoming 2003.

Principal Contributions I have studied the impacts of corporate financial decisions (including exchange offers, seasoned common stock offers, issuer tender offers, stock splits, stock dividends, American Depository Receipt issuance, mutual thrift conversions to stock charter, IPOs and commercial loan originations) on stock pricing, risk and market microstructure characteristics. More recently, I examined the speed of price reactions to news across different market structures, the securities issuance process (both seasoned equity offers and IPOs), merger financing decisions, foreign currency bid-ask spread determination, spillovers of intra-day price volatility across major international stock markets, and the relationships among price volatility and trading activity measures.

MATSUI, Akihiko n.e.

MATSUSAKA, John G.

Born 1964, location n.e.

Current Post Prof. Fin. and Bus. Econ., Marshall Sch. Bus., Univ. Southern California, Los Angeles CA, USA, 1991–.

Past Posts n.e.

Degrees BA Univ. Washington, 1985; MA, PhD Univ. Chicago, 1991.

Offices and Honours Natl Fell., Hoover Inst., Stanford Univ., 1994–95; Vis. Scholar, Anderson Sch. Mgmt, UCLA, 1996; Vis. Assoc. Econ., California Inst. Tech., 2000; Fellowship, Earhart Foundation, 2000–01; John M. Olin Vis. Prof. Econ., Grad. Sch. Bus., Univ. Chicago, 2001; Merton Miller Prize, *J Bus*, 2001.

Principal Fields of Interest H0 Public

Economics: General; G3 Corporate Finance and Governance.

Publications Book: 1. *For the Many or the Few: How the Initiative Process Changes American Government* (forthcoming).

Articles: 1. 'Economics of direct legislation', *QJE*, 107, May 1992; 2. 'Target profits and managerial discipline during the conglomerate merger wave', *J Ind E*, 41, June 1993; 3. 'Election closeness and voter turnout: evidence from California ballot propositions', *Public Choice*, 76, Aug. 1993; 4. 'Takeover motives during the conglomerate merger wave', *RandJE*, 24, Autumn 1993; 5. 'Fiscal effects of the voter initiative: evidence from the last 30 years', *JPE*, 103, June 1995; 6. 'Explaining voter turnout patterns: an information theory', *Public Choice*, 84, July 1995; 7. 'Systematic deviations from constituent interests: the role of legislative structure and political parties in the states' (with T.W. Gilligan), *EI*, 33, July 1995; 8. 'Did tough antitrust enforcement cause the diversification of American corporations?', *JFQA*, 31, June 1996; 9. 'Demand for environmental goods: evidence from voting patterns on California initiatives' (with M.E. Kahn), *J Law E*, 40, April 1997; 10. 'Voter turnout: how much can we explain?' (with F. Palda), *Public Choice*, 98, March 1999; 11. 'Fiscal effects of the voter initiative in the first half of the twentieth century', *J Law E*, 43, Oct. 2000; 12. 'Fiscal policy, legislature size, and political parties: evidence from the first half of the twentieth century' (with T.W. Gilligan), *NTJ*, 54, March 2001; 13. 'Corporate diversification, value maximization, and organizational capabilities', *J Bus*, 74, July 2001; 14. 'Political resource allocation: benefits and costs of voter initiatives' (with N.M. McCarty), *JLEO*, 17, Oct. 2001; 15. 'Internal capital markets and corporate refocusing' (with V. Nanda), *J. Fin. Inter-*

mediation, 11, April 2002; 16. 'Budget referendums and government spending: evidence from Swiss cantons' (with L.P. Feld), *J Pub E*, forthcoming.

Principal Contributions In political economy, my work has focused on the initiatives and referendums. I have been interested in the effect of these direct democracy devices on government policy, and whether they promote or subvert democracy. My book, *For the Many or the Few* is an in-depth treatment of these issues. It concludes that the initiative promotes the interests of the many rather than a special interest few. I have also worked with Tom Gilligan on several projects that seek to understand the effect of legislative structure on government policy. One robust finding is that larger legislatures spend more, consistent with the 'fiscal commons' view of government. In corporate finance, I have been interested in corporate diversification, internal capital markets, and budgeting processes. Several of my papers suggest that corporate diversification may not be a value-destroying process as many have argued.

MATSUYAMA, Kiminori

Born 1957, Kanagawa, Japan.

Current Post Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1995–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Northwestern Univ., 1987–91, 1991–95.

Degrees BA (Intl Relations) Univ. Tokyo, Japan, 1980; PhD Harvard Univ., 1987.

Offices and Honours Natl Fell., Hoover Inst., 1991–92; Faculty Res. Fell., NBER, 1991–97; Mem., Tokyo Center Econ. Res., 1992–; Nakahara Prize, 1996; Fell., Em Soc, 1999.

Editorial Duties Assoc. Ed., *JET*, 1993–, *J. Japanese and Intl Econ.*, 1995–,

JDE, 1995–, *J Int E*, 1995–98; Foreign Ed., *REStud*, 2002–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General; O0 Economic Development, Technological Change, and Growth: General.

Publications Articles: 1. 'Current account dynamics in a finite horizon model', *J Int E*, 23, Nov. 1987; 2. 'Terms of trade, factor intensities and the current account in a life-cycle model', *REStud*, 55, April 1988; 3. 'Perfect equilibria in a trade liberalization game', *AER*, 80, June 1990; 4. 'Increasing returns, industrialization, and indeterminacy of equilibrium', *QJE*, 106, May 1991; 5. 'Endogenous price fluctuations in an optimizing model of a monetary economy', *Em*, 59, Nov. 1991; 6. 'Agricultural productivity, comparative advantage, and economic growth', *JET*, 58, Dec. 1992; 7. 'Toward a theory of international currency' (with N. Kiyotaki, A. Matsui), *REStud*, 60, April 1993; 8. 'An approach to equilibrium selection' (with A. Matsui), *JET*, 65, April 1995; 9. 'Complementarities and cumulative processes in models of monopolistic competition', *JEL*, 33, June 1995; 10. 'Start-up costs and pecuniary externalities as barriers to economic development' (with A. Ciccone), *JDE*, 49, April 1996; 11. 'Why are there rich and poor countries? Symmetry-breaking in the world economy', *J. Japanese Intl Econ.*, 10, Dec. 1996; 12. 'The 1996 Nakahara Lecture: complementarity, instability, and multiplicity', *Japanese Econ. Rev.*, 48, Sept. 1997; 13. 'Self-defeating regional concentration' (with T. Takahashi), *REStud*, 65, April 1998; 14. 'Economic development as coordination problems', in M. Aoki, H. Kim, M. Okuno-Fujiwara (eds), *The Role of Government in East Asian Development: Comparative Institutional Analysis* (OUP, 1998); 15. 'Growing through cycles', *Em*,

67, March 1999; 16. 'Efficiency and equilibrium with dynamic increasing aggregate returns due to demand complementarities' (with A. Ciccone), *Em*, 67, May 1999; 17. 'Endogenous inequality', *REStud*, 67, Oct. 2000; 18. 'A Ricardian model with a continuum of goods under nonhomothetic preferences: demand complementarities, income distribution and north-south trade', *JPE*, 108, Dec. 2000; 19. 'Growing through cycles in an infinitely lived agent economy', *JET*, 100, Oct. 2001; 20. 'The rise of mass consumption societies', *JPE*, 110, Oct. 2002.

Principal Contributions Although my research spans a variety of fields, including international economics, monetary and macroeconomic theory, economic growth and development, and game theory, much of my research can be characterized as an effort to make methodological innovations to dynamic modelling in the context of a concrete economic problem. My earlier work was in the area of international economics, particularly an intertemporal approach to the current account and a dynamic game analysis of the trade policy credibility. My research then shifted to the global analysis of nonlinear dynamics. Examples include, monetary models with endogenous cycles to explain the link between the level of inflation and its variability; nonlinear models of economic development with multiple steady states to address the question of how an underdeveloped economy can take off from a poverty trap; growth models, in which the economy achieves sustainable growth through alternating innovation and investment cycles, and models of endogenous business fluctuations driven by the changing composition of credit over the cycles. My recent research has emphasized the role of complementarities in generating cumulative processes, instability, symmetry-breaking, and multiple equilibria. I address a wide range of agglomeration phe-

nomena, such as business cycles (variations across time), uneven development and regional inequalities (variations across space), income distribution (variations across households) the evolution of an international currency, the evolution of the social custom and fashion cycles. This line of research also led me to address methodological issues associated with multiple equilibria, coordination failures, and equilibrium selection. For example, a demonstration of coordination failures is often interpreted as a call for government intervention, and I take up the question of the appropriateness of such interpretation. I defend models with multiple equilibria both as a theory of endogenous diversity and as a way of demonstrating sensitive dependence of economic behaviour on the environment.

MAURO, Paolo n.e.

MAYERS, David n.e.

MCADAMS, Richard H. n.e.

MCAFEE, R. Preston n.e.

MCCABE, Kevin A. n.e.

MCCALLUM, Bennett Tarlton

Born 1935, Poteet, TX, USA.

Current Post H.J. Heinz Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., Pittsburgh, PA, USA, 1986–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Univ. Virginia, 1967–71, 1971–74, 1974–81; Cons., Bd Governors, Fed. Reserve System, 1974, IMF, 1989–

90; Vis. Prof., Prof. Econ., Carnegie-Mellon Univ., 1980, 1981–86; Adviser, FRB, Richmond, 1981–; Vis. Scholar, Bank Japan, 1993, Reserve Bank, New Zealand, 1995.

Degrees BA, BScE (Chemical Eng.), PhD Rice Univ., Houston, TX, 1957, 1958, 1969; MBA Harvard Univ., 1963.

Offices and Honours Res. Assoc., NBER, 1979–; Grad. Record Exams Comm., Examiners Adv. Econ. Test, 1980–82; Fell., Em Soc, 1992–, Mem., Shadow Open Market Comm., 2000–.

Editorial Duties Ed. Bds, *SEJ*, 1975–77, *JME*, 1977–95, *Econ. Letters*, 1978–, *JMCB*, 1983–, *AER*, 1985–88, *Intl J. Fin. Econ.*, 1996–; Advisory Bd, Co-Ed., *C-RPP*, 1986–95, 1995–; Co-Ed., *AER*, 1988–91.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F4 Macroeconomic Aspects of International Trade and Finance; C1 Econometric and Statistical Methods: General.

Publications *Books*: 1. *Monetary Economics: Theory and Policy* (Macmillan, 1989); 2. *International Monetary Economics* (OUP, 1996).

Articles: 1. ‘Rational expectations and the natural rate hypothesis: some consistent estimates’, *Em*, 44, Jan. 1976; 2. ‘On non-uniqueness in rational expectations models: an attempt at perspective’, *JME*, 11, March 1983; 3. ‘Are bond-financed deficits inflationary? A Ricardian analysis’, *JPE*, 92, Feb. 1984; 4. ‘Bank deregulation, accounting systems of exchange, and the unit of account: a critical review’, *C-RPP*, 23, Autumn 1985; 5. ‘The optimal inflation rate in an overlapping generations economy with land’, in W.A. Barnett, K.J. Singleton (eds), *New Approaches to Monetary Economics* (CUP, 1987); 6. ‘Robustness properties of a rule for monetary policy’, *C-RPP*, 29, Autumn 1988; 7. ‘A reconsideration of the uncov-

ered interest parity relationship’, *JME*, 33, Feb. 1994; 8. ‘Issues in the design of monetary policy rules’, in J.B. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 1999); 9. ‘Nominal income targeting in an open-economy optimizing model’ (with E. Nelson), *JME*, 43, June 1999; 10. ‘Indeterminacy, bubbles, and the fiscal theory of price level determination’, *JME*, 47, Feb. 2001.

Principal Contributions Initial research efforts were in the area of applied econometrics. Several empirical studies involved the formulation and estimation of dynamic adjustment relationships for nominal wages and prices. The presence in these of unobservable expectational variables motivated consideration of hypotheses more plausible than the then-prevalent adaptive-expectations formula. This led to an interest in rational expectations (RE), and in particular to the development of techniques appropriate for estimation under that hypothesis as well as theoretical investigation of issues including policy ineffectiveness and price-level determinacy. Efforts during the 1980s involved a variety of topics in monetary theory and policy including the medium-of-exchange role of money in overlapping-generation models, the theoretical viability of economies in which most transactions are conducted via an accounting system of exchange, the merits of alternative monetary operating procedures, and the specification and analysis of operational rules for the conduct of monetary policy. Nonmonetary topics included the nature and status of solution multiplicities (‘bubbles’) in RE models, implications of Ricardian equivalence for the feasibility of unending sequences of government budget deficits financed by bond sales, and the evaluation of early contributions to the real business cycle literature. More recent studies have been concerned with prominent empirical anomalies involv-

ing the term structure of interest rates and uncovered interest parity in foreign exchange markets, additional policy rule analyses, issues relating to institutional arrangements for central banks, and investigation of the adaptive learnability of various solutions in linear RE models.

MCCONNELL, John Joseph

Born 1945, Warren, OH, USA.

Current Post E.T. Weiler Univ. Disting. Prof. Mgmt (Fin.), Purdue Univ., West Lafayette, IN, USA, 2000–.

Past Posts Asst Prof. Fin., Ohio State Univ., 1975–76; Asst Prof. Mgmt, Assoc. Prof. Mgmt, Prof. Mgmt, E.T. Weiler Prof. Mgmt (Fin.), Purdue Univ., 1976–79, 1979–83, 1983–89, 1989–2000; Prof. Fin., Univ. Minnesota, 1981–82; Vis. Prof. Fin., Stanford Univ., 1986–87; Dir. Doctoral Programs and Res., Krannert Sch. Mgmt, Purdue Univ., 1989–98; Vis. Scholar, Univ. North Carolina, 1999.

Degrees BA Denison Univ., 1968; MBA (Fin.) Univ. Pittsburgh, 1969; PhD (Mgmt) Purdue Univ., 1974.

Offices and Honours Phi Kappa Alpha Acad. Hons; Omicron Delta Epsilon Econ. Hons; Bd Dirs, Fed. Home Loan Bank, Indianapolis, 1983–86, AFA, 1986–88, Harrington Bank, 1993–2001, Los Padres Bank, 1996–; Best Paper, *Rev. Fin. Stud.*, 1989; Most Effective Teacher, Krannert Grad. Student Assoc., Purdue Univ., 1992; Salgo-Noren Outstanding Teacher Award, 1993, 1995; Purdue Univ. Teaching Acad., 2001–; Disting. Scholar, Eastern Fin. Assoc., 2002.

Editorial Duties Ed. Rev. Bd, *J. Bus. Res.*, 1977–93; Assoc. Ed., *Fin. Mgmt*, 1979–93, *J. AREUEA*, 1980–91, *JFQA*, 1987–, *J. Real Estate Fin. Econ.*, 1987–98, *J. Fin. Intermediation*, 1989–95, *Asia Pacific J. Mgmt*, 1990–2000, *J. Fixed Income*, 1990–, *J. Empirical Fin.*, 1991–95,

J. Fin., 1992–2000, *Rev. Fin. Markets*, 1996–, *Pacific Basin Fin. J.*, 1997–, *Fin. Rev.*, 1999–, *Asia Pacific J. Fin.*, 1999–, *Real Estate Rev.*, 1999–.

Principal Fields of Interest G1 General Financial Markets; G3 Corporate Finance and Governance; N2 Financial Markets and Institutions.

Publications Articles: 1. 'Capital structure rearrangements and me-first rules in an efficient capital market' (with E.H. Kim, P.R. Greenwood), *J. Fin.*, 32, June 1977; 2. 'Price distortions induced by the revenue structure of federally-sponsored mortgage loan programs', *J. Fin.*, 32, Sept. 1977; 3. 'Returns, risks and pricing of income bonds, 1956–1976 (does money have an odor?)' (with G.G. Schlarbaum), *J. Bus.*, 54, Jan. 1981; 4. 'Valuation of GNMA mortgage-backed securities' (with K.B. Dunn), *J. Fin.*, 36, June 1981; 5. 'The administrative costs of corporate bankruptcy' (with J.S. Ang, J.H. Chua), *J. Fin.*, 37, March 1982; 6. 'An empirical investigation of the impact of antitakeover amendments on common stock prices' (with S. Linn), *J. Fin. E.*, 11, April 1983; 7. 'The market value of control in publicly-traded corporations' (with R.C. Lease, W.H. Mikkelson), *J. Fin. E.*, 11, April 1983; 8. 'Valuation of asset leasing contracts' (with J.S. Schallheim), *J. Fin. E.*, 12, Aug. 1983; 9. 'Corporate combinations and common stock returns: the case of joint ventures' (with T.J. Nantell), *J. Fin.*, 40, June 1985; 10. 'Corporate capital expenditure decisions and the market value of the firm' (with C.J. Muscarella), *J. Fin. E.*, 14, Sept. 1985; 11. 'Requiem for a market: an analysis of the rise and fall of a financial futures contract' (with E.T. Johnston), *Rev. Fin. Stud.*, 2, 1989; 12. 'Further evidence on the bank lending process and the capital-market response to bank loan agreements' (with S.L. Lummer), *J. Fin. E.*, 25, Nov. 1989; 13. 'Additional evidence on equity ownership and corporate value'

(with H. Servaes), *J Fin E*, 27, Sept. 1990; 14. 'Corporate performance, corporate takeovers, and management turnover' (with K.J. Martin), *J Fin*, 46, June 1991; 15. 'The effect of market segmentation and illiquidity on asset prices: evidence from exchange listings' (with G.B. Kadlec), *J Fin*, 49, June 1994; 16. 'Rational prepayments and the valuation of collateralized mortgage obligations' (with M. Singh), *J Fin*, 49, July 1994; 17. 'Equity ownership and the two faces of debt' (with H. Servaes), *J Fin E*, 39, Sept. 1995; 18. 'Equity carve-outs and managerial discretion' (with J.W. Allen), *J Fin*, 53, Feb. 1998; 19. 'Earnings signals in fixed-price and Dutch auction self-tender offers' (with E. Lie), *J Fin E*, 49, Aug. 1998; 20. 'The Cadbury committee, corporate performance, and top management turnover' (with J. Dahya, N.G. Travlos), *J Fin*, 57, Feb. 2002.

Principal Contributions My contributions have been primarily in the area of financial economics, financial markets, and financial institutions. I have developed models for the analysis, pricing, and hedging of fixed income securities using option pricing theory with stochastic interest rates. This work includes the development of models for analyzing mortgage-backed securities, collateralized mortgage obligations, convertible bonds, and financial leases. I have also contributed to the area of corporate finance with empirical analyses of such topics as corporate capital structure, corporate investment policy, corporate mergers, share repurchase programs, and inter-corporate joint ventures. Most of this work has focussed on the link between these various types of corporate investment and financing decisions and the value of the firm with a particular emphasis on the effect of these decisions on shareholder value. Further, I have contributed to an understanding of the link between corporate governance and cor-

porate value with studies of the role of corporate boards of directors, shareholder voting rights, competition in the takeover market. In that regard, I have also analyzed the role of share ownership among corporate managers, large-block shareholders, financial institutions, and individual investors as determinants of corporate value. I have also made contributions in the area of market microstructure, the trading and pricing of financial futures contracts, and patterns in stock returns especially the 'turn-of-the-year effect' in stock prices.

MCCONNELL, Kenneth E. (Ted)

Born 1941, Huntington, NY, USA.

Current Post Prof., Dept Agric. and Resource Econ., Univ. Maryland, College Park, MD, USA, 1983–.

Past Posts Asst Prof., Assoc. Prof., Univ. Rhode Island, 1973–77, 1977–79; Assoc. Prof., Univ. Maryland, 1979–83; Vis. Prof., Univ. California, Santa Barbara, 1987.

Degrees BA, MA Univ. Florida, 1964, 1966; PhD Univ. Maryland, 1973.

Offices and Honours Pres., Assoc. Environmental and Resource Econ., 1991–92; Fell., AA, 2001.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; Q1 Agriculture; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Book*: 1. *Valuing Environmental and Natural Resources: Econometrics for Non-Market Valuation* (with T. Haab), (Edward Elgar, 2002).

Articles: 1. 'Some problems in estimating the demand for recreation', *AJAE*, 57, May 1975; 2. 'Congestion and willingness to pay: a study of beach use', *Land Econ.*, 53, May 1977; 3. 'Bioeconomic models of recreational fishing' (with J. Sullivan), *JEEM*, 7, June 1979; 4. 'An

economic model of soil conservation', *AJAE*, 65, Feb. 1983; 5. 'Welfare measurement in the household production framework' (with N. Bockstael), *AER*, 83, Sept. 1983; 6. 'Some issues in measuring existence value' (with B. Madariaga), *Water Resources Res.*, 23, May 1987; 7. 'On the choice of functional form for hedonic price equations' (with M. Cropper, L. Deck), *REStat*, 70, Nov. 1988; 8. 'Benefits from commercial fisheries when demand and supply depend on water quality' (with I. Strand), *JEEM*, 17, June 1989; 9. 'Models for referendum data', *JEEM*, 20, Sept. 1990; 10. 'Public goods as characteristics of non-market commodities' (with N. Bockstael), *EJ*, 75, May 1993; 11. 'Does altruism undermine existence value?', *JEEM*, 32, Sept. 1997; 12. 'A test of competing explanations of compensation demanded' (with J. Horowitz, J. Quiggin), *EJ*, 3, July 1999.

Principal Contributions My work has two basic thrusts: (i) determining the conditions in which natural resources are efficiently provided by the market and (ii) developing the theoretical underpinnings for empirical valuation. My early research made several of the seminal contributions that established a solid theoretical basis for non-market valuation. The 1975 *AJAE* paper established the Gary Becker model of the allocation of time as the appropriate model for investigating demand for recreation. The paper with Nancy Bockstael in *AER* in 1983 developed the household production framework as a means of rigorous economic welfare analysis for goods with unobserved prices including non-market goods. Another seminal paper with Bockstael in *EJ* develops the implications of changes in public goods for revealed preferences. My research has mixed empirical and theoretical approaches. A paper in May 1977 *Land Economics* developed one of the earliest empirical models of optimal conges-

tion. This work provided a model of how to value congestion and a means of testing for crowding. The 1983 model of soil loss in *AJAE* laid the groundwork for the literature that seeks to understand optimal soil use. The 1987 paper with Bruce Madariaga provided a conceptually solid argument for measuring economic values for natural resources that people enjoy vicariously but do not use *in situ*. My 1979 paper with Jon Sutinen in *JEEM* helped to develop an understanding of the nature of competition between commercial and recreational fishing. The recent book with Tim Haab provides an entry for empirical methods of non-market valuation.

MCCULLOCH, Robert E. n.e.

MCDONALD, John Freeman

Born 1943, Decatur, IL, USA.

Current Posts Sr Assoc. Dean and Prof. Econ. and Fin., Coll. Bus. Admin., Univ. Illinois, Chicago, IL, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Univ. Illinois, Chicago, 1971–88; Sr Staff Econ., Gary Income Maintenance Experiment, 1975; Vis. Prof., Argonne Natl Lab., 1984–88; Cons., Building Owners and Managers Assoc., Chicago, 1987–99; Res. Dir., NCI Res., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1988–90; Interim Head, Depts Fin. and Info. and Decision Sc., Univ. Illinois, Chicago, 1998–99.

Degrees BA Grinnell Coll., 1965; MPhil, PhD Yale Univ., 1969, 1971.

Offices and Honours Pres., Illinois Econ. Assoc., 1993–94; Alumni Award Disting. Res., Coll. Bus. Admin., Univ. Illinois, Chicago, 1995; Fell., Amer. Real Estate Soc., 1999–.

Editorial Duties US Ed., *Urb Stud*,

2001–; Rev. Articles Ed., *J. Real Estate Literature*, 2001–.

Principal Field of Interest R0 Urban, Rural, and Regional Economics: General.

Publications Books: 1. *Economic Analysis of an Urban Housing Market* (Acad. Press, 1979); 2. *Employment Location and Industrial Land Use in Metropolitan Chicago* (Stipes, 1984); 3. *Fundamentals of Urban Economics* (Prentice-Hall, 1997); 4. *Economics of Urban Highway Congestion and Pricing* (with E. d’Ouille, L.N. Liu), (Kluwer, 1999).

Articles: 1. ‘Housing market discrimination, homeownership, and savings behavior: comment’, *AER*, 64, March 1974; 2. ‘The uses of Tobit analysis’, *REStat*, 62, May 1980; 3. ‘Capital–land substitution in urban housing: a survey of empirical estimates’, *JUE*, 9, March 1981; 4. ‘Route choice and the value of commuting time: an economic model of dichotomous choice’, *Transport Res.*, 17B, Dec. 1983; 5. ‘The identification of urban employment subcenters’, *JUE*, 21, March 1987; 6. ‘Highway traffic flow and the uneconomic region of production’ (with E. d’Ouille), *RSUE*, 18, Nov. 1988; 7. ‘Econometric studies of urban population density: a survey’, *JUE*, 26, Nov. 1989; 8. ‘A simultaneous equations model of zoning and land values’ (with D. McMillen), *RSUE*, 21, May 1991; 9. ‘Could zoning have increased land values in Chicago?’ (with D. McMillen), *JUE*, 33, March 1993; 10. ‘Incidence of the property tax on commercial real estate: the case of downtown Chicago’, *NTJ*, 46, June 1993; 11. ‘Urban highway congestion: an analysis of second-best tolls’, *Transportation*, 22, Nov. 1995; 12. ‘Suburban subcenters and employment density in metropolitan Chicago’ (with D. McMillen), *JUE*, 43, March 1998; 13. ‘An economic analysis of guns, crime, and gun control’, *J. Criminal Justice*, 27, Jan./Feb. 1999; 14. ‘Optimal leverage in real estate investment’, *J. Real Estate Fin. and Econ.*,

18, March 1999; 15. ‘Cost–benefit analysis of local land use allocation decisions’, *J Reg S*, 41, May 2001; 16. ‘Land values in a newly zoned city’ (with D. McMillen), *REStat*, 84, Feb. 2002.

Principal Contributions My principal contribution is the rigorous and detailed application of microeconomic theory and econometric methods to the study of urban areas. My first book applied the Alonso–Muth–Mills model to the Chicago housing market, and the second book used the same basic theoretical approach to study the location of employment and the allocation of land to industrial and commercial use. Land is considered an input into urban production processes along with capital and labor. Capital is divided into structure capital and movable capital, and real estate is defined as the services of land and structure capital as nested within the overall production function. The third book is a text that emphasizes microeconomic theory and neoclassical growth theory as applied to urban areas. The fourth book is a study of traffic congestion and its second-pricing which shows that, if only a portion of a congested highway system can be subject to congestion tolls, the efficient second-best tolls may be very different from the first-best tolls. Traffic flow is considered the output of a production function with highway capital and traffic density as the inputs. The existence of the congestion externality means that a highway can be operating in the ‘uneconomic’ region of production in which traffic flow would increase if traffic density were reduced. The 1980 article on the interpretation of Tobit analysis is cited frequently. A decomposition is suggested that disaggregates Tobit effects into effects on the probability of being above zero and effects conditional upon being above zero. The 1987 article on urban employment subcenters initiated the empirical research on this topic, which I have

pursued with D. McMillen. Other work with McMillen explores the effects of land-use zoning on land values, and the effect of land values on zoning decisions. Recent work, as exemplified by the 1999 article on optimal leverage in real estate investment, concentrates on real estate finance. A general equilibrium model with default risk is used to show how lenders charge higher interest rates as leverage (proportion borrowed) increases.

MCFADDEN, Daniel L.

Born 1937, Raleigh, NC, USA.

Current Posts Prof. Econ., E. Morris Cox Chair, Univ. California, Berkeley, CA, USA, 1990–; Dir., Em. Lab., Univ. California, Berkeley, 1991–95, 1996–.

Past Posts Instr. Physics, Res. Asst Social Psychology, Instr. Econ., Univ. Minnesota, 1957–58, 1959–60, 1961–62; Asst Prof. Econ., Univ. Pittsburgh, 1962–63; Asst Prof., Assoc. Prof., Prof. Econ., Chair, Dept Econ., Univ. California, Berkeley, 1963–66, 1966–68, 1968–79, 1995–96; Vis. Assoc. Prof., Univ. Chicago, 1966–67; Irving Fisher Res. Prof., Yale Univ., 1977–78; Prof. Econ., James R. Killian Chair, Dir., Stats Centre, MIT, 1978–91, 1984–91, 1986–88; Sherman Fairchild Disting. Scholar, California Inst. Tech., 1990.

Degrees BS (Physics, High Distinction), PhD (Behav. Sc.) Univ. Minnesota, 1957, 1962.

Offices and Honours Ford Foundation Behav. Sc. Fell., 1958–62; Earhart Fell., 1960–61; Mellon Post-Doctoral Fell., 1962–63; Ford Faculty Res. Fell., 1966–67; Program Chair, Em Soc Summer Meetings, 1967; Fell., Em Soc, 1969; Econ. Advisory Panel, NSF, 1969–71; Chair, NSF–NBER Conf., Econ. of Uncertainty, 1970–; Mem., Univs Natl Bureau, 1974–77; Mem. Council, Em Soc,

1974–80, 1983–86; Advisory Comm., Transportation Models, Metropolitan Transportation Commission, 1975; City of Berkeley, Coordinated Transit Project, 1975–76; Exec. Comm., Transportation Res. Bd, 1975–78; John Bates Clark Medal, AEA, 1975; Bd Dirs, NBER, 1976–77, 1980–83; Sloan Foundation Book Comm., 1977–79; Mem., AAAS, 1977; Exec. Comm., Em Soc, 1978–80, 1983–86; Rev. Comm., California Energy Commission, 1979; Provost's Comm. on Stats, MIT, 1979–80; Fisher–Schultz Lecture, Em Soc, 1979; Eng. Dean Search Comm., MIT, 1980–81; Chair, AEA Awards Comm., 1981–84; Outstanding Teacher Award, Econ. Dept, MIT, 1981; Mem., NAS, 1981; NAS Comm., Basic Res. in Social Sc., 1982–87; NAS Comm., Energy Demand Modeling, 1983–84; Vice-Pres., Pres., Em Soc, 1983–84, 1985; Program Bd, Center Energy Pol. Res., MIT, 1983–84; Hooker Lectures, Macmasters Univ., 1984; Killian Award Comm., MIT, 1984; Exec. Comm., Vice-Pres., AEA, 1985–87, 1994; Smith Lectures, Brigham Young Univ., 1985; Jahnsson Foundation Lectures, Helsinki, 1985; Frisch Medal, 1986; Advisory Bd, Panel Study of Income Dynamics, 1988–91; NAS Comm., Behav. and Social Sc. and Educ., 1989–94; Comm. on Curricula, MIT, 1990–91; LLD, Univ. Chicago, 1992; Chair, AEA Comm., Electronic Publication, 1994–; Best Paper Prize, AEA, 1994; Dir., Grad. Stud., Univ. California, Berkeley, 1994–95; NAS Commission on Sc., Eng. and Public Pol., 1995–; Chair, NAS Comm., Methods of Forecasting Demand and Supply of Doctoral Scientists and Engineers, 1997–; Nemmers Prize, 2000; Nobel Prize, 2000; Richard Stone Prize, 2002; Tau Beta Phi; Mem., AEA, ASA, Math. Assoc. Amer.

Editorial Duties Ed., *J. Stat. Physics*, 1968–70, *Em Soc Monographs*, 1980–83; Ed. Bds, *AER*, 1971–74, *J Math E*, 1973–

77, *Transportation Res.*, 1978–80; Assoc. Ed., *J Em*, 1977–78; Advisory Comm., *J. Apl. Econ.*, 1996–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; D0 Microeconomics: General; I1 Health.

Publications *Books*: 1. *Essays on Economic Behavior under Uncertainty* (ed. with M. Balch, S. Wu), (N-H, 1974); 2. *Urban Travel Demand: A Behavioral Analysis* (with T. Domencich), (N-H, 1975, Blackstone, 1996); 3. *Production Economics: A Dual Approach to Theory and Applications*, Vols I, II (ed. with M. Fuss), (N-H, 1978); 4. *Structural Analysis of Discrete Data with Econometric Applications* (ed. with C.F. Manski), (MIT Press, 1981); 5. *Microeconomic Modeling and Policy Analysis: Studies in Residential Energy Demand* (with T. Cowing), (Acad. Press, 1984); 6. *Preferences, Uncertainty, and Optimality: Essays in Honor of Leonid Hurwicz* (ed. with J. Chipman, M.K. Richter), (Westview, 1990); 7. *Handbook of Econometrics*, Vol. IV (ed. with R. Engle), (N-H, 1994).

Articles: 1. 'On Hicksian stability', in J.N. Wolfe (ed.), *Value, Capital, and Growth* (Edinburgh Univ. Press, 1969); 2. 'Conditional logit analysis of qualitative choice behavior', in P. Zarembka (ed.), *Frontiers of Econometrics* (Acad. Press, 1973); 3. 'On the existence of optimal development programs in infinite horizon economies', in J. Mirrlees, H. Stern (eds), *Models of Economic Growth* (N-H, 1973); 4. 'Econometric analysis of qualitative response models', in Z. Griliches, M. Intriligator (eds), *Handbook of Econometrics*, Vol. II (Elsevier, 1984); 5. 'An econometric analysis of residential electric appliance holdings and consumption' (with J. Dubin), *Em*, 52, March 1984; 6. 'A method of simulated moments for estimation of discrete response models without numerical integration', *Em*, 57, Sept. 1989; 7. 'Large sample estimation and hypothesis

testing' (with W. Newey), in R. Engle, D. McFadden (eds), *Handbook of Econometrics*, Vol. IV (N-H, 1994); 8. 'Contingent valuation and social choice', *AJAE*, 76, Nov. 1994; 9. 'Referendum contingent valuation, anchoring, and willingness to pay for public goods' (with D. Green, K. Jacowitz, D. Kahneman), Working Paper, 1995; 10. 'Consumption and savings balances of the elderly: experimental evidence on survey response bias' (with M. Hurd *et al.*), in D. Wise (ed.), *Frontiers in the Economics of Aging* (UCP, 1998).

Principal Contributions My research over the span of the last 30 years has centered on empirical microeconomics and policy applications, along with their theoretical and statistical antecedents. Major applications areas have included production theory, consumer theory with applications in marketing and welfare economics, transportation, energy, and health. In the past seven years, my research has focused on topics in three areas: (1) the economic status of the elderly, particularly the dynamics of living arrangements and the interaction of housing status and health; (2) consumer demand analysis combining market and psychometric data, with application in marketing and in the measurement of consumer surplus; and (3) econometric methods for analysis of discrete panel data and data arising from consumer experiments.

MCGRATTEN, Ellen R. n.e.

MCGUIRE, Therese J. n.e.

MCGUIRE, Thomas G. n.e.

MCKELVEY, Richard (1944–2002)

Born 1944, Geneva, NY, USA.

Posts Held Instr., Asst Prof., Univ. Rochester, 1970–72, 1972–74; Asst. Prof., Assoc. Prof., Carnegie-Mellon Univ., 1974–77, 1977–79; Prof., Edie and Leaw Wasserman Prof. Polit. Sc. and Dir. William D. Hacker Social Sc. Experimental Lab., California Inst. Tech., 1979–2002.

Degrees BA (Maths) Oberlin Coll., 1966; MA (Maths) Washington Univ., St Louis, 1967; MA (Polit. Sc.), PhD (Polit. Sc.) Univ. Rochester, 1970, 1971.

Offices and Honours Fell., AAAS, 1992–2002, NAS, 1993–2002, Em Soc, 1994–2002.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; D7 Analysis of Collective Decision-Making.

Publications *Articles*: 1. ‘Policy related voting and electoral equilibrium’, *Em*, 43, 1975; 2. ‘Intransitivities in multidimensional voting models and some implications for agenda control’, *JET*, 12, 1976; 3. ‘Symmetric spatial games without majority rule equilibria’ (with P.C. Ordeshook), *Amer. Polit. Sc. Rev.*, 70, 1976; 4. ‘A multistage game representation of sophisticated voting for binary procedures’ (with R. Niemi), *JET*, 18, 1978; 5. ‘General conditions for global intransitivities in formal voting models’, *Em*, 47, 1979; 6. ‘Experiments on the core: some disconcerting results for majority rule voting games’ (with P.C. Ordeshook), *J. Conflict Resolution*, 25, 1981; 7. ‘Implementation of democratic social choice functions’ (with J.A. Ferejohn, D.M. Grether), *REStud*, 49, 1982; 8. ‘Elections with limited information: a fulfilled expectations model using contemporaneous poll and endorsement data as information sources’ (with P.C. Ordeshook), *JET*, 36, 1985; 9. ‘Sequential elections with limited information: a formal analysis’ (with

P.C. Ordeshook), *Social Choice and Welfare*, 3, 1986; 10. ‘Common knowledge, consensus and aggregate information’ (with R.T. Page), *Em*, 54, 1986; 11. ‘Sophisticated voting and agenda independence in the distributive politics setting’ (with J.A. Ferejohn, M.P. Fiorina), *Amer. J. Polit. Sc.*, 31, 1987; 12. ‘Generalized symmetry conditions at a core point’ (with N. Schofield), *Em*, 55, 1987; 13. ‘Common knowledge of an aggregate of expectations’ (with L.T. Nielsen, A. Brandenburger, J. Geanakoplos, R.T. Page), *Em*, 58, 1990; 14. ‘Public and private information: an experimental study of information pooling’ (with R.T. Page), *Em*, 58, 1990; 15. ‘An experimental study of the centipede game’ (with T.R. Palfrey), *Em*, 60, 1992; 16. ‘Quantal response equilibria for normal form games’ (with T.R. Palfrey), *Games and Econ. Behav.*, 10, 1996; 17. ‘Political competition in a model of economic growth: some theoretical results’ (with R. Boylan, J. Ledyard), *ET*, 7, 1996; 18. ‘Experiments on the constant sum centipede game’ (with M. Fey, T.R. Palfrey), *Intl J. Game Theory*, 25, 1996; 19. ‘The maximal number of regular totally mixed Nash equilibria’ (with A. McLennan), *JET*, 72, 1998; 20. ‘Quantal response equilibria for extensive form games’ (with T.R. Palfrey), *Experimental Econ.*, 1, 1998.

Principal Contributions n.e.

MCMILLAN, John

Born 1951, Christchurch, New Zealand.

Current Post Jonathan B. Lovelace Prof. Econ., Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1999–.

Past Posts Asst Prof., Assoc. Prof., Dept Econ., Univ. Western Ontario, 1978–87; Prof. Econ., Grad. Sch. Intl Relations and Pacific Stud., Univ. California, San Diego, 1987–99.

Degrees BSc (Maths, Hons), MCom (Hons) Univ. Canterbury, New Zealand, 1971, 1973; PhD Univ. NSW, 1978.

Offices and Honours Harry Johnson Prize, 1989; Fell., Em Soc, 1997–.

Editorial Duties Ed., *JEL*, 1998–2003.

Principal Fields of Interest D4 Market Structure and Pricing; D8 Information and Uncertainty; O1 Economic Development.

Publications *Books*: 1. *Games, Strategies, and Managers* (OUP, 1992); 2. *Reinventing the Bazaar: A Natural History of Markets* (W.W. Norton, 2002).

Articles: 1. 'Disequilibrium dynamics: an empirical study' (with S. Kawasaki, K.F. Zimmermann), *AER*, 72, Dec. 1982; 2. 'Inventories and price inflexibility' (with S. Kawasaki, K.F. Zimmermann), *Em*, 51, May 1983; 3. 'Bidding for contracts: a principal–agent analysis' (with R.P. McAfee), *RandJE*, 17, Autumn 1986; 4. 'Auctions and bidding' (with R.P. McAfee), *JEL*, 25, June 1987; 5. 'The design of contracts: evidence from Japanese subcontracting' (with S. Kawasaki), *J. Japanese and Intl Econ.*, 1, Sept. 1987; 6. 'Search mechanisms' (with R.P. McAfee), *JET*, 44, Feb. 1988; 7. 'Multi-dimensional incentive compatibility and mechanism design' (with R.P. McAfee), *JET*, 46, Dec. 1988; 8. 'Multiproduct monopoly, commodity bundling, and correlation of values' (with R.P. McAfee, M.D. Whinston), *QJE*, 104, May 1989; 9. 'The impact of China's economic reforms on agricultural productivity growth' (with J. Whalley, L. Zhu), *JPE*, 97, Aug. 1989; 10. 'Extracting the surplus in the common-value auction' (with R.P. McAfee, P.J. Reny), *Em*, 57, Nov. 1989; 11. 'How to reform a planned economy: lessons from China' (with B. Naughton), *OREP*, 8, Spring 1992; 12. 'Bidding rings' (with R.P. McAfee), *AER*, 82, June 1992; 13. 'Autonomy and incentives in Chinese state enterprises' (with T. Groves, Y. Hong, B.

Naughton), *QJE*, 109, Feb. 1994; 14. 'Selling spectrum rights' (with T. Groves, Y. Hong, B. Naughton), *JEP*, 8, Summer 1994; 15. 'China's evolving managerial labor market', *JPE*, 103, Aug. 1995; 16. 'Interfirm relationships and informal credit in Vietnam' (with C. Woodruff), *QJE*, 114, Nov. 1999; 17. 'Courts and relational contracts' (with S. Johnson, C. Woodruff), *JLEO*, 18, Spring 2002; 18. 'Property rights and finance' (with S. Johnson, C. Woodruff), *AER*, forthcoming.

Principal Contributions I have written on economic theory (auctions, mechanism design, principal–agent theory, and search theory) and applied microeconomics (business practices in Japan, the restructuring of China's state-owned enterprises, and entrepreneurship in Vietnam and in Eastern Europe). My most recent research is on the reform of planned economies, and on the design of market institutions. I was consultant to the US government on the design of the auctions of spectrum licenses, and have advised various other governments on auction design. My book *Reinventing the Bazaar: A Natural History of Markets* (2002) explores what markets can and cannot do and what it takes or them to work effectively.

MCMILLEN, Daniel Paul

Born 1958, LaPorte, IN, USA.

Current Post Prof. Econ., Univ. Illinois, Chicago, IL, USA, 1999–.

Past Posts Asst and Assoc. Prof. Econ., Univ. Oregon, 1986–92; Assoc. Prof. Econ., Santa Clara Univ., 1992–94; Prof. Econ., Tulane Univ., 1994–99.

Degrees BS, MA Univ. Illinois, Chicago, 1981, 1982; PhD Northwestern University, 1987.

Editorial Duties Ed. Bd, *JUE*, 1993–, *Growth and Change*, 1999–, *J. Econ. Ge-*

ography, 2001–, *J. Real Estate Literature*, 2002–, *J. Housing Econ.*, 2002–, *Real Estate Econ.*, 2003–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; C1 Econometric and Statistical Methods: General.

Publications *Articles*: 1. ‘Consistent estimation of the urban land value function’, *JUE*, 27, May 1990; 2. ‘Constructing confidence intervals using the bootstrap: an application to a multi-product cost function’ (with B.K. Eakin, M. Buono), *REStat*, 72, May 1990; 3. ‘The timing and duration of development tax rate increases’, *JUE*, 28, July 1990; 4. ‘Employment subcenters and land values in a polycentric urban area: the case of Chicago’ (with J.F. McDonald), *Environment and Planning A*, 22, 1990; 5. ‘Urban land value functions with endogenous zoning’ (with J.F. McDonald), *JUE*, 29, Jan. 1991; 6. ‘A simultaneous equations model of zoning and land values’ (with J.F. McDonald), *RSUE*, 21, May 1991; 7. ‘Selection bias and land development in the monocentric city model’ (with R. Jarmin, P. Thorsnes), *JUE*, 31, May 1992; 8. ‘Probit with spatial autocorrelation’, *J Reg S*, 32, Aug. 1992; 9. ‘Work location, residence location, and the intra-urban wage gradient’ (with L. Singell), *JUE*, 32, Sept. 1992; 10. ‘Can blacks earn more in the suburbs? Racial differences in intra-metropolitan earnings variation’, *JUE*, 33, March 1993; 11. ‘Could zoning have increased land values in Chicago?’ (with J.F. McDonald), *JUE*, 33, March 1993; 12. ‘Vintage growth and population density: an empirical investigation’, *JUE*, 36, Nov. 1994; 13. ‘One hundred fifty years of land values in Chicago: a nonparametric approach’, *JUE*, 40, July 1996; 14. ‘A nonparametric analysis of employment density in a polycentric city’ (with J.F. McDonald), *J Reg S*, 37, Nov. 1997; 15. ‘Suburban subcenters and employment

density in metropolitan Chicago’ (with J.F. McDonald), *JUE*, 43, March 1998; 16. ‘Land value and parcel size: a semi-parametric analysis’ (with P. Thorsnes), *J. Real Estate Fin. and Econ.*, 17, Nov. 1998; 17. ‘Land use before zoning: the case of 1920s Chicago’ (with J.F. McDonald), *RSUE*, 29, July 1999; 18. ‘A flexible Fourier approach to repeat sales price indexes’, *Real Estate Econ.*, 29, Summer 2001; 19. ‘Nonparametric employment subcenter identification’, *JUE*, 50, Nov. 2001; 20. ‘Land values in a newly zoned city’ (with J.F. McDonald), *REStat*, 84, Feb. 2002.

Principal Contributions My research follows three primary topics. First, a series of papers with John McDonald analyzes the effects of zoning on land values. We demonstrate that land-use zoning is endogenous in that a parcel is likely to be zoned for the use that provides the developer with the highest land value. We also show that, in spite of highly segregated patterns of land use before zoning, the City of Chicago’s first zoning ordinance led to higher land-value growth rates for parcels that were zoned for residential use. The second primary topic of my research is identifying the locations and effects of suburban employment subcenters. These concentrations of employment mimic the traditional central business district, leading to significant increases in employment density. The third main research topic is developing new statistical approaches for urban spatial modeling. A series of papers develops the empirical implications of the monocentric city model’s prediction of selection bias in land value and population density functions. I use nonparametric econometric methods as an alternative to more structured approaches to spatial modeling.

MEESE, Richard A.

Born 1952, Gary, IN, USA.

Current Posts Prof. and Assoc. Dean, Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1982–.

Past Posts Econ., Intl Fin. Div., Fed. Reserve Bd, Washington, DC, 1978–82.

Degrees BS (Maths) Univ. Michigan; PhD Univ. Wisconsin.

Offices and Honours Vis. Scholar, Fed. Reserve Bd, 1989, 1993; Dir., Haas Sch. Undergrad. Program, 1992–95; Vis. Scholar, FRB, San Francisco, 1995–.

Editorial Duties Co-Ed., Assoc. Ed., *J Int E*, 1988–92, 1992–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; F3 International Finance; G1 General Financial Markets.

Publications *Articles*: 1. ‘Estimating regression models of finite but unknown order’ (with J. Geweke), *IER*, 22, 1981; 2. ‘On unit roots and the empirical modeling of exchange rates’ (with K. Singleton), *J Fin*, 37, 1983; 3. ‘Empirical exchange rate models of the seventies; do they fit out of sample?’ (with K. Rogoff), *J Int E*, 14, 1983; 4. ‘Testing for bubbles in exchange markets: a case of sparkling rates?’, *JPE*, 94, 1986; 5. ‘Empirical assessment of present value relations’ (with J. Matthey), *Em. Rev.*, 5, 1986; 6. ‘Was it real? The exchange rate–interest differential relation’ (with K. Rogoff), *J Fin*, 42, 1988; 7. ‘Currency fluctuations in the post-Bretton Woods era’, *JEP*, 4, 1990; 8. ‘An empirical assessment of non-linearities in models of exchange rate determination’ (with A. Rose), *REStud*, 58, 1991; 9. ‘Testing the present value relation for house prices; should I leave my home in San Francisco?’ (with N. Wallace), *JUE*, 35, 1994; 10. ‘The construction of residential housing price indices: a comparison of repeat-sales, hedonic regression, and hybrid approaches’, *J. Real Estate Fin. and Econ.*, 14, 1997.

Principal Contributions I am interested in the study of international asset markets. More specifically, I became interested in the foreign exchange market while working as a staff economist at the Federal Reserve Board. A career-long contribution has been to test the link between major country exchange rates and macroeconomic fundamentals using a variety of theoretical models and econometric techniques. In this work I document the tenuous connection between foreign exchange rates and macroeconomic fundamentals over prediction horizons of one year or less. Structural exchange rate models appear to work better at longer horizons, although the proportion of variation in multi-year exchange rate changes that is explainable *ex post* is still about 5–10%. More recently, my interest in comparing actual with fundamental asset prices has led to my work in real estate economics, where I have studied both US and French housing markets. In consonance with exchange markets, economic fundamentals do constrain the movements of housing prices over multiple-year horizons. Over shorter periods, actual and fundamental housing prices diverge frequently. In contrast to exchange markets, it is difficult to exploit the apparent profit opportunities because of the high transaction costs that characterize housing markets.

MEGGINSON, William Leon

Born 1954, Baton Rouge, LA, USA.

Current Posts Prof. and Rainbolt Chair Fin., Price Coll. Bus., Univ. Oklahoma, Norman, OK, USA, 1998–; Mem., Global Advisory Comm. on Privatization, Italian Min. Econ. and Fin., Rome, Italy, 2002–.

Past Posts Plant Chemist, Acting Environmental Chemist, Cosden Oil &

Chem. Co., Cos-Mar Plant, USA, 1977–79, 1978; Analytical Group Leader, GHR Energy Corp., USA, 1979–82; Res. Asst, Coll. Bus., Florida State Univ., 1982–86; Asst Prof., Assoc. Prof., Terry Coll. Bus., Univ. Georgia, 1986–92, 1992–98; Vis. Prof., Swiss Banking Inst., Univ. Zurich, 1999.

Degrees BS (Chemistry) Mississippi Coll., 1976; MBA Louisiana State Univ., 1982; PhD (Fin.) Florida State Univ., 1986.

Offices and Honours P.I. Lipsey Award, Outstanding Student Europ. History, 1976; Richard D. Irwin Doctoral Fell., 1986; Smith–Breedon Disting. Paper Award, *J Fin*, 1994; First Holder, Rainbolt Chair, Univ. Oklahoma, 1998; Dir., FMA, 2002; Milken Inst. Award for Outstanding Econ. Res., 2002.

Editorial Duties Assoc. Ed., *J. Fin. Res.*, 1996–, *Intl Rev. Fin. Analysis*, 1998–.

Principal Fields of Interest G3 Corporate Finance and Governance; F3 International Finance; L3 Nonprofit Organizations and Public Enterprise.

Publications *Books*: 1. *Small Business Management: An Entrepreneur's Guide to Success* (with J. Byrd, L. Megginson), (Irwin, 1994, 1997, 2003); 2. *Corporate Finance Theory* (Addison-Wesley, 1997); 3. *Corporate Finance* (with S. Smart, L. Gitman), (South-Western, 2004).

Articles: 1. 'Determinants of secondary market prices for developing country syndicated loans' (with E. Boehmer), *J Fin*, 45, Dec. 1990; 2. 'The effect of taxes on the relative valuation of dividends and capital gains: evidence from dual-class British investment trusts' (with J. Ang, D. Blackwell), *J Fin*, 46, March 1991; 3. 'Venture capitalist certification in initial public offerings' (with K. Weiss), *J Fin*, 46, July 1991; 4. 'The role of asset structure, ownership structure, and takeover defenses in determining acquisition likelihood' (with B. Ambrose), *JFQA*, 27,

Dec. 1992; 5. 'The financial and operating performance of newly privatized firms: an international empirical analysis' (with R. Nash, M. van Randenborgh), *J Fin*, 9, June 1994; 6. 'Syndicated loan announcements and the market value of the banking firm' (with A. Poulsen, J. Sinkey), *JMCB*, 27, May 1995; 7. 'Cooperative strategy and new venture performance: the role of business strategy and management expertise' (with J. McGee, M. Dowling), *Strategic Mgmt J.*, 16, Oct. 1995; 8. 'Wealth creation versus wealth redistributions in pure stock exchange mergers' (with C. Macqueira, L. Nail), *J Fin E*, 48, April 1998; 9. 'Dividend initiations and earnings surprises' (with M. Lipson, C. Macqueira), *Fin. Mgmt*, 27, Autumn 1998; 10. 'Share issue privatisations as a financial means to political and economic ends' (with S. Jones, R. Nash, J. Netter), *J Fin E*, 53, Aug. 1999; 11. 'The financial and operating performance of newly-privatized firms during the 1990s' (with J. D'Souza), *J Fin*, 54, Aug. 1999; 12. 'Think again: privatization', *Foreign Pol.*, Spring 2000; 13. 'Privatization and the rise of global capital markets' (with M. Boutchkova), *Fin. Mgmt*, 29, Winter 2000; 14. 'From state to market: a survey of empirical studies on privatization' (with J. Netter), *JEL*, 39, June 2001; 15. 'Privatization and the sources of performance improvement in the global telecommunications industry' (with B. Bortolotti, J. D'Souza, M. Fantini), *Telecomm. Pol.*, 26, Summer 2002; 16. 'Towards a global model of venture capital?', *J. Apl. Corp. Fin.*, 15, Fall 2002; 17. 'Changes in corporate focus, ownership structure, and long-term returns', *J Bank Fin*, forthcoming 2003.

Principal Contributions During the past decade, most of my work has examined the privatization of state-owned enterprises (SOEs), especially those executed through public share offerings. Two arti-

cles studied whether the financial and operating performance of former SOEs improves after privatization; we document economically significant improvements in sales, profitability, efficiency, capital investment spending and dividend payout, plus significant declines in leverage. Other studies documented the dramatic, positive impact of privatizations on global stock market capitalization and trading volume, and also found that the long-run return to investors in share issue privatizations (SIPs) has been significantly positive. A recent study asked whether privatizing governments were trying to maximize revenue (offering proceeds) in the design of SIP offerings, or whether they were trying to maximize a political and economic utility function. We found strong evidence that governments willingly trade off proceeds in order to favor key domestic constituencies (especially SOE employees) and to maximize support for economic reform. Finally, my co-author and I summarized the extant empirical literature on privatization in a June 2001 *JEL* article.

Apart from privatization, I have also published studies showing that venture capitalists create value for portfolio companies when they go public, and have also shown that the taxation of dividend income significantly impacts investor choice of dividend payment method in the UK. Finally, my co-authored study of stock exchange mergers showed that all security-holders gain significantly more from nonconglomerate stock exchange mergers than from conglomerate stock-swap mergers.

**MEGHIR, Konstantinos (Costas)
Ector Dimitrios**

Born 1959, Athens, Greece.

Current Posts Prof. Econ., Univ. Coll.

London, UK, 1993–; Dep. Res. Dir., IFS, London, UK, 1992–.

Past Posts Res. Scholar, Intl Inst. Apl. Systems Analysis, Laxenburg, Austria, 1982–83; Temp. Lect., Univ. Manchester, 1983–84; Lect., Reader, Univ. Coll. London, 1984–92, 1990–92.

Degrees BA (Hons), MA, PhD Manchester Univ., 1979, 1980, 1985.

Offices and Honours Bodosakis Prize in Econ., 1996; Ragnar Frisch Prize, Em Soc, 2000; Fell., Em Soc, 2000–.

Editorial Duties Asst Ed., *REStud*, 1990–94; Assoc. Ed., *Europ ER*, 1991–95, *JAE*, 1992–94; Joint Managing Ed., *EJ*, 1996–2001; Co-Ed., *Em*, 2001–.

Principal Fields of Interest D1 Household Behavior; J2 Time Allocation; Work Behavior; Employment Determination and Creation; J3 Wages, Compensation, and Labor Costs.

Publications Articles: 1. ‘Bivariate alternatives to the Tobit model’ (with R.W. Blundell), *J Em*, 34, Jan./Feb. 1987; 2. ‘Alternative specification of labour supply and the simulation of tax reforms’ (with R.W. Blundell, E. Symons, I. Walker), *J Pub E*, 36, June 1988; 3. ‘The effects of labour supply on commodity demands’ (with M. Browning), *Em*, 59, July 1991; 4. ‘Frequency of purchase and the estimation of demand systems’ (with J.M. Robin), *J Em*, 53, 1992; 5. ‘Taxation in empirical labour supply model lone mothers in the UK’ (with R.W. Blundell, A. Duncan), *EJ*, 102, March 1992; 6. ‘Female labour supply and on the job search: an empirical study using complementary data sources’ (with M. Arellano), *REStud*, 59, July 1992; 7. ‘Labour supply and intertemporal substitution’ (with R.W. Blundell, P. Neves), *J Em*, 59, Sept. 1993; 8. ‘Consumer demand and the life-cycle allocation of expenditure’ (with R.W. Blundell, M. Browning), *REStud*, 61, Jan. 1994; 9. ‘Investment and the firm’s financial policy’ (with S. Bond), *REStud*, 61,

April 1994; 10. 'The evolution of wages in the UK: evidence from micro data' (with E. Whitehouse), *J Lab E*, 14, Jan. 1996; 11. 'Intertemporal non-separability or liquidity constraints? An analysis using the US CEX' (with G. Weber), *Em*, 64, Sept. 1996; 12. 'Job creation, technological change and adjustment costs: evidence from a panel of British firms' (with A. Ryan, J. van Reenen), *Annales de L'Écon. et de la Stats*, 41, 1996; 13. 'Labour market transitions and retirement of men in the UK' (with E. Whitehouse), *J Em*, 79, 1997; 14. 'Savings and labor market transitions' (with R.W. Blundell, T. Magnac), *JBES*, 15, April 1997; 15. 'Estimating labour supply responses using tax reforms' (with R.W. Blundell, A. Duncan), *Em*, 66, 1998; 16. 'Humps and bumps in the life-cycle consumption path' (with O. Attanasio, J. Banks, G. Weber), *JBES*, 17, Jan. 1999; 17. 'The changing distribution of male wages in the UK, 1966–1992' (with A. Gosling, S. Machin), *REStud*, 67, Oct. 2000; 18. 'The labour market impact of the Working Families' Tax Credit' (with R.W. Blundell, A. Duncan, J. McCrae), *Fiscal Stud.*, 21, 2000; 19. 'The effects of school quality on educational attainment and wages' (with L. Dearden, J. Ferri), *REStat*, 84, Feb. 2002; 20. 'Pension incentives and the pattern of early retirement' (with R.W. Blundell, S. Smith), *EJ Conf. Vol.*, 2002.

Principal Contributions I have worked with Richard Blundell and Alan Duncan on estimating the responsiveness of female labour supply to work incentives and welfare systems showing substantial welfare costs to taxation. We evaluated in work benefits and discussed improvements in their structure. Blundell, Pierre-Andre Chiappori, Thierry Magnac and I developed collective labour supply models with implications on within household allocations. Blundell, Martin Browning and I developed models of life-cycle consump-

tion and savings allowing for the influence of family composition and labour supply. These generalisations explain the apparent excess sensitivity of consumption to income. Guglielmo Weber and I have shown that preferences for non-durables can be taken to be intertemporally separable. Luigi Pistaferri and I have estimated the time-series properties of income, showing that ARCH effects are important with implications for precautionary savings and income mobility. With Browning I developed 'conditional demand systems' to test for separability and to estimate conditional price effects, as an intermediate step towards obtaining unconditional ones. We found that goods are non-separable from labour supply, with implications for optimal taxation. Christian Dustmann and I estimated the impact of experience and tenure using displaced workers. We showed that the returns to experience for unskilled workers are very low, while the returns for skilled workers are substantial. Gosling, Machin and I described the increase in wage inequality of the past 25 years in the UK. Steve Bond and I developed the Euler equation for investment within the context of a hierarchy of finance model. We tested for liquidity constraints and found that firms with inadequate internal cash flow face higher investment costs. My recent work includes the evaluation of education and active labour market policies in the UK and in developing countries. I also have an active interest in microeconomic methods.

MELINO, Angelo

Born 1956, Toronto, Canada.

Current Post Prof., Univ. Toronto, Toronto, Canada, 1991–.

Past Posts Lect., Asst Prof., Assoc. Prof., Univ. Toronto, 1981–83, 1983–87,

1987–91; Vis. Prof., Harvard Univ., 2001–02.

Degrees BA Univ. Toronto, 1977; PhD Harvard Univ., 1983.

Offices and Honours Bd Dirs, NBER, 2000–.

Editorial Duties Assoc. Ed., *J. Empirical Fin.*, 1991–2000.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; E4 Money and Interest Rates; G1 General Financial Markets.

Publications *Books*: 1. *Macroeconomics: First Canadian Edition* (with O. Blanchard), (Prentice-Hall, 1998); 2. *Macroeconomics: Second Canadian Edition* (with O. Blanchard, D. Johnson), (Pearson Educ., 2003).

Articles: 1. ‘A note on the interpretation of regression coefficients within a class of truncated distributions’ (with D.J. Poirier), *Em*, 46, Sept. 1978; 2. ‘Testing for sample selection bias’, *REStud*, 49, Jan. 1982; 3. ‘Cyclical behavior of prices and quantities in the automobile market’ (with O.J. Blanchard), *JME*, 17, May 1986; 4. ‘Estimating strike effects in a general model of prices and quantities’ (with M. Gunderson), *J Lab E*, 5, Jan. 1987; 5. ‘The response of interest rates to the Federal Reserve’s weekly money announcements: the “puzzle” of anticipated money’ (with R. Deaves, J.E. Pesando), *JME*, 19, May 1987; 6. ‘Estimating the continuous-time consumption-based asset pricing model’ (with S.J. Grossman, R.J. Shiller), *JBES*, 5, July 1987; 7. ‘The term structure of interest rates: evidence and theory’, *J. Econ. Surveys*, 2, 1988; 8. ‘A simple approach to the identifiability of the proportional hazards model’ (with G. Sueyoshi), *Econ. Letters*, 33, May 1990; 9. ‘Pricing foreign currency options with stochastic volatility’ (with S.M. Turnbull), *J Em*, 45, July–Aug. 1990; 10. ‘The effects of Canadian labour relations legislation on strike incidence and duration’ (with

M. Gunderson, F. Reid), *Labor Law J.*, 41, Aug. 1990; 11. ‘The effects of public policy on strike duration’ (with M. Gunderson), *J Lab E*, 8, 1990; 12. ‘The pricing of foreign currency options’ (with S.M. Turnbull), *CJ*, 24, May 1991; 13. ‘Estimation of continuous-time stochastic processes in finance’, in *Advances in Econometrics, Sixth World Congress*, Vol II (CUP, 1994); 14. ‘Misspecification and the pricing and hedging of long-term foreign currency options’ (with S.M. Turnbull), *JIMF*, 14, June 1995; 15. ‘An empirical analysis of asset returns under non-Bayesian rational expectations’ (with L. Epstein), *J Fin*, 50, July 1995; 16. ‘A revealed preference analysis of asset pricing under recursive utility’ (with L. Epstein), *REStud*, 62, Oct. 1995; 17. ‘Duration dependence and nonparametric heterogeneity: a Monte Carlo study’ (with M. Baker), *J Em*, 96, June 2000; 18. ‘Estimation of a rational expectations model of the term structure’, *J. Empirical Fin.*, 8, Dec. 2001.

Principal Contributions My research interests include macroeconomics, econometrics, and asset pricing, although in recent years I have tended to neglect the first. My paper with Sandy Grossman and Robert Shiller (*JBES*, 1987) sparked a continuing interest in estimation of continuous-time stochastic process, but I am probably best known for my applied work with Stuart Turnbull on estimation of stochastic volatility models. Our *J Em* (1990) paper took many years to complete and I am very proud of it. It was the first to compute a large collection of moments for this model and to apply GMM methods for estimation (the published version does not include a discussion of other innovative strategies which we also investigated before settling on GMM, such as using simulated method of moments or Kalman Filter estimation). I think it is fair to say that my research has been ec-

lectic. If there is a common theme, it is a willingness to do nonlinear estimation, and an interest in taking seriously the restrictions implied by economic theory in empirical work.

MENDELSON, Robert

Born 1952, New York City, NY, USA.

Current Post Edwin Weyerhaeuser Davis Prof., Yale Univ., New Haven, CT, USA, 1993–.

Past Posts Asst Prof., Univ. Washington, 1978–84; Vis. Asst Prof., Univ. Michigan, 1983–84; Assoc. Prof., Yale Univ., 1984–93.

Degrees BA Harvard Univ., 1973; PhD Yale Univ., 1978.

Editorial Duties Assoc. Ed., *JEEM*, 1996–2000.

Principal Field of Interest Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *Towards Efficient Regulation of Air Pollution from Coal-Fired Power Plants* (Garland Press, 1979); 2. *The Impact of Climate Change on the United States Economy* (ed. with J. Neumann), (CUP, 1999); 3. *Global Warming and the American Economy: A Regional Analysis* (Edward Elgar, 2001).

Articles: 1. 'An empirical analysis of air pollution dose response curves' (G. Orcutt), *JEEM*, 6, 1979; 2. 'The hedonic travel cost method' (with G. Brown), *REStat*, 66, 1984; 3. 'The taxation of exhaustible resources' (with V. Gamponia) *QJE*, 100, 1985; 4. 'Identifying structural equations with single market data', *REStat*, 67, 1985; 5. 'Exploration and exhaustible resources: the microfoundations of aggregate models' (with J. Swierzbinski), *IER*, 30, 1989; 6. 'Information, exploration and exhaustible resources: a Bayesian approach' (with J. Swierzbinski), *JEEM*, 16, 1989; 7. 'Valu-

ation of an Amazonian rain forest' (with C. Peters, A. Gentry), *Nature*, 339, 1989; 8. 'A dynamic model of timber markets' (with R. Brazee), *Forest Sc.*, 36, 1990; 9. 'Measuring hazardous waste damages with panel models' (with D. Hellerstein, M. Huguenin, R. Unsworth, R. Brazee), *JEEM*, 22, 1992; 10. 'Measuring recreation values with multiple destination trips' (with J. Hof, G. Peterson, R. Johnson), *AJAE*, 74, 1992; 11. 'Measuring the impact of global warming on agriculture' (with W. Nordhaus, D. Shaw), *AER*, 84, 1994; 12. 'The value of undiscovered pharmaceuticals in tropical forests' (with M. Balick), *Econ. Botany*, 49, 1995; 13. 'Valuing the market impact of large-scale ecological change: the effect of climate change on US timber' (with B. Sohngen), *AER*, 88, 1998; 14. 'Forest conservation, management, and global timber markets' (with B. Sohngen, R. Sedjo), *AJAE*, 81, 1999; 15. 'Climate response functions' (with M. Schlesinger), *Ambio*, 28, 1999; 16. 'Climate change impacts on developing country agriculture' (with A. Dinar), *World Bank Res. Observer*, 14, 1999; 17. 'A global model of climate change impacts on timber markets' (with B. Sohngen, R. Sedjo), *J. Agric. Resource Econ.*, 26, 2002.

Principal Contributions Along with many colleagues, I have developed many models and conducted several empirical studies to improve our understanding of the complex processes surrounding the interaction between mankind and the environment. I am perhaps best known for my efforts to measure the value of the environment from nontimber products in tropical forest, to American wildlife, to the global impacts of climate change. I helped develop the hedonic travel cost method to measure the value of characteristics of recreation sites such as old-growth and clearcuts. I participated in creating the Ricardian method to measure the value of

climate to agriculture and helped build several models of resources including dynamic forests, natural resource taxation, and nonrenewable resource exploration. I helped organize a series of studies to measure the impact of climate change on the United States and the rest of the world. Although the purpose of this research was to advance natural resource economics, these studies have always been concerned with policy questions. What should be conserved, how much air pollution is desirable, and what should be done about global warming are all addressed in this research.

MENDELSON, Haim n.e.

MENDOZA, Enrique Gabriel

Born 1963, Mexico City, Mexico.

Current Posts Prof. Econ., Univ. Maryland, College Park, MD, USA, 2002–; Faculty Res. Fell., NBER, Cambridge, MA, USA, 1997–.

Past Posts Jr Econ., Fin. Min., Mexico, 1984–85; Econ., Res. Dept, IMF, 1989–97; Sr Econ., Intl Fin. Div., Bd Governors Fed. Reserve System, 1994–97; Assoc. Prof. Econ., Prof. Econ., Duke Univ., 1997–2001, 2001–02.

Degrees BA (Hons) Anahuac Univ., Mexico City, 1985; MA, PhD Univ. Western Ontario, 1986, 1989.

Offices and Honours Tlacaclael Econ. Natl Award, Consultores Internacionales, Mexico, 1986; Treasurer, Latin Amer. and Caribbean Econ. Assoc., 2000–01.

Editorial Duties Assoc. Ed., *ITPF*, 1998–; Ed. Council, *Economia Mexicana*, 2000–; Ed. Bd, *AER*, 2001–; Co-Ed., *J Int E*, 2002–.

Principal Fields of Interest F4 Macroeconomic Aspects of International Trade and Finance; F3 International Finance; E0

Macroeconomics and Monetary Economics: General.

Publications Articles: 1. ‘Real business cycles in a small open economy’, *AER*, 81, Sept. 1991; 2. ‘Capital controls and the dynamic gains from trade in a business cycle model of a small open economy’, *IMF Staff Papers*, 38, Sept. 1991; 3. ‘Robustness of macroeconomic indicators of capital mobility’, in L. Leiderman, A. Razin (eds), *Capital Mobility: The Impact on Consumption, Investment and Growth* (CUP, 1993); 4. ‘The Balassa–Samuelson model: a general equilibrium appraisal’, *Rev. Intl Econ.*, 1, Oct. 1994; 5. ‘Effective tax rates in macroeconomics: cross country estimates of tax rates on factor incomes and consumption’ (with A. Razin, L. Tesar), *JME*, 34, Dec. 1994; 6. ‘The terms of trade, the real exchange rate and economic fluctuations’, *IER*, 36, Feb. 1995; 7. ‘Petty crime, cruel punishment: lessons from the Mexican debacle’ (with G. Calvo), *AER*, 86, May 1996; 8. ‘Mexico’s balance of payments crisis: a chronicle of a death foretold’ (with G. Calvo), *J Int E*, 41, Nov. 1996; 9. ‘On the ineffectiveness of tax policy in altering long-run growth: Harberger’s superneutrality conjecture’ (with G. Milesi-Ferretti), *J Pub E*, 66, Oct. 1997; 10. ‘Terms-of-trade uncertainty and economic growth’, *JDE*, 54, Dec. 1997; 11. ‘The international ramifications of tax reforms: supply side economics in a global economy’ (with L. Tesar), *AER*, 88, March 1998; 12. ‘Empirical puzzles of Chilean stabilization policy’ (with G. Calvo), in G. Perry, D. Leipziger (eds), *Chile: Recent Policy Lessons and Emerging Challenges* (World Bank, 1999); 13. ‘Capital markets crises and economic collapse in emerging markets: an informational frictions approach’ (with G. Calvo), *AER*, 90, May 2000; 14. ‘Rational contagion and the globalization of securities markets’ (with G. Calvo), *J Int E*, 51, June

2000; 15. 'The benefits of dollarization when stabilization policy lacks credibility and financial markets are imperfect', *JMBCB*, 33, May 2001; 16. 'Devaluation risk and the business cycle implications of exchange rate management' (with M. Uribe), *C-RPP*, 53, 2001; 17. 'The business cycles of balance-of-payments crises: a revision of a mundellian framework' (with M. Uribe), in G. Calvo, R. Dornbusch, M. Obstfeld (eds), *Money, Capital Mobility and Trade: Essays in Honor of Robert A. Mundell* (MIT Press, 2001); 18. 'Credit, prices and crashes: business cycles with a sudden stop', in S. Edwards, J. Frankel (eds), *Preventing Currency Crises in Emerging Markets* (UCP, 2002); 19. 'The international macroeconomics of taxation and the case against European tax harmonization', in E. Helpman, E. Sadka (eds), *Economic Policy in the International Economy* (CUP, 2003); 20. 'Margin calls, trading costs, and asset prices in emerging markets: the financial mechanics of the sudden stop phenomenon' (with K. Smith), *J Intl E*, forthcoming 2003.

Principal Contributions My work studies macroeconomic implications of international capital flows with emphasis on four research lines. The first line developed real-business-cycle models for small open economies with incomplete insurance markets. This research showed that productivity and terms of trade shocks are important for explaining observed fluctuations in domestic aggregates and the current account, and produced the puzzling result that gains of foreign asset trading are small. Further work showed that indicators of capital mobility, like saving–investment correlations, are misleading and argued that terms of trade volatility helps explain cross-country growth differentials. The second line examined policy reforms. L. Tesar and I demonstrated that global externalities of tax re-

forms are large and provide strong incentives for tax competition. Work with G. Milesi showed that tax reforms have negligible growth effects in a wide class of endogenous growth models. The third line was motivated by the 1990s emerging markets crises. G. Calvo and I argued in 1995 that the observed financial vulnerability, sudden reversals of capital inflows and contagion of the 1994 Mexican crisis were new phenomena inconsistent with conventional currency crises models. We have developed a framework that uses informational frictions to explain them. M. Uribe and I showed that unhedged devaluation risk (or weak government credibility) explains observed business cycle patterns of pre-crises periods of exchange rate management. The fourth line and focus of my current work deals with financial transmission. The goal is to find a common explanation for sudden reversals of capital inflows and massive collapses in economic activity (the so-called 'sudden stops'). I have developed equilibrium business-cycle models augmented by liquidity requirements, collateral constraints and trading costs that mimic key aspects of sudden stops. A striking policy implication is that emerging economies can lower exposure to sudden stops by replacing national currencies with hard currencies.

MESTER, Loretta Jean

Born 1958, Baltimore, MD, USA.

Current Posts Sr Vice Pres. and Dir. Res., FRB, Philadelphia, Philadelphia, PA, USA, 2000–; Adjunct Prof. Fin., Wharton Sch., Univ. Pennsylvania, Philadelphia, PA, USA, 2001–; Sloan Fell., Wharton Fin. Insts Center, Wharton Sch., Univ. Pennsylvania, 1997–.

Past Posts Lect., Dept Fin., Adjunct Asst Prof. Fin., Adjunct Assoc. Prof. Fin.,

Wharton Sch., Univ. Pennsylvania, 1988–92, 1992–98, 1998–2001; Adjunct Prof. Fin., Stern Sch., NYU, 1995–96 and 1997–98; Econ., Sr Econ., Sr Econ. and Res. Adviser, Res. Officer and Econ., Asst Vice Pres. and Econ., Vice Pres. and Econ., FRB, Philadelphia, 1985–87, 1987–89, 1989–91, 1991–94, 1994–96, 1996–2000.

Degrees BA (Maths and Econ.) Barnard Coll., Columbia Univ., 1980; MA, PhD Princeton Univ., 1983, 1985.

Offices and Honours Phi Beta Kappa, 1979; NSF Fellowship, 1980–83; D.P. Jacobs Prize for Most Significant Paper in Vol. 2 (1992), *J. Fin. Intermediation*, 1993.

Editorial Duties Assoc. Ed., *J Bank Fin*, 1993–2001, *J. Fin. Intermediation*, 1995–, *JMCB*, 1995–, *J. Fin. Services Res.*, 1996–, *J. Econ. Bus.*, 1998–, *Res. Banking and Fin.*, 2000–; Ed., *J. Productivity Analysis*, 1995–2001, *J Bank Fin*, 2001–.

Principal Fields of Interest G2 Financial Institutions and Services; G0 Financial Economics: General; G3 Corporate Finance and Governance.

Publications *Articles*: 1. ‘A multi-product cost study of savings and loans’, *J Fin*, 42, June 1987; 2. ‘Multiple market contact between savings and loans’, *JMCB*, 19, Nov. 1987; 3. ‘Testing for expense preference behavior: mutual versus stock savings and loans’, *RandJE*, 20, Winter 1989; 4. ‘Agency costs among savings and loans’, *J. Fin. Intermediation*, 1, June 1991; 5. ‘Traditional and non-traditional banking: an information-theoretic approach’, *J Bank Fin*, 16, 1992; 6. ‘Debt covenants and renegotiation’ (with M. Berlin), *J. Fin. Intermediation*, 2, June 1992; 7. ‘Perpetual signaling with imperfectly correlated costs’, *RandJE*, 23, Winter 1992; 8. ‘Efficiency in the savings and loan industry’, *J Bank Fin*, 17, April 1993; 9. ‘Further evidence concerning expense preference and the Fed’, *JMCB*, 26, Feb.

1994; 10. ‘Why are credit card rates sticky?’, *ET*, 4, May 1994; 11. ‘A positive analysis of bank closure’ (with G. J. Mailath), *J. Fin. Intermediation*, 3, June 1994; 12. ‘When does the prime rate change?’ (with A. Saunders), *J Bank Fin*, 19, Aug. 1995; 13. ‘Consumer behavior and the stickiness of credit card interest rates’ (with P. Calem), *AER*, 85, Dec. 1995; 14. ‘Inside the black box: what explains differences in the efficiencies of financial institutions?’ (with A.N. Berger), *J Bank Fin*, 21, July 1997; 15. ‘Bank capitalization and cost: evidence of scale economies in risk management and signaling’ (with J.P. Hughes), *REStat*, 80, May 1998; 16. ‘Intermediation and vertical integration’ (with M. Berlin), *JMCB*, 30, Aug. 1998; 17. ‘Deposits and relationship lending’ (with M. Berlin), *Rev. Fin. Stud.*, 12, Fall 1999; 18. ‘Lender liability and large investors’ (with M. Berlin), *J. Fin. Intermediation*, 10, 2001; 19. ‘Scale economies in banking elusive or illusive? Evidence obtained by incorporating capital structure and risk-taking into models of bank production checking accounts and bank monitoring’ (with J.P. Hughes, C.-G. Moon), *J Bank Fin*, 25, Dec. 2001; 20. ‘Do bankers sacrifice value to build empires? Managerial incentives, industry consolidation, and financial performance’ (with J.P. Hughes, W.W. Lang, C.-G. Moon, M. Pagano), *J Bank Fin*, forthcoming.

Principal Contributions I have made contributions to the literature on methods for measuring the production structure of financial institutions and on the theory of the banking firm.

MEYER, Bruce Donald

Born 1959, Wakefield, RI, USA.

Current Posts Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1996–; Res.

Assoc., NBER, Cambridge, MA, USA, 1993–.

Past Posts Asst Prof., Assoc. Prof., Northwestern Univ., 1987–93, 1993–96; Vis. Asst Prof. Econ., Princeton Univ., 1988–89.

Degrees BA, MA Northwestern Univ. 1981, 1981; PhD MIT, 1987.

Offices and Honours Alfred P. Sloan Res. Fell., 1993–95.

Editorial Duties Assoc. Ed., *JBES*, 1992–98, *J Pub E*, 1993–; Co-Ed., special issue on ‘The earned income tax credit’, *NTJ*, Dec. 2000; Ed., *BE-Js EAP*, 2001–.

Principal Fields of Interest H0 Public Economics: General; I0 Health, Education, and Welfare: General; J0 Labor and Demographic Economics: General.

Publications *Book*: 1. *Making Work Pay: The Earned Income Tax Credit and its Impact on America's Families* (ed. with D. Holtz-Eakin), (Russell Sage Foundation Press, 2001).

Articles: 1. ‘The impact of the potential duration of unemployment benefits on the duration of unemployment’ (with L. Katz), *J Pub E*, 41, Feb. 1990; 2. ‘Unemployment insurance and unemployment spells’, *Em*, 58, July 1990; 3. ‘Unemployment insurance, recall expectations and unemployment outcomes’ (with L. Katz), *QJE*, 105, Nov. 1990; 4. ‘The extent and consequences of job turnover’ (with P.M. Anderson), *BPEA: Microecon.*, 1994; 5. ‘Lessons from the US unemployment insurance experiments’, *JEL*, 33, March 1995; 6. ‘Natural and quasi-experiments in economics’, *JBES*, 13, April 1995; 7. ‘Workers’ compensation and injury duration: evidence from a natural experiment’ (with W.K. Viscusi, D. Durbin), *AER*, 85, June 1995; 8. ‘What have we learned from the Illinois reemployment bonus experiment?’, *J Lab E*, 14, Jan. 1996; 9. ‘Ethnic and racial self-employment differences and possible explanations’ (with R.W.

Fairlie), *JHR*, 31, Fall 1996; 10. ‘The effects of firm specific taxes and government mandates with an application to the US unemployment insurance program’ (with P.M. Anderson), *J Pub E*, 65, Aug. 1997; 11. ‘Unemployment insurance take-up rates and the after-tax value of benefits’ (with P.M. Anderson), *QJE*, 112, Aug. 1997; 12. ‘Trends in self-employment among white and black men during the twentieth century’ (with R.W. Fairlie), *JHR*, 35, Fall 2000; 13. ‘The effects of the unemployment insurance payroll tax on wages, employment, claims and denials’ (with P.M. Anderson), *J Pub E*, 78, Oct. 2000; 14. ‘Making single mothers work: recent tax and welfare policy and its effects’ (with D.T. Rosenbaum), *NTJ*, 53, Dec. 2000; 15. ‘Welfare, the earned income tax credit, and the labor supply of single mothers’ (with D.T. Rosenbaum), *QJE*, 116, Aug. 2001; 16. ‘The effects of welfare and tax reform: the material well-being of single mothers in the 1980s and 1990s’ (with J.X. Sullivan), *J Pub E*, forthcoming.

Principal Contributions Most of my research has examined the effects of social insurance and welfare programs through large-scale quantitative studies. This research has advanced empirical work by using new methods and new sources of high-quality data. My other main areas of research are labor market turnover, self-employment and microeconomic methodology. A common methodological problem in analyses of social insurance and welfare programs is that the variation in program parameters is determined by an individual’s work history or by characteristics of states. Unfortunately, both of these determinants likely have an influence of their own on outcomes such as employment or wages. Convincing estimates of the effects of these government programs requires variation in program incentives that is not

due to causes which might influence the dependent variables under study. My research has emphasized identification of causal policy effects through the use of a 'natural experiment' approach which examines outcomes before and after sharp changes in government policy or other sources of clear identifying variation that are likely to be exogenous in a particular situation.

MICELI, Thomas Joseph

Born 1959, Hartford, CT, USA.

Current Post Prof. Econ., Univ. Connecticut, Storrs, CT, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof. Econ., Univ. Connecticut, 1987–93, 1993–98.

Degrees BA Wesleyan Univ., 1981; MA, PhD Brown Univ., 1984, 1988.

Editorial Duties Ed. Bd, *J. Real Estate Fin. Econ.*, 1996–.

Principal Fields of Interest K1 Basic Areas of Law; K4 Legal Procedure, the Legal System, and Illegal Behavior; R5 Regional Government Analysis.

Publications *Books*: 1. *Compensation for Regulatory Takings: An Economic Analysis with Applications* (with K. Segerson), (JAI Press, 1996); 2. *Economics of the Law: Torts, Contracts, Property, Litigation* (Oxford, 1997; trans., Japanese, 1999).

Articles: 1. 'Reputation in land development markets' (with J.V. Henderson), *JUE*, 26, 1989; 2. 'Optimal prosecution of defendants whose guilt is uncertain', *JLEO*, 6, 1990; 3. 'Free riders and distortionary zoning by local governments', *JUE*, 30, 1991; 4. 'Contingent fees for lawyers: the impact on litigation and accident prevention' (with K. Segerson), *J. Legal Stud.*, 20, 1991; 5. 'Optimal fiscal zoning when the government is a discriminating monopolist', *RSUE*, 22, 1992; 6.

'Regulatory takings: when should compensation be paid?' (with K. Segerson), *J. Legal Stud.*, 23, 1994; 7. 'Do contingent fees promote excessive litigation?', *J. Legal Stud.*, 23, 1994; 8. 'Reputation and judicial decisionmaking' (with M. Cosgel), *JEBO*, 23, 1994; 9. 'Defining efficient care: the role of income distribution' (with K. Segerson), *J. Legal Stud.*, 24, 1995; 10. 'Contracting with spatial externalities and agency costs: the case of retail leases' (with C.F. Sirmans), *RSUE*, 25, 1995; 11. 'Settlement strategies', *J. Legal Stud.*, 27, 1998; 12. 'Voluntary environmental agreements: good or bad news for the environment?' (with K. Segerson), *JEEM*, 36, 1998; 13. 'The mistaken improver problem' (with C.F. Sirmans), *JUE*, 45, 1999; 14. 'The dynamic effects of land title systems' (with C.F. Sirmans, G. Turnbull), *JUE*, 47, 2000; 15. 'Partition of real estate, or, breaking up is (not) hard to do' (with C.F. Sirmans), *J. Legal Stud.*, 29, 2000; 16. 'The property-contract boundary: an economic analysis of leases' (with C.F. Sirmans, G. Turnbull), *Amer. Law and Econ. Rev.*, 3, 2001; 17. 'Property rights by squatting: land ownership risk and adverse possession statutes' (with M. Baker, C.F. Sirmans, G. Turnbull), *Land Econ.*, 77, 2001; 18. 'Optimal title search' (with M. Baker, C.F. Sirmans, G. Turnbull), *J. Legal Stud.*, 31, 2002.

Principal Contributions My contributions to economics have primarily been in the fields of law and economics and urban economics. I have worked on a wide range of topics pertaining to the law, but I have concentrated on property law. My colleague Kathleen Segerson and I have written a book on regulatory takings that summarizes our work on the question of when compensation should be paid for losses in property value as a result of government regulations. I have also done work on topics in real estate and urban economics. Much of this work has been from

a law and economics perspective and has been done in collaboration with C.F. Sirmans. In addition to the above areas, I have done work in environmental economics and health economics.

MICHAELY, Roni n.e.

MICK, David Glen n.e.

MICKLEWRIGHT, John n.e.

MILGROM, Paul Robert

Born 1948, Detroit, MI, USA.

Current Posts Shirley and Leonard Ely Jr Prof. Humanities and Sc. and Prof. Econ., Stanford Univ., Stanford, CA, USA, 1993–, 1987–.

Past Posts Asst Prof., Assoc. Prof., Prof., Dept Mgmt Econ. and Decision Sc., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1979–81, 1981–82, 1982–83; Prof. Econ. and Mgmt, Williams Brothers Prof. Mgmt, Prof. Econ., Yale Univ., 1983–85, 1985–87; Dir., Stanford Inst. for Theoretical Econ., 1989–91.

Degrees AB (Maths) Univ. Michigan, 1970; MS (Stats), PhD (Bus.) Stanford Univ., 1978, 1979.

Offices and Honours Fell., Soc. Actuaries, 1974, Em Soc, 1983, Inst. Adv. Stud., Jerusalem, 1985, Center Adv. Stud. Behav. Sc., 1991, AAAS, 1992; Soc. Actuaries Triennial Papers Prize, 1975; Leonard Savage Thesis Prize, 1980; Hon. Masters Degree, Yale Univ., 1983; Guggenheim Fell., 1986; Soc. Actuaries Annual Papers Prize, 1987; Olin Disting. Lect., Princeton Univ., 1988; Woytinsky Disting. Lect., Univ. Michigan, 1994; Churchill Lect., Cambridge Univ., 1995; Polit. Econ. Special Lect., Harvard Univ.,

1995; Alberto Bailleres Founder's Lecture, Inst. Tecnológico Autónomo de México, 1997; Klein Lecture, Univ. Pennsylvania, 1998; Tausig Vis. Prof., Harvard Univ., 2000; Hon. doctorate, Stockholm Sch. Econ., 2001.

Editorial Duties Assoc. Ed., *JET*, 1983–87, *RandJE*, 1985–89, *Em*, 1987–90, *J. Fin. Intermediation*, 1989–92, *Games and Econ. Behav.*, 1990–, *AER*, 1993–2000; Co-Ed., *AER*, 1990–93, *JEMS*, 1992–; Advisory Bd, *Econ. Res. Network*, 1995–, *Microecon. Abstracts*, 1996–; Ed. Bd, *J Comp E*, 1997–99; Ed. Cons., MIT Press, 1997–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *Economics, Organization and Management* (with J. Roberts), (Prentice-Hall, 1992); 2. *Putting Auction Theory to Work* (CUP, forthcoming 2003).

Articles: 1. 'A theory of auctions and competitive bidding' (with R. Weber), *Em*, 50, 1982; 2. 'Limit pricing and entry under incomplete information: an equilibrium analysis' (with J. Roberts), *Em*, 50, 1982; 3. 'Bid, ask and transactions prices in a specialist market with insider trading' (with L. Glosten), *J Fin E*, 14, 1985; 4. 'Employment contracts, influence activities and efficient organization design', *JPE*, 96, Feb. 1988; 5. 'Communication and inventories as substitutes', *Scand JE*, 90, 1988; 6. 'The role of institutions in the revival of trade: the medieval law merchant' (with B. Weingast, D. North), *Econ. and Polit.*, 2, March 1990; 7. 'The economics of modern manufacturing: technology, strategy and organization' (with J. Roberts), *AER*, 80, June 1990; 8. 'Multi-task principal-agent analyses: incentive contracts, asset ownership and job design' (with B. Holmström), *JLEO*, 7, Sept. 1991; 9. 'Comparing optima: do simplifying assumptions affect conclusions', *JPE*, 102, June 1994; 10. 'Monotone com-

parative statics' (with C. Shannon), *Em*, 62, 1994; 11. 'The LeChatelier principle' (with J. Roberts), *AER*, 86, March 1996; 12. 'Putting auction theory to work: the simultaneous ascending auction', *JPE*, 108, April 2000; 13. 'Envelope theorems for arbitrary choice sets', *Em*, 70, March 2002; 14. 'Ascending auctions with package bidding', *Frontiers of Theoretical Econ.*, 1, 2002.

Principal Contributions Several of my papers have developed general analyses of the consequences of alternative auction rules. The 'activity rule' I invented was the critical innovation needed to create a practical 'simultaneous multiple round auction' to sell tens or hundreds of inter-related resources. My 'ascending package auction' is the first practical and theoretically sound system for package bidding. Another large chunk of my work concerns the theory of the firm. In principal-agent theory, I am the co-author of a series of papers that establish how an agent's range of responsibilities affects the optimal structure of incentives, how jobs can be designed to exploit that relationship, and how principles about the proper range of responsibilities may determine the choice between using employees or independent contractors for various tasks. Similarly, I am the co-author of a series of papers that investigate the organization of manufacturing firms and how the interactions among decisions about manufacturing technology, production practices, supplier relations, and compensation and training practices explain the rapid emergence of a new manufacturing paradigm in the 1980s and 1990s. I have also investigated the internal politics of the firm and how it affects the efficient allocation of authority, the structure of promotion decisions, and the reaction of firms when their survival is threatened. These themes and others are incorporated in my co-authored textbook – the first on the inter-

nal economics of the firm. I was among the first to apply game-theoretic analyses to studies of industrial organization, historical institutions, and the microstructure of financial markets. Most recently, I revisited the foundations of economic analysis, reformulating the questions of comparative statics and offering simpler, sharper versions of the envelope theorem, the LeChatelier principle and other foundational results.

MILLER, John Howard

Born 1959, Denver, CO, USA.

Current Posts Prof. Econ. and Head, Dept Social Decision Sc. (SDS), Carnegie-Mellon Univ., Pittsburgh, PA, USA, 2002–; External Faculty, Santa Fe Inst., Santa Fe, NM, USA, 1989–.

Past Posts Post-Doctoral, Santa Fe Inst., 1988–90; Asst Prof., Assoc. Prof., Prof., SDS, Carnegie-Mellon Univ., 1990–94, 1995–99, 2000–02.

Degrees BS (Fin.), BA Univ. Colorado, 1982, 1982; MA, PhD Univ. Michigan, 1984, 1988.

Editorial Duties Assoc. Ed., *JEBO*, 1995–, *J. Computational Econ.*, 1995–, *J. Evolutionary Econ.*, 1995–.

Principal Fields of Interest D0 Microeconomics: General; C7 Game Theory and Bargaining Theory; C9 Design of Experiments.

Publications *Books*: 1. *Experiments with Economic Principles: Microeconomics* (with T. Bergstrom), (McGraw-Hill, 1997, 2000); 2. *Computational Political Economy* (ed. with K. Kollman, S.E. Page), (MIT Press, forthcoming).

Articles: 1. 'Artificial adaptive agents in economic theory' (with J.H. Holland), *AER Papers and Proceedings*, 81, May 1991; 2. 'Behavior of trading automata in a computerized double auction market' (with J. Rust, J.H. Miller, R. Palmer), in

D. Friedman, J. Rust (eds), *The Double Auction Market: Institutions, Theories, and Evidence* (Addison-Wesley, 1992); 3. 'Adaptive parties in spatial elections' (with K. Kollman, S. Page), *Amer. Polit. Sc. Rev.*, 86, Dec. 1992; 4. 'Rational cooperation in the finitely repeated prisoner's dilemma: experimental evidence' (with J. Andreoni), *EJ*, 103, May 1993; 5. 'Auctions with adaptive artificial agents' (with J. Andreoni), *J. Games and Econ. Behav.*, 10, 1995; 6. 'The coevolution of automata in the repeated prisoner's dilemma', *JEBO*, 29, Jan. 1996; 7. 'Political institutions and sorting in a Tiebout model' (with K. Kollman, S. Page), *AER*, 87, Dec. 1997; 8. 'Giving according to GARP: an experimental study of rationality and altruism' (with J. Andreoni), *Em*, 70, 2002.

Principal Contributions My research focusses on the complex adaptive behavior that emerges in social systems. The goal of this work is to understand the principles by which aggregate patterns emerge from the simple interactions of individual adaptive agents. To understand the behavior of complex adaptive systems, I have often relied on the analysis of computational models composed of interacting artificial adaptive agents. The behavior of each agent in the system is dictated by a simple learning algorithm (e.g., genetic algorithm) that allows the agent to adaptively modify its actions from a set of behaviors rich in possibilities. This paradigm allows the analysis of flexible, yet precise, models of well-defined agents in an environment that can be easily and rapidly replicated and recovered. The ability to interact directly with such open-ended models allows one to quickly generate, develop and test new hypotheses. Using artificial adaptive agent models, my colleagues and I have been able to analyze some central social phenomena. We have explored the dynamics of political platforms, learning in games, and the emer-

gence of cooperation and communication. To understand the fundamental dynamics of price formation in simple markets, we designed and organized an international computerized double auction tournament. This tournament allowed us to create an 'artificial world' of trading agents in which we explored a variety of theoretical and practical issues. Complementing the above work, I have also pursued experimental and pure mathematical approaches to many of the above issues. Using the methods outlined above, previously inaccessible, yet fundamental, questions are now becoming amenable to analysis.

MILLER, Paul William

Born 1955, Dunedoo, NSW, Australia.

Current Post Prof. Econ., Univ. Western Australia, Perth, Western Australia, 1991.

Past Posts Post-Doctoral Fell., Fell., ANU, 1982–83, 1986–87; Asst Prof., Univ. Western Ontario, 1983–85; Leverhulme Fell., Brunel Univ., 1985–86; Sr Lect., Univ. Western Australia, 1987–90; Assoc. Prof., Queen's Univ., Canada, 1989–90; Assoc. Prof., Univ. Queensland, 1990–91.

Degrees BEc (Hons) Univ. New England, 1977; MEc, PhD ANU, 1978, 1982.

Offices and Honours Fell., Acad. Social Sc. in Australia, 1997.

Editorial Duties Ed. Bd, *Australian J. Labour Econ.*, 1995–; Co-Ed., *ER*, 2002–; Assoc. Ed., *Apl. Econ.*, 2002–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J7 Discrimination; J5 Labor–Management Relations, Trade Unions, and Collective Bargaining.

Publications Articles: 1. 'On the determination of occupational attainment and mobility' (with P.A. Volker), *JHR*, 20, Spring 1985; 2. 'The wage effect of the

occupational segregation of women in Great Britain', *EJ*, 97, Dec. 1987; 3. 'Australian evidence on the exit/voice model of the labor market' (with C. Mulvey), *ILRR*, 45, Oct. 1991; 4. 'Youth wages, risk, and tertiary finance arrangements' (with P.A. Volker), *ER*, 69, March 1993; 5. 'Occupational segregation and its impact on gender wage discrimination in China's rural industrial sector' (with M. Xin), *OEP*, 47, Jan. 1995; 6. 'The endogeneity between language and earnings: an international analysis' (with B.R. Chiswick), *J Lab E*, 13, April 1995; 7. 'What do twins studies reveal about the economic returns to education? A comparison of Australian and US findings' (with C. Mulvey, N. Martin), *AER*, 85, June 1995; 8. 'Family characteristics and the return to schooling: evidence on gender differences from a sample of Australian twins' (with C. Mulvey, N. Martin), *Ec*, 64, Feb. 1997; 9. 'Genetic and environmental contributions to educational attainment in Australia' (with C. Mulvey, N. Martin), *Econ. Educ. Rev.*, 20, June 2001.

Principal Contributions I have made contributions in a number of areas of applied labour market research, including: (i) economics of education; (ii) gender discrimination; (iii) trade unions; (iv) economics of migration; (v) economics of language; and (vi) the youth labour market.

MILLER, Stephen Michael

Born 1945, Marion, IN, USA.

Current Posts Prof. and Chair Econ., Univ. Nevada, Las Vegas, NV, USA, 2001–; Prof. Emeritus Econ., Univ. Connecticut, Storrs, CT, USA, 2001–.

Past Posts Instr. Econ., Asst Prof. Econ., Assoc Prof. Econ., Prof. Econ., Univ. Connecticut, 1970–72, 1972–76,

1976–82, 1982–2001; Principal Analyst, CBO, 1987–88.

Degrees BS (Eng. Sc. Eng.) Purdue Univ., 1967; MA, PhD SUNY, Buffalo, 1969, 1972.

Offices and Honours Head, Econ. Dept, Univ. Connecticut, 1989–2001; Connecticut Econ. Conf. Bd, 1991–2001; Chair, Exec. Comm., *The Connecticut Economy: A Univ. Connecticut Q. Rev.*, 1992–2001; Founder, Dir., Connecticut Center for Econ. Analysis, 1992–94.

Editorial Duties Ed. Bds, *EEJ*, 1985–89, 1997–, *J. Intl Econ. Integration*, 1986–91, *Ekonomia* (Cyprus Econ. Soc.), 1997–; Co-Ed., *Ekonomia*, 2003–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General; G0 Financial Economics: General.

Publications Articles: 1. 'Location and the theory of production: a generalization, review, and critique of recent contributions' (with O. Jensen), *RSUE*, 8, May 1978; 2. 'The relationship between government deficits, money growth, and inflation' (with F.W. Ahking), *J. Macroecon.*, 7, Fall 1985; 3. 'Monetary policy and central-bank financing of government budget deficits: a cross-country comparison' (with G.D. Demopoulos, G.M. Katsimbris), *Europ ER*, 31, July 1987; 4. 'A comparison of the stochastic processes of structural and time-series exchange-rate models' (with F.W. Ahking), *REStat*, 69, Aug. 1987; 5. 'Are the twin deficits really related?' (with F.S. Russek), *Contemporary Pol. Issues*, 7, Oct. 1989; 6. 'Returns to scale and input substitution for large US banks' (with A.G. Noulas, S.C. Ray), *JMCB*, 22, Feb. 1990; 7. 'Co-integration and error-correction models: the temporal causality between government taxes and spending' (with F.S. Russek), *SEJ*, 57, July 1990; 8. 'Monetary dynamics: an application of co-integration and error-correc-

tion modeling', *JMCB*, 23, May 1991; 9. 'Cointegration and error-correction models: the temporal causality between federal deficits and interest rates' (with F.S. Russek), *Contemporary Pol. Issues*, 9, July 1991; 10. 'Forecasting federal budget deficits: how reliable are US Congressional Budget Office projections?', *Apl. Econ.*, 23, Dec. 1991; 11. 'Regularity conditions and scope estimates: the case of large-sized US banks' (with A.G. Noulas, S.C. Ray), *J. Fin. Services Res.*, 7, Sept. 1993; 12. 'Interest rate linkages within the European Monetary System: further analysis' (with G.M. Katsimbris), *JMCB*, 25, Nov. 1993; 13. 'Short-run cost inefficiency of United States commercial banks: a flexible stochastic frontier approach' (with E.I. Kaparakis, A.G. Noulas), *JMCB*, 26, Nov. 1994; 14. 'The technical efficiency of large bank production' (with A.G. Noulas), *J Bank Fin*, 20, April 1996; 15. 'Do federal deficits affect interest rates? Evidence from three econometric methodologies' (with F.S. Russek), *J. Macroecon.*, 18, Summer 1996; 16. 'Forecasting and analyzing economic activity with coincident and leading indexes: the case of Connecticut' (with P. Dua), *J. Forecasting*, 15, Dec. 1996; 17. 'Fiscal structures and economic growth at the state and local level' (with F.S. Russek), *Public Fin. Rev.*, 25, March 1997; 18. 'Fiscal structures and economic growth: international evidence' (with F.S. Russek), *EI*, 35, July 1997; 19. 'The effects of openness, trade orientation, and human capital on total factor productivity' (with M.P. Upadhyay), *JDE*, 63, Dec. 2000; 20. 'Productivity growth in large US commercial banks' (with K. Mukherjee, S.C. Ray), *J Bank Fin*, 25, May 2001.

Principal Contributions My research generally falls into three major areas: the linkage and interaction of fiscal and monetary policy; structure, conduct, and performance in commercial bank production

and intermediation; and applied time-series macroeconomic analysis. Significant research activity considers the effects of fiscal policy, usually the government deficit, on growth accounting, interest rate adjustment, the trade deficit, inflation, and consumption, written largely with my CBO collaborator, F.S. Russek. Another active research area considers the issues of scope, scale, and efficiency in commercial banking using commercial bank balance sheet and income statement information, written largely with a former PhD student, A.G. Noulas, and S.C. Ray. Finally, my research frequently employs applied time-series macroeconomic techniques, especially the cointegration and error-correction modeling strategy, to macroeconomic issues such as the following: estimation of the money demand function; estimating the interest rate parity condition and considering temporal causality linkages across countries; estimating the linkage and temporal causation, if any, between the fiscal deficit and interest rates; estimating the linkage and temporal causation between fiscal spending and revenue; and examining the time-series properties of the determinants of competing exchange rate models. In addition, my work with former colleague, P. Dua, on coincident and leading employment indexes in Connecticut complements my work on growth accounting and led to the continuing monthly publication of those indexes in the *Connecticut Economic Digest*. Finally, an early paper on location and the theory of production, written with another former PhD student, O. Jensen, provided a summary, review, and critique of that literature that was for some time a standard reference, garnering significant numbers of citations.

MIRON, Jeffrey A. n.e.

MISHKIN, Frederic S.

Born 1951, New York City, NY, USA.

Current Posts Alfred Lerner Prof. Banking and Fin. Inst., Grad. Sch. Bus., Columbia Univ., New York, USA, 1999–; Res. Assoc., NBER, Cambridge, MA, USA, 1980–.

Past Posts Asst Prof., Assoc. Prof., Univ. Chicago, 1976–81, 1981–83; Prof., A. Barton Hepburn Prof. Econ., Grad. Sch. Bus., Columbia Univ., 1983–91, 1991–99; Brookings Panel Econ. Activity, 1977–78; Econ., Bd Governors, Fed. Reserve System, 1977; Vis. Assoc. Prof., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1982–83; Vis. Scholar, Inst. Fiscal and Monetary Pol., Min. Fin., Japan, 1986; Vis. Prof. Econ., Princeton Univ., 1990–91; Mem., Econ. Advisory Panel, FRB, NY, 1990–94, 1997–; Bd Governors, Fed. Reserve System, 1993, Reserve Bank, Australia, 1994, FRB, NY, 1997–, World Bank, 2001–02; Exec. Vice-Pres. and Dir. Res., FRB, NY, 1994–97; Chairman, External Evaluation Comm. for Res. Activities, IMF, 1999; Intl Advisory Bd, Fin. Supervisory Service, Republic of Korea, 2000–01.

Degrees BS, PhD MIT, 1973, 1976.

Offices and Honours Soc. Sigma Xi, 1973, Phi Beta Kappa, 1973; NSF Grad. Fell., 1973–76; Sloan Foundation Fell., 1982–84; Hon. Prof., Renmin (Peoples) Univ. China, 1999; Vice Pres., EEA, 2002–03.

Editorial Duties Ed. Bd, *AER*, 1982–85; *Fin. India*, 1999–, Central Bank of Chile, *Central Banking, Analysis and Econ. Pol.* series, 2001–, *Emerging Markets Fin. J.*, 2002–; Assoc. Ed., *JBES*, 1986–93, *JAE*, 1985–2000, *JIMF*, 1992–, *JMCB*, 1992–, *JEP*, 1994–, *Econ. Pol. Rev.*, 1997–; Ed., *Econ. Pol. Rev.*, 1994–

97; Advisory Bd, *Macroecon. Monetary Econ. Abstracts*, 1996–, *Intl Fin.*, 1997–.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications Books: 1. *A Rational Expectations Approach to Macroeconomics: Testing Policy Ineffectiveness and Efficient Market Models* (UCP, 1983); 2. *Money, Interest Rates, and Inflation* (Edward Elgar, 1993); 3. *Inflation Targeting: Lessons from the International Experience* (with B. Bernanke, T. Laubach, A. Posen), (Princeton Univ. Press, 1999); 4. *Prudential Supervision: What Works and What Doesn't* (ed.), (UCP, 2001); 5. *The Economics of Money, Banking, and Financial Markets* (Addison-Wesley, 6th edn, 2001); 6. *Financial Markets and Institutions* (with S. Eakins), (Addison-Wesley, 4th edn, 2003).

Articles: 1. 'Illiquidity, consumer durable expenditure, and monetary policy', *AER*, 66, Sept. 1976; 2. 'The household balance-sheet and the Great Depression', *JEH*, 38, Dec. 1978; 3. 'The real rate of interest: an empirical investigation', *C-RPP, The Cost and Consequences of Inflation*, 15, Autumn 1981; 4. 'Does anticipated monetary policy matter? An econometric investigation', *JPE*, 90, Feb. 1982; 5. 'The sensitivity of consumption to transitory income: estimates from panel data on households' (with R.E. Hall), *Em*, 50, March 1982; 6. 'What does the term structure tell us about future inflation?', *JME*, 25, Jan. 1990; 7. 'Asymmetric information and financial crises: an historical perspective', in R.G. Hubbard (ed.), *Financial Markets and Financial Crises* (UCP, 1991); 8. 'Is the Fisher effect for real? A reexamination of the relationship between inflation and interest rates', *JME*, 30, Oct. 1992; 9. 'Understanding financial crises: a developing country perspective', in M. Bruno, B. Pleskovic (eds), *Annual World Bank Conference on De-*

velopment Economics, 1996 (World Bank, 1996); 10. 'Inflation targeting: a new framework for monetary policy?' (with B. Bernanke), *JEP*, 11, Spring 1997; 11 'Predicting US recessions: financial variables as leading indicators', *REStat*, 80, Feb. 1998; 12. 'International experience with different monetary policy regimes', *JME*, 43, June 1999; 13. 'Inflation targeting in emerging market countries', *AER*, 90, May 2000; 14. 'Monetary policies for Latin America', *JDE*, 66, Oct. 2001.

Principal Contributions My research has been motivated by the desire to better understand the sources of business-cycle fluctuations and how monetary policy affects aggregate economic activity. My early work explored the impact of changes in household balance sheets on the demand for illiquid assets, such as consumer durables and residential housing, and found that this could be a potent channel for monetary policy effects on the economy. I then used this analysis to see if this would provide a better understanding of some important business-cycle episodes, in particular the Great Depression and the 1973–75 recession. I next examined the implications of rational expectations for how monetary policy should be conducted. The resulting empirical analysis required the development of econometric techniques which could distinguish between the effects of anticipated versus unanticipated policy, enabling me to analyse such topics as the relationship of monetary policy and interest rates and the question of whether anticipated monetary policy matters to business-cycle fluctuations. Because changes in real interest rates are such an important element in understanding how monetary policy affects the economy, I began to focus on the measurement of real interest rates, both domestic and international, using rational expectations techniques and the testing of such propositions as the Fisher effect and

the equality of real interest rates across countries. In order to see what guidance the term structure of interest rates might provide for monetary policy, I examined the information in the term structure about the path of future inflation and real economic activity. My most recent work has focused on the nature of financial crises in both industrialized and emerging market countries, prudential supervision, and strategies for the conduct of monetary policy, such as inflation targeting.

MODY, Ashoka n.e.

MOE, Terry M. n.e.

MOFFITT, Robert Allen

Born 1948, Houston, TX, USA.

Current Post Prof. Econ., Johns Hopkins Univ., Baltimore, MD, USA, 1995–.

Past Posts Res. Econ., Math. Pol. Res., 1975–78; Asst Prof., Assoc. Prof., Rutgers Univ., 1978–83, 1983–84; Vis. Asst Prof., Univ. Wisconsin, 1982–83; Assoc. Prof., Prof., Brown Univ., 1984–87, 1987–95.

Degrees BA Rice Univ., 1970; MA, PhD Brown Univ., 1972, 1975.

Offices and Honours Affiliate, Inst. Res. on Poverty, Univ. Wisconsin, 1987–; Res. Assoc., NBER, 1987–; Chair, Tech. Rev. Comm., Natl Longitudinal Surveys, 1988–96; Mem., Comm. Microsimulation Models, NAS, 1989–91; Mem., Bd Overseers, Michigan Panel Study of Income Dynamics, 1992–98; Mem., Comm. Pop., NAS, 1994–97; John W. Kendrick Prize Outstanding Contrib. to *RIW*, 1991; Fell., Em Soc, 1997–; Chair, Panel on Data and Methods for Evaluating Effects of Changes in Social Welfare Programs, NAS, 1999–2001; Mem., Econ. Panel,

NSF, 1999–2001; Mem., Div. Behav. and Social Sc. and Educ., NAS, 1999–; NIH-Method to Extend Res. in Time Award, 2002.

Editorial Duties Ed., *JHR*, 1985–91; Assoc. Ed., *REStat*, 1986–91, *JBES*, 1987–92, *J. Pop. Econ.*, 1987–, *J Pub E*, 1988–97, *Labour Econ.*, 1991–97; Co-Ed., *REStat*, 1991–98; Bd Eds, *AER*, 1995–2001.

Principal Fields of Interest J0 Labor and Demographic Economics: General; H0 Public Economics: General; C0 Mathematical and Quantitative Methods: General.

Publications *Books*: 1. *Welfare, the Family, and Reproductive Behavior* (Natl Acad. Press, 1998); 2. *Evaluating Welfare Reform in an Era of Transition* (with S. Ver Ploeg), (Natl Acad. Press, 2001).

Articles: 1. ‘The effect of tax and transfer programs on labor supply: the evidence from the income maintenance experiments’, in R. Ehrenberg (ed.), *Research in Labor Economics* (Greenwich, 1981); 2. ‘A computationally efficient quadrature model for the one-factor multinomial probit model’ (with J.S. Butler), *Em*, 50, 1982; 3. ‘An economic model of welfare stigma’, *AER*, 73, 1983; 4. ‘Life cycle profiles of fertility, labor supply, and wages of married women’, *REStud*, 51, 1984; 5. ‘Real wages over the business cycle: estimating the impact of heterogeneity with micro data’ (with M. Keane), *JPE*, 96, 1988; 6. ‘Estimating the value of an in-kind transfer’, *Em*, 57, 1989; 7. ‘The econometrics of kinked budget constraints’, *JEP*, 4, 1990; 8. ‘An estimate of a model of sectoral mobility’ (with B. Jovanovic), *JPE*, 98, 1990; 9. ‘Incentive effects of the US welfare system: a review’, *JEL*, 30, 1992; 10. ‘The growth in earnings instability in the US labor market’ (with P. Gottschalk), *BPEA*, 2, 1994; 11. ‘A structural model of labor supply and multiple program participation’ (with M. Keane), *IER*, 39, 1998; 12. ‘New

developments in econometric analysis for labor market analysis’, in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics* (Elsevier, 1999); 13. ‘Policy interventions, low-level equilibria, and social interactions’, in S. Durlauf, P. Young (eds), *Social Dynamics* (MIT, 2001).

Principal Contributions My chief contributions have been in the empirical analysis of the incentive effects of transfer programs on the labor supply and demographic behavior of individuals and families. I have also made contributions to econometric methodology through the analysis of the Tobit model, panel data with limited dependent variables, selection bias models, kinked budget constraints, repeated cross-sections, simulation methods, experimental methods and techniques for program evaluation. My recent contributions have included studies of job mobility, earnings inequality, and earnings dynamics in the US.

MONAHAN, J. Christopher n.e.

MOOKHERJEE, Dilip

Born 1956, Calcutta, India.

Current Post Prof., Dept Econ., Boston Univ., Boston, MA, USA, 1995–.

Past Posts Asst Prof., Assoc. Prof., Grad. Sch. Bus., Stanford Univ., 1982–86, 1986–89; Prof., Planning Unit, Indian Stat. Inst., New Delhi, 1989–95.

Degrees BA Presidency Coll., Calcutta Univ., 1975; MA Delhi Sch. Econ., 1978; MSc (Em.), PhD LSE, 1980, 1982.

Offices and Honours Hiralal Bhargava Medal, Delhi Sch. Econ., 1978; Ely Devons Prize, LSE, 1980; Mahalanobis Medal, Indian Em. Soc., 1998; Dir., Inst. Econ. Devlp., Boston Univ., 1998–; John Henry Simon Guggenheim Fell., 2001–02.

Editorial Duties Assoc. Ed., *JDE*, 1999–, *German Econ. Rev.*, 1999–, *BE-Js Theoretical Econ.*, 2000–, *Econ. Bull.*, 2001–.

Principal Fields of Interest D0 Microeconomics: General; O0 Economic Development, Technological Change, and Growth: General; L0 Industrial Organization: General.

Publications *Book*: 1. *Incentives and Institutional Reform in Tax Enforcement* (with A. Das-Gupta), (OUP, 1998).

Articles: 1. ‘Portfolio choice in R&D’ (with S. Bhattacharya), *RandJE*, 17, 1986; 2. ‘Involuntary unemployment and worker moral hazard’, *REStud*, 53, 1986; 3. ‘Competitive efficiency wage models with Keynesian features’ (with C. Kahn), *QJE*, 103, 1988; 4. ‘Optimal auditing, insurance and redistribution’ (with I. Png), *QJE*, 102, 1989; 5. ‘Delegation as commitment: the case of income tax audits’ (with N. Melumad), *RandJE*, 20, 1989; 6. ‘Norms, third party sanctions and cooperation’ (with J. Bendor), *JLEO*, 6, 1990; 7. ‘Implementation via augmented revelation mechanisms’ (with S. Reichelstein), *REStud*, 57, 1990; 8. ‘On the competitive pressure created by the diffusion of innovations’ (with D. Ray), *JET*, 54, 1991; 9. ‘Dominant strategy implementation of Bayesian incentive compatible mechanisms’ (with S. Reichelstein), *JET*, 56, 1992; 10. ‘Hierarchical decentralization of incentive contracts’ (with N. Melumad, S. Reichelstein), *RandJE*, 26, 1995; 11. ‘Coalition proof equilibrium of an adverse selection insurance economy’ (with C. Kahn), *JET*, 66, 1995; 12. ‘Corruptible law enforcers: how should they be compensated?’ (with I. Png), *EJ*, 105, 1995; 13. ‘Market failure and moral hazard with side trading’ (with C. Kahn), *J Pub E*, 58, 1995; 14. ‘Learning and decision costs in constant sum experimental games’ (with B. Sopher), *Games and Econ. Behav.*, 19, 1997; 15. ‘Evolving aspirations and co-

operation’ (with R. Karandikar, D. Ray, F. Vega-Redondo), *JET*, 80, 1998; 16. ‘Capture and governance at local and national levels’ (with P. Bardhan), *AER*, 90, May 2000; 17. ‘Inequality, control rights and rent-seeking’ (with A. Banerjee, K. Munshi, D. Ray), *JPE*, 109, 2001; 18. ‘Contractual structure and wealth accumulation’ (with D. Ray), *AER*, 92, Sept. 2002; 19. ‘Persistent inequality’ (with D. Ray), *REStud*, forthcoming 2003.

Principal Contributions My research in microeconomic theory falls into three broad areas: incentive and organization design, market failure with asymmetric information, and theories of learning based on limited rationality. In the former area my research has focused on the role of competition in organizations and R&D, design of auditing and enforcement mechanisms, role of social norms, mechanism design with particular attention to hierarchical delegation and corruption. In the context of market failure theory, I initially explored contract theoretic foundations of Keynesian theories of involuntary unemployment, and later studied the implications of moral hazard and adverse selection in more abstract general equilibrium settings. I have also worked on models of reinforcement learning, including experimental evidence and theoretical explorations of their long-run implications in two-person repeated games. In the context of development economics, my research explores (i) the causes and implications of poverty and inequality in a developing country context, and (ii) the political economy of governance, with respect to tax administration, decentralization of social service delivery, and land reforms.

MOORE, John Hardman n.e.

MORAVCSIK, Andrew n.e.

MORCK, Randall Karl

Born 1956, Olds, Alberta, Canada.

Current Post Stephen A. Jarislowsky Disting. Prof. Fin., Univ. Alberta Sch. Bus., Edmonton, Alberta, Canada, 1992–.

Past Posts Sessional Lect., Asst Prof., Boston Univ., 1983–84, 1985–86; Asst Prof., Assoc. Prof., Prof., Univ. Alberta, 1986–89, 1990–91, 1991–92; Vis. Prof. Econ., Harvard Univ., 1999–2000; William Davidson Vis. Prof., Univ. Michigan, 1999.

Degrees Diploma (Philo.) Leningrad State Univ., 1977; BSc (Apl. Maths, *scl*), MA, PhD Yale Univ., 1979, 1979, 1986.

Offices and Honours Phi Beta Kappa, 1977; Sir James Lougheed Award for Acad. Distinction in Grad. Stud., 1983; Graham and Dodd Award (with M. Feldstein), 1983; McCalla Res. Professorship, 1991; MacKenzie Award for Disting. Teaching, 2000.

Editorial Duties Ed. Bd, *Europ. J. Fin.*, 1998–.

Principal Fields of Interest G0 Financial Economics: General; O1 Economic Development; F2 International Factor Movements and International Business.

Publications *Articles*: 1. ‘Pension funds and the value of equities’ (with M. Feldstein), *Fin. Analysts J.*, 39, 1983; 2. ‘Corporate pension policy: an empirical investigation’ (with Z. Bodie, J. Light, R. Taggart), *Fin. Analysts J.*, 41, Sept./Oct. 1985; 3. ‘How does the market value unfounded pension liabilities?’ (with J. Bulow, L. Summers), in Z. Bodie, J.B. Shoven, D. Wise (eds), *Issues in Pension Economics* (NBER, UCP, 1986); 4. ‘Management ownership and corporate performance: an empirical analysis’ (with A. Shleifer, R. Vishny), *J Fin E*, 20, Jan./March 1988; 5. ‘Alternative mechanisms

for corporate control’ (with A. Shleifer, R. Vishny), *AER*, 79, Sept. 1989; 6. ‘The valuation of forestry resources under stochastic prices and inventories’ (with E. Schwartz, D. Stangeland), *JFQA*, 24, Dec. 1989; 7. ‘Do managerial objectives drive bad acquisitions?’ (with A. Shleifer, R. Vishny), *J Fin*, 45, March 1990; 8. ‘The stock market and investment: is the market a side show?’ (with A. Shleifer, R. Vishny), *BPEA*, 2, Fall 1990; 9. ‘Why investors value multinationality’ (with B. Yeung), *J Bus*, 64, April 1991; 10. ‘Internalization: an event study test’ (with B. Yeung), *J Int E*, 33, Aug. 1992; 11. ‘Value and information: a profit maximizing strategy for Maxwell’s demon’ (with H. Morowitz), *Complexity*, 1, 1995; 12. ‘Rent seeking, innovation and protectionism and the American steel industry: an empirical study’ (with S. Lenway, B. Yeung), *EJ*, 106, March 1996; 13. ‘On the mercantilist objectives of Canadian state owned enterprises’ (with D. Stangeland), *CJ*, 29, April 1996; 14. ‘The internationalization of small and medium-sized enterprises: a policy perspective’ (with Z.J. Acs, J.M. Shaver, B. Yeung), *Small Bus. Econ.*, 9, Feb. 1997; 15. ‘The corporate governance consequences of the intercorporate dividend tax exemption’, *Corp. Governance Rev.*, 6, Oct./Nov. 1997; 16. ‘Banks and corporate control in Japan’ (with M. Nakamura), *J Fin*, 54, Feb. 1999; 17. ‘Demand curves for stocks do slope down: new evidence from an index weights adjustment’ (with A. Kaul, V. Mehrotra), *J Fin*, 55, April 2000; 18. ‘Banks, ownership structure, and firm value in Japan’ (with M. Nakamura, A. Shivdasani), *J Bus*, 73, Oct. 2000; 19. ‘The information content of stock markets: why do emerging markets have synchronous stock price movements?’ (with B. Yeung, W. Yu), *J Fin E*, 58, Oct. 2000; 20. ‘Inherited wealth, corporate control, and economic growth: the Canadian disease?’ (with D. Stangeland,

B. Yeung), in R. Morck (ed.), *Concentrated Corporate Ownership* (NBER, UCP, 2000).

Principal Contributions The theme of my corporate finance work is that who controls capital matters. This work, done in the 1980s, which helped found the field of corporate governance, is empirical and statistical in nature. Shleifer, Vishny and I showed that hostile targets in the 1980s were ill-managed, but that many acquirers also had serious governance problems. We also showed that managerial ownership can be too high as well as too low. Yeung and I showed that multinational firms with proprietary technology out-compete local firms, but other multinationals generally do not. With Stangeland, I also show that widespread corporate control by a country's old families is correlated with sharply lower economic growth. Overall, this work implies that 'entrenched' control over capital is a fundamental economic problem in many countries. Economic growth requires that control over capital be contestable so as to give control over capital to those with ideas that generate economic profits. My work on comparative financial systems explores how different mechanisms accomplish (or failed to accomplish) this in different settings. A series of papers with Nakamura (and sometimes Shivdasani) shows that Japan's bank-oriented system of capital allocation leads to distortions at least as severe as those in the US. Finally, my work on financial markets (with Yeung and Yu) shows that the 'market model' 'fits the data' well in emerging markets, but poorly in developed markets. It also shows that this 'fit' deteriorated steadily in the US as that country developed. Stock prices in more developed economies move in response to information about individual companies, while stocks in emerging markets move *en masse*, perhaps due to noise trader sen-

timent. This suggests the market model's 'fit' gauges the stock market's efficacy as a signalling device, and therefore as a capital allocator.

MOREY, Edward Rockendorf

Born 1950, Chicago, IL, USA.

Current Post Prof., Dept Econ., Univ. Colorado, Boulder, CO, USA, 1980–.

Past Posts Asst Prof., Norwegian Sch. Econ. and Bus. Admin., Bergen Univ., 1978–80.

Degrees BA Univ. Denver, 1971; MA Univ. Arizona, 1973; PhD UBC, 1978.

Editorial Duties Assoc. Ed., *JEEM*, 1988–89.

Principal Fields of Interest D1 Household Behavior; D6 Welfare Economics; C1 Econometric and Statistical Methods: General.

Publications Articles: 1. 'The demand for site-specific recreational activities: a characteristics approach', *JEEM*, 8, 1981; 2. 'Confuser surplus', *AER*, 74, March 1984; 3. 'The choice of ski areas: estimation of a generalized CES preference ordering with characteristics', *REStat*, 66, Nov. 1984; 4. 'Characteristics, consumer surplus and new activities: a proposed ski area', *J Pub E*, 26, March 1985; 5. 'An introduction to checking, testing and imposing curvature properties: the true function and the estimated function', *CJ*, 19, May 1986; 6. 'A discrete-choice model of recreational participation, site choice and activity valuation when complete trip data is not available' (with W.D. Shaw, R.D. Rowe), *JEEM*, 20, 1991; 7. 'Separability, partial demand systems and consumers' surplus measures' (with M. Hanemann), *JEEM*, 22, 1992; 8. 'Environmental policy when market structure and plant locations are endogenous' (with J. Markusen, N. Olewiler), *JEEM*, 24, 1993; 9. 'A repeated nested-logit model of Atlantic salmon fish-

ing with comparisons to six other travel-cost models' (with R. Rowe, M. Watson), *AJAE*, 75 Aug. 1993; 10. 'What is consumers' surplus per day of use? When is it a constant independent of the number of days of use and what does it tell us about consumers' surplus?', *JEEM*, 26, May 1994; 11. 'Competition in regional environmental policies when plant locations are endogenous' (with J. Markusen, N. Olewiler), *J Pub E*, 56, Feb. 1995; 12. 'Searching for a model of recreational demand that admits boundary and interior solutions' (with D. Waldman, D. Assane, D. Shaw), *AJAE*, 77, Feb. 1995; 13. 'Using contingent valuation to estimate a neighborhood's willingness to pay to preserve undeveloped urban land' (with W. Breffle, T. Lodder), *Urb Stud*, 35, Feb. 1998; 14. 'Measurement error in recreation demand models: the joint estimation of participation, site choice and site characteristics' (with D. Waldman), *JEEM*, 35, 1998; 15. 'Two rums uncloaked', chap. 4 in C.L. Kling, H. Herriges (eds), *Valuing the Environment Using Recreation Demand Models* (Edward Elgar, 1999); 16. 'Investigating preference heterogeneity in a repeated discrete-choice recreation demand model of Atlantic salmon fishing' (with W.S. Breffle), *Marine Resource Econ.*, 15, 2000; 17. 'Two nested constant-elasticity-of-substitution models of recreational participation and site choice: an "alternatives" model and an "expenditures" model' (with W.S. Breffle and P. Greene), *AJAE*, 83, May 2001; 18. 'Combining stated-choice questions with observed behavior to value NRDA compensable damages: Green Bay, PCBs and fish consumption advisories' (with W.S. Breffle, R.D. Rowe), in D. Bjornstad, J. Kahn, A. Alberini (eds), *A Handbook of Contingent Valuation* (Edward Elgar, 2002); 19. 'Estimating the benefits and costs to mountain bikers of changes in trail characteristics, access fees, and site

closures: choice experiments and benefit transfers' (with T. Buchanan, D. Waldman), *J Em*, 64, 2002; 20. 'Estimating recreational trout fishing damages in Montana's Clark Fork River basin: summary of a natural resource damage assessment' (with W.S. Breffle, R.D. Rowe, D. Waldman), *J Em*, 66, 2002.

Principal Contributions Most of research has involved the theory and practice of consumers' surplus measures and environmental valuation. Applications include the valuation of recreational sites, cultural resources and health care. Techniques include travel cost models, choice experiments and contingent valuation.

MORGAN, S. Philip n.e.

MORGAN, T. Clifton n.e.

MORRIS, Stephen Edward

Born 1963, Weybridge, England.

Current Post Prof. Econ., Yale Univ., New Haven, CT, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Univ. Pennsylvania, 1991–96, 1996–98.

Degrees BA (Maths and Econ.) Cambridge Univ., 1985; PhD Yale Univ., 1991.

Offices and Honours Alfred P. Sloan Res. Fell., 1996–98; Fell., Em Soc, 2002.

Editorial Duties Ed. Bds, *ET*, 1996–2001, *Intl J. Game Theory*, 2000–; Assoc. Ed., *JET*, 1996–2001, *Games and Econ. Behav.*, 2001–; Foreign Ed., *REStud*, 1999–; Founding Ed., Ed. Bd, *BE-Js Theoretical Econ.*, 1999–2000, 2000–; Bd Eds, *AER*, 2001–.

Principal Field of Interest C7 Game Theory and Bargaining Theory.

Publications Articles: 1. 'Finite bubbles with short sales constraints and asymmetric information' (with F. Allen,

A. Postlewaite), *JET*, 61, 1993; 2. 'Trade with heterogeneous prior beliefs and asymmetric information', *Em*, 62, 1994; 3. '*p*-dominance and belief potential' (with R. Rob, H.S. Shin), *Em*, 63, 1995; 4. 'Inflation dynamics and the parallel market for foreign exchange', *JDE*, 46, 1995; 5. 'The common prior assumption in economic theory', *Econ. and Philo.*, 11, 1995; 6. 'On the form of transfers to special interests' (with S. Coate), *JPE*, 103, 1995; 7. 'Depth of knowledge and the effect of higher order uncertainty' (with A. Postlewaite, H.S. Shin), *ET*, 6, 1995; 8. 'The logic of belief and belief change: a decision theoretic approach', *JET*, 69, 1996; 9. 'Speculative investor behavior and learning', *QJE*, 111, 1996; 10. 'The revelation of information and self-fulfilling beliefs' (with J. Dutta), *JET*, 73, 1997; 11. 'Rationality and efficacy of decisions under uncertainty' (with H.S. Shin), *ET*, 9, 1997; 12. 'Alternative notions of knowledge', in M. Bacharach, L.-A. Gérard-Varet, P. Mongin, H. Shin (eds), *Epistemic Logic and the Theory of Games and Decisions* (Kluwer Acad. Press 1997); 13. 'The robustness of equilibria to incomplete information' (with A. Kajii), *Em*, 65, 1997; 14. 'Unique equilibrium in a model of self-fulfilling attacks' (with H.S. Shin), *AER*, 88, 1998, repr. in B. Biais, M. Pagano (eds), *New Research in Financial Markets* (OUP 2002), to be repr. in S. Bhattacharya, A. Boot, A. Thakor (eds), *Credit, Intermediation and the Macroeconomy* (OUP, 2002); 15. 'Payoff continuity in incomplete information games' (with A. Kajii), *JET*, 82, 1998; 16. 'Policy persistence' (with S. Coate), *AER*, 89, 1999; 17. 'Contagion', *REStud*, 67, 2000; 18. 'Political correctness', *JPE*, 109, 2001; 19. 'Re-thinking multiple equilibria in macroeconomics' (with H.S. Shin), *NBER Macroecon. Annual 2000* (MIT Press, 2001); 20. 'Repeated games with almost-public

monitoring' (with G. Mailath), *JET*, 102, 2002.

Principal Contributions n.e.

MORTENSEN, Dale T.

Born 1939, Enterprise, OR, USA.

Current Post Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1975–.

Past Posts Asst Prof., Assoc. Prof., Northwestern Univ., 1965–71, 1971–75; Vis. Scholar, Univ. Essex, 1970–71; Fell., Inst. Adv. Stud., Hebrew Univ., Jerusalem, 1977–78.

Degrees BA Willamette Univ., Salem, OR, 1961; PhD Carnegie-Mellon Univ., 1967.

Offices and Honours Fell., Em Soc, 1979.

Principal Fields of Interest A1 General Economic; D8 Information and Uncertainty; J4 Particular Labor Markets.

Publications *Articles*: 1. 'A theory of wage and employment dynamics', in E.S. Phelps *et al.* (eds), *The Microeconomic Foundations of Employment and Inflation Theory* (W.W. Norton, 1970); 2. 'Job search, the duration of unemployment, and the Phillips curve', *AER*, 60, Dec. 1970; 3. 'Generalized costs of adjustment and dynamic factor demand theory', *Em*, 41, July 1973; 4. 'Job matching under imperfect information', in O. Ashenfelter, J. Blum (eds), *Evaluating the Labor Market Effects on Social Programs* (Princeton Univ. Press, 1976); 5. 'Labor supply under uncertainty' (with K. Burdett), in R.G. Ehrenberg (ed.), *Research in Labor Economics*, Vol. 2 (JAI Press, 1978); 6. 'Specific capital and labor turnover', *Bell JE*, 9, Autumn 1978; 7. 'Search, layoffs, and labor market equilibrium' (with K. Burdett), *JPE*, 88, Aug. 1980; 8. 'Testing for ability in a competitive labor market' (with K. Burdett), *JET*, 25, June 1981; 9. 'The matching process as a non-coopera-

tive bargaining game', in J.J. McCall (ed.), *The Economics of Information and Uncertainty* (UCP, 1982); 10. 'Property rights and efficiency in mating, racing and related games', *AER*, 72, Dec. 1982.

Principal Contributions An interest in dynamic phenomena in economics, not readily explained by existing theory, has marked my research from its beginning. Early work includes papers on the development of formal job search models and their implications for unemployment and wage dynamics, and papers on the theory of dynamic factor demand when adjustment costs are present. Although these were intended as contributions to the microeconomic foundations of macroeconomics, my research interests shifted to applications of the economics of imperfect information and uncertainty. A subsequent series of papers was focused on the study of job separation behaviour, testing for ability in the labour market, labour supply dynamics, and contract equilibrium in the context of models that account for imperfect information and uncertainty. My recent theoretical contributions have dealt with dynamic models of job-worker matching in a game theoretic context, the effects and design of unemployment insurance schemes, and mobility in labour markets characterised by long-term contracts. Currently, I am interested in the development of empirical models of individual-worker labour market experience over time designed for estimation and testing using panel data. A book on recent contributions of the economics of information and uncertainty to labour economic analysis is in progress.

MORTON, Andrew J. n.e.

MOSCHINI, GianCarlo

Born 1954, San Giorgio Piacentino, Italy.

Current Posts Prof. Econ. and Pioneer Chair in Sc. and Tech. Pol., Iowa State Univ., Ames, IA, USA, 2000–.

Past Posts Ricercatore and Lect., Catholic Univ. Piacenza, Italy, 1984–86; Lect., Univ. Guelph, Canada, 1986–87; Asst Prof. Econ., Assoc. Prof., Prof. Econ., Iowa State Univ., 1987–91, 1991–95, 1995–2000; Vis. Prof., Univ. Siena, 1994–95.

Degrees Laurea Catholic Univ. Piacenza, Italy, 1978; PhD Univ. Guelph, Canada, 1986.

Honours Outstanding PhD dissertation award, AA, 1987; Outstanding publ. res. award, Western Agric. Econ. Assoc., 1993, 2002; Outstanding j. article award, AA, 1994; Quality of res. discovery award, AA, 1999.

Editorial Duties Ed., *AJAE*, 1998–2000.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; D0 Microeconomics: General.

Publications Articles: 1. 'A model of production with supply management for the Canadian agricultural sector', *AJAE*, 70, May 1988; 2. 'Modeling the pattern of structural change in US meat demand' (with K.D. Meilke), *AJAE*, 71, May 1989; 3. 'Nonparametric and semiparametric estimation: an analysis of multiproduct returns to scale', *AJAE*, 72, Aug. 1990; 4. 'Production, hedging, and speculative decision with options and futures markets' (with H. Lapan, S. Hanson), *AJAE*, 73, Feb. 1991; 5. 'A non-nested test of separability for flexible functional forms', *REStat*, 74, 1992; 6. 'Hedging price risk with futures and options for the competitive firm with production flexibility', *IER*, 33, 1992; 7. 'Production subsidy and

countervailing duties in vertically related markets' (with K.D. Meilke), *AJAE*, 74, Nov. 1992; 8. 'Flexible specification of mixed demand systems' (with A. Vissa), *AJAE*, 75, Feb. 1993; 9. 'Maintaining and testing separability in demand systems' (with D. Moro, R. Green), *AJAE*, 76, Feb. 1994; 10. 'Efficiency of decoupled farm programs under distortionary taxation' (with P. Sckokai), *AJAE*, 76, Aug. 1994; 11. 'Futures hedging under price, basis, and production risk' (with H. Lapan), *AJAE*, 76, Aug. 1994; 12. 'Autocorrelation specification in singular equation systems' (with D. Moro), *Econ. Letters*, 46, 1994; 13. 'Units of measurement and the stone index in demand system estimation', *AJAE*, 77, Feb. 1995; 14. 'The hedging role of options and futures under joint price, basis, and production risk' (with H. Lapan), *IER*, 36, Nov. 1995; 15. 'Stabilizing price policies and the futures market' (with H. Lapan), *Econ. Letters*, 53, 1996; 16. 'Intellectual property rights and the welfare effects of agricultural R&D' (with H. Lapan), *AJAE*, 79, Nov. 1997; 17. 'The semiflexible almost ideal demand system', *Europ ER*, 42, 1998; 18. 'Incomplete adoption of a superior innovation' (with H. Lapan), *Em*, 67, 2000; 19. 'A flexible multistage demand system based on indirect separability', *SEJ*, 68, 2001; 20. 'Production risk and the estimation of ex-ante cost functions', *J Em*, 100, 2001.

Principal Contributions I have made contributions in several distinct areas in agricultural economics. My work on demand systems has extended the usefulness of separability to specify and estimate parsimonious but complete demand systems, has shown how to handle the crucial curvature property, and has developed several new specifications of demand systems. I have also clarified the use of index numbers in demand models and derived a new specification for autocorrelation in demand systems. My study

of duality in production analysis includes the estimation of cost functions when production is stochastic. I have also developed a novel approach to testing for separability in production, and an original approach to nonparametric testing for returns to scale. I have also made contributions to the study of decisions under risk, with emphasis on farmers' hedging problems. My work with H. Lapan led to the first rigorous analysis of the joint use of options and futures in a competitive production and speculative framework, and provided key insights on the hedging roles of options and futures in two additional novel settings: when the timing of production decisions allows for flexibility in the choice of some inputs, and when farmers also face production risk, in addition to price and basis risk. My work in agricultural and trade policy includes early studies of Canadian supply management issues, the use of countervailing duties in agricultural markets, decoupled farm programs under distortionary taxation, and stabilizing price policies when options and futures are also available. Recently, I have also contributed to the economics of innovations, with emphasis on intellectual property rights and agricultural biotechnology.

MOULIN, Hervé

Born 1950, Paris, France.

Current Post G. Peterkin Prof. Econ. Theory, Rice Univ., Houston, TX, USA, 1999–.

Past Posts Res. Fell., CORE, Louvain, Belgium, 1974–75; Assoc. Prof. Maths, ENSAE, Paris, 1976–77; Prof. Maths, Univ. Paris, Dauphine, 1977–84; Prof. Econ., Univ. Disting. Prof., Virginia Polytech. Inst. and State Univ., 1984–87, 1987–89; James B. Duke Prof. Econ., Duke Univ., 1989–99.

Degrees Agrégation de Mathématiques, PhD (Doctorat d'Etat), (Maths) Univ. Paris 1971, 1975.

Offices and Honours Chairman, Dept Decisions Sc., Univ. Paris, Dauphine, 1977–81; Fell., Em Soc, 1983–; Pres., Soc. Social Choice and Welfare, 1998, 1999.

Editorial Duties Assoc. Ed., *J Math E*, 1980–88, *Math. Social Sc.*, 1983–93, *Intl J. Game Theory*, 1984–, *Social Choice and Welfare*, 1984–, *Games and Econ. Behav.*, 1988–93, *J. Public Econ. Theory*, 1998–; Ed. in Chief, *Math. Social Sc.*, 1993–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; C7 Game Theory and Bargaining Theory; D6 Welfare Economics.

Publications *Books*: 1. *Game Theory for the Social Sciences* (original edn French, *Théorie des jeux pour l'économie et la politique*, Hermann, 1981; trans., English, NYU Press, 1982, 2nd revised edn, NYU Press, 1986, Russian, *Teoria Igr*, S Premierami is Matematicheskoi Economici, Mir, 1985); 2. *The Strategy of Social Choice*, *Advanced Textbooks in Economics*, No. 18 (N-H, 1983); 3. *Axioms of Cooperative Decision Making* (Em Soc, CUP, 1988; trans., Russian, *Cooperativnoe Prinyatie Rechenii Aksiomy i Modeli*, Mir, 1991); 4. *Cooperative Micro-economics: A Game Theoretic Introduction* (Princeton Univ. Press, Prentice-Hall, 1995); 5. *Fair Division and Collective Welfare* (MIT Press, 2003).

Articles: 1. 'Dominance solvable voting schemes', *Em*, 47, 1979; 2. 'On strategy-proofness and single peakedness', *Public Choice*, 35, 1980; 3. 'Stability and implementation of effectivity functions' (with B. Peleg), *J Math E*, 10, 1982; 4. 'Implementing the Kalai–Smorodinsky bargaining solution', *JET*, 33, 1984; 5. 'Choosing from a tournament', *Social Choice and Welfare*, 3, 1986; 6. 'Egalitarian equivalent cost sharing of a public

good', *Em*, 55, 1987; 7. 'Equal or proportional division of a surplus and other methods', *Intl J. Game Theory*, 16, 1987; 8. 'Joint ownership of a convex technology: comparison of three solutions', *REStud*, 57, 1990; 9. 'Serial cost sharing' (with S. Shenker), *Em*, 50, 1992; 10. 'Serial cost sharing of excludable public goods', *REStud*, 61, 1994; 11. 'Three methods to share joint costs or surplus' (with E. Friedman), *JET*, 87, 1999; 12. 'Priority rules and other asymmetric rationing methods', *Em*, 68, 2000; 13. 'Scheduling with opting out: improving upon random priority' (with H. Cres) *OR*, 49, 2001; 14. 'A new solution to the assignment problem' (with A. Bogomolnaia), *JET*, 100, 2001; 15. 'Fair queuing and other probabilistic allocation methods' (with R. Stong), *Maths OR*, 27, 2002.

Principal Contributions The subject of my research is the design of microeconomic mechanisms of resource allocation. I am especially interested by the interface between the incentives properties of these mechanisms (namely, how will rational, selfish agents 'play' the mechanism) and their normative properties of equity and efficiency. My early work deals with strategic analysis of voting rules both with the help of noncooperative concepts (notably dominance solvability, that I introduced and applied to multistage voting) and cooperative concepts (such as core stability: Peleg and I invented the concept of effectivity function, to analyse voting by veto). Subsequently I studied the implementation of an abstract social choice function by means of decentralized mechanisms. In the last 15 years or so, I have explored the normative interpretation of fairness in a variety of microeconomic allocation problems: choosing from a tournament of majority preferences; division of 'free' commodities; pricing a natural monopoly, and cooperative production of a private

good, a public good, or an excludable public good; cost sharing when outputs are heterogeneous, sharing access charges to a network, scheduling; assignment of indivisible objects or tasks; and matching. This work has contributed to redefining the field of 'normative economics'. It borrows tools from the theory of social choice, noncooperative and cooperative game theory. It relies heavily on the axiomatic methodology, and recommends concrete methods for fair division.

MOULTON, Brent Richard

Born 1954, Burbank, CA, USA.

Current Post Assoc. Dir. Natl Econ. Accounts, Bureau Econ. Analysis, US Dept Commerce, Washington, DC, USA, 1997–.

Past Posts Econ., Bureau Labor Stats, US Dept Labor, 1984–94; Adjunct Asst Prof., Univ. Coll., Univ. Maryland, 1985–88; Assoc. Prof., George Mason Univ., 1990–91; Chief, Div. Price and Index Number Res., Bureau Labor Stats, US Dept Labor, 1994–97; Vis. Assoc. Prof., Johns Hopkins Univ., 1995.

Degrees BA, MS Brigham Young Univ., 1977, 1978; PhD Univ. Chicago, 1985.

Offices and Honours Commissioner's Award for Eminent Achievement, Award for Disting. Service, Bureau Labor Stats, 1996, 1997; Exec. Comm., Conf. for Res. Income and Wealth, 1998–; Gold Medal Award, US Dept Commerce, 2001; Comm. Econ. Stats, AEA, 2002–.

Principal Fields of Interest C8 Data Collection and Data Estimation Methodology; Computer Programs; C1 Econometric and Statistical Methods: General; E3 Prices, Business Fluctuations, and Cycles.

Publications Articles: 1. 'Bayesian regression diagnostics with applications to international consumption and income data' (with A. Zellner), *J Em*, 29, July/

Aug. 1985; 2. 'Random group effects and the precision of regression estimates', *J Em*, 32, Aug. 1986; 3. 'Diagnostics for group effects in regression analysis', *JBES*, 5, April 1987; 4. 'Alternative tests of the error components model' (with W.C. Randolph), *Em*, 57, May 1989; 5. 'Interpretation of graphs that compare the distribution functions of estimators', *ET*, 6, March 1990; 6. 'A reexamination of the federal–private wage differential in the United States', *J Lab E*, 8, April 1990; 7. 'An illustration of a pitfall in estimating the effects of aggregate variables on micro units', *REStat*, 72, May 1990; 8. 'A Bayesian approach to regression selection and estimation, with application to a price index for radio services', *J Em*, 49, July/Aug. 1991; 9. 'Basic components of the CPI: estimation of price changes', *MLR*, 116, Dec. 1993; 10. 'Interarea indexes of the cost of shelter using hedonic quality adjustment techniques', *J Em*, 68, July 1995; 11. 'Bias in the consumer price index: what is the evidence?', *JEP*, 10, Fall 1996; 12. 'The construction of basic components of cost-of-living indexes' (with M.B. Reinsdorf), in T.F. Bresnahan, R.J. Gordon (eds), *The Economics of New Goods* (UCP, 1997); 13. 'Addressing the quality change issue in the consumer price index' (with K.E. Moses), *BPEA*, 1, 1997; 14. 'Working to improve the consumer price index' (with K.G. Abraham, J.S. Greenlees), *JEP*, 12, Winter 1998; 15. 'An overview of experimental US consumer price indexes' (with K.J. Stewart), *JBES*, 17, April 1999; 16. 'Interarea price comparisons for heterogeneous goods and several levels of commodity aggregation' (with M.F. Kokoski, K.D. Zieschang), in A. Heston, R.E. Lipsey (eds), *International and Interarea Comparisons of Income, Output, and Prices* (UCP, 1999); 17. 'Getting the 21st-century GDP right: what's underway?', *AER*, 90, May 2000; 18. 'GDP and the digital economy: keep-

ing up with the changes', in E. Brynjolfsson, B. Kahin (eds), *Understanding the Digital Economy: Data, Tools, and Research* (MIT Press, 2000).

Principal Contributions My research has focused on improving the data that economists use and the inferences that are made from the data. In several articles published between 1986 and 1990, I examined the inferential problems that sometimes arise in cross-sectional micro data when there is residual correlation within identifiable groups or classes of observations, such as geographical areas, industries, or other groups. In particular, if an economist attempts to measure the effects of a macro variable on micro units by merging data from two sources based on geographical region or some other grouping, I showed that even a small within-group residual correlation can lead to large biases in standard errors and incorrect inferences. As a result of these findings, that entire research strategy was rendered dubious. My second major area of research was directed toward identifying and addressing problems in measuring price indices. For example, in 1993 M. Reinsdorf discovered a bias in the 'modified Laspeyres' formula that was used by the US Bureau of Labor Statistics for estimating the lowest-level indices of the consumer price index (CPI). In a 1993 article I presented evidence confirming his hypothesis and suggested the geometric average as a functional form to avoid the bias. Several years later the geometric average was adopted for most of the component indices in the US CPI. In other research, including work with K. Moses, I examined the quality adjustment methods used in the CPI and recommended improvements to those methods. More recently I have directed the US national income and product accounts and have led work to adapt the accounts to a rapidly changing economic environment.

MULLAHY, John

Born 1957, Philadelphia, PA, USA.

Current Post Prof. Pop. Health Sc., Univ. Wisconsin-Madison, Madison, WI, USA, 1997–.

Past Posts Assoc. Prof. Econ., Trinity Coll., Hartford, CT, 1988–97.

Degrees BA Georgetown Univ., 1979; PhD Univ. Virginia, 1985.

Editorial Duties Ed. Bd, *Medical Decision Making*, 1999–2001, *Health Econ.*, 2001–, *Intl J. Health Care Fin. and Econ.*, 2001–.

Principal Fields of Interest I1 Health; C1 Econometric and Statistical Methods: General; D1 Household Behavior.

Publications *Articles*: 1. 'Urban air quality and acute respiratory illness' (with P. Portney), *JUE*, 20, 1986; 2. 'Specification and testing of some modified count data models', *J Em*, 33, 1986; 3. 'Air pollution, cigarette smoking, and the production of respiratory health' (with P. Portney), *JHE*, 9, 1990; 4. 'Moment-based estimation and testing of stochastic frontier models' (with R. Kopp), *J Em*, 46, 1990; 5. 'Alcoholism, work, and income' (with J. Sindelar), *J Lab E*, 11, 1993; 6. 'Do drinkers know when to say when? An empirical analysis of drunk driving' (with J. Sindelar), *EI*, 32, 1994; 7. 'Health, income, and risk aversion: assessing some welfare costs of alcoholism and poor health' (with J. Sindelar), *JHR*, 30, 1995; 8. 'Employment, unemployment, and problem drinking' (with J. Sindelar), *JHR*, 15, 1996; 9. 'Heterogeneity, excess zeros, and the structure of count data models', *JAE*, 12, 1997; 10. 'Instrumental-variable estimation of count data models: applications to models of cigarette smoking behavior', *REStat*, 79, 1997; 11. 'Net health benefits: a new framework for the analysis of uncertainty in cost-effectiveness analysis' (with A. Stinnett), *Medical Decision Making*, 18, 1998; 12. 'Much

ado about two: reconsidering retransformation and the two-part model in health econometrics', *JHE*, 17, 1998; 13. 'It'll only hurt a second? Microeconomic determinants of who gets flu shots', *Health Econ.*, 8, 1999; 14. 'Estimating log models: to transform or not to transform?' (with W. Manning), *JHE*, 20, 2001; 15. 'Live long, live well: quantifying the health of heterogeneous populations', *Health Econ.*, 10, 2001.

Principal Contributions My research is an attempt to provide methodological innovations for, and empirical insights into, microeconomic problems concerning human health.

MULLER, Eitan

Born 1948, Haifa, Israel.

Current Post Nathan Galston Prof. Hi-Tech Marketing, Recanati Grad. Sch. Bus. Admin., Tel Aviv Univ., Tel Aviv, Israel, 1987–.

Past Posts Asst Prof., Dept Econ., Univ. Pennsylvania, 1977–78; Sr Lect. Marketing, Sch. Bus. Admin., Hebrew Univ., Jerusalem, 1981–87; Vis. Prof., Wharton Sch., Univ. Pennsylvania, 1981, Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1982–83, 1987, 1988, 1989, Cox Sch. Bus., Southern Methodist Univ., 1984, 1986, Sch. Econ. and Mgmt, Dept of Public and Bus. Admin., Univ. Cyprus, 1997, 1998, 1999, 2000, 2001; Disting. Vis. Scholar, Faculty Commerce and Bus. Admin., UBC, 1991, 1992, Grad. Sch. Bus. Admin., Univ. Texas, Austin, 1994, 1995, 1997.

Degrees BS (Distinction) Technion, Israel Inst. Tech., 1973; MBA (distinction), DPhil (Mgmt Sc.) Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1975, 1977.

Offices and Honours Beta Gamma Sigma Honor Soc., 1975; Barecha/Alon Fellowship for outstanding young faculty

mem., 1978–81; Harold H. Maynard Award (with V. Mahajan, F. Bass), *J. Marketing*, 1990; Dean's award for faculty excellence, Recanati Grad. Sch. Bus. Admin., Tel Aviv Univ., 1990/91; Best Paper Award (with S. Kalish, V. Mahajan), Europ. Marketing Acad.-Prentice-Hall Intl *J. Res. Marketing*, 1995.

Editorial Duties Ed. Bds, *Marketing Sc.*, 1986–2001, *J. Marketing Res.*, 1994–2002, *Rev. Marketing Sc.*, 2001–; Assoc. Ed. Marketing Dept, *Mgmt Sc.*, 1990–2001; Area Ed., *Marketing Sc.*, 2002–.

Principal Fields of Interest M3 Marketing and Advertising; D6 Welfare Economics; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Articles*: 1. 'The equivalence of strong positive association and strategy proofness' (with M. Satterthwaite), *JET*, 14, 1977; 2. 'Characterizations of domains admitting nondictatorial social welfare functions and nonmanipulable voting procedures' (with E. Kalai), *JET*, 16, 1977; 3. 'Models of new product diffusion through advertising and word-of-mouth' (with J. Dodson), *Mgmt Sc.*, 24, 1978; 4. 'Graphs and anonymous social welfare functions', *IER*, 23, 1982; 5. 'Essential aggregation procedures and restricted domain of preferences' (with D. Blair), *JET*, 30, 1983; 6. 'A non-uniform influence innovation diffusion model of new product acceptance' (with C. Easingwood, V. Mahajan), *Marketing Sc.*, 2, 1983; 7. 'An empirical comparison of awareness forecasting models of new product introduction' (with V. Mahajan, S. Sharma), *Marketing Sc.*, 3, 1984; 8. 'Capital accumulation games of infinite duration' (with C. Fershtman), *JET*, 33, 1984; 9. 'Introduction strategy for new products with positive and negative word of mouth' (with V. Mahajan, R. Kerin), *Mgmt Sc.*, 30, 1984; 10. 'Turnpike properties of capital accumulation games' (with C. Fershtman), *JET*, 38, 1986; 11. 'Advertising pulsing policies

for generating awareness for new products' (with V. Mahajan), *Marketing Sc.*, 5, 1986; 12. 'Capital investments and price agreements in semicollusive markets' (with C. Fershtman), *RandJE*, 17, 1986; 13. 'Market share pioneering advantage: a theoretical approach' (with C. Fershtman, V. Mahajan), *Mgmt Sc.*, 36, 1990; 14. 'Entrepreneurial ability, venture investments, and risk sharing' (with R. Amit, L. Glosten), *Mgmt Sc.*, 36, 1990; 15. 'Innovation diffusion in the presence of supply restrictions' (with D. Jain, V. Mahajan), *Marketing Sc.*, 10, 1991; 16. 'Research joint venture and R&D cartels' (with M. Kamien, I. Zang), *AER*, 82, 1992; 17. 'Diffusion of new products: empirical generalizations and managerial uses' (with V. Mahajan, F. Bass), *Marketing Sc.*, 14, 1995; 18. 'When is it worthwhile targeting the majority instead of the innovators in a new product launch?' (with V. Mahajan), *J. Marketing Res.*, 35, 1998; 19. 'Pricing patterns of cellular phones and phonecalls: a segment-level analysis' (with D. Jain, N. Vilcassim), *Mgmt Sc.*, 45, 1999; 20. 'Riding the saddle: how cross-market communications can create a major slump in sales' (with J. Goldenberg, B. Libai), *J. Marketing*, 66, 2002.

Principal Contributions n.e.

MUNGER, Michael C. n.e.

MUNNELL, Alicia H. n.e.

MURNANE, Richard J. n.e.

MURPHY, Kevin James

Born 1957, Sumner, IA, USA.

Current Posts E. Morgan Stanley Chair in Bus. Admin., Prof. Fin. and Bus. Econ., Marshall Sch. Bus., Univ. Southern Cali-

fornia, Los Angeles, CA, USA, 2002–, 1995–; Prof. Bus. and Law, Law Sch., Univ. Southern California, Los Angeles, CA, USA, 2001–; Prof. Econ., Coll. of Letters, Arts, and Sc., Univ. Southern California, Los Angeles, CA, USA, 2002–.

Past Posts Asst Prof. Bus. Admin., Assoc. Prof. Bus. Admin., Simon Sch. Bus., Univ. Rochester, 1984–88, 1988–91; Assoc. Prof. Bus. Admin., Harvard Bus. Sch., 1991–95; Vis. Scholar and Cons., Towers Perrin, Boston, 1994–95.

Degrees BA UCLA, 1979; MA, PhD Univ. Chicago, 1981, 1984.

Editorial Duties Assoc. Ed., *J. Accounting Econ.*, 1988–, *J. Fin E*, 1992–, *J. Corp. Fin.*, 1993–; Advisory Bd, *Managerial and Decision Econ.*, 1998–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; G3 Corporate Finance and Governance; L2 Firm Objectives, Organization, and Behavior.

Publications *Book*: 1. *The Economics of Executive Compensation* (with K.F. Hallock), (Edward Elgar, 1999).

Articles: 1. 'Corporate performance and managerial remuneration', *J. Accounting Econ.*, 7, April 1985; 2. 'Incentives, learning, and compensation: a theoretical and empirical investigation of managerial labor contracts', *RandJE*, 17, Spring 1986; 3. 'Compensation and incentives: practice vs. theory' (with G.P. Baker, M.C. Jensen), *J. Fin*, 43, July 1988; 4. 'Relative performance evaluation for chief executive officers' (with R. Gibbons), *ILRR*, 43, Feb. 1990; 5. 'Performance pay and top-management incentives' (with M.C. Jensen), *JPE*, 98, April 1990; 6. 'CEO incentives: it's not how much you pay, but how' (with M.C. Jensen), *Harvard Bus. Rev.*, May/June 1990; 7. 'Optimal incentive contracts in the presence of career concerns: theory and evidence' (with R. Gibbons), *JPE*, 100, June 1992; 8. 'Financial performance surrounding CEO turnover' (with J.L. Zimmerman), *J. Accounting Econ.*, 16,

1993; 9. 'Subjective performance measures in optimal incentive contracts' (with G.P. Baker, R. Gibbons), *QJE*, 109, Nov. 1994; 10. 'Incentives, downsizing, and value creation at General Dynamics' (with J. Dial), *J Fin E*, 37, March 1995; 11. 'Executive compensation', in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3B (N-H, 1999); 12. 'Informal authority in organizations' (with G. Baker, R. Gibbons), *JLEO*, 15, 1999; 13. 'The prince and the pauper? CEO pay in the US and UK' (with M.J. Conyon), *EJ*, 110, Nov. 2000; 14. 'Performance standards in incentive contracts', *J. Accounting Econ.*, 30, Dec. 2000; 15. 'Relational contracts and the theory of the firm' (with G. Baker, R. Gibbons), *QJE*, 117, Feb. 2002; 16. 'Stock options for undiversified executives' (with B.J. Hall), *J. Accounting Econ.*, 33, April 2002.

Principal Contributions Most of my work has related to executive compensation and, more generally, to compensation and incentives in organizations. Broadly defined, my research objective is to understand and predict how individuals respond to organizational incentives, including incentives provided by monetary or non-monetary compensation, promotion and career-advancement opportunities, dismissal, as well as by the capital, labor, and product markets. The research agenda extends to analyzing how performance is measured and appraised, how performance standards are set, and how pay is tied to performance. The research is both empirical and theoretical, and is interdisciplinary, spanning economics, finance, accounting, and organizational behavior. In addition to my work on compensation, I have (with G. Baker and R. Gibbons) analyzed relational contracts (self-enforcing contracts in repeated games) with implications for subjective performance assessment, strategic alliances, and the theory of the firm.

MURPHY, Kevin M. n.e.

MURRELL, Peter

Born 1950, Norwich, England.

Current Post Prof., Univ. Maryland, College Park, MD, USA, 1988–.

Past Posts Lect., Swarthmore Coll., 1976–77; Asst Prof., Assoc. Prof., Univ. Maryland, 1977–82, 1982–88; Fell., Res. Fell., Intl Inst. Mgmt Berlin, 1982–83; World Bank, various cons., 1985–; Vis. Lect., Peking Univ., Beijing, 1987; Woodrow Wilson Intl Center for Scholars, Washington, DC, 1991–92; Dir., Mongolian Transition Project, Center Institutional Reform and the Informal Sector (IRIS), Univ. Maryland, 1991–93; UNDP, various cons., 1992–; Chair, Acad. Council, IRIS, 1998–.

Degrees BSc, MSc LSE, 1971, 1972; PhD Univ. Pennsylvania, 1977.

Offices and Honours Thouron Fell., Univ. Pennsylvania, 1972–75; Exec. Comm., Assoc. Comparative Econ. Stud., 1990–92, 1995–97; Bd Trustees, Natl Council Soviet and E. Europ. Res., 1991–97; Bd Dirs, EEA, 1995–98.

Editorial Duties Assoc. Ed., *JEP*, 1991–98; Ed. Bds, *J Comp E*, 1990–93, *Econ. Systems*, 1998–; *Comparative Econ. Stud.*, 2000–, *EEJ*, 2000–, *Econ. Planning*, 2002–.

Principal Fields of Interest D2 Production and Organizations; F0 International Economics: General; K0 Law and Economics: General.

Publications Books: 1. *The Nature of Socialist Economies: Lessons from Eastern European Foreign Trade* (Princeton Univ. Press, 1990); 2. *Assessing the Value of Law in Transition Economies* (Univ. Michigan Press, 2001); 3. *The Institutional Economics of Foreign Aid: A Principal-Agent Approach* (with B. Martens, U. Mummert, P. Seabright), (CUP, 2002).

Articles: 1. 'The performance of multi-period managerial incentive schemes', *AER*, 69, Dec. 1979; 2. 'Limitations on the use of information revealing incentive schemes in economic organisations' (with J. Miller), *J Comp E*, 5, Sept. 1981; 3. 'Product quality, market signaling, and the development of East–West trade', *EI*, 20, Oct. 1982; 4. 'Did the theory of market socialism answer the challenge of Ludwig von Mises? A reinterpretation of the socialist controversy', *HOPE*, 15, Spring 1983; 5. 'The economics of sharing: a transactions cost analysis of contractual choice in farming', *Bell JE*, Spring 1983; 6. 'Electoral politics, interest groups, and the size of government' (with D. Mueller, P. Coughlin), *EI*, 28, Oct. 1990; 7. 'Can neoclassical economics underpin the economic reform of the centrally-planned economies?', *JEP*, 5, Fall 1991; 8. 'Evolution in economies and in the economic reform of the centrally planned economies', in C.C. Clague, G. Rausser (eds), *The Emergence of Market Economies in Eastern Europe* (Blackwell, 1992); 9. 'What is shock therapy? What did it do in Poland and Russia?', *Post-Soviet Affairs*, 9, April–June 1993; 10. 'The transition according to Cambridge, Mass.', *JEL*, 33, March 1995; 11. 'The relationship between economic growth and the speed of liberalization during transition' (with B. Heybey), *J. Pol. Reform*, 3, 1999; 12. 'Which enterprises (believe they) have soft budgets? Evidence on the effects of ownership and decentralization in Mongolia' (with J.H. Anderson, G. Korsun), *J Comp E*, 28, June 2000; 13. 'Law, relationships, and private enforcement: transactional strategies of Russian enterprises' (with K. Hendley, R. Ryterman), *Europe-Asia Stud.*, 52, June 2000; 14. 'Competition and privatization amidst weak institutions: evidence from Mongolia' (with J.H. Anderson, Y. Lee), *EI*, 38, Oct. 2000; 15. 'Agents of change or unchanging agents?

The role of lawyers within Russian industrial enterprises' (with K. Hendley, R. Ryterman), *Law and Social Inquiry*, 26, Summer 2001; 16. 'Enterprise restructuring in transition: a quantitative survey' (with S. Djankov), *JEL*, 40, Sept. 2002.

Principal Contributions Early work concentrated on two aspects of comparative economic systems, cross-country empirical studies of the structure and performance of capitalist economies and the theory of socialism and planning. The former led to a number of papers on the effect of interest groups in capitalist societies and to contributions to the field of public choice. The latter led to deliberation on the ways in which economists think about the relative properties of capitalism and socialism. In a reconsideration of the market socialist debate, I pointed out how the identification of the debate's winners was more a function of the lens used to examine the debate than its content. In another, I presented an analysis of the predictive powers of neoclassical and Schumpeterian views on the performance of the East European economies. This work reached its culmination in the late 1980s and therefore provided an important input into my work on the economics of transition. In the debates on transition, I have presented views critical of the mainstream approach, views which have been variously characterized as gradualist, evolutionary, or conservative, the main features of which are to emphasize the economic costs of adjustment, the need to design policies that are able to build on any existing strengths, rather than starting simply from the assumption that the old must be destroyed, the importance of institutions, and the need to understand the existing structure of economy and society in order to reach conclusions on policy prescriptions. My latest work concentrates on delving into the facts of system change, the cultural effects on policy

implementation, the extent to which history and policy are determinants of present outcomes, and the role of the law in enterprise behavior.

MYERS, Gordon MacKenzie

Born 1958, Ottawa, Ontario, Canada.

Current Post Assoc. Prof. Econ., Simon Fraser Univ., Burnaby, BC, Canada, 1999–.

Past Post Asst Prof. Econ., Univ. Waterloo, 1990–99.

Degrees BA Queen's Univ., 1983; MA, PhD McMaster Univ., 1985, 1990.

Editorial Duties Ed. Bd, *CJ*, 1997–99.

Principal Fields of Interest H7 State and Local Government; Intergovernmental Relations; R5 Regional Government Analysis; D0 Microeconomics: General.

Publications *Articles*: 1. 'Optimality, free mobility, and the regional authority in a federation', *J Pub E*, 43, 1990; 2. 'Is price flexibility destabilizing? Evidence for the open economy' (with W.M. Scarth), *J Int E*, 28, 1990; 3. 'Homo economicus in perspective' (with Y.Y. Papageorgiou), *Canadian Geographer*, 35, 1991; 4. 'Fiscal inequivalence, incentive equivalence, and Pareto efficiency in a decentralized urban context' (with Y.Y. Papageorgiou), *JUE*, 33, 1993; 5. 'Attachment to home and efficient purchases of population in a fiscal externality economy' (with A. Mansoorian), *J Pub E*, 52, 1993; 6. 'Strategic capital tax competition, a pecuniary externality and a corrective device' (with J.A. DePater), *JUE*, 36, 1994; 7. 'Population mobility and capital tax competition' (with J.B. Burbidge), *RSUE*, 24, 1994; 8. 'Redistribution within and across the regions of a federation' (with J.B. Burbidge), *CJ*, 27, 1994; 9. 'Rational choice under an imperfect ability to choose' (with A. DePalma, Y.Y. Papageorgiou), *AER*, 84, 1994; 10. 'Private sector versus public sec-

tor externalities' (with A. Mansoorian), *RSUE*, 26, 1996; 11. 'Procedural rationality and the need to aggregate' (with Y. Y. Papageorgiou), *l'Espace Géographique*, 2, 1997; 12. 'Efficient Nash equilibria in a federal economy with migration cost' (with Y.Y. Papageorgiou), *RSUE*, 27, 1997; 13. 'On the consequences of government objectives for economies with mobile populations' (with A. Mansoorian), *J Pub E*, 63, 1997; 14. 'A coalition-formation approach to equilibrium federations and trading blocs' (with J.B. Burbidge, J.A. DePater, A. Sengupta), *AER*, 87, 1997; 15. 'Immigration control and the welfare state' (with Y.Y. Papageorgiou), *J Pub E*, 75, 2000; 16. 'Towards a better system for immigration control' (with Y.Y. Papageorgiou), *J Reg S*, 42, 2002; 17. 'Redistribution, fiscal competition and the politics of economic integration' (with A.S. Kessler, C. Lulfesmann), *ReStud*, 69, 2002; 18. 'Economic versus political symmetry and the welfare concern with market integration and tax competition' (with A.S. Kessler, C. Lulfesmann), *J Pub E*, forthcoming.

Principal Contributions My early work studied federal systems of government. I was interested in population migration in a federal system. That work made the simple point that unrestricted population migration across a system of local jurisdictions can tie together the incentives of the different jurisdictions and create common interest. With J.B. Burbidge, A. Mansoorian and Y.Y. Papageorgiou, this logic has been applied to various contexts, for example, it can be shown that local jurisdictions may make voluntary transfers to other jurisdictions in a non-cooperative equilibrium. Papageorgiou and I have also applied this logic of migration creating common interest to international (restricted) immigration when border control is costly. These results have some empirical con-

tent in the observation that international transfers have been justified by policy makers as a migration control instrument (e.g., American support for Mexico during the peso crisis). Another area of interest has been capital tax competition. Recently with A.S. Kessler and C. Lulfesmann my interest has been on models where capital taxes and levels of redistribution are determined democratically. A sample result is that even when increased capital market integration (globalization) leads to a race to the bottom

in redistributive policy that integration can be socially desirable under almost any theory of justice, including an infinite aversion to inequality. Burbidge, A. Sengupta and I have also studied the equilibrium formation of government utilizing models of coalition formation. A sample result is that even when the formation of a government is the unique wealth-maximizing outcome, costless transfers are possible, and there is complete information, a government may not form in equilibrium.

N

NALBUFF, Barry J.

Born 1958, Newton, MA, USA.

Current Post Milton Steinbach Prof. Mgmt, Yale Univ., New Haven, CT, USA, 1995–.

Past Posts Jr Fell., Soc. Fell., Harvard Univ., 1982–85; Asst Prof., Princeton Univ., 1985–89; Prof. Econ. and Mgmt, Yale Univ., 1990–95.

Degrees SB, SB (Maths) MIT, 1980, 1980; DPhil Nuffield Coll., Oxford Univ., 1982.

Offices and Honours Phi Beta Kappa, MIT, 1980; Rhodes Scholar, Massachusetts and Nuffield Coll., 1980–82; Bicentennial Preceptorship, Princeton Univ., 1988–89; Sloan Fellowship, 1989–91; Miegunyah Fellowship, Univ. Melbourne, 1998.

Editorial Duties Assoc. Ed., *World Polit.*, 1987–89, *JEP*, 1989–96, *JLEO*, 1989–, *J. Conflict Resolution*, 1989–.

Principal Fields of Interest D0 Microeconomics: General; D8 Information and Uncertainty; M2 Business Economics.

Publications *Books*: 1. *Thinking Strategically: A Competitive Edge in Business, Politics and Everyday Life* (with A. Dixit), (W.W. Norton, 1991; trans., Chinese, German, Spanish, Portuguese, Japanese, Korean); 2. *Co-opetition* (with A. Brandenburger), (Currency/Doubleday, 1996; trans., French, Greek, German, Hebrew, Spanish, Portuguese, Italian, Swedish, Dutch, Chinese, Japanese, Korean, Bahasa); 3. *Why Not?* (with I. Ayres), (Harvard Bus. Sch. Press, forthcoming 2003).

Articles: 1. 'Prizes and incentives: towards a general theory of compensation and competition' (with J. Stiglitz), *Bell JE*, 14, Spring 1983; 2. 'Information, competition, and markets' (with J. Stiglitz), *AER*,

73, May 1983; 3. 'Multi-dimensional product differentiation and price competition' (with A. Caplin), *OEP*, 38, suppl., repr. in D. Morris (ed.), *Strategic Behaviour and Industrial Competition* (OUP, 1986); 4. 'On 64%-majority rule' (with A. Caplin), *Em*, 56, July 1988; 5. 'Aggregation and social choice: a mean voter theorem' (with A. Caplin), *Em*, 59, Jan. 1991; 6. 'Aggregation and imperfect competition: on the existence of equilibrium' (with A. Caplin), *Em*, 59, Jan. 1991; 7. 'Individuals and institutions' (with A. Caplin), *AER*, 82, March 1992; 8. 'To the raider goes the surplus? A reexamination of the free-rider problem' (with B. Holmström), *JEMS*, 1, March 1992; 9. 'The right game: use game theory to shape strategy' (with A. Brandenburger), *Harvard Bus. Rev.*, 73, July–Aug. 1995, repr. in J.S. Brown (ed.), *Seeing Differently: Insights on Innovation* (Harvard Bus. Sch. Press, 1997); 10. 'Competition among institutions' (with A. Caplin), *JET*, 72, Feb. 1997; 11. 'Common knowledge as a barrier to negotiation' (with I. Ayres), *UCLA Law Rev.*, Aug. 1997; 12. 'Competing against bundles', in P. Hammond, G. Myles (eds), *Incentives, Organization, and Public Economics* (OUP, 2000).

Principal Contributions My early research looks at voting and imperfect competition. My current research focuses on the applications of game theory to business strategy.

NASON, James M.

Born 1957, Dayton, OH, USA.

Current Post Assoc. Prof., Dept Econ., UBC, Vancouver, BC, Canada, 1995–.

Past Posts Analyst, Tax Analysis Div., CBO, Washington, DC, 1982–83; Econ., Div. Res. and Stats, Bd Governors, Fed. Reserve System, Washington, DC, 1987–89; Asst Prof., Dept Econ., UBC, 1989–95.

Degrees AB, MPP (Public Pol.) Univ. Michigan, 1979; PhD Univ. Wisconsin, 1987.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Articles*: 1. 'Nonparametric exchange rate prediction' (with F.X. Diebold), *J Int E*, 28, May 1990; 2. 'Impulse dynamics and propagation mechanisms in a real business cycle model' (with T. Cogley), *Econ. Letters*, 43, Jan. 1993; 3. 'Testing the implications of the long-run neutrality for monetary business cycle models' (with T. Cogley), *JAE*, 9, Dec. 1994; 4. 'Effects of the Hodrick–Prescott filter on trend and difference stationary time series: implications for business cycle research' (with T. Cogley), *JEDC*, 19, Jan.–Feb. 1995; 5. 'Output dynamics in real business cycle models' (with T. Cogley), *AER*, 85, June 1995; 6. 'Testing for structural breaks in cointegrating relations' (with G.W. Gregory, D. Watt), *J Em*, 71, March 1996; 7. 'Investment and the current account in the short run and the long run' (with J.H. Rogers), *JMCB*, 34, Nov. 2002; 8. 'The long-horizon regression approach to monetary neutrality: how should the evidence be interpreted?' (with P.J. Coe), *Econ. Letters*, 78, March 2003.

Principal Contributions Much of my work has focused on business cycle analysis within the framework of dynamic, stochastic general equilibrium models. Timothy Cogley and I developed methods to test the ability of this class of models to replicate observed output, inflation, and employment dynamics. Our focus on the comparison of actual to theoretical dynamics recognized the need to condition on structural econometric models. Otherwise, the power of the test is questionable. This forced us to adapt simula-

tion methods developed elsewhere to conduct inference on this class of models. Cogley and I also found that there are ways for these methods to be independent of the way in which the trend and cycle of aggregate data is separated. John Rogers and I have recently extended this approach to study the predictions of intertemporal small open economy models. One part of this research mapped these predictions into structural vector autoregression to produce empirical facts robust to the identified structure. In other work, Rogers and I used these facts to develop and test alternative intertemporal small open economy models. Work with Frank Diebold enlarged on the theme that in real-time out-of-sample point prediction of nominal exchange rates it is difficult to beat a random walk. We reported that nonlinear, nonparameter models offer no forecast improvement over a random walk.

NAUGHTON, Barry n.e.

NEAL, Derek A. n.e.

NEARY, James Peter

Born 1950, Drogheda, Ireland.

Current Posts Prof. Polit. Econ., Univ. Coll. Dublin, Ireland, 1980–; Cons., Centre Econ. Performance, LSE, UK, 1993–.

Past Posts Res. Asst, Econ. Social Res. Inst., Dublin, 1970–72; Jr Lect., Trinity Coll., Dublin, 1972–74; Heyworth Res. Fell., Nuffield Coll., Oxford, 1976–78; Lect., St. Catherine's Coll., Oxford, 1977–78, Trinity Coll., Dublin, 1978–80; Vis. Scholar, MIT, 1978, IIES, Stockholm, 1979, Intl Inst. Apl. Systems Analysis, Laxenburg, Austria, 1981; Vis. Prof., Princeton Univ., 1980, Univ. California,

Berkeley, 1982, Queen's Univ., Kingston, Ontario, 1986–88, Univ. Ulster, Jordanstown, 1992–93; Dir. Recherche, École Polytech., Paris, 1999–2000.

Degrees BA, MA Univ. Coll. Dublin, 1970, 1971; BPhil, DPhil Univ. Oxford 1976, 1978.

Offices and Honours Fell., Dir., Co-Dir., Res. Programme Intl Trade, CEPR, London, 1983–, 1983–85, 1985–86; Chairman, Econ. Programme Comm., Em Soc Europ. Meetings, Madrid 1984; Council Mem., RES, 1984–89, 1992–97, Europ. Econ. Assoc., 1985–92, Em Soc, 1994–99; Pres., Irish Econ. Assoc., 1990–92, Intl Econ. and Fin. Soc., 1999–2000, Europ. Econ. Assoc., 2002; Fell., Em Soc, 1987; Mem., Academia Europaea, 1989, Royal Irish Acad., 1997; Vice-Chairman, Chairman, Econ., Social and Human Sc. Networks Panel, Training and Mobility of Researchers Program, Europ. Commission, 1995, 1996–97.

Editorial Duties Co-Ed., *J Int E*, 1980–83, 1999–2002; Assoc. Ed., *EJ*, 1981–85, *Em*, 1984–87; Ed. Bd, *REStud*, 1984–93; Ed., *Europ ER*, 1986–90.

Principal Fields of Interest F1 Trade; F0 International Economics: General; L0 Industrial Organization: General.

Publications *Books*: 1. *Natural Resources and the Macroeconomy* (ed. with S. van Wijnbergen), (Blackwell, MIT Press, 1986); 2. *Theory, Policy and Dynamics in International Trade: Essays in Honor of Ronald W. Jones* (ed. with W.J. Ethier, E. Helpman), (CUP, 1993); 3. *Readings in International Trade, Vol. 1: Welfare and Trade Policy, Volume 2: Production Structure, Trade and Growth* (ed.), (Edward Elgar, 1995).

Articles: 1. 'Short-run capital specificity and the pure theory of international trade', *EJ*, 88, Sept. 1978; 2. 'Dynamic stability and the theory of factor-market distortions', *AER*, 68, Sept. 1978; 3. 'The theory of household behaviour under rationing'

(with K.W.S. Roberts), *Europ ER*, 13, 1980; 4. 'Non-traded goods and the balance of trade in a neo-Keynesian temporary equilibrium', *QJE*, 95, Nov. 1980; 5. 'Booming sector and de-industrialisation in a small open economy' (with W.M. Corden), *EJ*, 92, Dec. 1982; 6. 'Towards a reconstruction of Keynesian economics: expectations and constrained equilibria' (with J.E. Stiglitz), *QJE*, 98, 1983; 7. 'International factor mobility, minimum wage rates and factor-price equalization: a synthesis', *QJE*, 100, Aug. 1985; 8. 'Two-by-two international trade theory with many goods and factors', *Em*, 53, Sept. 1985; 9. 'Factor content functions and the theory of international trade' (with A.G. Schweinberger), *REStud*, 53, July 1986; 10. 'Trade reform with quotas, partial rent retention and tariffs' (with J.E. Anderson), *Em*, 60, Jan. 1992; 11. 'A new approach to evaluating trade policy' (with J.E. Anderson), *REStud*, 63, Jan. 1996; 12. 'Theoretical foundations of the "Geary method" for international comparisons of purchasing power and real incomes', *Econ. and Social Rev.*, 27, Jan. 1996; 13. 'Public policy towards R&D in oligopolistic industries' (with D. Leahy), *AER*, 87, Sept. 1997; 14. 'Learning by doing, precommitment and infant industry promotion' (with D. Leahy), *REStud*, 66, April 1999; 15. 'Strategic trade and industrial policy towards dynamic oligopolies' (with D. Leahy), *EJ*, 110, April 2000; 16. 'Foreign competition and wage inequality', *Rev. Intl Econ.*, 10, Nov. 2002; 17. 'Globalisation and market structure', *JEEA*, 1, May 2003.

Principal Contributions My main research field is international trade theory. I have also written on consumer theory, industrial organisation and macroeconomics (including international macro theory and Irish economic policy). My early work was on adjustment mechanisms in international trade models, especially the spe-

cific-factors model. This led to work on the 'Dutch Disease' (with Max Corden) and related attempts to integrate real and monetary aspects of structural change, and on international capital movements. Exploring how simple models could be generalised brought me into the theory of trade policy in general equilibrium, and later to the development (with Jim Anderson) of measures of the restrictiveness of trade policy. While all this work was conducted in an equilibrium framework, I also became interested at an early stage in the neo-Keynesian or fix-price approach as a framework for short-run analysis. As well as exploring the relevance of this approach to open economies, I extended it (with Joe Stiglitz) to deal with expectations (especially rational expectations) and asset accumulation. A spin-off from this was an ongoing interest in consumer theory, which showed up in an early paper (with Kevin Roberts) on rationing and household behaviour, and more recently in work on the theoretical underpinnings of international comparisons of purchasing power and real incomes. In the past decade, I have become increasingly interested in the implications for international trade of imperfect competition, especially oligopolistic competition rather than the more fashionable monopolistic competition. I have worked (with Dermot Leahy) on strategic trade and technology policy, especially when governments have limited powers of commitment. More recently, I have developed a theory of oligopoly in general equilibrium, and explored its implications for problems of globalisation, including the effects of trade liberalisation on the relative wages of skilled and unskilled workers, and on cross-border merger waves.

NELSON, Charles Rowe

Born 1942, Milwaukee, WI, USA.

Current Posts Prof. Econ., and Van Voorhis Prof. Polit. Econ., Univ. Washington, Seattle, WA, USA, 1975–, 1993–.

Past Posts Asst Prof., Assoc. Prof., Grad. Sch. Bus., Univ. Chicago, 1969–73; Res. Fell. Stats, LSE, 1973–75; Vis. Fell., Trinity Coll., Cambridge, 1984–85.

Degrees BA Yale Univ., 1963; MA, PhD Univ. Wisconsin, 1967, 1969.

Editorial Duties Currently Assoc. Ed., *JMCB*.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; E3 Prices, Business Fluctuations, and Cycles; G1 General Financial Markets.

Publications *Books*: 1. *The Term Structure of Interest Rates* (Basic Books, 1972); 2. *Applied Time Series Analysis for Managerial Forecasting* (Holden-Day, 1973); 3. *Macroeconomics: An Introduction* (McGraw-Hill, 1995, 2000); 4. *State-Space Models with Regime Switching: Classical and Gibbs Sampling Approaches with Applications* (with C.-J. Kim), (MIT Press, 1999).

Articles: 1. 'Estimation of term premiums from average differentials in the term structure of interest rates', *Em*, 40, March 1972; 2. 'The prediction performance of the FRB–MTT–Penn model of the US economy', *AER*, 62, Dec. 1972, repr. in K.F. Wallis (ed.), *Macroeconomic Modelling* (Edward Elgar, 1994); 3. 'On testing the hypothesis that the real rate of interest is constant' (with G.W. Schwer), *AER*, 67, June 1977; 4. 'A new approach to decomposition of economic time series into permanent and transitory components with particular attention to measurement of the business cycle' (with S. Beveridge), *JME*, 7, March 1981; 5. 'Spurious periodicity in inappropriately detrended time series' (with H. Kang), *Em*, 49, May 1981; 6. 'Trends and random walks in macroeco-

conomic time series' (with C.I. Plosser), *JME*, 10, Sept. 1982; 7. 'The distribution of the instrumental variables estimator and its *t*-ratio when the instrument is a poor one' (with R. Startz), *J Bus*, 63, Jan. 1990; 8. 'Some further results on the exact small sample properties of the instrumental variable estimator' (with R. Startz), *Em*, 58, July 1990; 9. 'Mean reversion in stock prices? A reappraisal of the empirical evidence' (with M.J. Kim, R. Startz), *REStud*, 58, May 1991; 10. 'Business cycle turning points, a new coincident index, and tests of duration dependence based on a dynamic factor model with regime-switching' (with C.-J. Kim), *REStat*, 80, May 1998; 11. 'Valid confidence intervals and inference in the presence of weak instruments' (with R. Startz, E. Zivot), *IER*, 39, Nov. 1998; 12. 'Has the US economy become more stable?' (with C.-J. Kim), *REStat*, 81, Nov. 1999; 13. 'The uncertain trend in US GDP' (with C.J. Murray), *JME*, 46, Aug. 2000; 14. 'Why are Beveridge–Nelson and unobserved-component decompositions of GDP so different?' (with J.C. Morley, E. Zivot), *REStat*, 85, 2003.

Principal Contributions I originally became interested in time-series analysis because it seemed the natural framework in which to test theories involving expectations, and the term structure of interest rates was an obvious candidate. With the advent of rational expectations macro models, I became interested in the power of various tests for the presence of Granger-causal relationships. Early on, the treatment of trend in macro-econometric models intrigued me; in particular, the distinction between a deterministic trend and stochastic growth. Work with C. Plosser tested historical macroeconomic series for the presence of deterministic trends and concluded that they are characterised instead by stochastic growth. One implication is that models using time trends to

account for growth may greatly overestimate the amplitude and duration of business cycles. I have also looked at the consequences of assuming the presence of a deterministic trend when growth is in fact stochastic (for example, a random walk with drift), spurious periodicity appears in inappropriately detrended data, and standard regression statistics, such as *R* square, become misleading or meaningless. Most recently my main interests have been spurious inference in the presence of weak instruments, with R. Startz and E. Zivot, where we find that conventional standard errors are much too small; and Markovian regime-switching in state space models, with C.-J. Kim, which has led us to test the proposition that the US economy has become more stable.

NELSON, Richard R.

Born 1930, New York City, NY, USA.

Current Post George Blumenthal Prof. Intl Public Affairs, Bus., Law, Columbia Univ., New York, NY, USA, 1986–.

Past Posts Asst Prof. Econ., Oberlin Coll., 1956–57; Econ., Sr Econ., Rand Corp., 1957–60, 1963–68; Assoc. Prof. Econ., Carnegie Tech. Univ., 1960–61; Staff Econ., US President's Council Econ. Advisers, 1961–63; Prof. Econ., Dir., Inst. Social and Pol. Stud., Yale Univ., 1968–86.

Degrees BA Oberlin Coll., 1952; MA, PhD Yale Univ., 1954, 1956.

Offices and Honours US SSRC, Postdoctoral Fell., 1956; German Marshall Fund Fell., 1968; Mem., AAAS, 1995–.

Principal Fields of Interest A1 General Economics; L0 Industrial Organization: General; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *An Evolutionary Theory of Economic Change* (with S. Winter), (HUP, 1982); 2. *National Inno-*

vation Systems: A Comparative Analysis (OUP, 1993); 3. *The Sources of Economic Growth* (HUP, 1996); 4. *The Sources of Industrial Leadership* (ed. with D. Mowery), (CUP, 1999); 5. *The Nature and Dynamics of Organizational Capabilities* (ed. with G. Dosi, S. Winter), (OUP, 2000).

Articles: 1. 'The simple economics of basic scientific research – a theoretical analysis', *JPE*, 67, June 1959; 2. 'Capitalism as an engine of progress', *Res. Pol.*, 19, 1990; 3. 'Why do firms differ, and how does it matter?', *Strategic Mgmt J.*, 12, Winter 1991; 4. 'The rise and fall of American technological leadership' (with G. Wright), *JEL*, 30, Dec. 1992; 5. 'Recent evolutionary theorizing about economic change', *JEL*, 33, March 1995; 6. 'The agenda for growth theory: a different point of view', *Camb JE*, 22, 1998.

Principal Contributions I am an economist by training. My central interests have been in long-run economic change. Much of my research has been directed towards understanding technological change and how economic institutions and public policies influence the evolution of technology and how technological change in turn induces economic change more broadly. My work has been both empirical and theoretical. Along with Sidney Winter, I have pioneered in developing a formal evolutionary theory of economic change. Over the course of my career, I have been particularly attracted to working with and coordinating relatively large research teams. My National Innovation Systems project involved a team of approximately twenty scholars, and my recent study on the Sources of Industrial Leadership involved the coordination of a similar-size group. I was the director of the Institute for Social and Policy Studies and now head Columbia's Public Policy Doctoral Consortium.

NEUMARK, David

Born 1959, Chicago, IL, USA.

Current Posts Sr Fell. Econ., Public Pol. Inst. of California, San Francisco, CA, USA, 2002–; Prof. Econ., Michigan State Univ., East Lansing, MI, USA, 1994–; Res. Assoc., NBER, Cambridge, MA, USA, 1989–.

Past Posts Econ., Bd Governors, Fed. Reserve System, 1987–89; Asst Prof. Econ., Univ. Pennsylvania, 1989–94; Vis. Scholar, FRB, Cleveland, 1996–99, Public Pol. Inst., CA, 2000–01.

Degrees BA Univ. Pennsylvania, 1982; MA, PhD Harvard Univ., 1985, 1987.

Editorial Duties Ed. Bd, *Contemporary Econ. Pol.*, 2002.

Principal Fields of Interest J2 Time Allocation; Work Behavior; Employment Determination and Creation; J3 Wages, Compensation, and Labor Costs; J7 Discrimination.

Publications Articles: 1. 'Employers' discriminatory behavior and the estimation of wage discrimination', *JHR*, 23, Summer 1988; 2. 'Does marriage really make men more productive?' (with S. Korenman), *JHR*, 26, Spring 1991; 3. 'Market structure and the nature of price rigidities: evidence from the market for consumer deposits' (with S. Sharpe), *QJE*, 107, May 1992; 4. 'Evidence on employment effects of minimum and sub-minimum wage: panel data on state minimum laws' (with W. Wascher), *ILRR*, 46, October 1992; 5. 'Unobserved ability, efficiency wages, and interindustry wage differentials' (M. Blackburn), *QJE*, 107, Nov. 1992; 6. 'Are rising wage profiles a forced-savings mechanism?', *EJ*, 105, Jan. 1995; 7. 'Minimum wage effects on school and work transitions of teenagers' (with W. Wascher), *AER*, 85, May 1995; 8. 'Why do wage profiles slope upwards? Tests of the general human capital model' (with P. Taubman), *J Lab E*, 13, Oct. 1995; 9. 'Sex

discrimination in hiring in the restaurant industry: an audit study', *QJE*, 111, Aug. 1996; 10. 'Job stability in the United States' (with F.X. Diebold, D. Polsky), *J Lab E*, 15, April 1997; 11. 'Age discrimination, job separations, and employment status of older workers: evidence from self-reports' (with R. Johnson), *JHR*, 32, Fall 1997; 12. 'Sex, wages, and productivity: an empirical analysis of Israeli firm-level data' (with J.K. Hellerstein), *IER*, 40, Feb. 1999; 13. 'Are affirmative action hires less qualified? Evidence from employer-employee data on new hires' (with H. Holzer), *J Lab E*, 17, July 1999; 14. 'Wages, productivity, and worker characteristics: evidence from plant-level production functions and wage equations' (with J.K. Hellerstein, K. Troske), *J Lab E*, 17, Oct. 1999; 15. 'Age discrimination laws and labor market efficiency' (with W. Stock), *JPE*, 107, Oct. 1999; 16. 'What does affirmative action do?' (with H. Holzer), *ILRR*, 53, Jan. 2000; 17. 'Assessing affirmative action' (with H. Holzer), *JEL*, 38, Sept. 2000; 18. 'Minimum wages and employment: a case study of the fast-food industry in New Jersey and Pennsylvania: comment' (with W. Wascher), *AER*, 90, Dec. 2000; 19. 'Minimum wages and training revisited' (with W. Wascher), *J Lab E*, 19, July 2001; 20. 'Market forces and sex discrimination' (J.K. Hellerstein, K. Troske), *JHR*, 37, Spring 2002.

Principal Contributions Carried out extensive research on the consequences of minimum wages, focussing on dis-employment effects and impact on distribution of income. Developed techniques for using matched employer-employee data to construct tests for labor market discrimination. Established causal impact of marriage on men's labor market productivity. Engaged in research testing alternative models of age-earnings profiles, and alternative interpretations of age dis-

crimination legislation. Analyzed effects of affirmative action on qualifications and performance of workers. Developed measures of job stability and characterized changes in job stability in the US economy. Conducted first research into consequences of living wage laws for wages, employment, and incomes of low-skill workers and low-income families.

NEWBERY, David Michael Garrood

Born 1943, Fulmer Chase, England.

Current Posts Dir., Dept Apl. Econ., and Prof. Apl. Econ., Univ. Cambridge, Cambridge, UK, 1988-; Professorial Fell., Churchill Coll., Cambridge, 1988-.

Past Posts Overseas Devlp. Inst.-Nuffield Fell., Treasury, Govt Tanzania, 1965-66; Teaching Fell. and Dir. Stud., Churchill Coll., Cambridge, 1966-88; Asst Lect., Lect., Reader, Univ. Cambridge, 1966-71, 1971-86, 1986-88; Ford Vis. Prof., Univ. California, Berkeley, 1987-88.

Degrees BA (Maths and Econ.), MA, PhD, ScD Univ. Cambridge, 1964, 1968, 1976, 2001.

Offices and Honours Fell., CEPR, 1984-; Council Mem., RES, 1984-89; Programme Co-Dir., Advanced Theory and Em., CEPR, 1986-88, Econ. in Transformation in Eastern Europe, 1991-94; Fell., Em Soc, 1989, BA, 1991; Mem., ESRC Res. Grants Bd, 1990-93; Frisch Medal, Em Soc, 1990; Scottish Econ. Soc. Annual Lecture, 1990; Sr Res. Fell., Inst. Pol. Reform, Washington, DC, 1990-94; Organising Chairman, Sixth Annual Congress Europ. Econ. Assoc., Cambridge, 1991, Em Soc Europ. Meeting, Cambridge, 1991; Mem., Environmental Econ. Acad. Panel, Dept Environment (subsequently DEFRA), 1992-; Specialist Adviser, House of Commons Inquiry into British Energy Pol. and Market for Coal,

1992–93; Harry Johnson Prize (jointly with L. Karp), CEA, 1993; E.S. Woodford Invited Lectures, UBC, 1993; Walras–Pareto Winter Lecture, Lausanne, 1995; Pres., Europ. Econ. Assoc., 1996; Mem., Monopolies and Mergers Commission then Competition Commission, 1996–2002; Chairman Dutch Electricity Market Surveillance Comm., 2001–.

Editorial Duties Ed. Bds, *REStud*, 1968–79, *Resource and Energy Econ.*, 1998–; Co-Ed., *EJ*, 1977–96, *African Stud.* series (CUP, 1974–84), *Europ ER*, 1988–93; Asst Ed., *EJ*, 1997–2000.

Principal Fields of Interest L0 Industrial Organization: General; D0 Microeconomics: General; H0 Public Economics: General.

Publications *Books*: 1. *Project Appraisal in Practice* (with M.F.G. Scott, J.D. MacArthur), (Heinemann, 1976); 2. *The Theory of Commodity Price Stabilization: A Study in the Economics of Risk* (with J.E. Stiglitz), (OUP, 1981); 3. *The Theory of Taxation for Developing Countries* (with N.H. Stern), (OUP, 1987); 4. *Hungary: An Economy in Transition* (with I. Szekely), (CUP, 1993); 5. *Tax and Benefit Reform in Central and Eastern Europe* (ed.), (CEPR, 1995); 6. *A European Market for Electricity?* (with L. Bergman, G. Brunekreeft, C. Doyle, N.-H. von der Fehr, M. Pollitt, P. Regibeau), (CEPR, 1999); 7. *Privatization, Restructuring and Regulation of Network Utilities* (MIT Press, 2000).

Articles: 1. ‘Risk sharing, sharecropping and uncertain labour markets’, *REStud*, 44, Oct. 1977; 2. ‘Oil prices, cartels and the problem of dynamic inconsistency’, *EJ*, 91, Sept. 1981; 3. ‘The choice of techniques and the optimality of market equilibrium with rational expectations’ (with J.E. Stiglitz), *JPE*, 90, April 1982; 4. ‘Preemptive patenting and the persistence of monopoly’ (with R.J. Gilbert), *AER*, 72, 1982; 5. ‘Pareto infe-

rior trade’ (with J.E. Stiglitz), *REStud*, 11, Jan. 1984; 6. ‘Commodity price stabilization in imperfect or cartelized markets’, *Em*, 52, May 1984; 7. ‘Road damage externalities and road user charges’, *Em*, 56, March 1988; 8. ‘Disadvantageous oil tariffs and dynamic consistency’ (with E. Maskin), *AER*, 80, March 1990; 9. ‘Dynamically consistent oil import tariffs’ (with L. Karp), *CJ*, 25, Feb. 1992; 10. ‘Competition in the British electricity spot market’ (with R. Green), *JPE*, 100, Oct. 1992; 11. ‘The dynamic efficiency of regulatory constitutions’ (with R.J. Gilbert), *RandJE*, 25, Winter 1994; 12. ‘The distributional impact of price changes in Hungary and the UK’, *EJ*, 105, July 1995; 13. ‘Competition, contracts and entry in the electricity spot market’, *RandJE*, 29, Winter 1998.

Principal Contributions Early work in Tanzania and later in the World Bank confirmed my interest in public policy, starting with social cost–benefit analysis and leading on to the analysis of agricultural pricing, commodity risk and tax policy. If relative prices are risky, competitive markets are typically inefficient, and institutions such as share contracts, futures and credit markets emerge to handle risk. Such examples of incomplete markets have proved fruitful, with parallels to public goods and externalities, another research interest. The guiding principle is to measure the cost of risk, which requires understanding the equilibrium chosen given the institutions available. Only then can one properly measure the benefits of policy intervention. In 1976 I showed that imperfect energy and resource markets create problems of dynamic inconsistency in the absence of credible contracts. Since 1987, I have actively studied the transition from socialist to market economies, concentrating initially on fiscal reform in Hungary. Privatization and regulation of network utilities raise similar

questions about the appropriate boundaries of the state. Since 1989 I have been studying the restructuring of electricity, telecommunications, and gas utilities in Britain, Europe, transition economies and other developed and developing countries, looking at the desirability of unbundling, the analysis of market power, auction design for network access, and problems of regulatory commitment. As an applied economist, I am concerned to quantify policy issues, notably in transport, both for congestion and environmental externalities, and for the design of road-user charges. Similarly, I have undertaken social cost-benefit analyses of electricity liberalisation, and of local-loop unbundling in telecommunications. Wherever possible I attempt to quantify – for example, in assessing by how much one might argue the tax share should fall in Hungary during the transition, or how socially costly was the redistributive impact of Hungarian price liberalization and indirect tax reform.

NEWHEY, Whitney K. n.e.

NEWHOUSE, Joseph Paul

Born 1942, Waterloo, IA, USA.

Current Post John D. MacArthur Prof. Health Pol. and Mgmt, Harvard Univ., Cambridge, MA, USA, 1988–.

Past Posts Econ., Head, Econ. Dept, Sr Corp. Fell., Rand Corp., 1968–84, 1984–88; Adjunct Prof., Sch. Public Health, UCLA, 1981–88.

Degrees BA, PhD Harvard Univ. 1963, 1969.

Offices and Honours Fulbright Scholar, 1963–64; David N. Kershaw Award and Prize, Assoc. Public Pol. and Mgmt, 1983; Baxter Amer. Foundation Prize, 1988; Administrator's Citation,

Health Care Fin. Admin., 1988; Article-of-Year Award, Disting. Investigator Award, Pres., Assoc. Health Services Res., 1989, 1992, 1993–94; Council, Inst. Medicine, 1992–97; Commissioner, Physician Payment Rev. Commission, 1993–96; Mem., AAAS, 1995; Hans Sigrist Prize, 1995; Elizur Wright Award, 1995; AEA representative, AAAS, 1995–2000; Chair, Prospective Payment Assessment Commission, 1996–97; Vice-Chair, Mem., Medicare Payment Advisory Commission, 1997–2001, 2001–; Regent, Natl Library Medicine, 1999–2003; Zvi Griliches Award, 2001; Kenneth J. Arrow Award, 2001; Fell., Amer. Assoc. Advancement Sc., 2003–.

Editorial Duties Ed., *JHE*, 1982–; Ed. Bds, *Evaluation Rev.*, 1979–82, *Health Scan: The Report of Health Bus. and Law*, 1984; Assoc. Ed., *JEP*, 1992–98, *New England J. Medicine*, 2003–.

Principal Field of Interest II Health.

Publications *Books*: 1. *An Economic Analysis of Public Library Services* (with A.J. Alexander), (D.C. Heath, 1972); 2. *The Economics of Medical Care: A Policy Perspective* (Addison-Wesley, 1978); 3. *The Cost of Poor Health Habits* (with W.G. Manning *et al.*), (HUP, 1991); 4. *Free for All? Lessons from the Rand Health Insurance Experiment* (HUP, 1993); 5. *A Measure of Malpractice* (with P.C. Weiler *et al.*), (HUP, 1993); 6. *Handbook of Health Economics* (ed. with A.J. Culyer), (N-H, 2000), 7. *Pricing the Priceless* (MIT, 2002).

Articles: 1. 'Toward a theory of non-profit institutions: an economic model of a hospital', *AER*, 60, March 1970, repr. in M. Cooper, A. Culyer (eds), *Health Economics* (Penguin, 1973); 2. 'The economics of group practice', *JHR*, 8, Winter 1973; 3. 'Deductibles and demand: a theory of the consumer facing a variable price schedule under uncertainty' (with E.B. Keeler, C.E. Phelps), *Em*, 45, April

1977; 4. 'The demand for supplementary health insurance, or are deductibles relevant?' (with E.B. Keeler, D. Morrow), *JPE*, 85, Aug. 1977; 5. 'Does the geographical distribution of physicians reflect market failure?' (with A.P. Williams, B. Bennett, W.B. Schwartz), *Bell JE*, 13, Autumn 1982; 6. 'Health insurance and the demand for medical care: results from a randomized experiment' (with W.G. Manning, N. Duan, E. Keeler, A. Leibowitz, M.S. Marquis), *AER*, 77, June 1987; 7. 'Medical care costs: how much welfare loss?', *JEP*, 6, Summer 1992; 8. 'Reimbursing health plans and health providers: selection versus efficiency in production', *JEL*, 34, Sept. 1996; 9. 'Are medical prices declining?' (with D.M. Cutler, M. McClellan, D. Remler), *QJE*, 113, Nov. 1998; 10. 'How does managed care do it?' (with D.M. Cutler, M. McClellan), *RandJE*, 113, Autumn 2000.

Principal Contributions Most of my research has centred on the economics of health. At a theoretical level I have tried to make sense of the medical-care sector through extensions of neoclassical theory to encompass the phenomena of the medical marketplace. These applications have included: the theory of nonprofit firms, especially hospitals; group practice; supplementary insurance; demand response to nonlinear price schedules (e.g., a deductible); the geographic distribution of physicians; and the theory of insurance. At an empirical level I have focused many of my energies on estimating demand functions for medical-care services, especially price or insurance elasticities. I spent nearly two decades designing and analysing the data from a social experiment in health-care financing. Most families were randomised to insurance plans that varied the co-insurance rate: some were randomly assigned to a health maintenance organisation. Demand was about 50 per cent higher with no cost sharing relative

to a large deductible, with little change in the health of the average person. The HMO reduced use by about 25 per cent, also with little change in the health of the average person. No evidence of selection was found at this HMO. I have also contributed to the analysis of adjusting insurance payments or premiums for the expected cost of the person and have concluded that this is best done by a two (or more) part pricing scheme involving an element of fee-for-service. Additionally I have shown that standard location theory applies to how physicians locate, whereas certain government policies presume it does not. I have argued that economists concerned with potential welfare losses from medical spending should devote more attention to the steady-state increase in costs. I have, with others, calculated the external costs of smoking and alcohol consumption and have shown how instrumental variables can be used to evaluate medical technology. I have also been concerned with improving medical price index measures.

NEWMAN, Andrew F. n.e.

NG, Serena

Born year n.e., Hong Kong.

Current Post Prof., Johns Hopkins Univ., Baltimore, MD, USA, 2003–.

Past Posts Asst Prof., Univ. Montreal, 1993–96; Assoc. Prof., Boston Coll., 1996–2001; Assoc. Prof., Johns Hopkins Univ., 2001–03.

Degrees BA, MA Univ. Western Ontario, 1981, 1982; MA, PhD Princeton Univ., 1992, 1993.

Offices and Honours Princeton Fellowship, 1990; SSHRCC Dissertation Fellowship, 1991; Bradley Fellowship, 1992,

Editorial Duties Assoc. Ed., *JBES*,

1998–, *J Fin E*, 2001–; Ed., *Macroecon. Dynamics*, 2003–.

Principal Fields of Interest C5 Econometric Modeling; E3 Prices, Business Fluctuations, and Cycles; F3 International Finance.

Publications Articles: 1. ‘Testing for unit roots in flow data sampled at different frequencies’, *Econ. Letters*, 47, 1995; 2. ‘Testing for homogeneity in demand systems when the regressors are non-stationary’, *JAE*, 10, 1995; 3. ‘Unit root tests in ARMA models with data dependent methods for the truncation lag’ (with P. Perron), *JASA*, 429, 1995; 4. ‘The exact error of the spectral density at the origin’ (with P. Perron), *J. Time Series Analysis*, 17, 1996; 5. ‘Looking for evidence of speculative stockholding in commodity markets’, *JEDC*, 20, 1996; 6. ‘The risky spread, investment, and monetary policy transmission: evidence on the role of asymmetric information’ (with H. Schaller), *REStat*, 78, 1996; 7. ‘Useful modifications to unit root tests with dependent errors and their local asymptotic properties’ (with P. Perron), *REStud*, 63, 1996; 8. ‘Estimation and inference in nearly unbalanced nearly cointegrated systems’ (with P. Perron), *J Em*, 79, 1997; 9. ‘Excess sensitivity and asymmetries in consumption’ (with A. Lusardi, R. Garcia), *JMCB*, 29, 1997; 10. ‘Parametric and non-parametric approaches to price and tax policy reform’ (with A. Deaton), *JASA*, 93, 1998; 11. ‘A semi-parametric factor model for interest rates and spreads’ (with E. Ghysels), *REStat*, 80, 1998; 12. ‘Properties of the autoregressive spectral density estimator at frequency zero in ARIMA processes’ (with P. Perron), *ET*, 14, 1998; 13. ‘Testing for ARCH in the presence of a possibly misspecified mean’ (with R.L. Lumsdaine), *J Em*, 93, 1999; 14. ‘Estimating the rational expectations model of speculative storage: a Monte Carlo comparison of three simulation estimators’

(with A. Michaelides), *J Em*, 96, 2000; 15. ‘A systematic framework for analyzing the dynamic effects of permanent and transitory shocks’ (with J. Gonzalo), *JEDC*, 25, 2001; 16. ‘A test for conditional symmetry in time series models’ (with J. Bai), *J Em*, 103, 2001; 17. ‘Lag length selection and the construction of unit root tests with good size and power’ (with P. Perron), *Em*, 69, 2001; 18. ‘Determining the number of factors in approximate factor models’ (with J. Bai), *Em*, 70, 2002; 19. ‘PPP may not hold after all: a further investigation’ (with P. Perron), *Annals Econ. and Fin.*, 3, 2002; 20. ‘Can sticky prices account for the variations and persistence in real exchange rates?’, *JIMF*, forthcoming.

Principal Contributions My work has focussed on the development of econometric methods that improve our understanding and facilitate the use of time-series data. The research has resulted in new statistical tools that are of immediate use to practitioners. My contributions include the development of (1) criteria for selecting the lag length of truncated autoregressions, (2) unit root tests that have much improved size, and (3) criteria for determining the number of common factors in large dimensional panels. I have also conducted empirical analysis on a wide range of issues. Some are difficult to analyze because of the intrinsic characteristics of the data. Others are given a fresh look to take advantage of new advances in estimation methods. The development of numerical methods with an emphasis on practical use will continue to be the theme of my research.

NG, Victor K. n.e.

NICKELL, Stephen John

Born 1944, London, UK.

Current Post Prof. Econ., LSE, London, UK, 1998–.

Past Posts Sch. Teacher, Hendon County Sch., London, 1965–68; Lect. Econ., Reader Econ., Prof. Econ., LSE, 1970–77, 1977–79, 1979–84; Prof. Econ., Oxford Univ., 1984–98.

Degrees BA (Maths) Cambridge Univ., 1965; MSc (Math. Econ. and Em.) LSE, 1970.

Offices and Honours Fell., Em Soc, 1980, BA, 1993; Council, RES, Em Soc, 1984–94, 1987–93; Chairman, ESRC Res., Grants Bd, 1990–94; Hon. Mem., AEA, 1997; Bank of England Monetary Pol. Comm., 2000–03; Pres., RES, 2001–04.

Editorial Duties Ed., *REStud*, 1975–78, *OBES*, 1984–98.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J2 Time Allocation; Work Behavior; Employment Determination and Creation; J3 Wages, Compensation, and Labor Costs.

Publications *Books*: 1. *The Investment Decisions of Firms*, Cambridge Economic Handbooks series (CUP, 1978); 2. *Unemployment: Macroeconomic Performance and the Labour Market* (with R. Jackman, R. Layard), (OUP, 1991); 3. *The Performance of Companies* (Blackwell, 1995).

Articles: 1. ‘On the role of expectations in the pure theory of investment’, *REStud*, 41, Jan. 1974; 2. ‘The effect of unemployment and related benefits on the duration of unemployment’, *EJ*, 89, March 1979; 3. ‘Estimating the probability of leaving unemployment’, *Em*, 77, Sept. 1979; 4. ‘Biases in dynamic models with fixed effects’, *Em*, 79, Nov. 1981; 5. ‘The determinants of equilibrium unemployment in Britain’, *EJ*, 92, Sept. 1982; 6. ‘Unemployment in Britain’ (with R. Layard), *Ec*, special issue on ‘Unemploy-

ment’, 53, Aug. 1986; 7. ‘The Thatcher miracle?’ (with R. Layard), *AER*, 79, May 1989, trans., German in *Wirtschaft und Gesellschaft*, 15, 1989; 8. ‘Insider forces and wage determination’ (with S. Wadhvani), *EJ*, 100, June 1990; 9. ‘Competition and corporate performance’, *JPE*, 104, Aug. 1996; 10. ‘Unemployment and labor market rigidities: Europe versus North America’, *JEP*, 11, Summer 1997; 11. ‘A picture of job insecurity facing British men’ (with P. Jones, G. Quintini), *EJ*, 112, Jan. 2002.

Principal Contributions (i) Formal analysis of the role of expectations about the future in the determination of investment. (ii) Theoretical and empirical analysis of employment protection. (iii) One of the first to analyse both hazard models and dynamic models using panel data. (iv) Theoretical and empirical analysis of unemployment. Helped lay the foundations for what is the generally accepted way of thinking about the subject. (v) Empirical analysis of the importance of product market competition and other external factors in determining productivity growth within companies.

NIJKAMP, Peter

Born 1946, location n.e.

Current Post Prof. Regional and Urban Econ. and Econ. Geography, Free Univ., Amsterdam, The Netherlands, 1975–.

Past Posts n.e.

Degrees BA, PhD (Em., *cl*) Erasmus Univ., 1970, 1972.

Offices and Honours Pres., Europ. Regional Sc. Assoc., 1979–89, Regional Sc. Asssoc. Intl, 1990–92; Founder and Chairman, Network on Europ. Communications and Transport Activity Res., 1987–; Chairman, Res. Sch. TRAI, Delft Univ. Tech. and Erasmus Univ.; Advisor, several Dutch

ministries, regional and local policy councils, employers' orgs, private business firms, Commission of the European Union (EU), OECD, Europ. Conf. Ministers in Transport (ECMT), Asian Devlp. Bank (ADB), European Roundtable of Industrialists, ICOMOS, World Bank; Chairman, Dutch Social Sc. Council; Bd Mem., Vice Pres., Royal Dutch Acad.; Dr (*hc*), Vrije Univ., Brussels; Fell., Royal Dutch Acad. Sc., World Acad. Arts and Sc., Royal Belgian Acad. Sc. and Arts; Spinoza Award, 1996; Pres., Netherlands Res. Council (NOW), 2002.

Editorial Duties n.e.

Principal Fields of Interest n.e.

Publications n.e.

Principal Contributions My main research interests cover plan evaluation, multicriteria analysis, regional and urban planning, transport systems analysis, mathematical modelling of spatial systems, technological innovation, and environmental and resource management. In my long research career I have focused my research in particular on quantitative methods for policy analysis, as well as on behavioural analysis of economic agents. I have a broad expertise in the area of public policy, services planning, infrastructure management and environmental protection. In all these fields I have published many books (monographs and edited volumes) and numerous articles, in both high-ranking scientific journals and popular magazines.

NITZAN, Shmuel Israel

Born 1948, Jerusalem, Israel.

Current Posts Cons., Open Univ., Tel Aviv, Israel, 1980–; Prof. Econ., Bar-Ilan Univ., Ramat Gan, Israel, 1984–.

Past Posts Vis. Asst Prof. Econ., Virginia Polytech. Inst., Blacksburg, VA, 1975–76, Boston Univ., 1977; Res. Fell.

Econ., Harvard Univ., 1977; Lect. Econ., Hebrew Univ., Jerusalem, 1978–83; Vis. Assoc. Prof. Econ., Univ. Toronto, 1981–82; Vis. Prof. Econ., Univ. Florida, 1987–88.

Degrees BA, MA, PhD Hebrew Univ., 1971, 1972, 1976.

Offices and Honours Council, Israeli Econ. Assoc., 1990–93; Acad. Council, Open Univ., 1992–97, 2002–.

Editorial Duties Ed., *EJPE*, 1994–98.

Principal Field of Interest D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *Collective Decision Making: An Economic Outlook* (with J. Paroush), (CUP, 1985); 2. *Price Theory* (with M. Yaari, G. Amiash), (Open Univ., 1996).

Articles: 1. 'Linear and lexicographic orders, majority rule and equilibrium', *IER*, 17, Feb. 1976; 2. 'Revenue sharing in multi-person public choice models', *QJE*, 91, May 1977; 3. 'The Borda rule and Pareto stability: a comment' (with D. Farkas), *Em*, 47, Sept. 1979; 4. 'Investment in human capital and social self protection under uncertainty' (with J. Paroush), *IER*, 21, Oct. 1980; 5. 'Electoral outcomes with probabilistic voting and Nash social welfare maxima' (with P. Coughlin), *J Pub E*, 15, 1981; 6. 'Directional and local electoral equilibria with probabilistic voting' (with P. Coughlin), *JET*, 24, April 1981; 7. 'Optimal decision rules in uncertain dichotomous choice situations' (with J. Paroush), *IER*, 23, June 1982; 8. 'Optimal contracts for research personnel, research employment and the establishment of rival enterprises' (with A. Pakes), *J Lab E*, 1, Oct. 1983; 9. 'Median based extensions of an ordering over a set to the power set: an axiomatic characterization' (with P. Pattanaik), *JET*, 34, Dec. 1984; 10. 'Some general results on the metric rationalization for social decision rules' (with E. Lehrer), *JET*, 37, Oct. 1985; 11. 'More on the preservation of

preference proximity and anonymous social choice', *QJE*, 104, Feb. 1989; 12. 'Private provision of a discrete public good with uncertain cost' (with R. Romano), *J Pub E*, 42, 1990; 13. 'Dynamic voluntary provision of public goods' (with C. Fershtman), *Europ ER*, 35, 1991; 14. 'Collective rent dissipation', *EJ*, 101, Nov. 1991; 15. 'The optimal decision rule for fixed size committees in dichotomous choice situations: the general result' (with R. Ben-Yashar), *IER*, 38, Feb. 1997; 16. 'Strategic restraint in contests' (with G. Epstein), *Europ ER*, forthcoming 2002; 17. 'Ameliorating majority decisiveness through expression of preference intensity' (with E. Baharad), *Amer. Polit. Sc. Rev.*, 96, Dec. 2002; 18. 'The Borda rule, Condorcet consistency and Condorcet stability' (with E. Baharad), *ET*, 22, March 2003.

Principal Contributions My principal contributions are to the following fields. *Collective decision making under uncertainty*: The work I did with J. Paroush resulted in the identification of the optimal decision rules in various uncertain dichotomous choice situations. Our basic results in this field proved to have numerous economic, political, organizational and legal applications. *Political economy*: The joint work with P. Coughlin clarified under what circumstances electoral outcomes with probabilistic voting maximize Nash's social welfare function. More recently, G. Epstein and I have contributed to the positive analysis of public-policy determination by using a strategic game that takes into account the agenda setters (the bureaucrats), in addition to the politicians and the interest groups. This analysis clarifies under what conditions lobbying is compromise enhancing. It sheds new light on monopoly price regulation and on the determination of minimum wage and immigration quotas in different political-economic environments. *Social choice*: In this

area my main contributions are the metric rationalization of scoring rules, the median-based extension of preferences over elements in an opportunity set to preferences over opportunity sets and a resolution of the Paretian-liberal paradox which is based on exchange of rights. *Public economics*: I have contributed to the analysis of voluntary provision of public goods by clarifying the effect of multi-period considerations, binary participation, cost uncertainty and price uncertainty on the severity of the free-riding problem. *Contest theory*: The main contribution is the analysis of rent-seeking games that allow public-good rents and collective (group) rent seeking. *Voting theory*: My principal contribution is the comparative analysis of the vulnerability of voting rules to strategic manipulation and to majority decisiveness (tyranny). My recent work with E. Baharad clarifies how scoring rules can ameliorate majority tyranny. It also exposes the special features of the inverse plurality rule, in particular, in implementing the majority principle.

NORDHAUS, William D.

Born 1941, Albuquerque, NM, USA.

Current Post Sterling Prof. Econ., Yale Univ., New Haven, CT, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Provost, Vice-Pres. Fin. and Admin., Yale Univ., 1967–70, 1970–73, 1973–79, 1986–88, 1992–93; Mem., US President's Council Econ. Advisers, 1977–79, 1986–88, 1992–93.

Degrees Certificat, Inst. d'Études Polit., Paris, 1962; BA Yale Univ., 1963; PhD MIT, 1967.

Offices and Honours Fell., Em Soc, AAAS; Exec Comm., AEA, 1972–82; Sr Assoc., Brookings Panel on Econ. Activity, 1973–; Res. Assoc., NBER, 1979–.

Editorial Duties Assoc. Ed., *Energy*

Econ., 1979–85, *J. Pol. Modeling*, 1980–, *AER*, 1983–86, *J. Conflict Resolution*, 1990–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; Q4 Energy; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Invention, Growth and Welfare: A Theoretical Treatment of Technological Change* (MIT Press, 1969); 2. *Industrial Pricing in the United Kingdom* (with W. Godley, K. Coutts), (CUP, 1978); 3. *International Studies in the Demand for Energy* (ed. with others), (N-H, 1978); 4. *The Efficient Use of Energy Resources* (YUP, 1979); 5. *Reforming Federal Regulation* (with R. Litan), (YUP, 1982); 6. *Economics* (with P. Samuelson), (McGraw-Hill, 1985, 1989, 1992, 1995); 7. *Towards a New Iron Age?* (with R. Gordon, T. Koopmans, B. Skinner), (HUP, 1987); 8. *Managing the Global Commons* (MIT Press, 1994); 9. *Warming the World* (with J. Boyer), (MIT Press, 2000); 10. *Nature's Numbers: Extending the National Accounts to Include the Environment* (ed. with E. Kokkelenberg), (Natl Acad. Press, 2000).

Articles: 1. 'Is growth obsolete?' (with J. Tobin), in *Economic Growth* (NBER, 1972), and in *Income and Wealth* (NBER, 1973); 2. 'Some sceptical thoughts on the theory of induced innovations', *QJE*, 87, May 1973; 3. 'World dynamics: measurement without data', *EJ*, 83, Dec. 1973; 4. 'Resources as a constraint on growth', *AER*, 64, May 1974; 5. 'The political business cycle', *RESud*, 42, April 1975; 6. 'Thinking about carbon dioxide: theoretical and empirical aspects of optimal control strategies', *US Dept Energy*, 1980; 7. 'To slow or not to slow: the economies of the greenhouse effect', *EJ*, 101, July 1993; 8. 'Efficient policies to slow greenhouse warming', *Sc.*, Nov. 1993; 9. 'The impact of global warming on agriculture: a

Ricardian approach' (with R. Mendelsohn, D.G. Shaw), *AER*, 84, Sept. 1994; 10. 'The health of nations: the contribution of improved health to living standards', in K. Murphy, R. Topel (eds), *The Economic Value of Medical Research* (UCP, 2002).

Principal Contributions Major research has been in the area of macroeconomics, global warming, energy, resources, and long-term economic growth. Questions addressed include: the extent and sources of the productivity slowdown, the extent to which conventional measures of output adequately measure true changes in living standards, the drag on economic growth from depletion of natural resources, the potential threats to future economic growth from global environmental problems, and modeling the economics of global warming.

NORTH, Douglass Cecil

Born 1920, Cambridge, MA, USA.

Current Post Prof. Econ., Washington Univ., St. Louis, MO, USA, 1983–.

Past Posts Grad. Teaching Fell., Univ. California, Berkeley, 1946–49; Prof. Econ., Dir., Chairman, Inst. Econ. Res., Univ. Washington, 1950–61, 1961–66, 1967–69; Peterkin Prof. Polit Econ., Rice Univ., 1979; Pitt Prof., Univ. Cambridge, 1981–82.

Degrees BA, PhD Univ. California, Berkeley, 1942, 1952.

Offices and Honours Bd Dirs, NBER, 1967–87; Pres., EHA, 1972–73; Vis. Assoc. Dir., Centre de Recherche Historique, École Pratique des Hautes Études, Paris, 1973; Pres., WEA, 1975–76; Nobel Prize Econ., 1993.

Editorial Duties Co-Ed., *JEH*, 1960–66.

Principal Fields of Interest N0 Economic History: General; O1 Economic Development.

Publications Books: 1. *The Economic Growth of the United States, 1790–1860* (Prentice-Hall, 1961); 2. *Growth and Welfare in the American Past: A New Economic History* (Prentice-Hall, 1966); 3. *A Documentary History of American Economic Growth, 1607–1860* (ed. with R.P. Thomas), (Harper & Row, 1968); 4. *The Economics of Public Issues* (with R.L. Miller), (Harper & Row, 1971); 5. *Institutional Change and American Economic Growth* (with L.E. Davis), (CUP, 1971); 6. *The Rise of the Western World: A New Economic History* (with R.P. Thomas), (CUP, 1973); 7. *Structure and Change in Economic History* (W.W. Norton, 1981); 8. *Institutions, Institutional Change and Economic Performance* (CUP, 1990).

Articles: 1. 'Economic history', *IESS*, 4, 1968; 2. 'An economic theory of the growth of the Western world' (with R.P. Thomas), *EHR*, 23, April 1970; 3. 'The first economic revolution' (with R.P. Thomas), *EHR*, 30, May 1977; 4. 'Structure and performance: the task of economic history', *JEL*, 16, Sept. 1978; 5. 'A framework for analyzing the state in economic history', *Exploring Econ. Hist.*, 16, July 1979; 6. 'American government expenditures: an historical perspective' (with J.

Wallis), *AER*, 72, May 1982; 7. 'Sources of productivity change in ocean shipping, 1600–1850', *JPE*, 76, Oct. 1983; 8. 'Government and the costs of exchange in history', *JEH*, 44, June 1984; 9. 'A transaction cost theory of politics', *J. Theoretical Polit.*, 2, 1990; 10. 'Economic performances through time', *AER*, 84, June 1994.

Principal Contributions Discussion of the increase in transactions costs in the US (resources devoted to political and economic organisation) reflected in the growth of government and the parallel institutional and market responses. Development of a model of the growth of the American economy from 1790 to 1860; discussion of the usefulness of applying simple neoclassical theory to problems in American economic history; and development of a general model of institutional change, and its application to the economic history of the Western world. Empirical contributions have included development of the balance of payments from 1790 to 1860; the export/import price indices of the US from 1790 to 1860, and an index of the productivity of ocean shipping from 1600 to 1914. Development of a theory of institutions and institutional change.

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O'FARRELL, Patrick N. n.e.

O'HARA, Maureen

Born 1953, Philadelphia, PA, USA.

Current Posts Robert W. Purcell Prof. Mgmt and Prof. Fin., Johnson Grad. Sch. Mgmt, Cornell Univ., Ithaca, NY, USA, 1979–.

Past Posts Vis. Assoc. Prof. Fin., UCLA, 1985; Overseas Fell., Cambridge Univ., 1993; Vis. Prof. Fin., London Bus. Sch., 1994, Univ. NSW, 1996, Hong Kong Univ. Sc. and Tech., 2000.

Degrees BS Univ. Illinois, 1975; MA, PhD Northwestern Univ., 1976, 1979.

Offices and Honours Young Scholar Recognition Award, Amer. Assoc. Univ. Women, 1986; Rotary Foundation Fellowship, 1973; Emens Disting. Prof., Ball State Univ., 1991; Pres., Western Fin. Assoc., 1997, AFA, 2002; Fell., Dir., FMA, 2000, 2001.

Editorial Duties Co-Ed., *J. Fin. Intermediation*, 1993–98; Exec. Ed., *Rev. Fin. Stud.*, 1999–.

Principal Fields of Interest G0 Financial Economics: General; G2 Financial Institutions and Services; K2 Regulation and Business Law.

Publications *Book*: 1. *Market Microstructure Theory* (Blackwell, 1995).

Articles: 1. 'The postal savings system in the depression' (with D. Easley), *JEH*, 39, Sept. 1979; 2. 'A dynamic theory of the banking firm', *J Fin*, 38, March 1983; 3. 'The economic role of the non-profit firm' (with D. Easley), *Bell JE*, 14, Autumn 1983; 4. 'The microeconomics of market making' (with G. Oldfield), *JFQA*, 21, Dec. 1986; 5. 'Price, trade size, and information in securities markets' (with D. Easley), *J Fin E*, 19, 1987; 6. 'Time

and the process of security price adjustment' (with D. Easley), *J Fin*, 47, 1992; 7. 'Market statistics and technical analysis: the role of volume' (with L. Blume, D. Easley), *J Fin*, 49, 1994; 8. 'Do open market operations matter? Theory and evidence from the Second Bank of the United States' (with R. Highfield, B. Smith), *JEDC*, 20, 1996; 9. 'Liquidity, information and infrequently traded stocks' (with D. Easley, N. Kiefer, J. Paperman), *J Fin*, 51, 1996; 10. 'One day in the life of a very common stock' (with D. Easley, N. Kiefer), *Rev. Fin. Stud.*, 10, 1997; 11. 'The law and economics of best execution' (with J. Macey), *J. Fin. Intermediation*, 6, 1997; 12. 'Option volume and equity prices: evidence on where informed traders trade' (with D. Easley, P.S. Srinivas), *J Fin*, 53, 1998; 13. 'Does order preferring matter?' (with R. Bloomfield), *J Fin E*, 50, 1998; 14. 'Market transparency: who wins and who loses?' (with R. Bloomfield), *Rev. Fin. Stud.*, 12, 1999; 15. 'The regulation of exchanges and alternative trading systems' (with J. Macey), *J. Legal Stud.*, 28, 1999; 16. 'When the underwriter is the market maker: an examination of trading in the IPO aftermarket' (with K. Ellis, R. Michaely), *J Fin*, 55, 2000; 17. 'Is information risk a determinant of asset prices?' (with D. Easley, S. Hvidkjaer), *J Fin*, 57, 2002.

Principal Contributions My research has largely investigated issues in the operation, design and behavior of securities markets. This area, known as market microstructure, investigates how the structure of markets affects the price-setting process. My research here is relevant for understanding the properties of asset prices, the stability and performance of trading systems, and the optimal regulation of exchanges and markets. My work with David Easley investigates the behavior of stock exchange specialists and dealers, with a particular focus on the

learning problem confronting price-setting and other agents in the economy. Our recent work links the information risk of a stock to its required return. My other research in microstructure has looked to understanding the link between underwriting and market making, the role of transparency and market practices such as order preferencing in affecting market behavior, and issues surrounding the legal requirement of best execution.

O'NEILL, June E. n.e.

OATES, Wallace Eugene

Born 1937, Los Angeles, CA, USA.

Current Post Prof. Econ., Univ. Maryland, College Park, MD, USA, 1979–.

Past Posts Prof. Econ., Princeton Univ., 1965–79; Vis. Fell., Linacre Coll., Oxford, 1971, LSE, 1974–75.

Degrees MA, PhD Stanford Univ., 1959, 1965.

Offices and Honours Guggenheim Foundation Fell., 1974–75; Fulbright-Hays Res. Scholar, 1974–75; Pres., EEA, 1989–90, SEA, 1993–94; Dr Econ. (*hc*), St Gallen Univ., 2000; Holland Medal, NTA, 2002.

Editorial Duties Ed. Bds, *NTJ*, 1972–85, *Public Fin. Q.*, 1973–; Ed., *New Horizons in Environmental Economics* series (Edward Elgar), 1992–, *Economics of Fiscal Federalism and State–Local Finance* series (Edward Elgar), 1995–.

Principal Fields of Interest H0 Public Economics: General; H7 State and Local Government; Intergovernmental Relations; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Fiscal Federalism* (Harcourt Brace Jovanovich, 1972, Gregg Revivals, 1993); 2. *An Introduction to Econometrics* (with H. Kelejian),

(Harper & Row, 1974, 1981, 1989); 3. *The Theory of Environmental Policy* (with W. Baumol), (Prentice-Hall, 1975, CUP, 1988); 4. *Economics, Environmental Policy, and the Quality of Life* (with W. Baumol), (Prentice-Hall, 1979, Gregg Revivals, 1993); 5. *Studies in Fiscal Federalism* (Edward Elgar, 1991); 6. *The Economics of the Environment* (ed.), (Edward Elgar, 1992); 7. *The Economics of Environmental Regulation* (Edward Elgar, 1996); 8. *Property Taxation and Local Government Finance: Essays in Honor of C. Lowell Harriss* (ed.), (Lincoln Inst. Land Pol., 2001).

Articles: 1. 'The theory of public finance in a federal system', *CJ*, 1, Feb. 1968; 2. 'The rising cost of local public services: some evidence and reflections' (with D. Bradford, R. Malt), *NTJ*, 22, June 1969, repr. in P. Beaton (ed.), *Municipal Needs, Services, and Financing* (Rutgers Univ. Press, 1974); 3. 'The effect of property taxes and local public spending on property values: an empirical study of tax capitalisation and the Tiebout hypothesis', *JPE*, 77, Nov.–Dec. 1969; 4. 'The use of standards and prices for protection of the environment' (with W. Baumol), *Swed JE*, 73, March, 1971, repr. in P. Bohm, A. Kneese (eds), *The Economics of the Environment* (St. Martin's Press, 1972); 5. 'Towards a predictive theory of intergovernmental grants' (with D. Bradford), *AER*, 61, May, 1971, repr. in B. Grewal *et al.* (eds), *The Economics of Federalism* (ANU Press, 1980); 6. 'The analysis of revenue sharing in a new approach to collective fiscal decisions' (with D. Bradford), *QJE*, 85, Aug. 1971, repr. in A. Gimenez (ed.), *Financiacion de las Autonomias* (H. Blume Edns, 1979); 7. 'Searching for Leviathan: an empirical study', *AER*, 75, Sept. 1985; 8. 'Economic competition among jurisdictions: efficiency-enhancing or distortion-inducing?' (with R. Schwab), *J Pub E*, 35, April 1988; 9. 'The net ben-

efits of incentive-based regulation: a case study of environmental standard setting' (with P. Portney, A. McGartland), *AER*, 79, June 1989; 10. 'Environmental economics: a survey' (with M. Cropper), *JEL*, 30, June 1992; 11. 'An essay on fiscal federalism', *JEL*, 37, Sept. 1999; 12. 'Fiscal competition and European Union: contrasting perspectives', *RSUE*, 31, April 2001.

Principal Contributions My early work in fiscal federalism attempted to provide a systematic and comprehensive view of the vertical structure of the public sector. *Fiscal Federalism* explores the basic issues of the assignment of functions to different levels of government, the use of fiscal instruments including intergovernmental grants to achieve public-sector objectives, and the empirical testing of a series of hypotheses concerning federal fiscal structure. My subsequent work in this area has examined various issues in state and local finance: theoretical and empirical studies of local government behaviour, studies of state–local tax structure, and the analysis of interjurisdictional competition. In the field of environmental economics, I have devoted much of my research effort to the design and implementation of economic incentives for protection of the environment. This work includes the theoretical analysis of externalities and more policy-oriented studies of systems of effluent fees and of marketable pollution rights for environmental management. I have lately extended this effort into open-economy environmental economics, exploring the relationships between international trade and the environment and to the structure of environmental decision-making in a federal system.

OBSTFELD, Maurice

Born 1952, New York City, USA.

Current Post Class of 1958 Prof. Econ., Univ. California, Berkeley, CA, USA, 1995–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Columbia Univ., 1979–81, 1981–85, 1985–86; Prof. Econ., Univ. Pennsylvania, 1986–89; Vis. Prof. Econ., Harvard Univ., 1989–91; Prof. Econ., Chair Econ. Dept, Univ. California, Berkeley, 1989–95, 1998–2001.

Degrees BA Univ. Pennsylvania, 1973; MA Cambridge Univ., 1975; PhD MIT, 1979.

Offices and Honours Res. Assoc., NBER, Cambridge, MA, 1982–; Res. Fell., CEPR, London, 1989–; Alfred P. Sloan Res. Fellowship, 1984; Olin Vis. Scholar, NBER, 1988; Nominating Comm., Honors and Awards Comm., AEA, 1995, 2000–; Fell., Em Soc, 1996; Frank D. Graham Memorial Lecture, Princeton Univ., 1998; Mundell–Fleming Lecture, IMF, 2000.

Editorial Duties Ed. Bds, *AER*, 1987–90, *JME*, 1983–95, *J Int E*, 1985–, *IER*, 1986–, *Rev. Intl Econ.*, 1992–; Advisory Bd, *JME*, 1995–.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance; El General Aggregative Models.

Publications *Books*: 1. *Financial Policies and the World Capital Market: The Problem of Latin American Countries* (ed. with P.A. Armella, R. Dornbusch), (UCP, 1983); 2. *International Economics: Theory and Policy* (with P.R. Krugman), (Scott, Foresman/Little, Brown, 1988, Harper Collins, 1991, 1994, Addison-Wesley, 1997, 2000, 2003; trans., Japanese, 1990, Italian, 1991, French, 1992, Polish, 1993, Chinese, 1994, Spanish, 1995, Russian, 1997); 3. *Foundations of International Macroeconomics* (with K. Rogoff), (MIT Press, 1996); 4. *Money, Capital Mobility,*

and Trade: Essays in Honor of Robert Mundell (ed. with G.A. Calvo, R. Dornbusch), (MIT Press, 2001); 5. *Global Capital Markets: Integration, Crisis and Growth* (with A.M. Taylor), (CUP, 2003).

Articles: 1. 'Aggregate spending and the terms of trade: is there a Laursen–Metzler effect?', *QJE*, 97, May 1982; 2. 'Speculative hyperinflations in maximizing models: can we rule them out?' (with K. Rogoff), *JPE*, 91, Aug. 1983, repr. in M. Parkin (ed.), *The Theory of Inflation* (Edward Elgar, 1994); 3. 'International interest rate and price level linkages under flexible exchange rates: a review of recent evidence' (with R.E. Cumby), in J.F.O. Bilson, R.C. Marston (eds), *Exchange Rate Theory and Practice* (UCP, 1984); 4. 'Floating exchange rates: experience and prospects', *BPEA*, 2, 1985; 5. 'Rational and self-fulfilling balance-of-payments crises', *AER*, 76, March 1986; 6. 'Capital mobility in the world economy: theory and measurement', *C-RPP*, 24, suppl. to *JME*, Spring 1986; 7. 'Risk-taking, global diversification, and growth', *AER*, 28, Dec. 1994; 8. 'The logic of currency crises', *Cahiers Écon. et Monétaires*, 84, 1994, repr. in B. Eichengreen, J. Frieden, J. von Hagen (eds), *Monetary and Fiscal Policy in an Integrated Europe* (S-V, 1995), and in L. Sarno, M.P. Taylor (eds), *New Developments in Exchange Rate Economics* (Edward Elgar, 2002); 9. 'Exchange rate dynamics redux' (with K. Rogoff), *JPE*, 103, June 1995, repr. in L. Sarno, M.P. Taylor (eds), *New Developments in Exchange Rate Economics* (Edward Elgar, 2002); 10. 'International currency experience: new lessons and lessons relearned', *BPEA*, 1, 1995, 25th anniversary issue; 11. 'The mirage of fixed exchange rates' (with K. Rogoff), *JEP*, 9, Fall 1995; 12. 'Nonlinear aspects of goods-market arbitrage and adjustment: Heckscher's commodity points revisited' (with A.M.

Taylor), *J. Japanese and Intl Econ.*, 11, Dec. 1997; 13. 'New directions for stochastic open economy models' (with K. Rogoff), *J Int E*, 50, Feb. 2000, repr. in L. Sarno, M.P. Taylor (eds), *New Developments in Exchange Rate Economics* (Edward Elgar, 2002); 14. 'The six major puzzles in international macroeconomics: is there a common cause?' (with K. Rogoff), *NBER Macroecon. Annual*, 2000; 15. 'International macroeconomics: beyond the Mundell–Fleming model', *IMF Staff Papers*, special issue, 47, 2001.

Principal Contributions My earliest research focused on portfolio models the balance of payments and the effects of sterilization policies, including foreign exchange intervention. I soon became dissatisfied with prevalent aggregative *ad hoc* approaches to open-economy macroeconomic, and turned (as did several other researchers around the same time) to models of international adjustment based on individual dynamic optimization. This 'intertemporal approach' has become standard throughout international economics, and recently it has been applied under sluggish nominal price adjustment, as in my recent joint work with Kenneth Rogoff on the 'new open economy macroeconomics'. The intertemporal approach also helps one to assess the degree and effects of international financial integration. Much of my work after 1985 focused on international co-movements in consumption, saving, and investment as indicators of gains from trade in various types of financial assets. That work proposed quantifying empirically the gains from asset trade, the topic of a growing literature. In the mid-1980s my work began to focus on the insight that speculative attacks on exchange rates could be self-fulfilling. Inspired by events as well as shortcomings in earlier theories, I developed this idea in the context of strategic interactions between maximizing gov-

ernments and market actors. Subsequent crises in emerging markets amply confirmed my approach. As a result, the hypothesis I first offered in a 1985 Brookings paper, that fixed exchange rates are inherently unstable under capital mobility, now is part of the conventional wisdom. The comprehensive treatise on international macroeconomics that Rogoff and I have written attempts to bring the progress of the last couple of decades together within a unified framework, one that makes plain both successes achieved and questions that still are unanswered.

OFEK, Eli n.e.

OLIVER, Richard L. n.e.

ONEAL, John Robert

Born 1946, Fort Sill, OK, USA.

Current Post Prof. Polit. Sc., Univ. Alabama, Tuscaloosa, AL, USA, 1988–.

Past Posts Asst Prof., Dept Polit. Sc., Vanderbilt Univ., 1979–86; Vis. Asst Prof., Dept Polit. Sc., McGill Univ., 1987–88; Vis. Assoc. Prof., Dept Polit. Sc., Yale Univ., 1996–97.

Degrees BS (Eng.) US Military Acad., 1968; AM (Polit. Sc.), PhD (Polit. Sc.) Stanford Univ., 1970, 1979.

Offices and Honours Disting. Grad., US Military Acad., 1968; Edgar S. Furniss, Jr Award, Mershon Center, Ohio State Univ., 1979; Natl Fell., Hoover Inst., Stanford Univ., 1989–90; Fell. Foreign Pol. Stud., SSRC, 1991–92; Fulbright Scholarship for lecturing and res. in Norway, 2000; Fell., Norwegian Nobel Inst., 2000.

Editorial Duties Ed. Bd, *Polit. Res. Q.*, 1994–97, *J. Conflict Resolution*, 2002–.

Principal Fields of Interest N4 Government, War, Law, and Regulation; O1 Economic Development.

Publications *Books*: 1. *Foreign Policy Making in Times of Crisis* (Ohio State Univ. Press, 1982); 2. *Triangulating Peace: Democracy, Interdependence, and International Organizations* (with B. Russett), (W.W. Norton, 2001).

Articles: 1. ‘Hegemony, imperialism, and the profitability of foreign investments’ (with F.H. Oneal), *Intl Org.*, 42, Spring 1988; 2. ‘Measuring the material base of the East–West balance of power’, *Intl Interactions*, 15, 1989; 3. ‘The influence of domestic and international politics on the President’s use of force’ (with P. James), *J. Conflict Resolution*, 35, June 1991; 4. ‘Budgetary savings from conscription and burden sharing in NATO’, *Defence Econ.*, 3, Jan. 1992; 5. ‘The theory of collective action and NATO defense burdens: new empirical tests (with P.F. Diehl), *Western Polit. Q.*, 48, June 1994; 6. ‘The affinity of foreign investors for authoritarian regimes’, *Western Polit. Q.*, 47, Sept. 1994; 7. ‘The “rally round the flag” effect in US foreign policy crises, 1950–1985’ (with A.L. Bryan), *Polit. Behav.*, 17, Dec. 1995; 8. ‘Are the American people “pretty prudent”? Public responses to US uses of force, 1950–1988’ (with B. Lian, J. Joyner, Jr), *Intl Stud. Q.*, 40, June 1996; 9. ‘The classical liberals were right: democracy, interdependence, and conflict, 1950–1985’ (with B. Russett), *Intl Stud. Q.*, 41, June 1997; 10. ‘Cultural diversity and economic development: a cross-national study of 98 countries, 1960–1985’ (with B. Lian), *EDCC*, 45, July 1997; 11. ‘Boon or bane? Reassessing the productivity of foreign direct investment’ (with I. de Soysa), *Amer. Sociological Rev.*, 64, Oct. 1999; 12. ‘The Kantian peace: assessing the pacific benefits of democracy, interdependence, and international organizations, 1885–1992’

(with B. Russett), *World Polit.*, 52, Oct. 1999; 13. 'Clash of civilizations, or realism and liberalism *déjà vu*? (with B. Russett, M. Cox), *J. Peace Res.*, 37, Sept. 2000; 14. 'Patriotism or opinion leadership? The nature and origins of the "rally round the flag" effect' (with W.D. Baker), *J. Conflict Resolution*, 45, Oct. 2001.

Principal Contributions Recently, I have been investigating the consequences of globalization: the spread of democracy and capitalism worldwide. With Bruce Russett, I have examined the 'Kantian peace' using data for the years 1885–1992. We find that democracy, economic interdependence, and joint memberships in international organizations dramatically reduce the likelihood of interstate conflict. This augurs well for the future because the number of democracies, the level of trade and foreign investment, and the effectiveness of international organizations are apt to continue to increase. To assess the effect of the spread of capitalism, I have studied the consequences of foreign direct investment for developing countries. Contrary to much previous research, recent analyses that I have done with Indra de Soysa indicate that the presence of multinational corporations increases economic growth rates in less-developed countries. Foreign investment by multinationals also has beneficial indirect effects by spurring investment from domestic sources. Frances Oneal and I reported rates of return on British investments abroad, 1870–1913, and on US multinational corporations foreign direct investments, 1950–85, to determine whether great military power confers monopolistic advantage. Contrary to socialist theories of imperialism, there is no evidence that the capitalists of the leading state are able to earn 'superprofits'. My studies of NATO burden-sharing confirm and extend Mancur Olson's theory of collective action.

ORDOVER, Janusz A.

Born 1946, Lodz, Poland.

Current Post Prof. Econ., NYU, NY, USA, 1982–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., NYU, 1973–77, 1977–82; Vis. Assoc. Prof. Econ., Columbia Univ., 1977–78; Vis. Prof. Econ., Univ. Commerciale 'Luigi Bocconi', Milan, Italy, 1984–88; Vis. Prof. Econ. and Law, Sch. Mgmt and Org., Yale Univ., 1989–90; Dep. Asst Attorney General Econ., Antitrust Div., Dept Justice, 1991–92; Sr Cons., OECD, Paris, France, 1990–91, 1992–95.

Degree PhD Columbia Univ., 1973.

Offices and Honours Vice-Chair, Econ. Comm., Amer. Bar Assoc., 1991–93.

Principal Fields of Interest L4 Anti-trust Policy; L5 Regulation and Industrial Policy; F1 Trade.

Publications *Articles*: 1. 'Linear taxation of wealth and wages for intergenerational lifetime justice: some steady-state cases' (with E.S. Phelps), *AER*, 65, Sept. 1975; 2. 'Distributive justice and optimal taxation of wages and interest in a growing economy', *J Pub E*, 5, Jan. 1976; 3. 'Costly litigation and the tort law: single activity accidents', *J. Legal Stud.*, 7, June 1978; 4. 'An economic definition of predation: pricing and product innovation' (with R.D. Willig), *Yale Law J.*, 91, Nov. 1981; 5. 'On non-linear pricing of inputs' (with J. Panzar), *IER*, 23, Oct. 1982; 6. 'Antitrust for high technology industries: assessing research joint ventures and mergers' (with R.D. Willig), *J Law E*, 28, May 1985; 7. 'Market structure and optimal management organization' (with C. Bull), *RandJE*, 18, Winter 1987; 8. 'R&D cooperation and competition' (with M.L. Katz), *BPEA*, 1990; 9. 'Equilibrium vertical foreclosure' (with S. Salop, G. Saloner), *AER*, 80, March 1990; 10. 'Competition policy for natural mo-

nopolies in developing market economy' (with R. Pitman, P. Clyde), *Econ. Transition*, 2, Sept. 1994.

Principal Contributions Perhaps because I was brought up on Marx, Lenin, Lange and Kalecki, I understood economics to be 'political economy', which I interpreted as an engine for social betterment. Consistent with this view, I have devoted most of my research to questions of public policy with the guiding goal of placing public policy on firm analytical foundations. This motivated my research on Rawlsian justice and taxation with the primary focus on the duties that one generation has towards the subsequent generations. Professor Phelps and I have shown what these duties imply for capital accumulation as well as government debt. The next phase of my research focused on the role of imperfect and costly information in the design of microeconomic policies. This work demonstrated in a variety of realistic settings (such as externalities control, tort law, products liability law, taxation, choice of organizational structure) that policy design must be very sensitive to the costs and types of information available to economic agents, including policy-makers. More recently, I have been studying 'vertical' relations between firms in imperfectly competitive markets. This work has led to a better understanding of such fundamental concepts as refusals to deal, foreclosure, mergers, and predation, and generated challenging prescriptions for antitrust and (de)regulatory policies.

OSTERMAN, Paul n.e.

OSTERWALD-LENUM, Michael

Born 1962, Copenhagen (Søborg), Denmark.

Current Post Sr Econ., Stats Denmark, Copenhagen, Denmark, 1994–.

Past Posts Jr Res. Fell., Univ. Copenhagen, 1988–91; Vis. Scholar, Univ. California, San Diego, 1989–90; Asst Prof., Lyngby Bus. Coll., 1991–94.

Degree Master, Univ. Copenhagen, 1988.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; E0 Macroeconomics and Monetary Economics: General; G0 Financial Economics: General.

Publication Article: 1. 'A note with quantiles of the asymptotic distribution of the maximum likelihood cointegration rank test statistics', *OBES*, 54, Aug. 1992.

Principal Contributions Provision of useful tables of critical values for the Johansen maximum likelihood theory of cointegration rank testing for systems of variables integrated of order one.

OSTROM, Elinor

Born 1933, Los Angeles, CA, USA.

Current Posts Arthur F. Bentley Prof. Polit. Sc., Indiana Univ., Bloomington, IN, USA, 1991–; Co-Dir., Workshop in Polit. Theory and Pol. Analysis, Indiana Univ., 1973–, Center for Study of Insts, Pop., and Environmental Change, Indiana Univ., 1996–; Prof., Sch. Public and Environmental Affairs, Indiana Univ., 1984–.

Past Posts Employment Interviewer and Asst Employee Relations Manager, Godfrey L. Cabot, Inc., Boston, 1955–57; Personnel Analyst III, UCLA, 1957–61; Vis. Asst Prof., Asst Prof. and Grad. Advisor, Dept Govt, Indiana Univ., 1965–66, 1966–69; Assoc. Prof., Prof., Chair, Acting Chair, Dept Polit. Sc., Indiana Univ., 1969–74, 1974–91, 1980–84, 1989–90.

Degrees AB (Polit. Sc., Hons), MA (Polit. Sc.), PhD (Polit. Sc.) UCLA, 1954, 1962, 1965.

Offices and Honours Vice-Pres., Amer. Polit. Sc. Assoc. (APSA), 1975–76; Chair, APSA Program Comm., 1978; Pres., Public Choice Soc., 1982–84, Midwest Polit. Sc. Assoc., 1984–85, Intl Assoc Study of Common Property, 1990–91, APSA, 1996–97; Fell., AAAS, 1991–, Amer. Assoc. for Advancement Sc., 2001; Pol. Stud. Org. Miriam Mills Award for outstanding woman in field of pol. stud., 1996; Frank E. Seidman Disting. Award in Polit. Econ., 1997; Thomas R. Dye Service Award for outstanding service to Pol. Stud. Org., 1997; Hon. Doctorate Econ., Univ. Zurich, 1999; Johan Skytte Prize in Polit. Sc., Uppsala Univ., 1999; Aaron Wildavsky Enduring Contrib. Award, APSA, Public Pol. Section, 2000; Elected to NAS, 2001; Hon. Doctorate, Intl Inst. Social Stud., The Hague, 2002.

Editorial Duties Co-Ed., *J. Theoretical Polit.*, 1987–95.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; H4 Publicly Provided Goods; C7 Game Theory and Bargaining Theory.

Publications *Books*: 1. *Patterns of Metropolitan Policing* (with R. Parks, G. Whitaker), (Ballinger Books, 1978); 2. *Local Government in the United States* (with V. Ostrom, R. Bish), (ICS Press, 1988); 3. *Governing the Commons: The Evolution of Institutions for Collective Action* (CUP, 1990; trans., German, 1999, Korean, 1999, Spanish, 2000, Chinese, 2000, Greek, 2002); 4. *Crafting Institutions for Self-Governing Irrigation Systems* (ICS Press, 1992; trans., Spanish, 1992); 5. *Institutional Incentives and Sustainable Development: Infrastructure Policies in Perspective* (with L. Schroeder, S. Wynne), (Westview Press, 1993; trans., Chinese, 2000); 6. *Rules, Games, and Common-Pool Resources* (with R. Gardner, J. Walker), (Univ. Michigan Press, 1994); 7. *Local Commons and Glo-*

bal Interdependence: Heterogeneity and Cooperation in Two Domains (with R. Keohane), (Sage, 1995); 8. *Competition and Cooperation: Conversations with Nobelists about Economics and Political Science* (with J.E. Alt, M. Levi), (Russell Sage Foundation, 1999); 9. *People and Forests: Communities, Institutions, and Governance* (with C. Gibson, M. McKean), (MIT Press, 2000); 10. *Institutions, Ecosystems, and Sustainability* (with R. Costanza, B. Low, J. Wilson), (Lewis Publishers, 2001); 11. *The Drama of the Commons* (with T. Dietz *et al.*), (Natl Acad. Press, 2002); 12. *The Commons in the New Millennium: Challenges and Adaptations* (with N. Dolsak), (MIT Press, 2003).

Articles: 1. 'An agenda for the study of institutions', *Public Choice*, 48, 1986; 2. 'Rent dissipation and balanced deviation disequilibrium in common pool resources: experimental evidence' (with J. Walker, R. Gardner), in R. Selten (ed.), *Game Equilibrium Models II: Methods, Morals, and Markets* (S-V, 1991); 3. 'Property-rights regimes and natural resources: a conceptual analysis' (with E. Schlager), *Land Econ.*, 68, Aug. 1992; 4. 'Coping with asymmetries in the commons: self-governing irrigation systems can work' (with R. Gardner), *JEP*, 7, Fall 1993; 5. 'Incentives, rules of the game, and development', in *Proceedings of Annual World Bank Conf. on Devlp. Econ. 1995* (World Bank, 1996); 6. 'Neither markets nor states: linking transformation processes in collective action arenas' (with J. Walker), in D.C. Mueller (ed.), *Perspectives on Public Choice: A Handbook* (CUP, 1997); 7. 'Collective choice in the commons: experimental results on proposed allocation rules and votes' (with J. Walker, R. Gardner, A. Herr), *EJ*, 110, Jan. 2000; 8. 'Collective action and the evolution of social norms', *JEP*, 13, Summer 2000.

Principal Contributions My work focusses on how institutions change incentives, behavior, and outcomes within social dilemmas. My early work applied public choice and constitutional choice theory to the evolution of institutional arrangements for the governance of groundwater in southern California. In the 1970s, I explored with Roger Parks, Vincent Ostrom, and other colleagues, basic questions of the organization of governance in metropolitan areas of the United States. At that time, theorists presumed substantial economies of scale could be created by consolidating schools, police, and other human services delivered to citizens in urban areas. Fifteen years of intensive empirical research demonstrated that multiple types of services were included within the broad rubric of ‘policing’. The production and provision characteristics of the services differed. We found that metropolitan areas with polycentric organization – governance units that are large, medium, and small levels and empowered to coordinate their provision and production activities – were more efficient and equitable in their service delivery than areas served by consolidated units. Since the mid-1980s, I have explored questions related to common-pool resources with Roy Gardner, James Walker, and others. We have contributed to the theoretical understanding of how institutional rules affect the behavior of users of irrigation systems, forests, and diverse man-made as well as natural commons. Our theories are tested in experimental laboratories and in the field. Individuals facing commons dilemmas use face-to-face communication to develop and self-enforce agreements that move their joint outcomes close to optimal levels. Individuals also voluntarily sanction one another. Neither finding is predicted by noncooperative game-theoretical models of finitely repeated games. Studying how individuals develop norms

and rules to regulate (or fail to regulate) the use of resources led to the study of social capital and the need to develop a coherent theory of social capital that could be subjected to empirical test.

OSTRY, Jonathan David

Born 1962, Ottawa, Canada.

Current Post Asst Dir., Res. Dept, IMF, Washington, DC, USA, 2002–.

Past Posts Instr., Univ. Chicago, 1987–88; Asst Dir., Asia and Pacific Dept, IMF, and various other IMF positions, 1988–2002.

Degrees BA (Distinction) Queen’s Univ., Canada, 1981; BA (PPE), MA Univ. Oxford, 1983, 1988; MSc LSE, 1984; PhD Univ. Chicago, 1988.

Offices and Honours Undergrad. Medallist, Queen’s Univ., 1981; Commonwealth Scholarship, Univ. Oxford, 1981–83; Commonwealth Scholarship, LSE, 1983–84; Mackenzie King Fellowship, Univ. Chicago, 1984; SSHRCC Doctoral Fellowships, 1984–88; Univ. Chicago Doctoral Fellowships, 1984–88; Pew Fell., Dept Econ., Univ. Chicago, 1986–88.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General.

Publications *Books*: 1. *Exercises in Intertemporal Open Economy Macroeconomics* (with T. Krueger), (MIT Press, 1993, 1996); 2. *Japan’s Lost Decade: Policies for Economic Revival* (ed. with T. Callen), (IMF, 2003).

Articles: 1. ‘The balance of trade, terms of trade, and real exchange rate: an intertemporal optimizing framework’, *IMF Staff Papers*, 33, Dec. 1988; 2. ‘Tariffs and the current account: the role of initial distortions’, *CJ*, 23, May 1990; 3. ‘Anticipated protectionist policies, real exchange rates and the current account’ (with

S. Edwards), *JIMF*, 9, June 1990; 4. 'Tariffs, real exchange rates, and the trade balance in a two-country world', *Europ ER*, 35, July 1991; 5. 'Trade liberalization in developing countries: initial trade distortions and imported intermediate inputs', *IMF Staff Papers*, 38, Sept. 1991; 6. 'Macroeconomic implications of real exchange rate targeting in developing countries' (with P.J. Montiel), *IMF Staff Papers*, 38, Dec. 1991; 7. 'Terms of trade disturbances, real exchange rates, and welfare: the role of capital controls and labor market distortions' (with S. Edwards), *OEP*, 44, Jan. 1992; 8. 'An empirical evaluation of the macroeconomic effects of tariffs' (with A.K. Rose), *JIMF*, 11, Feb. 1992; 9. 'Trade restrictions with imported intermediate inputs: a comment', *JDE*, 38, April 1992; 10. 'Private saving and terms of trade shocks: evidence from the developing countries' (with C.M. Reinhart), *IMF Staff Papers*, 39, Sept. 1992; 11. 'An empirical analysis of the output decline in three Eastern European countries' (with E. Borensztein), *IMF Staff Papers*, 40, March 1993; 12. 'Is the parallel market premium a reliable indicator of real exchange rate mis-alignment in developing countries?' (with P. Montiel), *IMF Staff Papers*, 41, March 1994; 13. 'Government purchases and relative prices in a two-country world', *ER*, 70, June 1994; 14. 'Do capital flows reflect economic fundamentals in developing countries?' (with A.R. Ghosh), *WBER*, 9, May 1995; 15. 'Saving behavior in low- and middle-income developing countries: a comparison' (with C. Reinhart, M. Ogaki), *IMF Staff Papers*, 43, March 1996; 16. 'Accounting for China's growth performance' (with E. Borensztein), *AER Papers and Proceedings*, 2, May 1996; 17. 'Does the exchange rate regime matter for inflation and growth?' (with H. Wolf, A. Ghosh), *Econ. Issues* series, 2 (IMF, 1996); 18. 'Macroeconomic uncertainty,

precautionary saving, and the current account' (with A. Ghosh), *JME*, 40, 1997.

Principal Contributions My main contributions are in the area of open economy macroeconomics based on microeconomic foundations. The motivation for this has generally been to analyze issues of policy relevance to both developed and developing countries, using models with optimizing agents faced with the need to make intra- and inter-temporal choices. Specific issues include the impact of terms of trade shocks on the real exchange rate and the current account, optimal saving behavior and implications for the current account, and empirical analyses of growth issues in transition and developing countries.

OSWALD, Andrew J.

Born 1953, Bristol, UK.

Current Post Prof. Econ., Univ. Warwick, Coventry, UK, 1996–.

Past Posts Lect. Econ., Balliol Coll., Oxford Univ., 1978–80; Res. Officer, Inst. Econ. Stats, Univ. Oxford, 1979–85; Jr Res. Fell., St. John's Coll., Oxford Univ., 1981–85; Vis. Lect. Econ., Princeton Univ., 1982; Res. Assoc., Ind. Relations Section, 1983–84; Vis. Prof., Inst. Intl Econ. Stud., Univ. Stockholm, 1984; Sr Res. Fell., Centre Labour Econ., LSE, 1985–89; De Walt Ankeny Prof. Econ., Dartmouth Coll., USA, 1989–91; Sr Res. Fell., Centre Econ. Performance, LSE, 1991–95.

Degrees BA (1st Class Hons) Univ. Stirling, 1975; MSc Univ. Strathclyde, 1976; DPhil Nuffield Coll., Univ. Oxford, 1980.

Offices and Honours Tassie Medallion, Univ. Stirling, 1975; Lester Prize, Princeton Univ., 1995; Best Article of Year, *Apl. Psychology*, 1996; Medal of Univ. Helsinki, 1996.

Editorial Duties Ed. Bds, *OEP*, 1981–90, *Ind. Relations*, 1989–, *Small Bus.*

Econ., 1993–; Surveys Ed., *EJ*, 1986–91; Assoc. Ed., *Europ ER*, 1988–94.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; J6 Mobility, Unemployment, and Vacancies.

Publications Books: 1. *The Causes of Unemployment* (ed. with C. Greenhalgh, R. Layard), (OUP, 1983); 2. *Pay Determination and Industrial Prosperity* (with A. Carruth), (OUP, 1989); 3. *Surveys in Modern Economics*, Vols 1, 2 (ed.), (Blackwell, 1991); 4. *The Wage Curve* (with D. Blanchflower), (MIT Press, 1994).

Articles: 1. ‘Wage determination in an economy with many trade unions’, *OEP*, 31, 1979; 2. ‘The microeconomic theory of the trade union’, *EJ*, 92, 1982; 3. ‘Pay and employment determination in Britain: what are labour contracts really like?’ (with P. Turnbull), *OREP*, 2, 1985; 4. ‘Unemployment insurance and labor contracts under asymmetric information: theory and facts’, *AER*, 76, 1986; 5. ‘Real wage determination and rent-sharing in collective bargaining agreements’ (with L. Christofides), *QJE*, 107, 1992; 6. ‘Efficient contracts are on the labour demand curve: theory and facts’, *Labour Econ.*, 1, 1993; 7. ‘Unhappiness and unemployment’ (with A. Clark), *EJ*, 104, 1994; 8. ‘Satisfaction and comparison income’ (with A. Clark), *J Pub E*, 61, 1996; 9. ‘Wages, profits and rent-sharing’ (with D. Blanchflower, P. Sanfey), *QJE*, 111, 1996; 10. ‘What makes an entrepreneur?’ (with D. Blanchflower), *J Lab E*, 16, 1998; 11. ‘Preferences over inflation and unemployment: evidence from surveys of happiness’ (with R. Di Tella, R.J. MacCulloch), *AER*, 91, March 2001.

Principal Contributions How to model optimizing trade unions, including the idea of Nash wage equilibria among many unions. The study and use of actual labour contracts to allow us to build better theories. Microeconomic, time-series and survey evidence for rent-sharing theories

where pay is moulded by past profit-per-head. Evidence for capital constraints on new entrepreneurs; thinking of inheritances as a natural experiment in which some individuals have money showered upon them. Use of subjective well-being data. The econometric finding that unemployment is approximately the worst economic event in life as evidence for the involuntariness of unemployment. An econometric demonstration that relative pay explains job satisfaction better than absolute pay. Evidence, using happiness data, that changes in unemployment and inflation have strong effects on national well-being. The finding of a wage curve (an inverse relation between local unemployment and pay) with an elasticity of -0.1 in many countries. What lies behind my research is a belief that (i) the competitive model is the wrong way to think about the labour market, (ii) there are empirical laws of economics waiting to be discovered, (iii) international microeconomic data give us the platform to discover them, and (iv) theoretical work has to fit the facts.

OULIARIS, Sam

Born 1957, Melbourne, Victoria, Australia.

Current Post Prof., Natl Univ. Singapore, Republic of Singapore, 2003–.

Past Posts Asst Prof., Univ. Maryland, 1987–88; Assoc. Prof., Natl Univ. Singapore, Republic of Singapore, 1988–2003; Vis. Prof., Yale Univ., 1992, 1996; Econ., IMF, 1999–2001.

Degrees BComm, MComm Univ. Melbourne, 1979, 1983; PhD Yale Univ., 1987.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; C3 Econometric Methods: Multiple/Simultaneous Equation Models; C5 Econometric Modeling.

Publications Articles: 1. 'Robust tests for unit roots in the foreign exchange market' (with P.D. Corbae), *Econ. Letters*, 22, 1986; 2. 'Cointegration and tests of purchasing power parity' (with P.D. Corbae), *REStat*, 70, 1988; 3. 'Asymptotic properties of residual based tests of cointegration' (with P.C.B. Phillips), *Em*, 58, 1990; 4. 'Band spectral regression with trending data' (with P.D. Corbae, P.C.B. Phillips), *Em*, 70, 2002.

Principal Contributions Most of my work is related to the analysis of time-series models with random non-stationary components arising from unit roots in the true data generation process. My work with P.C.B. Phillips considers the general problem of testing for co-integration in linear regression models, and derives the asymptotic distributions of standard unit root tests when they are applied to the estimated residuals of regression models involving unit root processes. My applied work with P.D. Corbae develops tests of foreign exchange market efficiency and purchasing power parity for exchange rate data that has random non-stationary components. Together with Corbae and Phillips, I have recently studied the impact of non-stationary variables in band spectral regression models. We show formally that detrending unit root processes in a deterministic fashion prior to the use of band spectral regression techniques yields flawed estimates of the spectral regression parameters.

OUM, Tae Hoon

Born 1942, Seoul, South Korea.

Current Posts UPS Foundation Prof. Mgmt and Dir., Centre Transportation Stud., Faculty Commerce and Bus. Admin., UBC, Vancouver, Canada, 1998–, 2001–.

Past Posts Asst. Prof., Assoc. Prof., Sch. Bus., Queen's Univ., Kingston,

Canada, 1977–80, 1980–83; Assoc. Prof., Prof., Van Dusen Prof. Mgmt, Faculty Comm. and Bus. Admin., UBC, 1983–88, 1988–91, 1991–98; Vis. Prof., Shanghai Jiao Tong Univ., 1985, Korea Transport Inst., 1995; Japan Min. Educ. Disting. Vis. Prof., Osaka Univ., 1994; Albert Winsemius Prof., Nanyang Bus. Sch., Natl Tech. Univ., Singapore, 1999; Vis. Prof., Univ. Maastricht, 2000.

Degrees BComm (*scl*) Sung Kyun Univ., 1967; MBA, PhD UBC, 1974, 1979.

Offices and Honours Mem. Steering Comm., World Conf. Transportation Res. Soc., 1995–; Pres., Air Transport Res. Soc., 1995–, Transportation and Public Utilities Group, AEA, 2002; Top res. paper award, World Conf. Transportation Res., Antwerp, 1998; Commerce Faculty Res. Excellence Award, UBC, 1999; Millennium Celebration Lecture, Singapore, 2000; Mem. Quality Assurance Bd, Certified Logistics Professional Program, Singapore, 2000–; Killam Research Prize, 2001; Acting Chairman, Intl Sc. Comm., 9th Triennial World Conf. Transportation Res., 2001.

Editorial Duties Ed. Bds, *Transportation Res. Econ.*, 1985–, *Transport Pol.*, 1994–, *J. Air Transport Worldwide*, 1997–, *J. Air Transport Mgmt*, 1997–, *Intl J. Maritime Econ.*, 1998–; Ed., *J Trans EP*, 1998–; Co-Ed., Ashgate Aviation series, 2000–.

Principal Fields of Interest L9 Industry Studies: Utilities and Transportation; L8 Industry Studies: Services; F0 International Economics: General.

Publications Books: 1. *International Perspectives in Telecommunications Policy* (JAI Press, 1993); 2. *Transport Economics: Selected Readings* (Harwood Acad., 1997); 3. *Winning Airlines: Productivity and Cost Competitiveness of the World's Major Airline* (Kluwer Acad., 1998); 4. *Globalization and Strategic Alliances: The*

Case of the Airlines Industry (Elsevier Sc., 2000); 5. *Shaping Air Transport in Asia Pacific* (Ashgate, 2000).

Articles: 1. 'Socially optimal capacity and capital structure in oligopoly: the case of the airline industry' (with A. Zhang, Y. Zhang), *J Trans EP*, 34, 2000; 2. 'The commercialization of airports and air navigation systems: the Canadian experience' (with T.D. Heaver), *J. Aviation Mgmt*, 1, 2000; 3. 'Allocative efficiency and social value of the aircraft leasing industry', *Intl J. Transport Econ.*, 28, June 2000; 4. 'Modeling performance: measuring and comparing unit cost competitiveness of airlines' (with C. Yu, Micheal, Z.F. Li), in D.A. Hensher, K.J. Button (eds), *Handbook of Transport Modeling* (Pergamon for Elsevier, 2001); 5. 'Transport demand elasticities' (with W.G. Waters), in D.A. Hensher, K.J. Button (eds), *Handbook of Transport Modeling* (Pergamon for Elsevier, 2001); 6. 'Global airline alliances: international regulatory issues' (with C. Yu, A. Zhang), *J. Air Transport Mgmt*, 7, 2001; 7. 'An empirical analysis of Canadian international air policy: effects of dual carrier designation and partial liberalization' (with J.A. Clougherty, M. Dresner), *Transport Pol.*, 8, 2001; 8. 'Recent studies on some key issues in international air transport' (with Y. Zhang), *Transport Pol.*, 8, 2001; 9. 'Key aspects of global strategic alliances and the impacts on the future of Canadian airline industry' (with A. Zhang), *J. Air Transport Mgmt*, 7, 2001; 10. 'Developments

in the deregulated air transport market' (with J. de Wit, Y. Yoshida), *J. Air Transport Mgmt*, 7, 2001; 11. 'A note on the single-leg multi-fare seat allocation problem' (with M. Li), *Transportation Sc.*, 36, 2002; 12. 'Measuring the economic effects of bilateral liberalization of air transport' (with D.W. Gillen, R. Harris), *Transportation Res. Econ.*, 38, May 2002; 13. 'Policy and economic issues in globalized air transport services' (with S. Gudmundsson), *Transportation Res. Econ.*, 38, May 2002; 14. 'An intelligent spatial planning and scheduling system' (with K.K. Cho, D. Lee), *Intl J. Ind. Engineering: Theory and Practices*, 9, June 2002; 15. 'Northeast Asian air transport network: is there a possibility of creating open-skies in the region?' (with Y.-H. Lee), *J. Air Transport Mgmt*, 8, Sept. 2002.

Principal Contributions I specialize in economics and strategic management issues of transportation and telecommunications industries. I have published/edited over 25 books and 150 papers in academic and business journals and have written numerous research reports for Canadian and foreign government agencies, major corporations, and the World Bank on the transportation and telecommunications policy and management issues. I have advised numerous Canadian and foreign government agencies, major telecom and airline companies in North America, Asia and Europe. I have delivered nearly 200 invited lectures, speeches and presentations.

P

PAARSCH, Harry John

Born 1959, Ashcroft, BC, Canada.

Current Post Prof. Econ., Dept Econ., Univ. Iowa, Iowa City, IA, USA, 2001–.

Past Posts Asst Prof., Dept Econ., UBC, 1987–92; Asst Prof., Assoc. Prof., Dept Econ., Univ. Western Ontario, 1992–95, 1995–96; Assoc. Prof., Dept Econ. Univ. Iowa, 1996–2001.

Degrees BA (1st Class Hons) Queen's Univ., Canada, 1980; MS (Stats), AM, PhD Stanford Univ., 1983, 1984, 1987.

Offices and Honours SSHCC Doctoral Fellowship, 1981–84; Arch W. Shaw Natl Fellowship, Hoover Inst. on War, Revolution and Peace, Stanford, 1995–96; Robert Jensen Res. Fellowship, Henry B. Tippie Coll. Bus., Univ. Iowa, 2002–.

Editorial Duties Assoc. Ed., *JAE*, 2001–.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C5 Econometric Modeling; D0 Microeconomics: General.

Publications *Articles*: 1. 'A Monte Carlo comparison of estimators for censored regression models', *J Em*, 24, 1984; 2. 'Assessing empirical approaches for analyzing taxes and labor supply' (with T.E. MaCurdy, D.A. Greenh), *JHR*, 25, 1990; 3. 'Deciding between the common and private value paradigms in empirical models of auctions', *J Em*, 51, 1992; 4. 'Identification, estimation, and testing in parametric empirical models of auctions within the independent private values paradigm' (with S.G. Donald), *ET*, 12, 1996; 5. 'Deriving an estimate of the optimal reserve price: an application to British Columbian timber sales', *J Em*, 78, 1997; 6. 'The response of worker effort to piece rates: evidence from the British Columbia tree-planting industry' (with B.

Shearer), *JHR*, 34, 1999; 7. 'Piece rates, fixed wages, and incentive effects: statistical evidence from payroll records' (with B. Shearer), *IER*, 41, 2000; 8. 'Differences in wage distributions between Canada and the United States: an application of a flexible estimator of distribution functions in the presence of covariates' (with S.G. Donald, D.A. Green), *REStud*, 67, 2000.

Principal Contributions I have spent the bulk of my research career investigating economic and management issues associated with the harvest and regeneration of timber in the province of British Columbia, Canada. For example, I have studied the effects of labor stoppages on lumber production; how certain payment schemes for timber induce high-grading, the harvesting of only the highest-quality timber; what the important informational features are in competitive bidding for tree-planting services; how to use data from competitive bidding at timber sales to construct optimal selling mechanisms; and the effects of different labor contracts on worker productivity in tree-planting firms. Recently, I have begun to focus on timber-supply issues, in particular, how to implement the method of stochastic dynamic programming to calculate the volume of timber to harvest.

PAGAN, Adrian Rodney

Born 1947, Mungindi, Queensland, Australia.

Current Posts Prof. Econ., Inst. Adv. Stud., ANU, Canberra, Australia, 1992–; Prof. Econ., Univ. NSW, Sydney, Australia, 2002–.

Past Posts Vis. Res. Fell., Em. Res. Programme, Princeton Univ., 1973; Lect., Sr. Lect., Dept Stats, Adjunct Prof., ANU, 1974–77, 1978–80, 1989–90; Fell., Centre OR and Em., 1977–78; Vis. Prof., Inst.

Adv. Stud., Vienna, 1982, Yale Univ., 1985, Monash Univ., 1988; Sr. Res. Fell., CEPR, ANU, 1980–83; Sr. Fell. Econ., Res. School Social Sc., ANU, 1983–88; Prof. Econ., Wilson Prof. Econ., Prof. Econ., Univ. Rochester, 1986–90, 1990–92, 1992–95; Vis. Prof. Econ., Oxford Univ., 2000–02; Professorial Fell., Nuffield Coll., Oxford, 2000–02.

Degrees BEc (1st Class Hons) Queensland Univ., 1968; PhD ANU, 1972.

Offices and Honours Fell., Em Soc, 1985, Australian Acad. Social Sc., 1986; Univ. Medal, Univ. Queensland; Programme Comm., World Em. Congress, Boston, 1985, Tokyo 1995; NSF Natl Super-Computer Allocations Sub-Comm., 1987–91; Res. Fell., CEPR, London, 1983–88; Sr Res. Assoc., Center Econ. Res., Univ. Rochester; World Council, Em Soc, 1995–2000; Disting. Fell., Em Soc Australia and New Zealand, 2000.

Editorial Duties Assoc. Ed., *Em*, 1980–85, 2001–, *J Em*, 1983–85, *JAE*, 1994–; Co-Ed., *Em. Theory*, 1984–89, *JAE*, 1985–93, *Themes in Modern Em.*, CUP, 1994–2002, *Advanced Texts in Econometrics* series, OUP, 2003–; Ed. Bds, *ER*, 1990–, *Macroecon. Dynamics*, 1999–, *Advances Computational Econ.*, Kluwer Acad., 1992–, *Handbook Apl. Em.*, 1995–2000, *Em. Revs*, 1995–.

Principal Fields of Interest C5 Econometric Modeling; C3 Econometric Methods: Multiple/Simultaneous Equation Models; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook.

Publications *Book*: 1. *The Theory of Economic Policy: Statics and Dynamics* (with A.J. Preston), (CUP, 1982).

Articles: 1. ‘A note on the extraction of components from time series’, *Em*, 43, 1975; 2. ‘A simple test for heteroscedasticity and random coefficient variation’ (with T. Breusch), *Em*, 47, 1979; 3. ‘The Lagrange multiplier test and its ap-

plications to model specification in econometrics’ (with T. Breusch), *REStud*, 47, 1980; 4. ‘Diagnostic tests as residual analysis’ (with A.D. Hall), *Em. Rev.*, 2, 1983; 5. ‘Econometric issues in the analysis of regressions with generated regressors’, *IER*, 25, 1984; 6. ‘Model evaluation by variable addition’, in D.F. Hendry, K.F. Wallis (eds), *Econometrics and Quantitative Economics* (Blackwell, 1984); 7. ‘Three econometric methodologies: a critical appraisal’, *J. Econ. Surveys*, 1, 1987; 8. ‘Diagnostic tests for models with individual data’ (with F. Vella), *JAE*, 4, 1989; 9. ‘Alternative models for conditional stock volatility’ (with W. Schwert), *J Em*, 45, 1990; 10. ‘Non-parametric estimation and the risk premium’ (with Y.S. Hong), in W. Barnett, J. Powell, O. Tauchen (eds), *Nonparametric and Semiparametric Methods in Econometrics and Statistics* (CUP, 1991); 11. ‘The econometrics of financial markets’, *J. Empirical Fin.*, 3, 1996; 12. ‘Structural models of the liquidity effect’ (with J. Robertson), *REStat*, 80, 1998; 13. ‘Dissecting the cycle’ (with D. Harding), *JME*, 49, 2002.

Principal Contributions Early work was concentrated upon issues of estimation and specification of single equation models, in particular the development of the Lagrange multiplier approach to the construction of diagnostic tests and the difficulties caused for inference by the presence of ‘generated regressors’ in many equations. In the late 1980s I worked on applications of non-parametric estimators to modelling a variety of phenomena, as well as the use of these estimators as ways of producing diagnostic tests for parametric models. During the 1990s, I spent more time on the issues of systems estimation and the evaluation of models from a systems perspective. Most of this work has been quantitative, focusing upon topics involving monetary policy effects, business and financial cycles.

PAGANO, Marco n.e.**PAKES, Ariel**

Born 1949, Edmonton, Alberta, Canada.

Current Post Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1999–.

Past Posts Lect. Econ., Sr Lect. Econ., Hebrew Univ. Jerusalem, 1980–84, 1984–86; Assoc. Prof. Econ., Univ. Wisconsin, Madison, 1986–88; Prof. Econ., Charles and Dorothea Dilley Prof. Econ., Yale Univ., 1988–97, 1997–99.

Degrees BA, MA (Distinction) Hebrew Univ. Jerusalem, 1971, 1973; MA, PhD Harvard Univ., 1976, 1979.

Offices and Honours Frisch Medal, 1984; Fell., Em Soc, 1988–, AAAS, 2002–.

Editorial Duties Assoc. Ed., *Em*, 1989–95, *IJIO*, 1989–95, *Econ. Innovation and New Tech.*, 1989–, *JEDC*, 1993–, *J Em*, 1996–99; Advisory Ed., *Econ. Letters*, 1993–; Co-Ed. (with M. Fuss, R. Groneau), *J Em*, Annals of Em. issue, 1995 (with K. Sokoloff), Proceedings NAS, Sc., Tech., and the Econ., 1996; Ed., *RandJE*, 1999–.

Principal Fields of Interest L0 Industrial Organization: General; L1 Market Structure, Firm Strategy, and Market Performance; C1 Econometric and Statistical Methods: General.

Publications *Articles*: 1. ‘Patents and R&D at the firm level: a first report’ (with Z. Griliches), *Econ. Letters*, 5, 1980; 2. ‘On measuring the variance-age profile of life-time earning’ (with B. Eden), *REStud*, 48, July 1981; 3. ‘On the asymptotic bias of Wald-type estimates of a straight line when both variables are subject to error’, *IER*, 23, June 1982; 4. ‘Optimal contract for research personnel, research employment and the establishment of “rival” enterprises’ (with S. Nitzan), *J Lab E*, 1, Oct. 1983; 5. ‘Estimating distributed lags

in short panels with an application to the specification of depreciation patterns and capital stock constructs’ (with Z. Griliches), *REStud*, 51, April 1984; 6. ‘On patents, R&D, and the stock market rate of return’, *JPE*, 93, April 1985; 7. ‘Patents as options: some estimates of the value of holding European patent stocks’, *Em*, 54, July 1986; 8. ‘Estimates of the value of patent rights in European countries during the post-1950 period’ (with M. Schankerman), *EJ*, 96, Dec. 1986; 9. ‘Simulation and the asymptotics of optimization estimators’ (with D. Pollard), *Em*, 57, Sept. 1989; 10. ‘Computing Markov perfect Nash equilibrium: numerical implications of a dynamic differentiated product model’ (with P. McGuire), *RandJE*, 25, Winter 1994; 11. ‘Markov perfect industry dynamics: a framework for empirical work’ (with R. Ericson), *REStud*, 62, Jan. 1995; 12. ‘A limit theorem for a smooth class of semiparametric estimators’ (with S. Olley), *J Em* (Annals of Em. issue), Jan. 1995; 13. ‘Automobile prices in market equilibrium’ (with S. Berry, J. Levinsohn), *Em*, 63, July 1995; 14. ‘The dynamics of productivity in the telecommunications equipment industry’ (with S. Olley), *Em*, 64, Nov. 1996; 15. ‘Environmental change and hedonic cost functions for automobiles’ (with S. Berry, S. Kortum), *Proceedings NAS*, 1996; 16. ‘Empirical implications of alternative models of firm dynamics’ (with R. Ericson), *JET*, 79, March 1998; 17. ‘How to count patents and value intellectual property: the uses of patent renewal and application data’ (with J. Lanjouw, J. Putnam), *J Ind E*, 46, Dec. 1998; 18. ‘Voluntary export restraints on automobiles: evaluating a trade policy’ (with S. Berry, J. Levinsohn), *AER*, 89, June 1999; 19. ‘A dynamic game with collusion and price wars’ (with C. Fershtman), *RandJE*, 31, Summer 2000; 20. ‘Stochastic algorithms, symmetric Markov perfect equilibria, and

the “curse” of dimensionality’ (with P. McGuire), *Em*, 69, Sept. 2001.

Principal Contributions My research began with econometric studies of the causes and effects of industrial research activity. In a paper winning the Frisch award, I showed how patent renewal data could be used to both obtain measures of the value of the proprietary rights created by the patent laws, and produce more accurate measures of patent stocks. This paper was based on estimating an optimal stopping model and introducing simulation estimators into econometrics. The uses and properties of simulation estimators were detailed in my joint work with David Pollard. Subsequently we developed techniques to enable the empirical analysis of market interactions. One set of papers develops demand systems which treats products as bundles of characteristics. This overcame problems of ‘too many parameters’ in traditional demand systems and enabled the prediction of demand for new products. Another paper shows how to estimate production functions when there are self-selection problems induced by exit and simultaneity problems induced by endogenous input demands. A final set of papers shows how to compute the Nash equilibria of dynamic games. The demand and production functions enable the construction of profit functions and the analysis of static price or quantity setting equilibria. The dynamics enables the analysis of investments and the development of new products (and of some forms of collusion). Originally most of the techniques were developed with an analysis of phenomena that occurred in particular industries in mind (largely the focus was on policy issues in the auto industry, and the effects of deregulation on productivity in the telecommunications equipment industry). The techniques have since been refined and are used in the business, regulatory, and consulting, as well as the re-

search, communities. I have also recently suggested corrections for selection biases in the Consumer Price Index and the Bureau of Labor Statistics is experimenting with incorporating my technique.

PALEPU, Krishna G. n.e.

PALFREY, III, Thomas Rossman

Born 1953, Lafayette, IN, USA.

Current Post Flintridge Foundation Prof. Econ. and Polit. Sc., Div. Humanities and Social Sc., California Inst. Tech., Pasadena, CA, USA, 1986–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1980–83, 1983–85, 1985–86; Dir. Stud., École des Hautes Études en Sc. Sociales, 1990; Vis. Prof. Econ., Univ. Toulouse I, 1990, 2001–02, Univ. Aix-Marseille II, 1995, 1999, 2001, UCLA, 2001–02, Princeton Univ., 2002–03; Kirby Disting. Vis. Prof., Texas A&M Univ., 1992; Chargé de Mission, Lab. d’Écon. Ind., INSEE, 1995–96; Chercheur Invité, Centre d’Enseignement et de Recherche en Analyse Socio-Écon., 1995–96; Vis. Scholar Econ., NYU, 2002, Vis. Scholar Polit. Sc., Columbia Univ., 2002–03.

Degrees BA (Polit. Sc., *mcl*), MA (Polit. Sc.) Univ. Michigan, 1975, 1976; PhD (Social Sc.) California Inst. Tech., 1981.

Offices and Honours Fell., Center Adv. Stud. in Behav. Sc., 1986–87, Em Soc, 1995; Pres., Econ. Sc. Assoc., 1995–97.

Editorial Duties Assoc. Ed., *Em*, 1989–98, *Rev. Econ. Design*, 1992–, *J Pub E*, 1998–, *Econ. Bull.*, 2000–; Ed. Bds, *Games and Econ. Behav.*, 1992–, *ET*, 1995–99; *NAJE*, 2001–; Ed. Advisory Bd, *Experimental Econ.*, 1997–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D7 Analysis of Collective Decision-Making; C9 Design of Experiments.

Publications *Books*: 1. *Laboratory Research in Political Economy* (Univ. Michigan Press, 1991); 2. *Bayesian Implementation* (with S. Srivastava), (Harwood Acad., 1993); 3. *Experimental Foundations of Political Science* (with D. Kinder), (Univ. Michigan Press, 1993).

Articles: 1. 'Asset valuation in an experimental market' (with R.E. Forsythe, C.R. Plott), *Em*, 50, May 1982; 2. 'Bundling decisions by a multiproduct monopolist with incomplete information', *Em*, 51, March 1983; 3. 'Spatial equilibrium with entry', *REStud*, 51, Jan. 1984; 4. 'Uncertainty resolution, private information aggregation, and the Cournot competitive limit', *REStud*, 52, Jan. 1985; 5. 'Voter participation and strategic uncertainty' (with H. Rosenthal), *Amer. Polit. Sc. Rev.*, 79, March 1985; 6. 'Mechanism design with incomplete information: a solution to the implementation problem' (with S. Srivastava), *JPE*, 97, June 1989; 7. 'A mathematical proof of Duverger's law', in P.C. Ordeshook (ed.), *Models of Strategic Choice in Politics* (Univ. Michigan Press, 1989); 8. 'Cartel enforcement with uncertainty about costs' (with P. Cramton), *IER*, 31, Feb. 1990; 9. 'Testing for effects of cheap talk in a public goods game with private information' (with H. Rosenthal), *Games and Econ. Behav.*, 3, March 1991; 10. 'An experimental study of the centipede game' (with R. McKelvey), *Em*, 60, May 1992; 11. 'Quantal response equilibria in normal form games' (with R. McKelvey), *Games and Econ. Behav.*, special issue on 'Experimental game theory', 10, July 1995; 12. 'Anomalous behavior in linear public goods experiments: how much and why?' (with J. Prisbrey), *AER*, 87, Dec. 1997; 13. 'A characterization of interim efficiency with public goods' (with

J. Ledyard), *Em*, 67, March 1999; 14. 'Political confederation' (with J. Crémer), *Amer. Polit. Sc. Rev.*, 93, March 1999; 15. 'Equilibrium effects in campaign spending games: theory and data' (with R. Erikson), *Amer. Polit. Sc. Rev.*, 94, March 2000; 16. 'Voluntary implementation' (with M. Jackson), *JET*, 98, May 2001; 17. 'Implementation theory', in R. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. III (N-H, 2002).

Principal Contributions My work spans economic theory, political economy, and experimental economics. Most of the work uses noncooperative game theory, with an emphasis on mechanism design theory and strategic voting. A pair of papers written in the 1980s investigates the question of why we typically see only two major parties in democratic systems where representation is determined by a simple plurality rule. The first shows in a simple model that the threat of entry causes the two main parties to diverge from the median voter position, while at the same time impeding entry of third parties. The second provides the first mathematical formalization of Duverger's Law. A decade-long collaboration with the late R. McKelvey produced a volume of work combining experimental economics and statistical models of game theory. This collaboration was initiated with our experimental study of the centipede game, which used a reputational model with incomplete information and decision errors as a structural econometric model to fit laboratory data from centipede games. A key contribution from that collaboration is the concept of quantal response equilibrium, which generalizes Nash equilibrium by smoothing out best-response correspondences, and provides a natural bridge between classical noncooperative game theory and behavioral economics. Quantal response equilibrium also gives a general statistical foundation for nonco-

operative game theory. Parametric versions of it, particularly the Logit equilibrium, have been used to explain anomalies from experimental game data and as a structural model for estimation of fundamental economic parameters, such as risk aversion or distributions of preferences. A series of papers with S. Srivastava and, later, M. Jackson characterize implementable allocation rules in Bayesian environments. Work with J. Ledyard characterized optimal public good mechanisms, for general welfare functions and showed that in large economies, optimal mechanisms can be approximated by simple voting schemes. More recently, I have collaborated on a variety of topics in the theory of voting and elections, including the effect of campaign spending and candidate quality on electoral outcomes, and issues relating to federalism. Throughout my career I have been actively involved in experimental economics, with applications to public economics, game theory, voting, industrial organization, auctions, bargaining, and finance.

PANTULA, Sastry G.

Born 1957, Vizianagaram, Andhra Pradesh, India.

Current Posts Prof., Head of Dept, Dept Stats, North Carolina State Univ., Raleigh, NC, USA, 1994–, 2002–; Dir., Inst. Stats, North Carolina State Univ., 2002–;

Past Posts Asst Prof., Assoc. Prof., Dept Stats, North Carolina State Univ., 1982–88, 1988–94; Scholarly Assignment, SEMATECH, Austin, TX, 1990–91; Dir., Grad. Programs, Asst Head of Dept, Dept Stats, North Carolina State Univ., 1994–2002, 2000–02.

Degrees BS (Stats), MS (Stats) Indian Stat. Inst., Calcutta, 1978, 1979; PhD (Stats) Iowa State Univ., 1982.

Offices and Honours Mem. Honor Soc., Phi Kappa Phi, Sigma Xi, Gamma Sigma Delta, Mu Sigma Rho; George Snedecor Award for most outstanding PhD candidate, Dept Stats, Iowa State Univ., 1981; Outstanding Teacher, North Carolina State Univ., 1986; D.D. Mason Faculty Award, 2001; Young Stat. Award, Intl Indian Stat. Assoc., 2002; Fell., ASA, 2002.

Editorial Duties Assoc. Ed., *Amer. Stat.*, 1987–92, *Sankhya*, 2000–02, *JBES*, 2001–03, *Stats and Probability Letters*, 2002–.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; C1 Econometric and Statistical Methods: General; C5 Econometric Modeling.

Publications *Book*: 1. *Applied Regression Analysis: A Research Tool* (S-V, 1998).

Articles: 1. 'Problem: the asymptotic distribution of the iterated Gauss Newton estimators of an ARIMA process', *ET*, 5, 1989; 2. 'Asymptotic distributions of unit root tests when the process is nearly stationary', *JBES*, 9, 1991; 3. 'Testing for unit roots in autoregressive moving average models: an instrumental variable approach' (with A. Hall), *J Em*, 48, 1991; 4. 'Analysis of repeated measurement data from randomized block experiments' (with B. Schaalje, J. Zhang, K.H. Pollock), *Biometrics*, 47, 1991; 5. 'Robust methods for testing the pattern of a covariance matrix' (with J. Zhang, D. Boos), *Biometrika*, 78, 1991; 6. 'Nonlinear regression with variance components', *JASA*, 87, 1992; 7. 'Testing for a unit root in autoregressive processes with systematic but incomplete sampling' (with D. Shin), *Stats and Probability Letters*, 18, 1992; 8. 'The large sample distribution of the roots of the second order autoregressive polynomial' (with W.A. Fuller), *Biometrika*, 80, 1993; 9. 'A comparison of unit root test criteria' (with G. Gonzalez-Farias, W.A. Fuller),

JBES, 12, 1994; 10. 'Partial autocorrelation for spatial ARMA models' (with T. Etchison, C. Brownie), *Stats and Probability Letters*, 21, 1994; 11. 'A Portmanteau test for spatial ARMA models' (with T. Etchison, C. Brownie), *Biometrics*, 51, 1995; 12. 'Testing for trend stationarity versus difference stationarity' with C. Arellano), *J. Time Series Analysis*, 16, 1995; 13. 'Estimation of nonlinear random coefficient models' (with R.Q. Ramos), *Stats and Probability Letters*, 24, 1995; 14. 'Random coefficient regression' (with M.L. Gumpertz), in S. Kotz, C. Read, D. Banks (eds), *Encyclopedia of Statistical Sciences* (Wiley, 1998); 15. 'Variance estimators in the Chu-White test for structural change' (with Y.J. Park), *Communications in Stats - Simulation*, 27, 1998; 16. 'Testing for trends in correlated data' (with H. Sun), *Stats and Probability Letters*, 41, 1999; 17. 'Population size and total estimation when sampling from incomplete list frames with heterogeneous inclusion probabilities' (with D.E. Haines, K.H. Pollock), *Survey Methodology*, 26, 2000; 18. 'Determining the order of differencing in AR processes' (with D.A. Dickey), *JBES*, 20, 2002; 19. 'Estimation of nonlinear random coefficient models using Monte Carlo methods' (with S. Kim), forthcoming.

Principal Contributions I have made several different contributions to time-series analysis. These include testing for unit roots and noninvertibility of a process. I have also worked on estimation of repeated measurement models and errors-in-variable models. Finally, I have made some contributions to identification in spatial autoregressive processes.

PARK, Joon Yong

Born 1955, Seoul, Korea.

Current Posts Prof. Econ., Seoul Natl

Univ., Seoul, Korea, 1992-; Prof. Econ., Rice Univ., Houston, TX, USA, 2002-.

Past Posts Asst Prof. Econ., Cornell Univ., 1987-91; Vis. Asst Prof. Econ., Aarhus Univ., 1990; Assoc. Prof. Econ., Univ. Toronto, 1991-92; Vis. Assoc. Prof. Econ., Vis. Prof. Econ., Yale Univ., 1995, 1999; Vis. Prof. Econ., Center Intl Res. on Japanese Econ., Univ. Tokyo, 2000; Adjunct Prof. Econ., Rice Univ., 1997-2002.

Degrees BS (Oceanography) Seoul Natl Univ., 1978; PhD Yale Univ., 1987.

Offices and Honours Carl A. Anderson Award, Cowles Foundation Res. Econ., Yale Univ., 1986; Cheongram Award, Korean Econ. Assoc., 1995; Secretary-General, Korean Em Soc, 1997; Program Comm., Far Eastern Em Soc Meetings, 1997, 1999, 2001; Multa Scripsit Award, *ET*, 1999; Teacher of Year, Dept Econ., Yale Univ., 1999; Program Comm., 8th World Congress, 2000; Invited Lect., Australasian Em Soc Meeting, 2001; Co-Chair, Far Eastern Em Soc Meeting, 2003.

Editorial Duties Assoc. Ed., *ET*, 1997-; Ed., *J. Econ. Theory and Em.*, 1999-.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C4 Econometric and Statistical Methods: Special Topics; C5 Econometric Modeling.

Publications *Articles*: 1. 'Asymptotic equivalence of OLS and GLS in regressions with integrated regressors' (with P.C.B. Phillips), *JASA*, 83, 1988; 2. 'On the formulation of Wald tests of nonlinear restrictions' (with P.C.B. Phillips), *Em*, 56, 1988; 3. 'Statistical inference in regressions with integrated processes: Pts 1 and 2' (with P.C.B. Phillips), *ET*, 4-5, 1988-89; 4. 'Canonical cointegrating regressions', *Em*, 60, 1992; 5. 'Cointegrating regressions with time varying coefficients' (with S. Hahn), *ET*, 15, 1999; 6. 'Nonstationary binary choice' (with P.C.B. Phillips), *Em*, 68, 2000; 7. 'Nonlinear re-

gressions with integrated time series' (with P.C.B. Phillips), *Em*, 69, 2001; 8. 'An invariance principle for sieve bootstrap in time series', *ET*, 18, 2002; 9. 'Nonlinear nonstationary heteroskedasticity', *J Em*, forthcoming; 10. 'Index models with integrated time series' (with Y. Chang), *J Em*, forthcoming.

Principal Contributions Most of my work has related to nonstationary time-series econometrics. In early work, I have provided the foundations of statistical theories for estimation of and inference in linear regressions with nonstationary time series. Since then I have made important extensions to the basic theories. In particular, I have developed an efficient estimation method, which in turn provided a valid inferential basis for the models with nonstationary time series. I also developed a procedure that allows the parameters in such models to evolve over time, which is essential in modeling long-run equilibrium relationships among economic variables. Recently, I have further extended the earlier theories to nonlinear and nonparametric models with nonstationary processes. I have provided the foundations of statistical theories for nonlinear regressions with nonstationary processes, and also developed semi- and nonparametric techniques to effectively deal with various other nonlinear time-series models. The methodologies I have developed along this line have been applied to many interesting, yet previously impossible to analyze, models. They include among others discrete choice models, index models, and volatility models with nonstationary processes. More recently, I have developed an inferential procedure for the models with continuous stochastic processes, estimation and specification tests for diffusion models, and statistical theories for bootstrapping general time series.

PASHARDES, Panos

Born 1949, Cyprus.

Current Post Prof. Econ., Univ. Cyprus, Nicosia, Cyprus, 1994–.

Past Posts Dir. Em. Support, IFS, 1986–87; Lect. Econ., Reader Econ., City Univ., London, UK, 1988–92, 1993–1994.

Degrees BA Univ. Athens, 1973; MSc, PhD Birkbeck Coll., Univ. London, 1975, 1979.

Offices and Honours Dir., Econ. Res. Centre, Univ. Cyprus, 2001–.

Principal Field of Interest D1 Household Behavior.

Publications Book: 1. *Current Issues in the Economics of Water Resource Management* (with T. Swanson, A. Xepapadeas), *Economy and Environment* series, 23 (Kluwer Acad., 2002).

Articles: 1. 'The representative consumer concept and inequality', *Ec*, 49, 1982; 2. 'Needs, costs and bureaucracy: the allocation of public expenditure in the United Kingdom' (with P. Dunne, R. Smith), *EJ*, 95, 1984; 3. 'The distributional impact of inflation' (with V. Fry), *Fiscal Stud.*, 6, 1985; 4. 'Myopic and forward looking behaviour in a dynamic demand system', *IER*, 27, 1986; 5. 'Constructing the true cost of living index from the Engel curves of the PIGLOG demand system' (with V. Fry), *JAE*, 4, 1989; 6. 'Contemporaneous and intertemporal child costs: equivalent expenditure versus equivalent income scales', *JPE*, 45, 1991; 7. 'Tests of dynamic specification and homogeneity in demand systems' (with J. Muellbauer), in L. Philips, L.D. Taylor (eds), *Aggregation, Consumption and Trade: Essays in Honour of Hendrik Houthakker*, *Advanced Studies in Theoretical and Applied Econometrics* series (Kluwer Acad., 1992); 8. 'Non-linearities and equivalence scales' (with R. Dickens, V. Fry), *EJ*, 103, 1993; 9. 'What do we learn about consumer demand patterns

from micro-data?' (with R. Blundell, G. Weber), *AER*, 83, 1993; 10. 'Bias in the estimation of the almost ideal demand system with the Stone index approximation', *EJ*, 103, 1993; 11. 'Abstention and aggregation in consumer demand' (with V. Fry), *OEP*, 46, 1994; 12. 'Equivalence scales in a rank-3 demand system', *JPE*, 58, 1995; 13. 'Preference heterogeneity and the rank of demand systems' (with P. Lyssiotou, T. Stengos), *JBES*, 17, 1999; 14. 'Testing the rank of Engel curves with endogenous expenditure' (with P. Lyssiotou, T. Stengos), *Econ. Letters*, 64, 1999; 15. 'Age effects on consumer demand: an additive partially linear regression model' (with P. Lyssiotou, T. Stengos), *CJ*, 35, 2001; 16. 'Hedonic price analysis and selectivity bias' (with P. Koundouri), in T. Swanson, A. Xepapadeas (eds), *Current Issues in the Economics of Water Resource Management, Economy and Environment* series, Vol. 23 (Kluwer Acad., 2002); 17. 'Self-/paid-employment, public/private sector selection, and wage differentials' (with L. Christofides), *Labour Econ.*, 9, 2002; 18. 'Nesting quadratic logarithmic demand systems' (with P. Lyssiotou, T. Stengos), *Econ. Letters*, 76, 2002.

Principal Contributions My principal contributions to economics have been in the area of consumer behavior, in particular demand analysis and equivalence scales. In demand analysis my main contributions include the modeling and estimation of dynamic demand systems with forward-looking habit formation and durability; and the use of micro-to-macro modeling to study problems of heterogeneity and aggregation. I have also drawn attention to the bias in using the Stone index approximation in demand analysis and proposed a consumer demand system approach to estimating the size of the black economy. The sample selection bias in hedonic regressions and the role of pref-

erence heterogeneity in nonparametric and parametric tests of the rank of demand systems are also areas to which I have contributed. My work on equivalence scales draws attention to the fact that static demand analysis may give rise to misleading estimates of equivalence scales because a household may meet part of the cost of children by reducing consumption in periods when the children themselves are not in the family. In other papers I argue that in the context of nonlinear demand systems equivalence scales can be identified from cross-section data without demographic separability restrictions.

PAUL, Catherine J. Morrison

Born 1953, Champaign, IL, USA.

Current Post Prof., Dept Agric. and Resource Econ., Univ. California, Davis, CA, USA, 1995–.

Past Posts Instr., Dept Econ., NYU, 1981–82; Asst Prof. to Full Prof., Dept Econ., Tufts Univ., 1982–95.

Degrees BA, MA, PhD UBC, 1976, 1977, 1982.

Editorial Duties Bd Advisors, *J. Productivity Analysis*, 1985–; Assoc. Ed., *AJAE*, 1996–, *Agribusiness*, 1998–2001, *Empirical Econ.*, 2002–.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth; General; D2 Production and Organizations; L1 Market Structure, Firm Strategy and Market Performance.

Publications *Book*: 1. *Cost Structure and the Measurement of Economic Performance: Productivity, Utilization, Cost Economics and Related Performance Indicators* (Kluwer Acad. Press, 1999).

Articles: 1. 'Short-run labor productivity in a dynamic model' (with E.R. Berndt), *J Em*, 16, Aug. 1981; 2. 'On the economic interpretation and measurement

of optimal capacity utilization with anticipatory expectations', *REStud*, 52, 1985; 3. 'Primal and dual measures of economic capacity utilization: an application to productivity measurement in the US automobile industry', *JBES*, 3, Oct. 1985; 4. 'Quasi-fixed inputs in US and Japanese manufacturing: a generalized Leontief restricted cost function approach', *REStat*, 70, May 1988; 5. 'Subequilibrium in the North American steel industries: a study of short-run biases from regulation and utilization fluctuations', *EJ*, 98, June 1988; 6. 'The impact of pollution abatement investment on productivity change: an empirical comparison of the US, Germany, and Canada' (with K. Conrad), *SEJ*, 55, Jan. 1989; 7. 'Unraveling the productivity growth slowdown in the US, Canada and Japan: the effects of subequilibrium, scale economies and markups', *REStat*, 74, Aug. 1992; 8. 'Investment in capital assets and markup behavior: the US chemicals and primary metals industries in transition', *JBES*, 11, Jan. 1993; 9. 'Energy and capital: further exploration of E-K interactions and economic performance', *Energy J.*, 14, Spring 1993; 10. 'Public infrastructure, private input demand and economic performance in New England manufacturing' (with A.E. Schwartz), *JBES*, 14, Jan. 1996; 11. 'State infrastructure and productive performance' (with A.E. Schwartz), *AER*, 86, Dec. 1996; 12. 'Assessing the productivity of information technology equipment in US manufacturing industries', *REStat*, 79, Aug. 1997; 13. 'External capital factors and increasing returns in US manufacturing' (with D. Siegel), *REStat*, 79, Nov. 1997; 14. 'Scale effects and markups in the US food and fibre industries: capital investment and import penetration impacts', *J. Agric. Econ.*, 50, Jan. 1999; 15. 'Scale economies and industry agglomeration externalities: a dynamic cost function approach' (with D. Siegel), *AER*, 89,

March 1999; 16. 'Production structure and trends in the US meat and poultry products industries', *J. Agric. and Resource Econ.*, 24, Dec. 1999; 17. 'Efficiency in New Zealand sheep and cattle farming: the impacts of regulatory reform' (with W. Johnson, G. Frengley), *REStat*, 82, May 2000; 18. 'Market and cost structure in the US beef packing industry: a plant-level analysis', *AJAE*, 83, Feb. 2001; 19. 'Capacity and capacity utilization in fishing industries: definition, measurement, and a comparison of approaches' (with J. Kirkley, D. Squires), *Environmental and Resource Econ.*, 3, 2002.

Principal Contributions My work has emphasized how various factors underlying cost, supply, and demand relationships can be conceptually motivated and econometrically quantified within a standard production theory framework, to shed light on important and policy-relevant questions about economic performance. Typically, I focus on the costs of production, a key factor underlying and determining productivity and competitiveness, using duality theory-based production models. In this context, I have addressed many issues associated with technological and market structure, for different countries and industries. I have modeled, measured, and evaluated productivity growth, input demand and substitution, capacity utilization, input fixities and dynamic adjustment, scale (and other cost) economies, markup and markdown (imperfectly competitive) behavior, and externality impacts. I have underscored the importance of recognizing a broad range of production complexities for the construction, use, and interpretation of economic performance indicators, including input and output composition, rigidities, and quality. I have also recently explored the productive impacts of un- or mis-measured production factors associated with interdependencies across netputs, time, space, and sector,

particularly for the food system. Untangling this range of performance factors, most of which may broadly be conceptualized as movements along and shifts in cost curves from marketed and non-marketed technological and market factors is central to gaining insights about and enhancing economic welfare. My work has provided a conceptual and empirical framework for a wide variety of studies by economists focussing on modeling and measuring economic performance, and its components, determinants, and implications.

PAULY, Mark V. n.e.

PAXSON, Christina Hull

Born 1960, Pittsburgh, PA, USA.

Current Post Prof. Econ. and Public Affairs, Princeton Univ., Princeton, NJ, USA, 1997–.

Past Posts Asst Prof. Econ. and Public Affairs, Assoc. Prof. Econ. and Public Affairs, Princeton Univ., 1987–94, 1994–97.

Degrees BA Swarthmore Coll., 1982; MA, PhD Columbia Univ., 1985, 1987.

Honours Phi Beta Kappa, 1982.

Editorial Duties Bd Assoc. Eds, *JDE*, 1995–99; Bd Eds, *AER*, 1996–2000.

Principal Fields of Interest O1 Economic Development; J1 Demographic Economics; D1 Household Behavior.

Publications *Articles*: 1. ‘Job characteristics and hours of work’ (with J.G. Altonji), *Res. Labor Econ.*, 8, 1986; 2. ‘Labor supply preferences, hours constraints and hours–wage tradeoffs’ (with J. Altonji), *J Lab E*, 6, April 1988; 3. ‘Borrowing constraints and portfolio choice’, *QJE*, 105, May 1990; 4. ‘Using weather variability to estimate the response of savings to transitory income in Thailand’, *AER*, 82, March 1992; 5.

‘Labor supply, hours constraints and job mobility’ (with J. Altonji), *JHR*, 27, Spring 1992; 6. ‘Consumption and income seasonality in Thailand’, *JPE*, 101, Feb. 1993; 7. ‘Intertemporal choice and inequality’ (with A. Deaton), *JPE*, 102, 1994; 8. ‘Do the poor insure? A synthesis of the literature on risk and consumption in developing countries’ (with H. Alderman), in Bacha (ed.), *Economics in a Changing World: Volume 4: Development, Trade and the Environment* (Macmillan, 1994); 9. ‘Saving, inequality and aging: an East Asian perspective’ (with A. Deaton), *Asia-Pacific Econ. Rev.*, 1, 1995; 10. ‘The dynamics of dual-job holding and job mobility’ (with N. Sichernman), *J Lab E*, 14, 1996; 11. ‘Saving and growth: evidence from micro data’, *Europ ER*, 40, 1996; 12. ‘The effects of economic and population growth on national saving and inequality’ (with A.S. Deaton), *Demography*, 34, Feb. 1997; 13. ‘Economies of scale, household size, and the demand for food’ (with A. Deaton), *JPE*, 106, Oct. 1998; 14. ‘Growth and saving among individuals and households’ (with A. Deaton), *REStat*, 82, May 2000; 15. ‘Growth, demographic structure, and national saving in Taiwan’ (with A. Deaton), *Pop. Devlp Rev.*, 26, suppl., 2000; 16. ‘Approximation bias in linearized euler equations’ (with S. Ludvigson), *REStat*, 83, May 2001; 17. ‘Mothers and others: who invests in children’s health?’ (with A. Case), *JHE*, 20, 2001; 18. ‘Mortality, education, income and inequality among American cohorts’ (with A. Deaton), in D. Wise (ed.), *Themes in the Economics of Aging* (UCP, 2001); 19. ‘Economic status and health in childhood: the origins of the gradient’ (with A. Case, D. Lubotsky), NBER Working Paper, W8344, June 2001, forthcoming in *AER*; 20. ‘Work, welfare and child maltreatment’ (with J. Waldfogel), *J Lab E*, 20, July 2002.

Principal Contributions My research

has focused on three broad topics over the course of my career. The first topic is concerned with job mobility and dual-job holding. This research establishes that movements between jobs and the choice to work on more than one job is in part motivated by hours constraints in jobs. The second topic is concerned with issues related to saving in developing countries. I have examined how poor households cope with transitory fluctuations to their incomes; the determinants of life-cycle savings; and the relationship between economic growth, demographic structure, and aggregate saving rates within countries. The research generally shows that, even in very poor settings, households use saving and dissaving to buffer their consumption from income fluctuations. However, life-cycle models do a poor job of accounting for fluctuations in saving rates over time in high-saving Asian economies. The third topic is concerned with health, with a particular emphasis on the health and wellbeing of children. My research examines how family structure, parental employment, and public policies affect child health outcomes.

PAYNE, John W.

Born 1947, Los Angeles, CA, USA.

Current Posts Joseph J. Ruvane Jr Prof. Bus. Admin., Prof. Psychology, Res. Prof. Stats and Decision Sc., Duke Univ., Durham, NC, USA, 1977–.

Past Posts Postdoctoral Fell., Dept Psychology, Carnegie-Mellon Univ., 1973–75; Asst Prof. Behav. Sc. and Marketing, Grad. Sch. Bus., Univ. Chicago, 1975–1977.

Degrees BA (Math. and Computer Models in Behav. Sc.), MA (Psychology), PhD (Psychology) Univ. California, Irvine, 1969, 1972, 1973.

Offices and Honours Fell., Amer. Psychological Soc., 1995–; Dep. Dean, Fuqua Sch. Bus., Duke Univ., 1999–2002; Leo Melamed Prize, Univ. Chicago, 2000.

Principal Fields of Interest M0 Business Administration and Business Economics; Marketing; Accounting: General; M3 Marketing and Advertising; D8 Information and Uncertainty.

Publications *Books*: 1. *Cognition and Social Behavior* (ed. with J.S. Carroll), (Erlbaum, 1976); 2. *The Adaptive Decision Maker* (with J.R. Bettman, E.J. Johnson), (CUP, 1993); 3. *Emotional Decisions: Tradeoff Difficulty and Coping in Consumer Choice* (with M.F. Luce, J.R. Bettman), (UCP, 2001); 4. *Punitive Damages: How Juries Decide* (with C.R. Sunstein, R. Hastie, D.A. Schkade, K. Viscusi), (UCP, 2002).

Articles: 1. 'Preferences among gambles with equal underlying distributions' (with M.L. Braunstein), *J. Experimental Psychology*, 87, 1971; 2. 'Alternative approaches to decision-making under risk', *Psychological Bull.*, 80, 1973; 3. 'Task complexity and contingent processing in decision-making: an information search and protocol analysis', *Org. Behav. and Human Performance*, 16, 1976; 4. 'Exploring pre-decisional behavior: an alternative approach to decision research' (with M.L. Braunstein, J.S. Carroll), *Org. Behav. and Human Performance*, 22, 1978; 5. 'Translation of gambles and aspiration level effects in risky choice behavior' (with D. Laughhunn, R. Crum), *Mgmt Sc.*, 26, 1980; 6. 'Contingent decision behavior', *Psychological Bull.*, 92, 1982; 7. 'Adding asymmetrically dominated alternatives: violations of regularity and the similarity hypothesis' (with J. Huber, C. Puto), *J. Consumer Res.*, 9, 1982; 8. 'Effort and accuracy in choice' (with E.J. Johnson), *Mgmt Sc.*, 31, 1985; 9. 'Adaptive strategy selection in decision making' (with E.J. Johnson, J.R. Bettman), *J. Experimental*

Psychology: Learning, Memory, and Cognition, 14, 1988: 10. 'A componential analysis of cognitive effort in choice' (with J.R. Bettman, E.J. Johnson), *Org. Behav. and Human Decision Processes*, 45, 1990; 11. 'Behavioral decision research: a constructive processing perspective' (with J.R. Bettman, E.J. Johnson), *Annual Rev. Psychology*, 43, 1992; 12. 'How people respond to contingent valuation questions: a verbal protocol analysis of willingness-to-pay for environmental regulation' (with D.A. Schkade), *JEEM*, 26, 1994; 13. 'Choice processing in emotional difficult decisions' (with M.F. Luce, J.R. Bettman), *J. Experimental Psychology: Learning, Memory, and Cognition*, 23, 1997; 14. 'Constructive consumer choice processes' (with M.F. Luce, J.R. Bettman), *J. Consumer Res.*, 25, 1998; 15. 'Measuring constructed preferences: towards a building code' (with J.R. Bettman, D.A. Schkade), *JRU*, 19, 1999; 16. Valuation of multiple environmental programs (with D.A. Schkade, W. Desvousges, C. Aultman), *JRU*, 21, 2000.

Principal Contributions Most of my research has been concerned with understanding how people process information when asked to make judgments and choices. My earlier work concerned risky choice behavior, with a focus on such issues as framing effects, perceived risk, and the role of aspiration levels in decision-making under risk. I have also studied how the nature of the decision task, e.g., task complexity, time pressure, response mode, and the set of alternatives under consideration impact choice processes and outcomes. It is clear that preferences are highly task contingent, and that decisions often violate standard choice theory assumptions such as regularity of preferences. For example, the probability of choosing one option (A) over another option (B) can be increased by adding a third alternative to the set. The evidence

that decision behavior is highly contingent upon various task and context factors has led to a view that preferences are frequently constructed rather than reveal when people are asked to make a judgment or choice. The work on contingent decision behavior has led to a theory of strategy selection in decision-making that emphasizes the tradeoffs between decision accuracy and cognitive effort, and other factors like justification and minimizing the negative emotions that can arise when making a choice. Finally, my work has sought to extend the psychology of decision-making to various applied areas such as marketing, the valuation of natural resources, and jury decisions.

PEARCE, David William

Born 1941, Harrow, Middlesex, England.

Current Posts Prof. Environmental Econ., Univ. Coll. London, England, 1983–; Hon. Prof. Environmental Sc. and Tech., Imperial Coll., London, England, 2000–.

Past Posts Asst Lect., Lect., Lancaster Univ., 1964–65, 1965–67; Lect., Sr Lect., Southampton Univ., 1969–70, 1970–74; Dir., Public Sector Econ. Res. Centre, Leicester Univ., 1974–76; Prof. Polit. Econ., Aberdeen Univ., 1977–82; Vis. Prof., Adelaide Univ., 1983.

Degrees BA, MA Univ. Oxford, 1963, 1967.

Honours OBE, 2000; DSc (*hc*) Univ. East Anglia, 2001.

Editorial Duties Ed. Bds, *Resources Pol.*, 1975–, *Intl J. Social Econ.*, 1975–, *Energy Econ.*, 1978–, *Intl J. Environmental Stud.*, 1978, *Energy Pol.*, 1980–, *Resources Conservation and Recycling*, 1982–, *J. Econ. Stud.*, 1983–, *Environmental and Resource Econ.*, 1992–, *World Econ.*, 1993–, *Europ. Environment*, 1995–,

J. Environmental Planning and Mgmt., 1995–, *Environment and Devlp. Econ.*, 1995–, *Biodiversity and Conservation*, 2000–, *Resource and Energy Econ.*, 2000–, *Biopolicy*, 2000–, *Environmental Econ. and Pol. Stud.*, 2000–, *Economia E Ambiente*, 2000–.

Principal Field of Interest Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Environmental Economics: An Elementary Introduction* (with R.K. Turner, I. Bateman), (Harvester Wheatsheaf, JHUP, 1993; trans., Russian, Japanese); 2. *Blueprint 5: The Social Costs of Road Transport* (with D. Maddison, T. Johansson, E. Calthrop, T. Litman, E. Verhoef), (Earthscan, 1996, Chinese edn Beijing Normal Univ. Press, 1997); 3. *Measuring Sustainable Development: Macroeconomics and the Environment* (with M. Munasinghe, K. Hamilton, G. Atkinson, R. Dubourg, C. Young), (Edward Elgar, 1997, 1999, pb edn 1999); 4. *Economics and Environment: Essays on Ecological Economics and Sustainable Development* (Edward Elgar, 1999, pb edn 2000); 5. *Blueprint for a Sustainable Economy* (with E. Barbier), (Earthscan, 2000); 6. *Valuing the Environment in Developing Countries: Case Studies* (ed. with C. Pearce, C. Palmer), (Edward Elgar, 2002); 7. *Economic Valuation with Stated Preference Techniques: A Manual* (with S. Mourato, B. Day, E. Ozdemiroglu, M. Hanneman, R. Carson, I. Bateman, N. Hanley), (Edward Elgar, 2002).

Articles: 1. 'The economic value of plant-based pharmaceuticals' (with S. Puroshothaman), in T. Swanson (ed.), *Intellectual Property Rights and Biodiversity Conservation* (CUP, 1995); 2. 'Particulate matter and human health in the United Kingdom' (with T. Crowards), *Energy Pol.*, 24, July 1996; 3. 'How the environment affects the macroeconomy' (with K. Hamilton), in V. Gandhi (ed.), *Macroeco-*

nomics and the Environment (IMF, 1996); 4. 'Global environmental value and the tropical forests: demonstration and capture', in W. Adamowicz, P. Boxall, M. Luckett, W. Phillips, W. White (eds), *Forests, Economics and Sustainable Development* (CAB Intl, 1996); 5. 'Fuel and location effects on the damage costs of transport emissions' (with N. Eyre, E. Ozdemiroglu, P. Steele), *J. Transport Econ. Pol.*, 31, Jan. 1997; 6. 'The political economy of the global environment', *SJPE*, 44, Sept. 1997; 7. 'Auditing the earth', *Environment*, 40, March 1998; 8. 'Environmental appraisal and environmental policy in the European Union', *Environment and Resource Econ.*, 11, 1998; 9. 'Cost-benefit analysis and environmental policy', *OREP*, 14, 1998; 10. 'The economics of acid rain in East Asia' (with M. Nakada), *Energy and Environment*, 10, 2000; 11. 'Economic valuation and decision-making in Europe' (with T. Seccombe-Hett), *Environmental Sc. and Tech.*, 34, 2000; 12. 'Beyond dusty archives: the economic benefits of preserving recorded heritage' (with S. Mourato, E. Ozdemiroglu, A. Howarth), *Cultural Trends*, 39, 2000; 13. 'The economic value of forest ecosystems', *Ecosystem Health*, 7, Dec. 2001.

Principal Contributions Nearly all of my work has its foundations in an early and continuing concern for natural environments and wildlife species. I regarded cost-benefit analysis as the appropriate procedure for assessing the worth of natural environments and continue to believe that it provides a useful way of thinking. From cost-benefit it was a natural progression to environmental economics as a subject in itself. I have since pioneered the subject in the UK and Europe and nearly all of my work continues to be in this area.

PEARSON, Neil D. n.e.

PECHMANN, Cornelia (Connie) Ann Rachel

Born 1959, Binghamton, NY, USA.

Current Post Prof. Marketing, Grad. Sch. Mgmt, Univ. California, Irvine, CA, USA, 2003–.

Past Posts Asst. Prof. Marketing, Assoc. Prof. Marketing, Grad. Sch. Mgmt, Univ. California, Irvine, 1988–95, 1995–2003.

Degrees BA (Psychology), Bucknell Univ., 1981; MS (Psychology), MBA, PhD (Marketing) Vanderbilt Univ., 1985, 1985, 1988.

Honours Alden G. Clayton Dissertation Award, Marketing Sc. Inst., 1987; Exceptional Rev. Award, *J. Public Pol. and Marketing*, 1999; Outstanding Rev. Award, *J. Consumer Res.*, 2000; Conexant Teaching Award, Martin Excellence in Teaching Award, Univ. California, Irvine, 2000, 2001.

Editorial Duties Ed., *J. Public Pol. and Marketing*, special issue on ‘Social marketing initiatives’, 2002.

Principal Fields of Interest M3 Marketing and Advertising; II Health.

Publications *Articles*: 1. ‘The effects of comparative advertising on attention, memory, and purchase intentions’ (with D. Stewart), *J. Consumer Res.*, 17, Sept. 1990; 2. ‘The use of comparative advertising for brand positioning: association versus differentiation’ (with S. Ratneshwar), *J. Consumer Res.*, 18, Sept. 1991; 3. ‘Predicting when two-sided ads will be more effective than one-sided ads: the role of correlational and correspondent inferences’, *J. Marketing Res.*, 29, Nov. 1992; 4. ‘Consumer covariation judgments: theory or data driven?’ (with S. Ratneshwar), *J. Consumer Res.*, 19, Dec. 1992; 5. ‘The effects of anti-smoking and cigarette advertising on young adoles-

cents’ perceptions of peers who smoke’ (with S. Ratneshwar), *J. Consumer Res.*, 21, Sept. 1994; 6. ‘Do consumers over-generalize one-sided comparative price claims and are more stringent regulations needed?’, *J. Marketing Res.*, 33, May 1996; 7. ‘An assessment of the United States and Canadian smoking reduction objectives for year 2000’ (with P. Dixon, N. Layne), *Amer. J. Public Health*, 88, Sept. 1998; 8. ‘Smoking scenes in movies and antismoking advertisements before movies: effects on youth’ (with C.F. Shih), *J. Marketing*, 63, July 1999; 9. ‘Planning an effective anti-smoking mass media campaign targeting adolescents’ (with E.T. Reibling), *J. Public Health Mgmt Practice*, 6, 2000; 10. ‘Anti-smoking advertising campaigns targeting youth: case studies from USA and Canada’ (with E.T. Reibling), *Tobacco Control*, 9, suppl. II, 2000; 11. ‘An experimental investigation of the joint effects of advertising and peers on adolescents’ beliefs and intentions about cigarette consumption’ (with S.J. Knight), *J. Consumer Res.*, 29, June 2002; 12. ‘What to convey in antismoking ads for adolescents? The use of protection motivation theory to identify effective message themes’ (with G. Zhao, M.E. Goldberg, E.T. Reibling), *J. Marketing*, 67, April 2003.

Principal Contributions I conduct controlled experiments to study the effects of advertising on consumers, focussing on whether and how the federal government should regulate controversial advertising forms including comparative, reference price and cigarette advertising. My initial work on comparative advertising shows that this type can both dilute and tarnish competitors’ trademarks, due to consumer categorization and inference processes. On the other hand, comparative advertising can attract consumers’ attention, provide useful information on how brands differ on determinant attributes, and encourage brand

switching. Comparative advertising is most effective for unfamiliar low share brands, and counterproductive for high share brands. My work on cigarette advertising suggests that, contrary to prevailing beliefs, advertising and peer smoking are not independent factors that influence adolescents to smoke. Rather, through the process of 'priming', cigarette advertising causes adolescents to perceive peer smokers more favorably, which results in synergistic pro-smoking effects, even among those who are initially anti-smoking. Finally, I study whether it is beneficial for the government to promote or fund anti-smoking or anti-drug advertising, and/or encourage television broadcasters to embed anti-drug messages in their entertainment programs, to dissuade adolescents from initiating smoking and illicit drug use. My findings indicate that anti-smoking advertising can reduce adolescent smoking rates, as long as the messages enhance perceptions of health risk vulnerability or convey that smoking poses social rejection risks. Also, a 30-second antismoking ad can nullify the impact of a full-length movie that glamorizes smoking, if the ad is shown immediately before the movie.

PECK, Jamie Andrew

Born 1962, Nottingham, England.

Current Post Prof. Geography and Sociology, Univ. Wisconsin-Madison, Madison, WI, USA, 2000–.

Past Posts Natl Res. Fell., Univ. Melbourne, 1988–89; Lect., Prof. Geography, Univ. Manchester, 1989–2000.

Degrees BA (Geography, Hons), PhD (Geography) Univ. Manchester, 1983, 1988.

Offices and Honours *Environment and Planning A* Anniversary Award, 1995; Harkness Fell., 1995–96; Royal Geographical Soc. Back Award, 1998.

Editorial Duties Joint Ed., *Environment and Planning A*, 1998–, *Antipode*, 1999–.

Principal Fields of Interest P1 Capitalist Systems; J0 Labor and Demographic Economics: General; R0 Urban, Rural, and Regional Economics: General.

Publications *Books*: 1. *Work-Place: The Social Regulation of Labor Markets* (Guilford, 1996); 2. *Workfare States* (Guilford, 2001).

Articles: 1. 'Accumulation, regulation and the geographies of post-Fordism: missing links in regulationist research' (with A. Tickell), *Progress in Human Geography*, 16, 1992; 2. 'Regulating Japan? Regulation theory versus the Japanese experience' (with Y. Miyamachi), *Environment and Planning D: Soc. and Space*, 12, 1994; 3. 'From corporatism to localism, from MSC to TECs: developing neoliberal labour regulation in Britain', *Économies et Sociétés*, 17, 1994; 4. 'The social regulation of uneven development: "regulatory deficit", England's South East and the collapse of Thatcherism' (with A. Tickell), *Environment and Planning A*, 27, 1995; 5. 'Moving and shaking: business elites, state localism and urban privatism', *Progress in Human Geography*, 19, 1995; 6. 'Training and Enterprise Councils: Schumpeterian workfare state, or what?' (with M. Jones), *Environment and Planning A*, 27, 1995; 7. 'Business goes local: dissecting the "business agenda" in Manchester' (with A. Tickell), *Intl J. Urban and Regional Res.*, 19, 1995; 8. 'Social regulation after Fordism: regulation theory, neo-liberalism and the global-local nexus' (with A. Tickell), *Econ. and Soc.*, 24, 1995; 9. 'Manchester plays games: exploring the local politics of globalization' (with A. Cochrane, A. Tickell), *Urb Stud*, 33, 1996; 10. 'The business of contingent work: growth and restructuring in Chicago's temporary employment industry' (with N. Theodore), *Work, Employment and Soc.*, 12, 1998; 11. 'Work-

fare in the sun: politics, representation, and method in US welfare-to-work strategies', *Polit. Geography*, 17, 1998; 12. 'New labourers? Making a New Deal for the "workless class"', *Environment and Planning C*, 17, 1999; 13. 'Beyond "employability"' (with N. Theodore), *Camb JE*, 24, 2000; 14. 'Work first: workfare and the regulation of contingent labour markets' (with N. Theodore), *Camb JE*, 24, 2000; 15. 'Contingent Chicago: restructuring the spaces of temporary labor' (with N. Theodore), *Intl J. Urban and Regional Res.*, 25, 2001; 16. 'Labor, zapped/growth, restored? Three moments of neoliberal restructuring in the American labor market', *J. Econ. Geography*, 2, 2002; 17. 'Neoliberalizing space' (with A. Tickell), *Antipode*, 34, 2002; 18. 'Temped out? Industry rhetoric, labor regulation, and economic restructuring in the temporary staffing business' (with N. Theodore), *Econ. and Ind. Democracy*, 23, 2002.

Principal Contributions Much of my work has involved applications and developments of French regulation theory and labor market segmentation theory, often at the subnational scale of analysis. This work has been linked to a wider set of concerns with urban political economy, the regulation of the poor, and the comparative analysis of (geographically distinctive) forms of capitalism. In my book, *Work-Place*, I sought to clarify and develop the theoretical status of the concept of the local labor market, making the argument that a series of fundamental labor market processes – particularly those relating to the mobilization and regulation of the labor supply – are locally constituted. More recently, *Workfare States* represented an attempt to explore the process of welfare policy-making from a cross-national perspective, including case studies drawn from the United States, Canada, and the United Kingdom. Here,

the argument was advanced that forms of work-oriented welfare reform ('workfare') have begun to evolve in a mutually dependent fashion with markets for low-wage or 'contingent' labor. This work has spawned critiques of neoliberal 'employability' policies in countries like the US and the UK, as well as a series of papers on the growth and restructuring of the temporary staffing industry. More or less explicit in this work is a rejection of both methodological individualism and equilibrium-based theorizing. Instead, my concern has been to uncover the complex ways in which economic development processes are inescapably embedded in institutional and social relations, at scales ranging from the local to the global. Hence the focus on processes of policy formation and reform in fields like training, welfare, and urban development. An enduring theme in this work is that geographically differences in economic or policy outcomes cannot be understood merely as deviations from a norm, but instead reflect the way in which political-economic processes are spatially constituted.

PELTZMAN, Sam

Born 1940, New York City, NY, USA.

Current Posts Ralph and Dorothy Keller Disting. Service Prof. Econ., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1978–; Dir., George Stigler Center Study Econ. and State, Univ. Chicago, 1991–.

Past Posts Asst Prof., Prof. Econ., UCLA, 1967–73; Vis. Asst Prof., Ford Foundation, 1967; Vis. Prof., Grad. Sch. Bus., Univ. Chicago, 1968, 1973; Sr Staff Econ., US President's Council Econ. Advisers, 1970–71; Res. Fell., Inst. Adv. Study, Hebrew Univ., Jerusalem, 1978.

Degrees BBA City Coll., New York, 1960; PhD Univ. Chicago, 1965.

Offices and Honours Adjunct Scholar, AEI, 1975–88; Mem., Res. Advisory Bd, Comm. Econ. Devlp., 1989–93; Mem., Council Acad. Advisors, AEI, 1990–.

Editorial Duties Ed., *JPE*, 1974–89, *J Law E*, 1989–; Ed. Advisory Bds, *Cato J.*, *J. Regulatory Econ.*, *Regulation*, *Public Choice*, *Europ. JPE*, *Intl J. Econ. Bus.*, current.

Principal Fields of Interest L0 Industrial Organization: General; L5 Regulation and Industrial Policy; H1 Structure and Scope of Government.

Publications *Books*: 1. *Public Policy Toward Mergers* (ed. with F. Weston), (Goodyear, 1968); 2. *The Economics of Organized Crime* (ed. with G. Fiorentini), (CUP, 1995); 3. *Political Participation and Government Regulation* (UCP, 1998); 4. *Deregulation of Network Industries: What's Next?* (Brookings, 2000).

Articles: 1. 'Entry in commercial banking', *J Law E*, 8, Oct. 1965; 2. 'An evaluation of consumer protection regulation: the 1962 drug amendments', *JPE*, 81, Sept.–Oct. 1973, repr. in *Benefit–Cost Policy Analysis, 1973* (Aldine, 1974); 3. 'The effects of automobile safety regulation', *JPE*, 83, July/Aug. 1975; 4. 'Toward a more general theory of regulation', *J Law E*, 19, Aug. 1976; 5. 'The growth of government', *J Law E*, 23, Oct. 1980; 6. 'An economic interpretation of the history of congressional voting', *AER*, 75, Sept. 1985; 7. 'Voters as fiscal conservatives', *QJE*, 107, May 1992; 8. 'The political economy of the decline of American public education', *J Law E*, 36, April 1993; 9. 'George Stigler's contribution to the economics of regulation', *JPE*, 101, Oct. 1993; 10. 'Political economy of public education: non-college-bound students', *J Law E*, 39, April 1996; 11. 'Prices rise faster than they fall', *JPE*, 108, June 2000.

Principal Contributions My principal interest has been in the relationship between economics and the legal system. In

pursuit of this interest, I have done several studies on the effects of government regulation in such fields as banking, drugs, automobile safety, advertising regulation, education, etc. I have also thought about what common strands run through the diverse gamut of such regulations, so I have done some theoretical work on rational-choice models of regulation. But mainly I regard myself as an empirical researcher, rather than a theorist. In recent years, I have come to realise that regulation and other forms of government activity have much in common, so I have broadened my research to include public spending and politics.

PEROTTI, Roberto n.e.

PERRON, Pierre

Born 1959, Verdun, Canada.

Current Post Prof. Econ., Boston Univ., MA, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Montréal, Canada, 1986–88, 1992–94, 1994–97; Res. Assoc., Dir., Centre de Recherche et Développement en Écon., Univ. Montréal, 1986, 1995–97; Asst Prof., Princeton Univ., 1988–92; Vis. Prof., Pontifical Univ. Católica Rio de Janeiro, Brazil, 1995, 1998, 2000, 2002; Univ. Bourgogne, France, 1999; Univ. São Paulo, Brazil, 1995, 1997; Univ. Lausanne, 1996.

Degrees BA McGill Univ., 1981; MA Queen's Univ., 1982; PhD Yale Univ., 1986.

Offices and Honours Prix Triennial d'Excellence de la Soc. Canadienne de Sc. Écon., 1994; Exec. Council, CEA, 1995–97; Multi Scripsit Award, *ET*, 1996; Fell., *J Em*, 1997.

Editorial Duties Ed. Bds, *CJ*, 1991–94, *Em. Rev.*, 1991–2002, *ET*, 1992–95,

REStat, 1992–, *Annales d'Économie et de Stat.*, 1992–, *Em*, 1993–2002, *Revista de Econometria*, 1993–, *Econ. Letters*, 1994–, *Economia Applicada*, 1996–, *Actualité Écon.*, 1997–, *J Em*, 1998–.

Principal Fields of Interest C2 Econometric Methods: Single Equation Models; C4 Econometric and Statistical Methods: Special Topics; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. 'Trends and random walks in macroeconomic time series: further evidence from a new approach', *JEDC*, 12, June/Sept. 1988; 2. 'Testing for a unit root in time series regression' (with P.C.B. Phillips), *Biometrika*, 75, June 1988; 3. 'The calculation of the limiting distribution of the least-squares estimator in a near-integrated model', *ET*, 5, Aug. 1989; 4. 'The great crash, the oil price shock and the unit root hypothesis', *Em*, 57, Nov. 1989; 5. 'Testing for a unit root in a time series with a changing mean', *JBES*, 8, April 1990; 6. 'A continuous time approximation to the unstable first-order autoregressive model: the case without an intercept', *Em*, 59, Jan. 1991; 7. 'Test consistency with varying sampling frequency', *ET*, 7, Sept. 1991; 8. 'Pitfalls and opportunities: what macroeconomists should know about unit roots' (with J.Y. Campbell), in O.J. Blanchard, S. Fischer (eds), *NBER Macroecon. Annual*, Vol. 6 (MIT Press, 1991); 9. 'Nonstationarity and level shifts with an application to purchasing power parity' (with T.J. Vogelsang), *JBES*, 10, July 1992; 10. 'Local asymptotic distributions related to the AR(1) model with dependent errors' (with S. Nabeya), *J Em*, 62, June 1994; 11. 'Unit root tests in ARMA models with data dependent methods for the selection of the truncation lag' (with S. Ng), *JASA*, 90, March 1995; 12. 'The adequacy of asymptotic approximations in the near-integrated autoregressive model with depend-

ent errors', *J Em*, 70, Feb. 1996; 13. 'An analysis of the real interest rate under regime shifts' (with R. Garcia), *REStat*, 78, Feb. 1996; 14. 'Useful modifications to unit root tests with dependent errors and their local asymptotic distribution (with S. Ng), *REStud*, 63, July 1996; 15. 'Further evidence of breaking trend functions in macroeconomic variables', *J Em*, 80, Oct. 1997; 16. 'Estimating and testing linear models with multiple structural changes' (with J. Bai), *Em*, 66, Jan. 1998; 17. 'Additional tests for a unit root allowing the possibility of breaks in the trend function' (with T.J. Vogelsang), *IER*, 39, Nov. 1998; 18. 'Unit roots in the presence of abrupt governmental interventions with an application to Brazilian data' (with R.C. Cati, M.G.P. Garcia), *JAE*, 14, Jan.–Feb. 1999; 19. 'Lag length selection and the construction of unit root tests with good size and power' (with S. Ng), *Em*, 69, Nov. 2001; 20. 'Computation and analysis of multiple structural change models' (with J. Bai), *JAE*, 18, Jan./Feb. 2003.

Principal Contributions Three main topics characterize my research contributions. First, theoretical work on unit root tests with applications to macroeconomic time series. Early work issued from my PhD dissertation includes the so-called Phillips–Perron tests. More recently, I have analyzed transformed versions of these tests that have better finite sample properties when the data exhibits strong serial correlation. I have also considered issues related to the selection of the truncation lag for the so-called Dickey–Fuller unit root test, potential problems in the application of such tests with seasonally adjusted data and estimators of important nuisance parameters such as the spectral density function at the origin. Second, distribution theory in models with nonstationary time series. This work covers issues such as the computation of asymptotic distributions in

autoregressive models, the study of their adequacy as approximations in finite samples, the development of alternative asymptotic approximations (usually using an underlying continuous time process or a framework whereby key parameters are modeled as local to some boundary of interest) and the power of tests in relation to the sampling frequency of the data. Third, theoretical and empirical work related to the characterization of macroeconomic time series as stationary fluctuations with a trend function that changes infrequently. This work challenged the view that most macroeconomic time series are best modeled as processes with an autoregressive unit root. It helped foster theoretical and empirical research on the trend-cycle decomposition of aggregate time series. In particular, it forced a careful reevaluation of the standard unit root characterization and the frequency of permanent shocks. More generally, it helped renew interest on the issue of structural change in dynamic processes. This last topic remains of principal interest in my research from both theoretical and empirical perspectives.

PERSSON, Torsten Erik

Born 1954, Stockholm, Sweden.

Current Posts Dir., IIES, Stockholm Univ., Sweden, 1998–; Centennial Prof., LSE, London, UK, 1999–; Sc. Advisor, Bank of Sweden, 1994–.

Past Posts Researcher, Prof. Econ., IIES, 1982–86, 1987–98; Vis. Asst Prof., Princeton Univ., 1984; Vis. Assoc. Prof., Univ. Rochester, 1986–87; Vis. Ford Prof., Univ. California, Berkeley, 1990–91; Vis. Taussig Res. Prof., Harvard Univ., 1996–97.

Degrees BA, PhD, Docent Stockholm Univ., 1977, 1982, 1984.

Offices and Honours Res. Assoc., NBER, 1990, CEPR, 1994; Mem., Coun-

cil Mem., Royal Acad. Sc., 1993, 1999–2005; Secretary, Mem., Chair Prize Comm., Alfred Nobel Memorial Prize, 1993–2001, 1995–, 2002–; Torsten and Ragnar Söderberg Prize, 1995; Mem., Royal Acad. Eng. Sc., 1997; Frank Paish Lecture, RES, 1997; Yrjö Jahnson Award, 1997; Walras–Bowley Lecture, Em Soc, 2000; Fell., Council Mem., Em Soc, 1997, 2001–03; Zeuthen Lectures, Univ. Copenhagen, 1998; Alfred Marshall Lecture, Pres., EEA, 1998, 2003; Foreign Hon. Mem., AAAS, 2001; Swedish Res. Council, 2001–03.

Editorial Duties Foreign Ed., *REStud*, 1987–92; Ed., *Contrib. to Econ. Analysis*, 1996–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; E0 Macroeconomics and Monetary Economics: General; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Books*: 1. *Macroeconomic Policy, Credibility and Politics* (with G. Tabellini), (Harwood, 1990; 1998; trans., Italian, 1996); 2. *Monetary and Fiscal Policy, Volume I: Credibility, Volume II: Politics* (ed. with G. Tabellini), (MIT Press, 1994); 3. *Flexible Integration: Towards a More Effective and Democratic Europe* (with M. Dewatripont, F. Giavazzi, J. von Hagen, I. Harden, G. Roland, H. Rosenthal, A. Sapir, G. Tabellini), (CEPR, 1995; trans., Swedish, 2000); 4. *Political Economics: Explaining Economic Policy* (with G. Tabellini), (MIT Press, 2000, 2002); 5. *The Economic Effect of Constitutions* (with G. Tabellini), (MIT Press, 2003).

Articles: 1. 'Current account dynamics and the terms of trade: Harberger–Laursen–Metzler two generations later' (with L. Svensson), *JPE*, 93, 1985; 2. 'Inflation, interest rates, and welfare' (with P. Krugman, L. Svensson), *QJE*, 100, 1985; 3. 'Deficits and intergenerational welfare in open economies', *J Int E*, 19,

1985; 4. 'Time consistency of fiscal and monetary policy' (with M. Persson, L. Svensson), *Em*, 55, 1987; 5. 'Social contracts as assets: a possible solution to the time-consistency problem' (with L. Kotlikoff, L. Svensson), *AER*, 78, 1988; 6. 'Why a stubborn conservative would run a deficit: policy with time-consistent preferences' (with L. Svensson), *QJE*, 104, 1989; 7. 'The politics of 1992: fiscal policy and European integration' (with G. Tabellini), *REStud*, 59, 1992; 8. 'Designing institutions for monetary stability' (with G. Tabellini), *JME*, 39, 1993; 9. 'Is inequality harmful for growth?' (with G. Tabellini), *AER*, 84, 1994; 10. 'Federal fiscal constitutions: risk sharing and moral hazard' (with G. Tabellini), *Em*, 64, 1996; 11. 'Federal fiscal constitutions: risk sharing and redistribution' (with G. Tabellini), *JPE*, 104, 1996; 12. 'Separation of powers and political accountability' (with G. Roland, G. Tabellini), *QJE*, 112, 1997; 13. 'The size and scope of government: comparative politics with rational politicians' (with G. Tabellini), *Europ ER*, 43, 1999; 14. 'Comparative politics and public finance' (with G. Roland, G. Tabellini), *JPE*, 108, 2000; 15. 'Do political institutions shape economic policy?', *Em*, 70, 2002.

Principal Contributions My research started out in macroeconomics and international finance, asking theoretical questions about determinants and effects of exchange-rate systems and current accounts. Gradually, I became interested in the mechanisms that could produce credibility (time consistency) of monetary and fiscal policy. My work on this topic together with L. Svensson led me into the politics of economic policymaking. Since then, I have done research on a number of theoretical and empirical aspects of this topic, including the connection between income distribution and economic growth, the design of central-bank institutions,

policy-making in federations, and the rationale for separation of powers. Almost all of this research has been done together with G. Tabellini, with whom I have also written a graduate text on political economics. Our most recent theoretical and empirical research program tries to uncover systematic consequences of alternative political systems – such as electoral rules and forms of government – for policy outcomes and economic performance.

PESARAN, (Mohammad) Hashem

Born 1946, Shiraz, Fars, Iran.

Current Posts Prof., and Fell., Trinity Coll., Univ. Cambridge, UK, 1988–.

Past Posts Jr Res. Officer/Lektor, Trinity Coll., Univ. Cambridge, 1971–73; Head, Econ. Res. Dept, Central Bank Iran, 1974–76; UnderSecretary, Min. Educ., Iran, 1977–78; Teaching Fell./Dir., Stud. Econ., Trinity Coll., Univ. Cambridge, 1979–88; Vis. Lect., Harvard Univ., 1982; Reader Econ., Univ. Cambridge, 1985–88; Prof. Econ. and Dir., Program Apl. Em., UCLA, 1989–93; Vis. Fell., ANU, 1984, 1988; Vis. Prof., Univ. Rome, 1986, UCLA, 1987–88, Inst Adv. Stud., Vienna, 1991, Univ. Pennsylvania, 1993, Univ. Southern California, 1995, 1997, 1999; Vice-Pres., Tudor Investment Cooperation, Greenwich, USA, 2001–02.

Degrees BSc Salford Univ., 1968; PhD Univ. Cambridge, 1972.

Offices and Honours Dir., Camfit Data Ltd, 1986–, Acorn Investment Trust, 1987–89, 1991–93; Dir., Hon. Pres., Cambridge Em., 1985, 1988–89, 1992–96, 1996–; Mem., HM Treasury Acad. Panel, 1993–2002, Advisory Comm., UK Meteorological Office, 1994–97, World Bank Council of Advisors Middle East and N. Africa Region, 1996–2000, Acad. Em. Panel, ONS, 1997–2002; Fell., Em Soc,

1989–, *J Em*, 1990–; George Sell Prize, Inst. Petroleum, London, 1990; RES Prize, 1992; Hon. DLitt (*hc*) Univ. Salford, 1993; Mem., Bd Trustees, Econ. Res. Forum for Arab Countries, Iran and Turkey, 1996–2001; Charter Mem., Oliver Wyman Inst., 1997–2000; Fell., BA, 1998; Non-Exec. Dir., W.J.B. Chiltern Plc, 1999–.

Editorial Duties Ed. Bds, *Camb JE*, 1981–89, *Em. Theory*, 1984–87, *Ekonomia* (formerly *Cyprus J. Econ.*), 1990–, *Hellenic Rev.*, 1993–; Assoc. Ed., *Em*, 1984–85, *JEDC*, 1995–; Founding Ed., *J. Apl. Em.*, 1986–; Advisory Bd, *J. Econ. Surveys*, 1995–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; E1 General Aggregative Models; O5 Economywide Country Studies.

Publications *Books*: 1. *Dynamic Regression: Theory and Algorithms* (with L.J. Slater), (Horwood, 1980, trans., Russian, 1984); 2. *Keynes' Economics: Methodological Issues* (ed. with T. Lawson), (Croom Helm, 1985, pb edn Routledge, 1989); 3. *The Limits to Rational Expectations* (Blackwell, 1987, 1989, pb edn 1989), chap. 8 repr. in Van der Ploeg (ed.), *Advanced Lectures in Quantitative Economics* (Acad. Press, 1990); 4. *Disaggregation in Econometric Modelling* (ed. with T. Barker), (Routledge, 1990); 5. *Non-Linear Dynamics, Chaos and Econometrics* (ed. with S. Potter), (Wiley, 1993); 6. *Handbook of Applied Econometrics: Macroeconomics* (ed. with M. Wickens), (Blackwell, 1995); 7. *Working with Microfit 4.0: Interactive Econometric Analysis* (with B. Pesaran), (OUP, 1997); 8. *Handbook of Applied Econometrics: Microeconomics* (ed. with P. Schmidt), (Blackwell, 1997); 9. *Energy Demand in Asian Developing Economies* (with R.P. Smith, T. Akiyama), (OUP, 1998); 10. *Analysis of Panels and Limited Dependent Variables: A Volume in Honour of G.S. Maddala* (ed. with C. Hsiao, K. Lahiri, L.-F. Lee), (CUP, 1999).

Articles: 1. 'On the general problem of model selection', *REStat*, 41, 1974; 2. 'Testing non-tested, non-linear regression models', *Em*, 46, 1978; 2. 'Identification of rational expectations models', *J Em*, 16, 1981; 3. 'A critique of the proposed tests of the natural rate/rational expectations hypothesis', *EJ*, 92, Sept. 1982; 4. 'Econometric analysis of aggregation in the context of linear prediction models' (with R.G. Pierse, M. Kumar), *Em*, 57, July 1989; 5. 'An econometric model of exploration and extraction of oil in the UK continental shelf', *EJ*, 100, June 1990; 6. 'The Iranian foreign exchange policy and the black market for dollars', *Intl J. Middle Eastern Stud.*, 24, 1992; 7. 'Estimating long-run relationships from dynamic heterogeneous panels' (with R.P. Smith), *Em*, 68, 1995; 8. 'Predictability of stock returns: robustness and economic significance', *J Fin*, 50, 1995; 9. 'Limited-dependent rational expectations models with future expectations', *JEDC*, 19, 1995; 10. 'Long-run structural modelling' (with Y. Shin), *Em. Rev.*, 21, 2002.

Principal Contributions My early work focused on the problem of model selection and hypothesis testing, in particular where the hypotheses under consideration were separate or non-nested. The paper which introduced the idea of non-nested hypothesis testing into econometrics was published in *REStat*, 1974. On returning to Cambridge after a five-year absence from academia (1973–79), I started to work on the identification and solution of rational expectations (RE). My main contribution in this area appeared first in *J Em* (1981), and subsequently in my book *The Limits to Rational Expectations*. This work recognised the importance of RE but also highlighted the limitations of this hypothesis for empirical analysis. The difficulties and ambiguities surrounding the empirical evaluation of RE models are illustrated in my *EJ* paper (1982). While continuing my research on

developments of econometric methods in the area of non-nested hypothesis testing, I turned my attention to the problem of aggregation in econometric modelling. This work reconsiders the problem of aggregation bias and focuses on the relative forecasting performance of aggregated and disaggregated models in the context of dynamic models; thus extending Henri Theil's pioneering work in this area. More recently I have turned my attention to the analysis of dynamic heterogeneous panel data models, possibly containing non-stationary regressors. Together with Im and Shin I have developed a panel unit root test, known as the t-bar test, which has been widely used. My main co-authored contributions in these areas are published in *Em* (1995), *JASA* (1999) and *J Em* (forthcoming). In addition, I have been working on the Iranian economy, having made contributions to the debate on the foreign exchange policy in Iran; empirical modelling of oil supplies in the North Sea (my related work in *EJ* (1990) won the 1992 RES prize); predictability of stock returns and their economic significance; econometric analysis of limited dependent-RE models and impulse response analysis in non-linear and multivariate econometric models. I am also co-developer (with Bahram Pesaran) of the econometric software package *Microfit*, published by OUP, used extensively in higher education and commerce.

PETERSEN, Mitchell

Born 1963, Cedar Rapids, IA, USA.

Current Post Glen E. Vasel, Assoc. Prof. Fin., Kellogg Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 1994–.

Past Posts Asst Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1990–94.

Degrees BA Princeton Univ., 1986; PhD MIT, 1990.

Offices and Honours NSF Fellowship, 1986–89; Sloan Fellowship, 1989–90; Smith–Breedon Prize for Outstanding Paper, *J Fin*, 1995; Michael Brennan Award for Best Paper, *Rev. Fin. Stud.*, 1998.

Editorial Duties Advisory Bd, *J. Pension Plan Investing*, 1995–97; Assoc. Ed., *Rev. Fin. Stud.*, 1995–97, *J. Fin. Intermediation*, 1995–98; Ed., *J. Fin. Intermediation*, 1998–.

Principal Fields of Interest G3 Corporate Finance and Governance; G2 Financial Institutions and Services.

Publications Articles: 1. 'Pension reversions and worker-stockholder wealth transfers', *QJE*, 107, Aug. 1992; 2. 'The benefits of lending relationships: evidence from small business data' (with R.G. Rajan), *J Fin*, 49, March 1994; 3. 'Posted versus effective spreads: good prices or bad quotes?' (with D. Fialkowski), *J Fin E*, 35, June 1994; 4. 'Cash flow variability and a firm's pension choice: a role for operating leverage', *J Fin E*, 36, Dec. 1994; 5. 'The effect of credit market competition on firm–creditor relationships' (with R.G. Rajan), *QJE*, 110, March 1995; 6. 'Trade credit: theories and evidence' (with R. Rajan), *Rev. Fin. Stud.*, 10, Fall 1997; 7. 'Risk measurement and hedging: with and without derivatives' (with R. Thiagarajan), *Fin. Mgmt*, 29, Winter 2001; 8. 'Does distance still matter? The information revolution and small business lending' (with R.G. Rajan), *J Fin*, 57, Dec. 2002.

Principal Contributions I have made contributions to our understanding of how firms finance their investments and manage the associated risks.

PHILLIPS, Peter C.B.

Born 1948, Weymouth, England.

Current Posts Sterling Prof. Econ. and Prof. Stats, Yale Univ., New Haven, CT,

USA, 1989–; Alumni Disting. Prof. Econ., Univ. Auckland, New Zealand, 1992–; Adjunct Prof. Econ., Univ. York, York, UK, 1999–.

Past Posts Teaching Fell. Econ., Jr Lect. Econ., Univ. Auckland, 1969, 1970–71; Lect. Econ., Univ. Essex, 1972–76; Prof. Econ. and Social Stats, Univ. Birmingham, 1976–79; Vis. Scholar, École Polytech., 1977, Indiana Univ., 1982; Vis. Prof. Econ., Yale Univ., 1978, Univ. Auckland, 1978, 1979, 1988, Inst. Adv. Stud., Vienna, 1989; Prof. Econ. and Stats, Stanley B. Resor Prof. Econ. and Prof. Stats, Yale Univ., 1979–85, 1985–89; Univ. Vis. Prof., Monash Univ., 1986; Disting. Visitor, LSE, 1989; Disting. Sr Res. Fell., Goldring Inst. Intl Bus., Tulane Univ., 1993–97.

Degrees BA, MA Auckland, 1969, 1971; PhD Univ. London, 1974.

Offices and Honours Commonwealth Scholar, 1971–72; Fell., Em Soc, 1981; Fell. Japan Soc. Promotion of Sc., 1983; Guggenheim Fellowship, 1984–85; *J Em* Charter Fell., 1988; Fell., ASA, 1993; Hon. Fell., Royal Soc. New Zealand, 1994; Marschak Lecture, 1993; Chair-Elect, Chair, Bus. and Econ. Stats Section, ASA, 1993, 1994; Fisher–Schultz Lecture, 1994; Fell., ASA, 1996; New Zealand Medal of Sc. and Tech., 1998; Plurima Scripsit, *Em. Theory*, 1999; Econ. of Year, New Zealand Inst. Econ. Res., 2000; Dist. Author, *JAE*, 2001; Maddala Lecture, 2002; Sargan Lecture, 2002.

Editorial Duties Ed. Bd, *REStud*, 1975–80; Assoc. Ed., *Em*, 1978–84; Foundation Ed., *Em. Theory*, 1985–, *Asia-Pacific Econ. Rev.* (with C. Hargreaves), 1995–2000; Ed., *Themes in Modern Em.*, 1993–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C5 Econometric Modeling; E3 Prices, Business Fluctuations, and Cycles.

Publications *Books*: 1. *Exercises in Econometrics*, Vols I and II (with M.R.

Wickens), (Ballinger and Philip Allan, 1978); 2. *Models, Methods and Applications of Econometrics: Essays in Honour of A.R. Bergstrom* (ed.), (Blackwell, 1993); 3. *Advances in Econometrics and Quantitative Economics: Essays in Honour of Professor C.R. Rao* (with G.S. Maddala, T.N. Srinivasan), (Blackwell, 1995).

Articles: 1. ‘The structural estimation of a stochastic differential equation system’, *Em*, 40, Nov. 1972; 2. ‘Approximations to some finite sample distributions associated with a first order stochastic difference equation’, *Em*, 45, March 1977; 3. ‘The exact finite sample density of instrumental variable estimators in an equation with $n + 1$ endogenous variables’, *Em*, 48, May 1980; 4. ‘Understanding spurious regressions in econometrics’, *J Em*, 33, Dec. 1986; 5. ‘Time series regression with a unit root’, *Em*, 55, March 1987; 6. ‘Partially identified econometric models’, *Em. Theory*, 5, Aug. 1989; 7. ‘Optimal inference in cointegrated systems’, *Em*, 59, March 1991; 8. ‘To criticize the critics: an objective Bayesian analysis of stochastic trends’, *Em. Theory*, 6, Oct.–Dec. 1991; 9. ‘Asymptotics for linear processes’ (with V. Solo), *Annals of Stats*, 20, June 1992; 10. ‘Fully modified least squares and vector autoregression’, *Em*, 63, Sept. 1995; 11. ‘An asymptotic theory of Bayesian inference for time series’ (with W. Ploberger), *Em*, 64, March 1996; 12. ‘Econometric model determination’, *Em*, 64, July 1996; 13. ‘New tools for understanding spurious regressions’, *Em*, 66, Nov. 1998; 14. ‘Linear regression limit theory for nonstationary panel data’ (with H.R. Moon), *Em*, 67, Sept. 1999; 15. ‘Nonstationary binary choice models’ (with J. Park), *Em*, 68, Sept. 2000; 16. ‘Nonlinear regression with integrated time series’ (with J. Park), *Em*, 69, Jan. 2001; 17. ‘Band spectral regression with trending data’ (with D. Corbae, S. Ouliaris), *Em*, 70, May 2002.

Principal Contributions My early research was concerned with problems of continuous time econometric models, developing methods that allowed for identification and consistent estimation of parameters using only discrete time-series data. By the mid-1970s, my interests moved to the use of asymptotic expansions for improving inference in dynamic econometric models, establishing the validity of Edgeworth expansions and developing formulae for Edgeworth, Saddlepoint, Laplace, and large deviation approximations in contexts that are useful in applications. These methods are now helpful in justifying the use of bootstrap techniques and in achieving dimensionality reductions in Bayesian applications. Over the period 1978–84, I devoted much effort to developing an exact distribution theory for structural econometric estimators and test statistics. One development in this research that has subsequently proved fruitful is a set of operational algebra techniques, including fractional calculus and matrix extensions. By the mid-1980s, my main research occupation was the development of a theory of nonstationary time-series regression and inference. The principal tool introduced in this research was functional central limit theory and this has proved to be crucial in helping us to understand spurious regression phenomena and in developing asymptotics for many popular models in empirical macroeconometric research, such as vector autoregression and error-correction models. Research in this field is now widespread in economics and is affecting other fields such as political science and mass communications. During the 1990s my research also included work on Bayesian methods in dynamic models, including a general approach to Bayesian asymptotic theory and model determination. Empirical applications of this work are ongoing and involve automated data-

determined methods of model selection in forecasting macroeconomic activity for a group of the Asia-Pacific economies. Recent research includes semiparametric estimation of long memory, nonstationary panel estimation, nonlinear nonstationary statistical methods and applied analyses of market intervention policy.

PIERCE, Brooks n.e.

PINDYCK, Robert Stephen

Born 1945, New York City, NY, USA.

Current Post Bank of Tokyo-Mitsubishi Prof. Econ. and Fin., Sloan Sch. Mgmt, MIT, Cambridge, MA, USA, 1988–.

Past Posts Asst Prof., Assoc. Prof., Prof., Sloan Sch. Mgmt, MIT, 1971–87.

Degrees BS, MS, PhD MIT, 1966, 1967, 1971.

Offices and Honours Pres., Assoc. Environmental and Resource Econ., 1980; Sackler Fell., Tel Aviv Univ., 1985, 1987; Fell., Em Soc; Alumni/ae Award for Innovation and Excellence in Mgmt Educ., 1994; Outstanding Contrib. to Profession Award, Intl Assoc. Energy Econ., 1997.

Editorial Duties Assoc. Ed., *JEDC*, 1987–, *Energy Econ.*, 1978–; Advisory Ed., *J. Energy and Devlp.*, 1980–; Ed. Bd, *Energy Systems and Pol.*, 1980–; Co-Ed., *REStat*, 1997–.

Principal Fields of Interest D0 Microeconomics: General; L0 Industrial Organization: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *Optimal Planning for Economic Stabilization* (N-H, 1973); 2. *The Economics of the Natural Gas Shortage, 1960–80* (with P.W. MacAvoy), (N-H, 1975); 3. *Price Controls and the Natural Gas Shortage* (with P.W. MacAvoy), (AEI, 1975); 4. *Econo-*

metric Models and Economic Forecasts (with D.L. Rubinfeld), (McGraw-Hill, 1976, 1981, 1991, 1998); 5. *Advances in the Economics of Energy and Resources*, 2 vols (ed.), (JAI Press, 1979); 6. *The Structure of World Energy Demand* (MIT Press, 1979); 7. *Microeconomics* (with D.L. Rubinfeld), (Prentice-Hall, 1989, 1992, 1995, 1998, 2001); 8. *Investment under Uncertainty* (with A.K. Dixit), (Princeton Univ. Press, 1994).

Articles: 1. 'Gains to producers from the cartelization of natural resources', *REStat*, 60, May 1978; 2. 'The optimal exploration and production of renewable resources', *JPE*, 86, Oct. 1978; 3. 'Uncertainty and exhaustible resource markets', *JPE*, 88, Dec. 1980; 4. 'Dynamic factor demands and the effects of energy price shocks' (with J. Rotemberg), *AER*, 73, Dec. 1983; 5. 'Uncertainty in the theory of renewable resource markets', *REStud*, 51, April 1984; 6. 'Risk, inflation, and the stock market', *AER*, 74, June 1984; 7. 'Irreversible investment, capacity choice, and the value of the firm', *AER*, 78, Dec. 1988; 8. 'Irreversibility, uncertainty, and investment', *JEL*, 29, Sept. 1991; 9. 'Investments of uncertain cost', *J Fin E*, 34, Aug. 1993; 10. 'Inventories and the short-run dynamics of commodity prices', *RandJE*, 25, March 1994; 11. 'Optimal timing problems in environmental economics', *JRDC*, 26, Aug. 2002.

Principal Contributions Early work focussed on the use of control-theoretic methods for the design and analysis of economic policy, and the economics of energy and natural resource markets, including the economics of resource exploration and the role of uncertainty. Related work included econometric studies of sectoral energy demands, an analysis of the world oil market and behavior of the OPEC cartel, studies of cartel pricing and cartel behavior in general, and the relationships of energy markets to the macro

economy, including the macroeconomic effects of sudden and drastic changes in energy prices. Most recent work has dealt with the analysis of irreversible capital investment decisions under various kinds of uncertainty, analysis of financial markets and the behavior of commodity prices, implications of irreversibility and uncertainty in environmental policy design, and modeling the evolution of market structure and market power.

PISSARIDES, Christopher Antoniou

Born 1948, Nicosia, Cyprus.

Current Post Prof. Econ., LSE, London, UK, 1986–.

Past Posts Econ., Res. Dept, Central Bank Cyprus, 1974; Temp. Lect. Econ., Univ. Southampton, 1974–75; Lect., Reader Econ., LSE, 1976–82, 1982–86; Vis. Positions, Harvard Univ. and NBER, 1979–80, Ind. Relations Section, Princeton Univ., 1984, Econ. Res. Dept, Reserve Bank Australia, 1986, Europ. Univ. Inst., Florence, 1989, Sch. Bus. Admin., Univ. California, Berkeley, 1990–91, Monetary Analysis Div., Bank of England, 1994, Econ. Devlp Inst., World Bank, 1995.

Degrees BA, MA Univ. Essex, 1970, 1971; PhD LSE, 1974.

Offices and Honours Res. Dir., Centre Labour Econ., 1985–90; Mem., Interim Governing Bd, Univ. Cyprus, 1989–93; Programme Dir., Natl Econ. Performance Group, Centre Econ. Performance, 1990–; Panel Mem., *Econ. Pol.*, 1991–93; Mem. Advisory Bd, Forum Econ. Res. in Arab Countries, Iran and Turkey, 1993–98; Houblon–Norman Fell., Bank of England, 1994; Res. Fell., CEPR, 1994–; Convenor, Econ. Dept, LSE, 1996–99; Fell., Em Soc, 1998–, BA, 2002–; Council Mem., RES, 1998–; Mem. Money Pol. Co., Cyprus, 2000–; Cons., World Bank, Europ. Commission, OECD.

Editorial Duties Co-Ed., *Em*, 1980–83; Bd Mem., *REStud*, 1983–92; Assoc. Ed., *Em*, 1996–; Assoc. Ed., Ed. Mem., *EJ*, 2000–.

Principal Fields of Interest J6 Mobility, Unemployment, and Vacancies; E3 Prices, Business Fluctuations, and Cycles; O4 Economic Growth and Aggregate Productivity.

Publications Books: 1. *Labour Market Adjustment: Microeconomic Foundations of Short-Run Neoclassical and Keynesian Dynamics* (CUP, 1976); 2. *Equilibrium Unemployment Theory* (Blackwell, 1990); 3. *Equilibrium Unemployment Theory* (MIT Press, 2nd edn 2000).

Articles: 1. ‘The role of relative wages and excess demand in the sectoral flow of labour’, *REStud*, 45, Oct. 1978; 2. ‘Job matchings with state employment agencies and random search’, *EJ*, 89, Dec. 1979; 3. ‘From school to university: the demand for post-compulsory education in Britain’, *EJ*, 92, Sept. 1982; 4. ‘Search intensity, job advertising and efficiency’, *J Lab E*, 2, Jan. 1984; 5. ‘Efficient job rejection’, *EJ Conf. Papers*, 94, 1984; 6. ‘Short-run equilibrium dynamics of unemployment, vacancies and real wages’, *AER*, 75, Sept. 1985; 7. ‘Unemployment and vacancies in Britain’, *Econ. Pol.*, 3, Oct. 1986; 8. ‘Search, wage bargains and cycles’, *REStud*, 54, July 1987; 9. ‘Unemployment and the inter-regional mobility of labour’ (with J. Wadsworth), *EJ*, 99, Sept. 1989; 10. ‘On vacancies’ (with R. Jackman, R. Layard), *OBES*, 51, Nov. 1989; 11. ‘Loss of skill during unemployment and the persistence of employment shocks’, *QJE*, 107, Nov. 1992; 12. ‘Unemployment, consumption and growth’ (with C. Bean), *Europ ER*, 37, May 1993; 13. ‘Job creation and job destruction in the theory of unemployment’ (with D. Mortensen), *REStud*, 61, July 1994; 14. ‘Search unemployment with on-the-job search’, *REStud*, 61, July 1994; 15. ‘The

impact of employment tax cuts on unemployment and wages: the role of unemployment benefits and tax structure’, *Europ ER*, 42, Jan. 1998; 16. ‘Unemployment responses to “skill-biased” technology shocks: the role of labour market policy’ (with D. Mortensen), *EJ*, 109, April 1999; 17. ‘Looking into the black box: a survey of the matching function’ (with B. Petrongolo), *JEL*, 38, June 2001.

Principal Contributions The theme of my research is the interaction between the labour market and the macro economy. When I first started studying economics, I realized that the structure of the supply side and the ability of the labour market to absorb shocks was far more important for the functioning of the macro economy than the factors then emphasized by Monetarists and Keynesians. Since then, the objective of my research has been the development of tools for the study of the dynamics of the labour market and their implications for the economy as a whole. I saw that search models held much promise for the study of aggregate labour market dynamics but was dissatisfied by the assumptions that they made about wage determination and by the complexity of their techniques, which made them difficult to apply in many situations. I helped develop the concept of the matching function and applied simple bargaining theory to wage determination to arrive at a model of labour market equilibrium that could be applied to the study of the business cycle, economic growth and to a variety of other situations, such as social security and employment taxes. I estimated aggregate matching functions and applied the idea to the study of labour market policy in the OECD with encouraging results. More recently, in collaboration with Dale Mortensen, I applied the theory to the analysis of job creation and job destruction flows. Several authors have used our approach with good results. I have also

made contributions in other areas of macroeconomics and labour economics, including consumption theory, the demand for higher education, migration and the relation between macroeconomic adjustment and poverty. More recently I have studied the foundations of labour market policy and the way that it interacts with shocks to influence the macroeconomic outcomes.

PITT, Mark M. n.e.

PLATTEAU, Jean-Philippe

Born 1947, Tournai, Belgium.

Current Posts Prof., Dept Econ., Univ. Namur, Belgium, 1985–.

Past Post Lect., Dept Econ., Univ. Namur, 1977–85.

Degrees MA, PhD Univ. Namur, 1969, 1977.

Offices and Honours Dudley Seers Prize, 1996; Franqui Chair, Katholieke Univ. Leuven, 1999–2000.

Editorial Duties Assoc. Ed., *JDE*, 1992–, *WD*, 1997–2000, *Devlp. and Change*, 1992–, *Oxford Devlp. Stud.*, 1997–.

Principal Fields of Interest D0 Microeconomics: General; O1 Economic Development; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *Les Économistes Classiques et le Sous-Développement* (PUF, Paris, 1978); 2. *Technology, Credit and Indebtedness in Marine Fishing* (with E. Delbar, J. Murickan), (Hindustan Publ., 1985); 3. *Halting Degradation of Natural Resources: Is There a Role for Rural Communities?* (with J.M. Baland), (Clarendon Press, 1996, pb 2000); 4. *Institutions, Social Norms and Economic Development* (Harwood Acad. and Routledge & Kegan Paul, 2000); 5.

Access to Land, Rural Poverty, and Public Action (with A. de Janvry, G. Gordillo, E. Sadoulet), (OUP, 2001).

Articles: 1. ‘An inquiry into quasi-credit contracts: the role of reciprocal credit and interlinked deals in small-scale fishermen communities’ (with A. Abraham), *JDE*, 23, July 1987; 2. ‘Traditional systems of social security and hunger insurance: past achievements and modern challenges’, in E. Ahmad, J. Drèze, J. Hills, A.K. Sen (eds), *Social Security in Developing Countries* (Clarendon Press, 1991); 3. ‘Share contracts and their rationale: lessons from marine fishing’ (with J. Nugent), *J. Devlp. Studies*, 28, April 1992; 4. ‘Behind the market stage where real societies exist. Part I: The role of public and private order institutions’, *J. Devlp. Studies*, 30, April 1994; 5. ‘Behind the market stage where real societies exist. Part II: The role of moral norms’, *J. Devlp. Studies*, 30, July 1994; 6. ‘A framework for the analysis of evolving patron–client ties’, *WD*, 23, May 1995; 7. ‘An Indian model of aristocratic patronage’, *OEP*, 47, Oct. 1995; 8. ‘Coordination problems in resource conservation programs’ (with J.M. Baland), *JDE*, 50, June 1997; 9. ‘Mutual insurance as an elusive concept in traditional rural societies’, *J Dev Stud*, 33, Aug. 1997; 10. ‘Wealth inequality and efficiency on the commons. Part I: The unregulated case’ (with J.M. Baland), *OEP*, 49, Oct. 1997; 11. ‘Wealth inequality and efficiency on the commons. Part II: The regulated case’ (with J.M. Baland), *OEP*, 50, Jan. 1998; 12. ‘Land relations under unbearable stress: Rwanda caught in the Malthusian trap’ (with C. Andre), *JEB*, 34, Feb. 1998; 13. ‘Participation in the construction of a local public good with indivisibilities: an application to watershed development in Ethiopia’ (with F. Gaspart C. Melard), *J. African Econ.*, 7, July 1998; 14. ‘Dividing the commons: a partial assessment of the new institutional economics of property rights’ (with J.M. Baland),

AJAE, 80, Aug. 1998; 15. 'Land tenure security and investment incentives: puzzling evidence from Burkina Faso' (with A.S. Brasselle, F. Gaspart), *JDE*, 67, April 2002.

Principal Contributions Most of my work has been concerned with the understanding of the role of institutions in economic development, and the processes of institutional change, especially under the joint impact of population growth and market penetration. The influence of non-economic factors and various frontier issues at the interface between economics and sociology, are a central focus of my research projects, hence my continuous interest in other social sciences than economics and my continuous emphasis on the potential contributions of sociology to the field of economics in general, and economic development in particular. As a matter of application, my attention has mostly centered on agrarian institutions in developing countries, implying that many of my contributions have a detailed empirical basis, always grounded in original first-hand data collected on the field of several poor economies in Asia and Sub-Saharan Africa. The most important themes in my research are the following: the determinants of village-level collective action, and the impact of wealth inequality on its level and efficiency (with special reference to the production of local public goods and the management of local natural resources); common property resource management in village societies; informal risk-sharing mechanisms; rules, including inheritance customs, governing access to land and other natural resources, and their transformation under the influence of increasing land pressure; the development and functioning of land markets under the same influence; choice of contracts in artisanal fisheries; systems of marriage payments and their evolution in Africa; the role of social and moral

norms in economic development; 'elite capture problems' in decentralized development programs.

PLOBERGER, Werner

Born 1956, Vienna, Austria.

Current Post Prof., Univ. Rochester, Rochester, NY, USA, 1997–.

Past Posts Asst and Assoc. Prof., Vienna Univ. Tech. (TU-Wien), 1981–95; Prof., Univ. St. Andrews, 1995–97.

Degrees Diplom-Ingenieur (Apl. Maths), Dr (Tech. Sc.) TU-Wien, 1978, 1981.

Editorial Duties Assoc. Ed., *Empirical Econ.*, 1997–, *German Econ. Rev.*, 1997–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C5 Econometric Modeling; C2 Econometric Methods: Single Equation Models.

Publications *Articles*: 1. 'Testing for structural change in dynamic models' (with W. Krämer, R. Alt), *Em*, 56, 1988; 2. 'A new test for structural stability in the linear regression model' (with W. Krämer, K. Kontrus), *J Em*, 40, 1989; 3. 'The local power of the CUSUM and CUSUM of squares tests' (with W. Krämer), *Em. Theory*, 6, 1990; 4. 'The CUSUM-test with OLS-residuals' (with W. Krämer), *Em*, 60, 1992; 5. 'Posterior odds testing for a unit root with data-based model selection' (with P.C.B. Phillips), *Em. Theory*, 10, 1994; 6. 'Optimal tests when a nuisance parameter is present only under the alternative' (with D.W.K. Andrews), *Em*, 62, 1994; 7. 'Admissibility of the likelihood-ratio test when a nuisance parameter is present only under the alternative' (with D.W.K. Andrews), *Annals of Stats*, 23, 1995; 8. 'Optimal changepoint tests for normal linear regression' (with D.W.K. Andrews, I. Lee), *J Em*, 70, 1996; 9. 'A trend-resistant test for structural change based on OLS-

residuals' (with W. Krämer), *J Em*, 70, 1996; 10. 'An asymptotic theory of Bayesian inference for time series' (with P.C.B. Phillips), *Em*, 64, 1996; 11. 'Testing for serial correlation against an ARMA (1,1) process' (with D.W.K. Andrews), *JASA*, 91, 1996; 12. 'Asymptotic theory of integrated conditional moments tests' (with H.J. Bierens), *Em*, 65, 1997; 13. 'Tests for white noise against alternatives with both seasonal and nonseasonal serial correlation' (with D.W.K. Andrews, X. Liu), *Biometrika*, 85, 1998; 14. 'Empirical limits for time series econometric models' (with P.C.B. Phillips), *Em*, 71, 2003; 15. 'A complete class of tests when the likelihood is locally asymptotically quadratic', *J Em*, forthcoming 2003.

Principal Contributions Most of my work is related to testing problems: I was interested in the problem of testing for structural change and related problems, working mainly with Walter Krämer and Don W.K. Andrews. We were able to generalize classical methods to dynamical systems and to establish optimality properties for certain test-statistics (exponential averages). Recently I am also working (in collaboration with Peter C.B. Phillips) on the problem of model determination (i.e., picking the 'right' order for a model). Here we propose a new criterion function and prove some optimality theorems. Together with Herman J. Bierens, my third line of work is the investigation of nonparametric specification tests. We were able to establish optimality properties and surprisingly good asymptotic power properties of some tests.

PLOTT, Charles R.

Born 1938, Frederick, OK, USA.

Current Posts Edward S. Harkness Prof. Econ. and Polit. Sc., Dir., Program for Study of Enterprise and Public Pol.,

Dir., Lab. Experimental Econ. and Polit. Sc., California Inst. Tech., Pasadena, CA, USA, 1970–.

Past Posts Asst Prof., Assoc. Prof., Purdue Univ., 1965–67, 1968–70; Vis. Prof. Econ., Stanford Univ., 1968–69, Univ. Chicago, 1980; Vis. Prof. Law, Univ. S. California Law Center, 1976.

Degrees BS, MS Oklahoma State Univ., 1961, 1964; PhD Univ. Virginia, 1965.

Offices and Honours Ford Foundation Fell., 1968; Pres., Public Choice Soc., 1976–78, Econ. Sc. Assoc., 1987–88, WEA Intl, 1998–99; Exec. Comm., Vice-Pres., Pres., SEA, 1977–78, 1985–87, 1989–90; Guggenheim Foundation Fell., 1981–82; Fell., Center Adv. Stud. Behav. Sc., 1981–82, AAAS, 1985, Em Soc, 1985; Hooker Disting. Prof., McMaster Univ., 1983; Sr Res. Fell., Inst. Pol. Reform, 1992–93; Georgescu-Roegen Prize, SEA, 1995; DLett (*hc*) Purdue Univ., 1995; Diplôme Docteur (*hc*), Univ. Pierre Mendès, 1996; Bd Dirs, Consortium Social Sc. Assocs, 1996–98; Lee Center Networking Res., 2000–.

Editorial Duties Ed. Bd, *ET*, 1994–.

Principal Fields of Interest C9 Design of Experiments; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *The Allocation of Scarce Resources: Experimental Economics and the Problem of Allocating Airport Slots* (with D.M. Grether, R.M. Isaac), in K. Arrow, J. Heckman, P. Pechman, T. Sargent, R. Solow (eds), *Underground classics in economics* series (Westview Press, 1989); 2. *Public Economics, Political Processes and Policy Applications. Collected Papers on the Experimental Foundations of Economics and Political Science*, Vol. I (ed.), (Edward Elgar, 2001); 3. *Market Institutions and Price Discovery. Collected Papers on the Experimental Foundations of Economics and Political Science*, Vol. II (ed.), (Edward Elgar, 2001); 4. *Informa-*

tion, Finance and General Equilibrium. Collected Papers on the Experimental Foundations of Economics and Political Science, Vol. III (ed.), (Edward Elgar, 2001; 5. *Handbook of Experimental Economics Results* (co-ed.), (N-H/Elsevier, forthcoming).

Articles: 1. 'Axiomatic social choice theory: an overview and interpretation', *Amer. J. Polit. Sc.*, 3, Aug. 1976, repr. in C.K. Rowley (ed.), *Social Choice Theory*, Vol. I (Edward Elgar, 1993); 2. 'A model of agenda influence on committee decisions' (with M. Levine), *AER*, 68, March 1978; 3. 'Rational expectations and the aggregation of diverse information in laboratory security markets' (with S. Sunder), *Em*, 56, Sept. 1988; 4. 'Will economics become an experimental science?', *SEJ*, 57, April 1991; 5. 'Designer markets: laboratory experimental methods in economics', *ET*, 4, 1994; 6. 'A binary conflict ascending price (BICAP) mechanism for the decentralized allocation of the right to use railroad tracks' (with P.J. Brewer), *IJIO*, 14, 1996; 7. 'The principles of exchange rate determination in an international finance experiment' (with C. Noussair, R. Riezman), *JPE*, 105, 1997; 8. 'Laboratory experimental testbeds: application to the PCS auction', *JEMS*, 6, Fall 1997; 9. 'General equilibrium, markets, macroeconomics and money in a laboratory experimental environment' (with P. Lian), *ET*, 12, 1998; 10. 'The CAPM in thin experimental financial markets' (with P. Bossaerts), *JEDC*, 26, 2002; 11. 'Decentralized management of common property resources: experiments with a centuries-old institution' (with M. Casari), *JEBO*, forthcoming.

Principal Contributions Early work was on theoretical aspects of social choice theory, voting, and public economics. Beginning in the 1970s I became interested in developing and applying laboratory methodologies. I conducted extensive re-

search on the behavioral foundations of economics, public economics, and political science. In the general area of public economics, I discovered the equilibration tendencies of committees, the power of agenda, and procedural institutional features in dictating outcomes of group deliberations, the equilibration of markets with externalities, and circumstances in which the classical 'free-riding' phenomena can be observed. In market economics, working with Vernon Smith led to the discovery of the 'posted price effect' and measurement of efficiency in experimental markets, both being central to the foundations of policy-related experimental work on market institutions. Research in economics has opened new issues to laboratory investigation, e.g., information aggregation in markets, market stability, and operations of multiple markets, including general equilibrium, and international trade and finance. Largely, my research has been devoted to the development and application of laboratory methods to policy issues, including allocations of landing rights at the major airports, and resources on Space Station Freedom, markets for emissions permits, and mechanisms for pricing use of natural gas pipelines. Research has evolved into a methodology for designing and testbedding new types of decentralized processes for making decisions focussing on such diverse problems as auctioning the right to use railroad tracks, markets for electrical power in California, and design and implementation of the auction used by the FCC for sale of personal communications systems licenses. The California Institute of Technology Laboratory for Experimental Economics and Political Science, which I founded and direct, has been a major producer of laboratory technologies. It began with local area networked tools used in laboratories worldwide, and led to the development of internet technolo-

gies for conducting large experiments, internationally, including successfully utilizing people from other countries in a single market.

POLACHEK, Solomon William

Born 1945, Washington, DC, USA.

Current Post Disting. Prof. Econ., SUNY, Binghamton, NY, USA, 1996–.

Past Posts Natl Planning Assoc., Washington, DC, 1966–70; Preceptor Econ., Columbia Univ., 1971–73; Asst Prof., Assoc. Prof. Econ., Univ. North Carolina, 1973–83; Vis. Res. Prof., Erasmus Univ., 1984; Vis. Prof., Bar-Ilan and Tel Aviv Univs, 1992, Catholique Univ., Leuven, 1987; Prof. Econ., Chair, Dept Econ., SUNY, 1983–96, 1994–96; Dean, Harpur Coll. Arts and Sc., SUNY, 1996–2000; Vis. Scholar, Univ. Michigan 2000–01; Vis. Fell., Princeton Univ., 2002–03.

Degrees BA George Washington Univ., 1967; PhD Columbia Univ., 1973.

Offices and Honours Earhart Foundation Fell., 1968–69; Fell., Columbia Univ., 1969–72; Postdoctoral Fell., Univ. Chicago, 1972–73; Ford Foundation Faculty Fellowship, 1974–75; Scholar, Carolina Pop. Center, 1977–78; Natl Fell., Hoover Inst., Stanford Univ., 1979–80; Conf. Program Comm., EEA, 1985–86, North Amer. Econ. and Fin. Assoc., 1989, Feminist Perspectives on Econ. Theory Conf., 1993; Dan Hoffman Disting. Teaching Award, SUNY, 1997; Pres., Peace Sc. Soc., 1999–2000; Res. Fell., Inst. Study Labor, Bonn, Germany, 2000–;

Editorial Duties Ed. Bds, *Intl Stud. Q.*, 1989–94, *Conflict Mgmt and Peace Sc.*, 1989–, SUNY Press, 1999–2004, *J. Econ. Inequality*, 2002–, *Rev. Econ. Household*, 2002–; Co-Ed., *Peace Econ., Peace Sc. and Public Pol.*, 1993–; Ed., *Res. in Labor Econ.*, 1994–.

Principal Fields of Interest J0 Labor

and Demographic Economics: General; F1 Trade; C2 Econometric Methods: Single Equation Models.

Publications Book: 1. *The Economics of Earnings* (with W.S. Siebert), (CUP, 1993), portions of chap. 6, 'Gender in the labor market', repr. in D. Grusky (ed.), *Social Stratification* (Westview Press, 1994).

Articles: 1. 'Family investments in human capital: earnings of women' (with J. Mincer), *JPE*, pt 2, 82, March/April 1974, repr. in T.W. Schultz (ed.), *Family Economics: Marriage, Human Capital, and Fertility* (UCP, 1974), A. Amsden (ed.), *The Economics of Women and Work* (St Martin's Press, 1980), *Studies in Human Capital* (Edward Elgar, 1993), J. Humphries (ed.), *Gender and Economics* (Edward Elgar, 1995), and N. Folbre (ed.), *The Economics of the Family* (Edward Elgar, 1996); 2. 'Empirical evidence on the functional form of the income–schooling relationship' (with J. Heckman), *JASA*, 69, June 1974; 3. 'Potential biases in measuring male–female discrimination', *JHR*, 10, Spring 1975; 4. 'Differences in expected post-school investment as a determinant of market wage differentials', *Intl Econ. Res.*, 16, June 1975, repr. in P. Wallace (ed.), *Women, Minorities, and Discrimination in Employment* (D.C. Heath, 1977); 5. 'A life cycle approach to migration: analysis of the perspicacious peregrinator' (with F. Horvath), in R. Ehrenberg (ed.), *Research in Labor Economics* (JAI Press, 1977); 6. 'Conflict and trade', *J. Conflict Resolution*, 24, March 1980; 7. 'Occupational self-selection: a human capital approach to sex differences in occupational structure', *REStat*, 63, Feb. 1981, repr. in M. Ferber (ed.), *Women in the Labor Market* (Edward Elgar, 1998); 8. 'Panel estimates of union effects on wages and wage growth' (with P. Wunnava, M. Hutchins), *REStat*, 69, 1987; 9. 'A two-tiered earnings frontier estima-

tion and employer and employee information in the labor market' (with B. Yoon), *REStat*, 69, 1987; 10. 'Investment-dependent labor supply choices over the life cycle' (with F.-F. Jiang), *Res. Labor Econ.*, 12, 1991, repr. in special reprint series, Inst. Econ., Academia Sinica, July 1992; 11. 'Conflict and trade: an economics approach to political international interactions', in W. Isard, C. Anderton (eds), *Economics of Arms Reduction and the Peace Process* (N-H, 1992), repr. in *Peace Econ., Peace Sc. and Public Pol.*, 5, Spring 1999; 12. 'Why the gender gap in wages narrowed in the 1980s' (with J. O'Neill), *J Lab E*, 11, 1993; 13. 'Panel estimates of the gender earnings gap: individual specific intercept and individual specific slope models' (with M. Kim), *J Em*, 61, 1994; 14. 'Earnings over the life cycle: what do human capital models explain?', *Scottish Econ. J.*, 42, Aug. 1995, repr. in M. Ferber (ed.), *Women in the Labour Market* (Edward Elgar, 1998); 15. 'Panel estimates of a two-tiered earnings frontier' (with B. Yoon), *JAE*, 11, March–April 1996; 16. 'Why democracies cooperate more and fight less: the relationship between international trade and conflict', *Rev. Intl Econ.*, 5, 1997; 17. 'Employee labor market information: comparing direct world of work measures of workers' knowledge to stochastic frontier estimates' (with J. Robst), *Labour Econ.*, 5, 1998; 18. 'The effects of price changes on alcohol consumption in alcohol-experienced rats' (with J. Sarbaum, N. Spear), NBER Working Paper, 6443, in F.J. Chaloupka *et al.* (eds), *The Economic Analysis of Substance Use and Abuse* (UCP, 1999); 19. 'Trends in the male–female wage gap: the 1980s compared to the 1970s' (with J. Robst), *SEJ*, 67, April 2001.

Principal Contributions Why economic well-being differs by demographic group is my prime research focus. My initial explorations concentrated on gen-

der. I showed how life-cycle human capital models explain male–female wage differences. My first finding demonstrated that the male–female wage gap was far smaller for single than for married men and women. From this result, I was able to establish that lifetime work is a crucial component in determining human capital investments and wages. This conclusion meant that policies encouraging greater female labor force participation would achieve gender equality more efficiently than such policies as comparable worth. Introducing human capital heterogeneity enabled me to explain gender-based occupational segregation. Further, by embedding search, job choice, and geographic location into the life-cycle human capital framework, I gained insight into the analysis of geographic and job mobility, including how search over the life cycle can explain migration periodicity (how long one remains in a job or geographic location before seeking another). I extensively tested these models econometrically using cross-sectional and panel data. A byproduct of this empirical work led to an econometric technique to estimate incomplete buyer and seller information regarding wages and prices. Another strand of my research integrates political science and economics to show how international trade fosters cooperative political relations between countries. I found that if bilateral political conflict diminishes economic trade (or if bilateral conflict leads to a more unfavorable terms-of-trade), then conflict becomes more costly the greater the gains-from-trade. This proposition illustrates how nations with sizeable trade gains exhibit the least conflict. Extensive empirical research merging large international data sets showed that trading partners with the most trade engage in the least conflict. Further, higher trade levels explain the lower conflict that democracies display towards each other. I am now

applying this conflict-trade model to industrial relations.

POLINSKY, A. Mitchell

Born 1948, St. Louis, MO, USA.

Current Posts Josephine Scott Crocker Prof. Law and Econ., Stanford Law Sch., Stanford Univ., CA, USA, 1984–; Res. Assoc., NBER, USA, 1979–.

Past Posts Asst Prof. Econ., Harvard Univ., 1973–79, Russell Sage Foundation Res. Law and Social Sc., Yale Law Sch., 1975–76, Harvard Law Sch., 1976–77; Asst Prof. Law and Econ., Harvard Law Sch., 1977–79; Prof. Law and Assoc. Prof. Econ., Stanford Univ., 1979–84.

Degrees BA Harvard Univ., 1970; PhD MIT, 1973; MSL Yale Law Sch., 1976.

Offices and Honours Mem., Law and Social Sc. Advisory Sub-Comm., NSF, 1980–82; John Simon Guggenheim Memorial Foundation Fell., 1993–94; Pres., Amer. Law and Econ. Assoc., 1993–94; Fell., Center Adv. Stud. Behav. Sc., 1997–98.

Editorial Duties Ed. Bds, *JLEO*, 1983–, *Intl Rev. Law and Econ.*, 1987–, *JRU*, 1987–, *J Pub E*, 1999.

Principal Field of Interest K0 Law and Economics: General.

Publications *Book*: 1. *An Introduction to Law and Economics* (Little, Brown, 1983, 1989).

Articles: 1. ‘The optimal tradeoff between the probability and magnitude of fines’ (with S. Shavell), *AER*, 69, Dec. 1979; 2. ‘Private versus public enforcement of fines’, *J. Legal Stud.*, 9, Jan. 1980; 3. ‘Resolving nuisance disputes: the simple economics of injunctive and damage remedies’, *Stanford Law Rev.*, 32, July 1980; 4. ‘Risk sharing through breach of contract remedies’, *J. Legal Stud.*, 12, June 1983; 5. ‘The optimal use of fines and imprisonment’ (with S. Shavell), *J Pub E*,

22, June 1984; 6. ‘The welfare implications of costly litigation for the level of liability’ (with D.L. Rubinfeld), *J. Legal Stud.*, 17, Jan. 1988; 7. ‘Decoupling liability: optimal incentives for care and litigation’ (with Y.-K. Che), *RandJE*, 22, Winter 1991; 8. ‘Sanctioning frivolous suits: an economic analysis’ (with D.L. Rubinfeld), *Georgetown Law J.*, 82, Dec. 1993; 9. ‘Should liability be based on the harm to the victim or the gain to the injurer?’ (with S. Shavell), *JLEO*, 10, Oct. 1994; 10. ‘Optimal awards and penalties when the probability of prevailing varies among plaintiffs’ (with D.L. Rubinfeld), *RandJE*, 27, Summer 1996; 11. ‘Punitive damages: an economic analysis’ (with S. Shavell), *Harvard Law Rev.*, 111, Feb. 1998; 12. ‘Does the English Rule discourage low-probability-of-prevailing plaintiffs?’ (with D.L. Rubinfeld), *J. Legal Stud.*, 27, June 1998; 13. ‘On offense history and the theory of deterrence’ (with S. Shavell), *Intl Rev. Law and Econ.*, 18, Sept. 1998; 14. ‘On the disutility and discounting of imprisonment and the theory of deterrence’ (with S. Shavell), *J. Legal Stud.*, 28, Jan. 1999; 15. ‘The economic theory of public enforcement of law’ (with S. Shavell), *JEL*, 38, March 2000; 16. ‘The fairness of sanctions: some implications for optimal enforcement policy’ (with S. Shavell), *Amer. Law and Econ. Rev.*, 2, Fall 2000; 17. ‘Corruption and optimal law enforcement’ (with S. Shavell), *J Pub E*, 81, July 2001; 18. ‘A note on settlements under the contingent fee method of compensating lawyers’ (with D.L. Rubinfeld), *Intl Rev. Law and Econ.*, 22, Aug. 2002; 19. ‘Aligning the interests of lawyers and clients’ (with D.L. Rubinfeld), *Amer. Law and Econ. Rev.*, forthcoming.

Principal Contributions My early work was concerned with issues of urban economics, including local public sector economics and housing demand analysis. After attending Yale Law School, 1975–

76, my research shifted to the so-called 'new law and economics'. Within this area, my principal interest is the economics of enforcement, broadly defined. For example, I am concerned with whether anti-trust laws should be enforced by private individuals using the treble damage remedy or by public regulators using fines and imprisonment as threats. Similar questions arise in the control of pollution, product quality and tax evasion, other substantive areas of interest to me. Much of my research in this area is summarised in a non-technical way in my textbook, *An Introduction to Law and Economics*. I am at present (2002) at work on a scholarly treatise on this subject with Professor Steven Shavell of Harvard, provisionally titled *The Economic Theory of Public Enforcement of Law*.

POLLAK, Robert A.

Born 1938, New York City, NY, USA.

Current Post Hernreich Disting. Prof. Econ., Coll. Arts and Sc. and John M. Olin Sch., Washington Univ., St. Louis, MO, USA, 1995–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Charles and William Day Prof. Econ. and Social Sc., Univ. Pennsylvania, 1964–68, 1968–72, 1972–90, 1983–90; Econ., US Bureau Labor Stats, Washington, DC, 1968–69; Prof. Econ., Univ. Washington, Seattle, 1990–95.

Degrees BA Amherst Coll., 1960, PhD MIT, 1964.

Offices and Honours Phi Beta Kappa, 1960; Fell., Em Soc, 1977, Amer. Assoc. Advancement Sc., 1991, AAAS, 1999; John Simon Guggenheim Foundation Fell., 1999–2000; Mindel C. Sheps Award, PAA, 2000; Res. Assoc., Program on Labor Stud., NBER, 2001–; Pres., MEA, 2002–03.

Editorial Duties Ed., *IER*, 1976–85; Assoc. Ed., *IER*, 1985–, *REStat*, 1987–92, *Demography*, 1990–93, *Rev. Econ. Households*, 2001–; Ed. Bds, *JEL*, 1985–97, *Feminist Econ.*, 1994–.

Principal Fields of Interest D1 Household Behavior; J1 Demographic Economics; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Theory of the Cost of Living Index* (OUP, 1989); 2. *Demand System Specification and Estimation* (with T.J. Wales), (OUP, 1992); 3. *From Parent to Child: Inequality and Immobility in the United States* (with J.R. Behrman, P. Taubman), (UCP, 1995).

Articles: 1. 'Consistent planning', *REStud*, 35, April 1968; 2. 'Conditional demand functions and consumption theory', *QJE*, 83, Feb. 1969; 3. 'Habit formation and dynamic demand functions', *JPE*, 78, July–Aug. 1970; 4. 'The relevance of the household production function and its implications for the allocation of time' (with M.L. Wachter), *JPE*, 83, April 1975; 5. 'Welfare comparisons and equivalence scales' (with T.J. Wales), *AER*, 73, May 1979; 6. 'Towards a more general model of fertility determination: endogenous preferences and natural fertility' (with R.A. Easterlin, M.L. Wachter), in R.A. Easterlin (ed.), *Population and Economic Change in Less Developed Countries* (UCP, 1980); 7. 'Parental preferences and provision for progeny' (with J.R. Behrman, P. Taubman), *JPE*, 90, Feb. 1982; 8. 'Acyclic collective choice rules' (with D.H. Blair), *Em*, 50, July 1982; 9. 'A transaction cost approach to families and households', *JEL*, 23, June 1985; 10. 'Two-sex demographic models', *JPE*, 98, April 1990; 11. 'Cultural and economic approaches to fertility: proper marriage or *mésalliance*?' (with S.C. Watkins), *Pop. Devlp. Rev.*, 19, Sept. 1993; 12. 'Separate spheres bargaining and the marriage market' (with S. Lundberg), *JPE*, 101, Dec.

1993; 13. 'Regulating risks', *JEL*, 33, March 1995; 14. 'Bargaining and distribution in marriage' (with S. Lundberg), *JEP*, 10, Fall 1996; 15. 'Do husbands and wives pool their resources? Evidence from the UK child benefit' (with S. Lundberg, T.J. Wales), *JHR*, 32, Summer 1997; 16. 'The consumer price index: a research agenda and three proposals', *JEP*, 12, Winter 1998; 17. 'Pricing biodiversity' (with C.A. Montgomery, K. Freemark, D. White), *JEEM*, 38, July 1999.

Principal Contributions (1) *Allocation within the family*. I have developed a 'transaction cost' approach to the analysis of families and households and an analysis of 'tied transfers'. In collaboration with Jere Behrman and the late Paul Taubman, I have developed a 'preference model' of the determinants of human capital accumulation that provides an alternative to Becker's 'investment model'. In collaboration with Shelly Lundberg I have developed the 'separate spheres' and other bargaining models of distribution within marriage. (2) *Demography*. In a series of four papers, I have proposed and analysed the 'birth matrix-mating rule' (BMNR) model, a new model of equilibrium population age structure and growth. The BMNR model resolves what demographers call 'the two-sex problem' by allowing fertility rates to depend on the age-sex composition of the population. (3) *Consumer demand analysis*. My work on consumer demand analysis, in collaboration with Terence J. Wales, has centered on bridging the gap between the pure theory of consumer behavior and its empirical implementation. This work focusses on four issues: the assumptions made about the functional form of the utility function (i.e., the structure of preferences), the treatment of demographic variables (e.g., family size), the treatment of dynamics (e.g., taste change and the endogenous formation of preferences), and

the specification of the stochastic structure of the demand system. (4) *The cost-of-living index*. My work on the cost-of-living index extends the underlying theory and deals with such special topics as the construction of indexes for subsets of goods, the treatment of household production, the treatment of quality differences and quality change, and the construction of indexes that measure the impact of price changes on the welfare of a group or population of households. The underlying theme of this work is that, when suitably elaborated, the theory of the cost-of-living index provides principled answers to many of the practical problems that arise in constructing indexes of consumer prices.

PORTER, Michael E. n.e.

PORTNEY, Paul Rogers

Born 1945, Chicago, IL, USA.

Current Post Pres. and Sr Fell., Resources for the Future, Washington, DC, USA, 1995–.

Past Posts Dissertation Fell., Brookings Inst., 1971–72; Vis. Prof., Grad. Sch. Public Pol., Univ. California, Berkeley, 1977–79; Sr Staff Econ., Council Environmental Quality, Exec. Office of US President, 1979–80; Sr Fell. and Dir. Center Risk Mgmt, Vice-Pres. Fell., Sr Fell., Resources for the Future, 1972–77, 1986–87, 1989–95; Vis. Lect., Princeton Univ., 1992–97.

Degrees BA (Econ. Maths, *mcl*) Alma Coll., Michigan, 1967; PhD Northwestern Univ., 1973.

Offices and Honours Mem., Bd on Environmental Stud. and Toxicology, NAS, 1986–88; Mem., Chairman, Environmental Econ. Advisory Comm., Sc. Advisory Bd, EPA, 1992–97, 1994–97.

Editorial Duties Assoc. Ed., *JPAM*, 1989–92.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; K2 Regulation and Business Law.

Publications *Books*: 1. *Economic Issues in Metropolitan Growth* (ed.), (JHUP for Resources for the Future, 1976); 2. *Current Issues in US Environmental Policy* (ed.), (JHUP for Resources for the Future, 1978); 3. *Environmental Regulation and the US Economy* (ed. with A. Kneese, H. Peskin), (JHUP for Resources for the Future, 1981); 4. *Current Issues in Natural Resource Policy* (ed.), (Resources for the Future, 1982); 5. *Natural Resources and the Environment: The Reagan Approach* (ed.), (Urban Inst. Press, 1984); 6. *Assigning Liability for Superfund Cleanups: An Analysis of Policy Options* (with K.N. Probst), (Resources for the Future Report, 1992); 7. *Footing the Bill for Superfund Cleanups: Who Pays and How?* (with D. Fullerton, R. Litan, K. Probst), (Resources for the Future, 1995); 8. *Discounting and Intergenerational Equity* (ed. with J. Weyant), (Resources for the Future, 1999); 9. *Public Policies for Environmental Protection* (ed. with R. Stavins), (Resources for the Future, 2nd edn 1999).

Articles: 1. 'Housing prices, health effects, and valuing reductions in risk of death', *JEEM*, 8, 1981; 2. 'Urban air quality and acute respiratory illness' (with J. Mullahy), *JUE*, 20, 1986; 3. 'Valuing the benefits of health and safety regulation' (with W. Harrington), *JUE*, 22, 1987; 4. 'The net benefits of incentive-based regulation: a case study of environmental standard-setting' (with W. Oates, A. McGartland), *AER*, 79, 1989; 5. 'Economics and the Clean Air Act', *JEP*, 4, 1990; 6. 'Controlling urban air pollution: a benefit-cost assessment' (with A. Krupnick), *Sc.*, 252, 1991; 7. 'The determinants of pesticide regulation: a statistical analysis

of EPA decisionmaking' (with M.L. Cropper, W.N. Evans, S.J. Berardi, M.M. Ducla-Soares), *JPE*, 100, 1992; 8. 'Public preferences for life saving: discounting for time and age' (with M. Cropper, S. Aydede), *JRU*, 8, 1994; 9. 'The contingent valuation debate: why economists should care', *JEP*, 9, Fall 1994; 10. 'Environmental regulation and the competitiveness of US manufacturing' (with R. Stavins, A. Jaffe, S. Peterson), *JEL*, 33, March 1995.

Principal Contributions My principal contributions to economics have been in the areas of applied welfare economics and environmental economics. My technical research has focussed on the benefits of environmental regulatory programs. For instance, in work conducted during the 1980s (with John Mullahy), I explored the effects of ambient air pollution on acute and chronic illness, with an eye toward determining how significant might be the health benefits of pollution control. With Winston Harrington, I developed a theoretical measure of these health benefits. Later, in work done with Maureen Cropper and Sema Aydede, I published a series of papers looking at individuals' stated preferences for hypothetical government programs that could save lives either immediately or in the future. Based on the responses, it was possible to estimate implicit discount rates for life saving; these discount rates were found to be non-constant exponentially. Much of my work has involved taking the results of technical analyses and making these findings accessible to non-economists. This is true of virtually all of the books I have written or edited, and true also of a number of journal articles. For instance, in a paper published in 1994 (article 9), I attempted to explain the so-called contingent valuation method to those not familiar with this technique for estimating benefits. That same article ex-

plained why it was important both to economists and also to those interested in environmental policy in the United States.

POSNER, Richard A.

Born 1939, USA.

Current Posts Chief Judge, US Court Appeals Seventh Circuit; Sr Lect., Univ. Chicago Law Sch., Chicago, IL, USA, 1981–.

Degrees BA Yale Univ., 1959; LLB Harvard Univ., 1962.

Offices and Honours Mem., Amer. Law Inst., Amer. Bar Assoc., AAAS, BA; Hon. degrees, Univs Yale, Pennsylvania, Georgetown, Ghent and others.

Principal Field of Interest A1 General Economics.

Publications *Books*: 1. *Economic Analysis of Law* (Little, Brown, 1973, 1977, 1986, 1992, 1998); 2. *Antitrust Law: An Economic Perspective* (UCP, 1976); 3. *The Economics of Justice* (HUP, 1981); 4. *The Economic Structure of Tort Law* (with W.M. Landes), (HUP, 1987); 5. *Sex and Reason* (HUP, 1992); 6. *Private Choices and Public Health: The AIDS Epidemic in an Economic Perspective* (with T.J. Philipson), (HUP, 1993); 7. *Overcoming Law* (HUP, 1995).

Articles: 1. 'Taxation by regulation', *Bell JE*, 2, Spring 1971; 2. 'A theory of negligence', *J. Legal Stud.*, 1, Jan. 1972; 3. 'The social costs of monopoly and regulation', *JPE*, 83, Aug. 1975.

Principal Contributions Use of economic theory to explain the common law; economic analysis of antitrust law; economic analysis of the state; economic analysis of nonmarket behavior, including sex.

POSTLEWAITE, Andrew William

Born 1943, Harvey, IL, USA.

Current Posts Kamen Prof. Econ. and Prof. Fin., Univ. Pennsylvania, Philadelphia, PA, USA, 2002–.

Past Posts Res. Fell., CORE, Univ. Louvain, 1973–74; Asst Prof., Assoc. Prof., Univ. Illinois, Urbana, 1974–80; Vis. Prof. Econ., Univ. California, San Diego, 1976; Vis. Assoc. Prof., Princeton Univ., 1979–80; Prof. Public Mgmt, Univ. Pennsylvania, 1980–82; Prof. Econ. and Fin., Univ. Pennsylvania, 1982–2002.

Degrees BA Illinois Wesleyan Univ. 1965; PhD (Maths) Northwestern Univ., 1974.

Offices and Honours Res. Fell., Univ. Illinois, 1973–74, Inst. Adv. Study, Hebrew Univ., 1983, Inst. Maths and Its Apl., Univ. Minnesota, 1983.

Editorial Duties Assoc. Ed., *JET*, 1981–97, *J. Games and Econ. Behav.*, 1990–97; Ed., *IER*, 1996–98; Co-Ed., *Em*, 1997–.

Principal Fields of Interest A1 General Economics; H0 Public Economics: General.

Publications *Articles*: 1. 'The incentives for price-taking behavior in large exchange economies' (with D.J. Roberts), *Em*, 44, Jan. 1976; 2. 'Approximate efficiency of non-Walrasian Nash equilibria' (with D. Schmeidler), *Em*, 46, Jan. 1978; 3. 'Manipulation via endowments', *REStud*, 46, April 1979; 4. 'Implementation in differential information economies' (with D. Schmeidler), *JET*, 39, June 1986; 5. 'Pre-play communication in two-person sealed-bid double auctions' (with S. Matthews), *JET*, 48, 1989, repr. in P. Linhart, R. Radner, M. Satterthwaite (eds), *Bargaining with Incomplete Information* (Acad. Press, 1992); 6. 'Asymptotic information bargaining problems with many agents' (with G. Mailath), *REStud*, 57, 1990; 7. 'Symptotic efficiency in large

exchange economies with asymmetric information' (with F. Gul), *Em*, 60, 1992; 8. 'Social norms, saving behaviour and growth' (with H. Cole, G. Mailath), *JPE*, 100, 1992; 9. 'On belief based refinements in signaling games' (with G. Mailath, M. Okuno-Fujiwara), *JET*, 60, 1993; 10. 'Finite bubbles and short sale constraints and asymmetric information' (with F. Allen, S. Morris), *JET*, 61, 1993; 11. 'Relative income concerns and the rise in married women's employment' (with D. Neumark), *J Pub E*, 70, 1998; 12. 'Class systems and the enforcement of social norms' (with H. Cole, G. Mailath), *J Pub E*, 70, 1998; 13. 'The social basis of interdependent preferences', *Europ ER*, 42, 1998; 14. 'Efficient non-contractible investments in large economies' (with H. Cole, G. Mailath), *JET*, 101, 2001; 15. 'Investment and concern for relative position' (with H. Cole, G. Mailath), *Rev. Econ. Design*, 6, 2001; 16. 'Efficient non-contractible investments in a finite economy' (with H. Cole, G. Mailath), *Advances in Theoretical Econ.*, 1, 2001; 17. 'Social arrangements and economic behavior', *Annales d'Économie et de Stat.*, 63, 2001; 18. 'Informational size and incentive compatibility' (with R. McLean), *Em*, 70, 2002; 19. 'Informational size, incentive compatibility and the core of a game with incomplete information' (with R. McLean), *Games and Econ. Behav.*, forthcoming; 20. 'Informational size and incentive compatibility with aggregate uncertainty' (with R. McLean), *Games and Econ. Behav.*, forthcoming.

Principal Contributions My work has concentrated on strategic behaviour in economic models, primarily general equilibrium models. The work has focused on the theoretical limits of organizational design and performance, where organizations are modelled as games in strategic form and performance is taken to be the game-theoretic solution (Nash, Dominant,

Bayesian Nash) to these games, and on applications of those models to social norms and status.

POTERBA, James Michael

Born 1958, New York, NY, USA.

Current Posts Mitsui Prof. Econ., MIT, Cambridge, MA, USA, 1996–; Dir., Public Econ. Res. Program, NBER, Cambridge, MA, USA, 1991–.

Past Posts Instr., Asst Prof., Assoc. Prof., Prof., MIT, 1982–83, 1983–86, 1986–88, 1988–96; Vis. Prof., Univ. Chicago Grad. Sch. Bus., 1988; Fell., Center Adv. Study Behav. Sc., Stanford, 1993–94; Fell, Hoover Inst., Stanford, 2000–01.

Degrees AB Harvard Coll., 1980; MPhil, DPhil Oxford Univ., 1982, 1983.

Offices and Honours Marshall Scholarship, 1980–83; Faculty Res. Fell., Res. Assoc., NBER, 1982–85, 1985–; James L. Barr Award, 1986; Batterymarch Fin. Fellowship, 1986; Fell., Em Soc, 1988–; Alfred P. Sloan Fellowship, 1988; Fell., Natl Acad. Social Insurance, 1992–; Sr Fell., Inst. Pol. Reform, 1992–93; Dir., AFA, 1993–95; Fell., AAAS, 1996–.

Editorial Duties Co-Ed., *RandJE*, 1986–95, *J Pub E*, 1995–97; Ed., *J Pub E*, 1998–; Advisory Bds, *J. Investment Consulting*, 1998–, *J. Wealth Mgmt*, 1998–.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; H7 State and Local Government; Intergovernmental Relations; G2 Financial Institutions and Services.

Publications *Books*: 1. *Economic Policy Responses to Global Warming* (with R. Dornbusch), (MIT Press, 1991); 2. *Public Policies and Household Saving* (UCP, 1994); 3. *International Comparisons of Household Saving* (UCP, 1994); 4. *Empirical Foundations of Household Taxa-*

tion (with M. Feldstein), (UCP, 1996); 5. *Fiscal Institutions and Fiscal Performance* (with J. von Hagen), (UCP, 1998); 6. *The Role of Annuity Markets in Financing Retirement* (with J. Brown, O. Mitchell, M. Warshawsky), (MIT Press, 2001).

Articles: 1. 'Tax subsidies to owner-occupied housing: an asset market approach', *QJE*, 99, 1984; 2. 'Reporting errors and labor market dynamics' (with L. Summers), *Em*, 54, Nov. 1986; 3. 'Tax policy and corporate saving', *BPEA*, 2, 1987; 4. 'Mean reversion in stock prices: evidence and implications' (with L. Summers), *J Fin E*, 22, Oct. 1988; 5. 'Lifetime incidence and the distributional burden of excise taxes', *AER*, 79, May 1989; 6. 'Investor diversification and international equity markets' (with K. French), *AER*, 81, May 1991; 7. 'Tax incentives and the demand for health insurance: evidence from the self-employed' (with J. Gruber), *QJE*, 109, Aug. 1994; 8. 'State responses to fiscal crises: the effects of budgetary institutions and politics', *JPE*, 102, Aug. 1994; 9. 'Do 401(k) contributions crowd out other private saving?' (with S. Venti, D. Wise), *J Pub E*, 58, Sept. 1995. 10. 'Demographic structure and asset returns', *REStat*, 83, Nov. 2001; 11. 'Selection effects in the United Kingdom individual annuities market' (with A. Finkelstein), *EJ*, 112, Jan. 2002; 12. 'Do after-tax returns affect mutual fund inflows?' (with D. Bergstresser), *J Fin E*, 63, March 2002.

Principal Contributions My research has focussed on a range of topics in applied public finance and financial economics. My earliest work considered the incidence of tax subsidies to owner-occupied housing in the United States. It applied models of capital accumulation in the presence of rational expectations to estimate the impact of tax policy changes on the prices of owner-occupied houses. A related research program ex-

plored the link between dividend taxation, corporate payout policy, and corporate investment. Both UK and US data suggest that dividend taxes affect both payout and investment, in contrast to some models of dividend tax incidence. This research program on taxes and asset prices led to a separate set of studies on asset-price dynamics, and in particular to a paper suggesting that stock prices exhibit a mean-reverting component. More recent work has focussed on how tax incentives for personal saving affect individual wealth accumulation, and on the links between stock price fluctuations and consumer spending. Current research interests include the operation of annuity markets, with particular attention to the role of adverse selection in determining prices, the impact of taxation on the incentives for investment in mutual funds, and more generally the effect of taxes on portfolio choices.

POWELL, James L. n.e.

PRELEC, Drazen

Born 1955, Zagreb, Croatia.

Current Post Digital Equipment Leaders for Manufacturing Prof. Mgmt, Sloan Sch., MIT, Cambridge, MA, USA, 2002–.

Past Posts Asst Prof. Managerial Econ., Harvard Bus. Sch., 1985–91; Vis. Asst Prof., Dept Econ., MIT, 1990; Assoc. Prof. Mgmt Sc., Prof. Mgmt Sc., Sloan Sch., MIT, 1991–99, 1999–2002.

Degrees AB (Apl. Maths) Harvard Coll., 1978; PhD (Experimental Psychology) Harvard Univ., 1983.

Offices and Honours Jr Fell., Harvard Soc. Fells, 1982–85; Vis. Scholar, Russell Sage Foundation, 1988–89; Creative Res. Award, MIT, 1996; Fell., Center Adv. Study in Behav. Sc., 1997–98.

Principal Fields of Interest D9 Intertemporal Choice and Growth; D8 Information and Uncertainty; M3 Marketing and Advertising.

Publications *Articles*: 1. 'Matching, maximizing, and the hyperbolic reinforcement feedback function', *Psychological Rev.*, 89, May 1982; 2. 'A pseudo-endowment effect, and its implications for some recent non-expected utility models', *JRU*, 3, Sept. 1990; 3. 'Negative time preference' (with G. Loewenstein), *AER Papers and Proceedings*, 81, May 1991; 4. 'Decision making over time and under uncertainty: a common approach' (with G. Loewenstein), *Mgmt Sc.*, 37, July 1991; 5. 'Melioration: a theory of distributed choice' (with R.J. Herrnstein), *JEP*, 5, Summer 1991; 6. 'Anomalies in intertemporal choice: evidence and an interpretation' (with G. Loewenstein), *QJE*, 107, May 1992; 7. 'Preferences over sequences of outcomes' (with G. Loewenstein), *Psychological Rev.*, 100, Jan. 1993; 8. 'The red and the black: mental accounting of savings and debt' (with G. Loewenstein), *Marketing Sc.*, 17, Jan. 1998; 9. 'The probability weighting function', *Em*, 66, May 1998; 10. "'Coherent arbitrariness": stable demand curves without stable preferences' (with D. Ariely, G. Loewenstein), *QJE*, Feb. 2003.

Principal Contributions My contributions fall in the domain of behavioral economics. The papers on melioration proposed that consumers track the average values of different purchase opportunities and then adjust choices in favor of commodities offering a rate of return greater than the one prevailing across all commodities. Under this conception, it is no longer true that consumers maximize their personal welfare. The papers on time preference include the first axiomatic derivation of the general hyperbolic discount function (*QJE*, 1992) and a general treat-

ment of preferences over consumption sequences, emphasizing the desire for improvement. The 1998 *Econometrica* paper provides the first axiomatic derivation of the probability weighting function that generically satisfies the Allais Paradoxes.

PRESCOTT, Edward C.

Born 1940, Glens Falls, NY, USA.

Current Posts Regents' Prof., Univ. Minnesota, Minneapolis, MN, USA, 1980–; Econ. Adviser, FRB, Minneapolis, MN, USA, 1980–.

Past Posts Asst Prof. Econ., Univ. Pennsylvania, 1966–71; Brookings Econ. Pol. Fell., 1969–70; Asst Prof., Assoc. Prof., Prof. Econ., Carnegie-Mellon Univ., Pittsburgh, 1971–72, 1972–75, 1975–80; Vis. Prof., Norwegian Sch. Bus. Econ., Bergen, 1974–75; Ford Vis. Res. Prof., Prof. Econ., Univ. Chicago, 1978–79, 1998–99.

Degrees BA (Maths) Swarthmore Coll., PA, 1962; MS (OR) Case Inst. Tech., 1963; PhD Carnegie-Mellon Univ., 1967.

Offices and Honours Guggenheim Fell. 1974–75; Em Soc Fell., 1980; Pres., Soc. Econ. Dynamics, 1993–95; AAAS Fell., 2002; Ely Lect., AEA, 2002.

Editorial Duties Assoc. Ed., *J Em*, 1975–82, *IER*, 1980–91; Co-Ed., *ET*, 1991–, *Rev. Econ. Dynamics*, 1997–2000.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; D5 General Equilibrium and Disequilibrium; O1 Economic Development.

Publications *Book*: 1. *Barriers to Riches* (with S.L. Parente), (MIT Press, 2000).

Articles: 1. 'Investment under uncertainty' (with R.E. Lucas, Jr), *Em*, 39, Sept. 1971; 2. 'Equilibrium search and unemployment' (with R.E. Lucas, Jr), *JET*, 7, Feb. 1974; 3. 'Estimation in the presence of sequential parameter variations' (with T. Cooley), *Em*, 44, Jan. 1976; 4. 'Rules

rather than discretion: the inconsistency of optimal plans' (with F.E. Kydland), *JPE*, 85, June 1977; 5. 'Sequential location among firms with foresight' (with M. Visscher), *Bell JE*, 8, Autumn 1977; 6. 'Recursive competitive equilibrium: the case of homogenous households' (with R. Mehra), *Em*, 48, 1980; 7. 'Organization capital' (with M. Visscher), *JPE*, 88, 1980; 8. 'Time-to-build and aggregate fluctuations' (with F.E. Kydland), *Em*, 50, 1982; 9. 'General competitive analysis in an economy with private information' (with R. Townsend), *Int ER*, 25, 1984; 10. 'The equity premium: a puzzle' (with R. Mehra), *JME*, 15, 1985; 11. 'Financial intermediary-coalitions' (with J. Boyd), *JET*, 38, 1986; 12. 'Hours and employment variations in business cycle theory' (with F.E. Kydland), *ET*, 1, 1991; 13. 'Barriers to technology adoption and development' (with S. Parente), *JPE*, 102, 1994; 14. 'Monopoly rights: a barrier to riches' (with S.L. Parente), *AER*, 89, 1999; 15. 'Prosperity and depression', *AER*, 92, 2002; 16. 'The 1990s in Japan: a lost decade' (with F. Hayashi), *Rev. Econ. Dynamics*, 5, 2002.

Principal Contributions My most important contribution is probably article 8, above, jointly authored with Finn E. Kydland. There we establish that the equilibrium stochastic growth model accounts remarkably well for business-cycle fluctuations. Indeed, given the nature and magnitude of the technological change shocks and given people's willingness and ability to substitute intertemporally, there would be a puzzle if industrial market economies did not display the business-cycle phenomena. A second contribution was the finding that optimal dynamic taxation plans are time inconsistent. This leads one to the conclusion that the role of the economist is to evaluate policy rules with respect to their operating characteristics, rather than evaluating alternative policy

actions. This research was also joint with Kydland. Methodologically, I have contributed to competitive theory under uncertainty. In article 1, above, the competitive equilibrium is a stationary stochastic process. In article 2, the competitive equilibrium is an invariant distribution of market types with each market being subject to a stationary Markov process. Both papers were written jointly with Robert E. Lucas, Jr, who deserves principal credit for formulating the problems and recognising their value in substantive economic analysis. I, however, led in their use in quantitative analyses in articles 9, 10, and 12–16. The concept of recursive competitive equilibrium is developed in article 6. Another contribution, article 9, was the extension of Arrow–Debreu equilibrium to large private-information economies. The extension entailed the introduction of lotteries which ensure that all gains from trade are realised. This work is joint with Robert M. Townsend. The important finding to date in macroeconomics is that given productivity, theory accounts well for economic growth, international income differences, depressions and prosperity, and economic development. In article 14 a theory of how a monopoly rights policy can effect productivity is developed, though much more work is needed on the problem of how policy affects a country's productivity.

PRESTON, Samuel H. n.e.

PRITCHETT, Lant

Born 1959, Salt Lake City, UT, USA.

Current Post Lect. Public Pol., Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 2000–.

Past Post Econ., World Bank, 1988–2000.

Degrees BS Brigham Young Univ., 1983; PhD MIT, 1988.

Editorial Duties Ed. Bd, *WBER*, 1994–98; Co-Ed., *J. Econ. and Growth of Devlp. Areas*, 2001–.

Principal Fields of Interest O1 Economic Development; I0 Health, Education, and Welfare: General; J1 Demographic Economics.

Publications *Book*: 1. *Assessing Aid: What Works, What Doesn't and Why* (OUP, 1998).

Articles: 1. 'Good policy or good luck? Country growth performance and temporary shocks' (with W. Easterly, M. Kremer, L. Summers), *JME*, 32, Dec. 1993; 2. 'Tariff rates, tariff revenue, and tariff reform: some new facts' (with G. Sethi), *WBER*, 8, Jan. 1994; 3. 'Desired fertility and the impact of population policies', *Pop. and Devlp. Rev.*, 20, March 1994; 4. 'Does participation improve project performance? Establishing causality with subjective data' (with J. Isham, D. Narayan), *WBER*, 9, May 1995; 5. 'Measuring outward orientation: can it be done?', *JDE*, 49, May 1996; 6. 'Wealthier is healthier' (with L. Summers), *JHR*, 31, Fall 1996; 7. 'Governance and the returns to investment: an empirical investigation' (with J. Isham, D. Kaufmann), *WBER*, 11, May 1997; 8. 'Divergence, big time', *JEP*, 11, Summer 1997; 9. 'What education production functions really show: a positive model of the allocation of educational expenditures' (with D. Filmer), *Econ. Educ. Rev.*, 18, March 1999; 10. 'Educational attainment profiles of the poor and rich: evidence from around the globe' (with D. Filmer), *Pop. and Devlp. Rev.*, 25, March 1999; 11. 'Cents and sociability: household incomes and social capital in rural Tanzania' (with D. Narayan), *EDCC*, 47, July 1999; 12. 'The impact of public spending on health: does money matter?' (with D. Filmer), *Social Sc. and Medicine*, 49, Oct. 1999; 13. 'Understanding

patterns of economic growth: searching for hills amongst plateaus, mountains, and plains', *WBER*, 14, May 2000; 14. 'Weak links in the chain: a diagnosis of health policy in poor countries' (with D. Filmer, J. Hammer), *World Bank Res. Observer*, 15, Aug. 2000; 15. 'The tyranny of concepts: CUDIE (CUMulated, DEpreciated, Investment Effort) is *not* capital', *JEG*, 5, Dec. 2000; 16. 'Estimating wealth effects without expenditure data or tears: an application to enrollments in states of India' (with D. Filmer), *Demography*, 38, Feb. 2001; 17. 'Where has all the education gone?', *WBER*, 15, Dec. 2001; 18. 'Eating like which "Joneses"? An iterative solution to setting the poverty line reference group' (with S. Sumarto, A. Suryahadi, M. Pradhan), *RIW*, 47, Dec. 2001; 19. 'Is more for the poor is less for the poor? The politics of means-tested targeting' (with J. Gelbach), *BE-Js EAP*, 2, 2002.

Principal Contributions I have made three contributions within development economics. First, in the field of economic growth I have emphasized the importance of understanding both the divergence in incomes due to very different long-run growth rates and the importance of understanding the volatility of growth rates over the medium term – with medium booms and busts dominating long-run tendencies (with W. Easterly and L. Summers). Second, within the field of human development I have emphasized two points: the importance of household demand in understanding fertility and health seeking behavior (with D. Filmer and J. Hammer) and the importance of understanding the efficacy of publicly provided services in the context of a coherent positive model of government behavior as a supplier (with D. Filmer). Third, together with J. Gelbach and with S. Sumarto and A. Suryahadi I have worked to understand the positive political economy of the targeting of transfer programs.

PSACHAROPOULOS, George

Born 1937, Athens, Greece.

Current Post Vis. Prof. Econ., Athens Univ., Athens, Greece, 1998–.

Past Posts Asst Prof. Econ., Univ. Hawaii, 1968–69; Lect. Econ., LSE, 1969–81; Cons., OECD, UNESCO, ILO, Greek Govt, World Bank, 1969–81; Manager, Res. Program, Educ. Dept, World Bank, Washington, DC, USA, 1981–85; Sr Advisor to Vice-Pres., Human Capital Devlp. and Operations Pol., World Bank, Washington, DC, 1985–98.

Degrees BA Grad. Bus. Sch., Athens, 1960; MA, PhD Univ. Chicago, 1964, 1968.

Offices and Honours Ford Foundation Fell., 1964–68; Outstanding Scholar Award, 1982.

Editorial Duties Ed. Bds, *Econ. Educ. Rev.*, 1980–, *Section Educ.*, *Intl Encyclopedia Educ.* (Pergamon, 1985), *World Bank Res. Observer*, 1986–.

Principal Fields of Interest D0 Microeconomics: General; O1 Economic Development; I2 Education.

Publications *Books*: 1. *Returns to Education: An International Comparison* (Elsevier, Jossey-Bass, 1973); 2. *Earnings and Education in OECD Countries* (OECD, 1975; trans., French, 1975); 3. *Information: An Essential Factor in Educational Planning and Policy* (ed.), (UNESCO, 1980); 4. *Higher Education in Developing Countries: A Cost–Benefit Analysis* (World Bank, 1980); 5. *Hints for Educational Planners. The IIEP Experience in Five Less Developed Countries* (with B. Sanyal), (UNESCO Intl Inst. Educ. Planning, 1981); 6. *Post-secondary Education Development Study Team* (in Greek), (with A. Kazamias), (Greek Center Social Res., Greek Min. Educ., 1984); 7. *Economics of Education: Research and Studies* (ed.), (Pergamon, 1987); 8. *Essays on Poverty, Equity and*

Growth (ed.), (Pergamon, 1991); 9. *Women's Employment and Pay in Latin America: Overview and Methodology* (with Z. Tzannatos), (World Bank, 1992); 10. *Indigenous People and Poverty in Latin America: An Empirical Analysis* (ed. with H. Patrinos), (World Bank, 1994).

Articles: 1. 'Estimating shadow rates of return to investment in education', *JHR*, 5, Winter 1970; 2. 'The marginal contribution of education to economic growth', *EDCC*, 21, July 1972; 3. 'Substitution assumptions versus empirical evidence in manpower planning', *DE*, 121, Nov.–Dec. 1973; 4. 'The screening hypothesis and the returns to education' (with R. Layard), *JPE*, 82, Sept.–Oct. 1974; trans., Spanish, *Revista Espanola de Economia*, May–Aug. 1976; 5. 'Schooling and income distribution' (with A. Marin), *REStat*, 58, Aug. 1976; 6. 'On the explanation of schooling, occupation and earnings: some alternative path analyses' (with J. Tinbergen), *DE*, 126, April–May 1978; 7. 'Human capital and earnings: British evidence and a critique' (with R. Layard), *REStud*, 46, July 1979; 8. 'The reward for risk in the labour market: evidence from the United Kingdom and a reconciliation with other studies' (with A. Marin), *JPE*, 90, Aug. 1982; 9. 'The determinants of early age human capital formation: evidence from Brazil' (with A.M. Arriagada), *EDCC*, 37, 1989; 10. 'Poverty and income inequality in Latin America during the 1980s' (with S. Morley, A. Fiszbein, H. Lee, B. Wood), *RIW*, 41, Sept. 1995.

Principal Contributions Early work was focused on the returns of education in different country settings leading to the documentation of certain patterns such as the diminishing profitability of investment in education by increasing level of education and per capita income. In the mid-1970s, my interest shifted to the role of education as a determinant of earnings and income distribution. I have also stud-

ied related topics such as the elasticity of substitution between different types of educated labour, the screening hypothesis, and labour market segmentation. The empirical emphasis of my work has been in Third World labour markets. My recent work concentrates on the development of analytical tools and the derivation of empirical signals that may guide policy-makers in developing countries to make investment decisions in education conducive to economic growth and social equity.

PUTTERMAN, Louis

Born 1952, New York City, NY, USA.

Current Post Prof. Econ., Brown Univ., Providence, RI, USA, 1987–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Brown Univ., 1980–82, 1982–87.

Degrees BA Columbia Univ., 1976; MA (Intl Relations), MPhil, PhD Yale Univ., 1978, 1978, 1980.

Offices and Honours Pres., Assoc. Comparative Econ. Stud., 2000–01.

Editorial Duties Ed. Bd, *J Comp E*, 1989–91, 1997–99, *Modern China*, 1990–, *Comparative Econ. Stud.*, 1991–93, *Annals Public and Co-op. Econ.*, 1992–, *Devlp and Soc.*, 1999–, *China Econ. Rev.*, 2001–; Assoc. Ed., *Pacific Econ. Rev.*, 1996–.

Principal Fields of Interest D2 Production and Organizations; L2 Firm Objectives, Organization, and Behavior; P3 Socialist Institutions and Their Transitions.

Publications *Books*: 1. *Economics of Cooperation and the Labor-Managed Economy*, Fundamentals of Pure and Applied Economics, Vol. 14 (with J.P. Bonin), (Harwood Acad., 1987); 2. *Division of Labor and Welfare: An Introduction to Economic Systems* (OUP, 1990); 3. *Continuity and Change in China's Rural Development: Collective and Reform Eras*

in Perspective (OUP, 1993); 4. *The Economic Nature of the Firm: A Reader* (ed. with R.S. Kroszner), (CUP, 1996); 5. *Economics, Values and Organization* (ed. with A. Ben-Ner), (CUP, 1998); 6. *Dollars and Change: Economics in Context* (YUP, 2001).

Articles: 1. 'Voluntary collectivization: a model of producers' institutional choice', *J Comp E*, 4, 1980; 2. 'On some recent explanations of why capital hires labor', *EI*, 22, 1984; 3. 'The incentive problem and the demise of team farming in China', *JDE*, 26, 1987; 4. 'The firm as association versus the firm as commodity: efficiency, rights, and ownership', *Econ. and Philo.*, 4, 1988; 5. The incentive effects of monitoring under alternative compensation schemes' (with G. Skillman, Jr), *IJIO*, 6, 1988; 6. 'Does poor supervisability undermine teamwork? Evidence from an unexpected source', *AER*, 81, 1991; 7. 'Dualism and reform in China', *EDCC*, 40, 1992; 8. 'Ownership and the nature of the firm', *J Comp E*, 17, 1993; 9. 'Exit, voice, and portfolio choice: agency and public ownership', *Econ. and Polit.*, 5, 1993; 10. 'Theoretical and empirical research on producers' cooperatives: will ever the twain meet?' (with J.P. Bonin, D.C. Jones), *JEL*, 31, 1993; 11. 'Why have the rabble not redistributed the wealth? On the stability of democracy and unequal wealth', in J.E. Roemer (ed.), *Property Relations, Incentives and Welfare* (Macmillan, 1997); 12. 'Does egalitarianism have a future?' (with J.E. Roemer, J. Silvestre), *JEL*, 36, 1998; 13. 'Pre-industrial and post-war economic development: is there a link?' (with J.P. Burkett, C. Humblet), *EDCC*, 47, 1999; 14. 'Pre-reform industry and state monopoly in China' (with X.-y. Dong), *J Comp E*, 28, 2000.

Principal Contributions My research treats (a) problems of work incentives in teams, and the literatures on profit-shar-

ing, employee ownership, and labor-managed firms; (b) how firms are organized in market economies; (c) various aspects of the economics of development, especially rural development; (d) the comparison of socialist and capitalist economies, especially microeconomic aspects and issues of property rights; and (e) causes of and ways of modifying economic inequality. Much of my early work focussed on the organization of agriculture in Tanzania and China, and on the reasons why capital suppliers rather than labor suppliers are firms' main risk-bearers and decision-makers. I helped to analyze the incentive problems of collective agriculture, synthesize the literature on worker-managed firms, and point out shortcomings in common explanations of conventional ownership and pay arrangements. Since 1993, my work on China's economy has focussed on industrial enterprises, their productivity, employment, and wages. In 1993, I also began a new research pro-

gram on the role of preferences and values in supporting economic institutions. This led me to argue for a model of preference formation based on the co-evolution of genes and culture. Since the late 1990s, I have been pursuing these interests by means of economics experiments. Another research program begun in the mid-1990s investigates how very long-run historical processes have helped to determine differences in recent economic growth among today's developing countries. I argue for going beyond the dichotomy between the 'traditional' and the 'modern' to recognize the evolution of forms of economic organization in a continuum of steps from the primitive to the modern. I find evidence that countries with more advanced agrarian states and countries later settled by the latter have achieved faster modern economic growth than those in which intensive agriculture and the state were lacking or were late developments.

Q

QUAH, Danny

Born 1958, Penang, Malaysia.

Current Post Prof. Econ., LSE, London, England, 1996–.

Past Posts Asst Prof. Econ., MIT, 1985–91; Lect. Econ., Reader Econ., LSE, 1991–93, 1993–96.

Degrees AB Princeton Univ., 1980; PhD Harvard Univ., 1986.

Honours Millennium Lecture, Scottish Econ. Soc., Edinburgh, 2000; Named one of 10 ESRC Heroes of Dissemination, 2001; Inaugural JAE, Em Soc meetings, Auckland, New Zealand, 2001; *The Sir Richard J. Stone Lectures*, London, 2002.

Editorial Duties Ed. Bds, *REStud*, 1992–97, *Europ ER*, 1994–2000, *JAE*, 1995–, *JEG*, 1996–, *Macroecon. Dynamics*, 1997–98; Advisory Bd, *Insights Into*, 1997–; Panel, *Econ. Pol.*, 1997–2000; Software Rev. Ed., *Macroecon. Dynamics*, 1998–2002.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth: General; C1 Econometric and Statistical Methods: General; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. ‘The dynamic effects of aggregate demand and supply disturbances’ (with O.J. Blanchard), *AER*, 79, Sept. 1989; 2. ‘Permanent and transitory movements in labor income: an explanation for “excess smoothness” in consumption’, *JPE*, 98, June 1990; 3. ‘The relative importance of permanent and transitory components: identification and some theoretical bounds’, *Em*, 60, Jan. 1992; 4. ‘A dynamic index model for large cross sections’ (with T.J. Sargent), in J. Stock, M. Watson (eds), *Business Cycles, Indicators, and Forecasting* (NBER and UCP, 1993); 5. ‘Empirical cross-section

dynamics in economic growth’, *Europ ER*, 37, April 1993; 6. ‘Galton’s fallacy and tests of the convergence hypothesis’, *Scand JE*, 95, Dec. 1993; 7. ‘Exploiting cross section variation for unit root inference in dynamic data’, *Econ. Letters*, 44, Jan. 1994; 8. ‘Measuring core inflation’ (with S.P. Vahey), *EJ*, 105, Sept. 1995; 9. ‘Convergence empirics across economies with (some) capital mobility’, *JEG*, 1, March 1996; 10. ‘Regional convergence clusters across Europe’ *Europ ER*, 40, April 1996; 11. ‘Empirics for economic growth and convergence’, *Europ ER*, 40, June 1996; 12. ‘Twin peaks: growth and convergence in models of distribution dynamics’, *EJ*, 106, July 1996; 13. ‘Convergence, endogenous growth, and productivity disturbances’ (with C.K. Leung), *JME*, 38, Dec. 1996; 14. ‘Increasingly weightless economies’, *Bank of England Q. Bull.*, 37, Feb. 1997; 15. ‘Empirics for growth and distribution: stratification, polarization, and convergence clubs’, *JEG*, 2, March 1997; 16. ‘The new empirics of economic growth’ (with S.N. Durlauf), in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 1999); 17. ‘UK Phillips curves and monetary policy’ (with A.G. Haldane), *JME*, 44, Oct. 1999; 18. ‘Internet cluster emergence’, *Europ ER*, 44, May 2000; 19. ‘Cross-country growth comparison: theory to empirics’, in J. Dréze (ed.), *Advances in Macroeconomic Theory, Proceedings 12th World Congress IEA* (Palgrave, 2001); 20. ‘Spatial agglomeration dynamics’, *AER Papers and Proceedings*, 92, May 2002.

Principal Contributions My early research, in business cycles and time-series econometrics, focused on permanent and transitory dynamics. This work provided specific economic interpretations and motivations to disentangling different kinds of dynamics in economic time series. That research evolved into empirical and theoretical work on growth and con-

vergence and income inequality, or distribution dynamics more generally. The strong characterizations there are twofold: first, across countries, rich and poor groupings dynamically emerge, polarizing the cross-section distribution; second, aggregate, nationwide income growth swamps changes in inequality. I now also work, with a macroeconomic focus, on theoretical, legal, and historical dimensions of technology, knowledge and intellectual property, and the weightless economy – with special focus on geography and income distribution.

QUIGGIN, John Charles

Born 1956, Adelaide, Australia.

Current Posts Australian Res. Council Professorial Fell., Univ. Queensland, Brisbane, Australia, 2003–; Adjunct Prof., ANU, Canberra, Australia, 2003–.

Past Posts Res. Econ., Bureau Agric. Econ., 1978–86; Sr Lect., Sydney Univ., 1987–88; Assoc. Prof., Univ. Maryland, 1989–90; Res. Fell., ANU, 1991–94; Prof. Econ., James Cook Univ., 1995–99; Australian Res. Council Sr Fell., ANU, 2000–02.

Degrees BA (Maths), BEc, MEc ANU, 1978, 1980, 1984; PhD Univ. New England, 1988.

Offices and Honours Ed.'s Prize, *Australian J. Agric. Econ.*, 1981, 2001; Quality Res. Discovery Prize (with R.G. Chambers), AA, 1987; Australian Social Sc. Acad. Medal 1993; Fell., Australian Social Sc. Acad., 1996–; Sam Richardson Prize, Inst. Public Admin., Australia, 1997, 2000.

Principal Fields of Interest D8 Information and Uncertainty; O4 Economic Growth and Aggregate Productivity; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *Generalized Expected Utility Theory: The Rank-Depend-*

ent Expected Utility Model (Kluwer-Nijhoff, 1993); 2. *Work for All: Full Employment in the Nineties* (with J. Langmore), (Melbourne Univ. Press, 1994); 3. *Great Expectations: Microeconomic Reform and Australia* (A&U, 1996); 4. *Uncertainty, Production, Choice and Agency: The State-Contingent Approach* (with R.G. Chambers), (CUP, 2000).

Articles: 1. 'Risk perception and risk aversion among Australian farmers', *Australian J. Agric. Econ.*, 25, Aug. 1981; 2. 'A theory of anticipated utility', *JEBO*, 3, Dec. 1982; 3. 'On the optimal design of lotteries', *Ec*, 58, Feb. 1991; 4. 'Comparative statics for rank-dependent expected utility theory', *JRU*, 4, Dec. 1991; 5. 'Common property, equality and development', *WD*, 21, July 1993; 6. 'International comparisons of living standards and tastes: a revealed-preference analysis' (with S. Dowrick), *AER*, 84, March 1994; 7. 'Does privatisation pay?', *Australian Econ. Rev.*, 110, April–June 1995; 8. 'Capital precommitment and competition in supply schedules' (with S. Grant), *J Ind E*, 44, Dec. 1996; 9. 'True measures of GDP and convergence' (with S. Dowrick), *AER*, 67, March 1997; 10. 'Separation and hedging results with state-contingent production' (with R.G. Chambers), *Ec*, 64, May 1997; 11. 'Risk premiums and benefit measures for generalized expected utility theories' (with R.G. Chambers), *JRU*, 17, Nov. 1998; 12. 'A state-contingent production approach to principal-agent problems with an application to point-source pollution control' (with R.G. Chambers), *J Pub E*, 70, Dec. 1998; 13. 'The future of government: mixed economy or minimal state?', *Australian J. Public Admin.*, 58, Dec. 1999; 14. 'Environmental economics and the Murray–Darling river system', *Australian J. Agric. Econ.*, 45, March 2001; 15. 'The risk premium for equity: implications for Clinton's proposed diversification of the

social security fund' (with S. Grant), *AER*, 92, Sept. 2002; 16. 'Public investment and the risk premium for equity' (with S. Grant), *Ec*, 70, Feb. 2003.

Principal Contributions My contributions relate mainly to the economics of risk and uncertainty. The rank-dependent utility model, which I developed in the early 1980s under the name 'anticipated utility theory', is now the most popular alternative to the expected-utility model of choice under uncertainty. I extended early work on this topic to include analysis of concepts of increasing risk and increasing uncertainty. More recently, in collaboration with R.G. Chambers, I have developed the Arrow-Debreu state-contingent model of production under uncertainty, using modern methods of convex analysis and duality theory. Applications have included nonpoint pollution, moral hazard, agricultural insurance and price stabilisation. Analogies between choice under uncertainty and production under uncertainty have been exploited to yield new measures of risk aversion. I have also worked with S. Grant on the equity premium puzzle and its policy implications. Applications have included an analysis of social security reform, a critique of the case of privatisation and analysis of the discount rate for public investments. Another important field has been the development (with S. Dowrick) of techniques for multilateral comparisons of income and consumption. This work has been applied to estimation of income convergence and the closely related issue of globalisation. I have also worked extensively in the field of environmental economics, with particular emphasis on the concept of common property, and have been actively involved in debate over Australian public policy.

QUIGLEY, John M.

Born 1942, New York, NY, USA.

Current Posts I. Donald Turner Disting. Prof., Prof. Econ., Prof. Public Pol., Univ. California, Berkeley, CA, USA, 1999–, 1981–, 1979–.

Past Posts Econometrician, USAF, 1965–68; Asst Prof., Assoc. Prof., Yale Univ., 1972–74, 1974–81.

Degrees BS (Disting. Grad.) USAF Acad., 1964; MSc (Hons) Univ. Stockholm, 1965; AM, PhD Harvard Univ., 1971, 1972.

Offices and Honours NSF Fell., 1968; Woodrow Wilson Natl Fell., 1968; Thord-Gray Fell., 1971; SSRC Fell., 1971; Vice-Pres., Assoc. Public Pol. and Mgmt, 1987; Pres., AREUEA, 1998; Walter Isard Award, 2000; George Bloom Award, 2001.

Editorial Duties Ed. Bds, *Land Econ.*, 1974–81, *JUE*, 1978–93, *JHE*, 1990–, *JHR*, 1990–, *J. Real Estate Econ. and Fin.*, 1991–, *Papers Regional Sc.*, 1998–, *J Reg S*, 1999–, *J. Real Estate Res.*, 1999–; Ed., *RSUE*, 1986–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; H3 Fiscal Policies and Behavior of Economic Agents; H2 Taxation, Subsidies, and Revenue.

Publications *Books*: 1. *Housing Markets and Racial Discrimination* (with J.F. Kain), (CUP, 1975); 2. *American Domestic Priorities* (with D.L. Rubinfeld), (UCP, 1985); 3. *Modern Public Finance* (with E. Smolensky), (HUP, 1994); 4. *Economics of Housing and Housing Markets* (Edward Elgar, 1997).

Articles: 1. 'Measuring the value of housing quality' (with J.F. Kain), *JASA*, 65, 1970; 2. 'An economic model of Swedish migration', *QJE*, 86, 1972; 3. 'Housing market discrimination, homeownership, and savings behavior' (with J.F. Kain), *AER*, 63, 1972; 4. 'Age, experience, earnings, and investment in human

capital', (with A. Klevmarcken), *JPE*, 84, 1976; 5. 'Regulatory barriers to the diffusion of innovation' (with S. Oster), *Bell JE*, 8, 1977; 6. 'Implicit investment profiles and intertemporal adjustments of relative wages' (with E.A. Hanushek), *AER*, 68, 1978; 7. 'Nonlinear budget constraints and consumer demand', *JUE*, 12, 1982; 8. 'The production of housing services and the derived demand for residential energy', *RandJE*, 15, 1985; 9. 'Consumer choice of dwelling, neighborhood, and public services', *RSUE*, 15, 1985; 10. 'Life cycle earning capacity and the OJT investment model' (with E.A. Hanushek), *IER*, 26, 1985; 11. 'The distributional implications of mortgage revenue bonds and creative finance' (with D. Durning), *NTJ*, 38, 1985; 12. 'The consumption benefits of investment in urban infrastructure' (with D. Kaufmann), *JDE*, 25, 1987; 13. 'Interest rate variations, mortgage prepayments, and household mobility', *REStat*, 69, 1987; 14. 'Defaults on mortgage obligations and capital requirements for US savings institution' (with R. Van Order), *J*

Pub E, 44, 1991; 15. 'Mortgage terminations, heterogeneity, and the exercise of mortgage obligations' (with Y. Deng, R. Van Order), *Em*, 68, 2000; 16. 'Homeless in California, homeless in America' (with S. Raphael, E. Smolensky), *REStat*, 83, 2001.

Principal Contributions I am an applied public finance economist with interests in urban housing and labor markets and the economic implications of spatial relationships. My original work (with J.F. Kain) analyzed the role of racial segregation in urban housing markets and its larger welfare implications. Later work analyzed low-wage labor markets in cities and the interaction between residential location and employment. I have analyzed the link between residential choice, local taxation, and expenditure policies, and, more recently, homelessness policies. I am currently analyzing the links between housing and financial markets and exploring policies to permit households to hedge the risks of homeownership.

R

RABIN, Matthew J. n.e.

RADNER, Roy

Born 1927, Chicago, IL, USA.

Current Post Leonard N. Stern Sch. Prof. Bus., Stern Sch. Bus., NYU, NY, USA, 1996–.

Past Posts Asst Prof. Cowles Commission, Univ. Chicago, 1954–55; Asst Prof., Econ., Res. Assoc., Cowles Foundation, Yale Univ., 1955–57; Assoc. Prof., Prof. Econ. Stats, Univ. California, Berkeley, 1957–79; Mem. Tech. Staff, Disting. Mem. Tech. Staff, AT&T Bell Labs, 1979–95; Prof. Econ. and Info. Systems, Stern Sch. Bus., NYU, 1995–96.

Degrees PhB, BS (Maths), MS (Maths), PhD (Math. Stats) Univ. Chicago, 1945, 1950, 1951, 1956.

Offices and Honours Fell., Center Adv. Study Behav. Sc., 1955–56, AAAS, 1970–; Amer. Assoc. Adv. Sc., 1989–; Guggenheim Foundation Fell., 1961–62, 1965–66; Overseas Fell., Churchill Coll., Cambridge, 1969–70, 1989; Vice-Pres., Pres., Em Soc, 1971–73; Mem., NAS, 1975–; Commission Human Resources, 1976–79; Assembly, Behav. Social Sc., NRC, 1979–82; AT&T Disting. Tech. Staff Award, 1985; Comm. Prevention Nuclear War, NRC, 1985–90; Disting. Fell., AEA, 1988–; Marshall Lect., Cambridge, 1989; Chair, Econ. Section, NAS, 1994–97; Woytinsky Award, Univ. Michigan, 1998; Comm. Geophysical and Environmental Data, NRC, 1991–.

Editorial Duties Ed. Bds, *Mgmt Sc.*, 1959–70, *Em*, 1961–68, *JET*, 1968–, *AER*, 1972–82, *Games and Econ. Behav.*, 1989–, *ET*, 1991–, *Rev. Econ. Design*, 1993–, *Rev. Accounting Stud.*, 1993–; Advisory Bd, *J Math E*, 1973–.

Principal Fields of Interest L2 Firm Objectives, Organization, and Behavior; D8 Information and Uncertainty; D9 Inter-temporal Choice and Growth.

Publications *Books*: 1. *Notes on the Theory of Economic Planning* (Center Econ. Res., 1963); 2. *Optimal Replacement Policy* (with D.W. Jorgenson, J.J. McCall), (N-H, Rand-McNally, 1967); 3. *Decision and Organization* (with C.B. McGuire), (N-H, 1972); 4. *Economic Theory of Teams* (with J. Marschak), (YUP, 1972); 5. *Demand and Supply in US Higher Education* (with L.S. Miller), (McGraw-Hill, 1975); 6. *Mathematicians in Academia* (with C.V. Kuh), (Conf. Bd Math. Sc., 1980); 7. *Bargaining with Incomplete Information* (ed. with P.B. Linhart, M.A. Satterthwaite), (Acad. Press, 1992).

Articles: 1. 'Paths of economic growth that are optimal with regard only to final states: a "turnpike theorem"', *REStud*, 28, Feb. 1961; 2. 'Competitive equilibrium under uncertainty', *Em*, 36, Jan. 1968; 3. 'Existence of equilibrium of plans, prices, and price expectations in a sequence of markets', *Em*, 40, 1972; 4. 'Satisficing', *J Math E*, 2, 1975; 5. 'Rational expectations equilibrium: generic existence and the information revealed by prices', *Em*, 47, 1979; 6. 'Collusive behavior in non-cooperative epsilon-equilibria of oligopolies with long but finite lives', *JET*, 22, 1980; 7. 'Repeated principal-agent games with discounting', *Em*, 53, 1985; 8. 'Hierarchy: the economics of managing', *JEL*, 30, 1992; 9. 'The organization of decentralized information processing', *Em*, 61, 1993; 10. 'Moral hazard' (with P.K. Dutta), in R. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. 2 (N-H, 1995); 11. 'Profit-maximization and the market selection hypothesis', *REStud*, 66, 1999; 12. 'A profit-center game with incomplete information' (with T. Ichiishi), *Rev. Econ. Design*, 4, 1999; 13. 'Costly and bounded

rationality in individual and team decision-making', *Ind. and Corp. Change*, 9, 2000.

Principal Contributions Contributions to the theory of decision-making in decentralised organisations and the theory of teams (developed with J. Marschak); game-theoretic analyses of incentives for efficient decision-making in long-lasting organisations; bounded rationality and information processing; and existence and optimality of market equilibria under uncertainty including equilibria with private information, equilibrium of plans, prices and price-expectations, and rational expectations equilibrium. Characterisation of optimal investment strategies: optimal capital accumulation under certainty (turnpike theory) and uncertainty; and optimal strategies for inspection and maintenance of stochastically failing equipment. Empirical studies of demand and supply in higher education. Cost-allocation and transfer pricing; theoretical and experimental studies of bargaining with incomplete information. survival, selection, and the managerial theory of the firm.

RAJAN, Raghuram

Born 1963, Bhopal, India.

Current Post Joseph Gidwitz Prof. Fin., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 1997–.

Past Posts Asst Prof. Fin., Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1991–94, 1995–97; Fischer Black Vis. Prof., Sloan Sch., MIT, 2000–01.

Degrees BTech (Electrical Eng.) Indian Inst. Tech., Delhi, 1985; MBA (Bus.) Indian Inst. Mgmt, Ahmedabad, 1987; PhD (Fin.) MIT, 1991.

Offices and Honours Treffstz Prize for Outstanding Acad. Achievement, Western Fin. Assoc., 1991; Smith–Breedon Prize for Best Paper, *J Fin*, 1992, 1994; Michael

Brennan Award for Best Paper, *Rev. Fin. Stud.*, 1997; Dir., Corp. Fin. Program, NBER, 1998–, AFA, 2001–; Brattle Prize for Disting. Paper, *J Fin*, 2000, 2001, 2003; Fischer–Black Prize, AFA, 2002.

Editorial Duties Assoc. Ed., *J Fin*, 1996–2000, *QJE*, 1999–, *AER*, 2000–.

Principal Fields of Interest G0 Financial Economics: General; O0 Economic Development, Technological Change, and Growth: General.

Publications *Book*: 1. *Saving Capitalism from the Capitalists* (with L. Zingales), (Crown Bus., 2003).

Articles: 1. 'Insiders and outsiders: the choice between informed and arm's-length debt', *J Fin*, 47, 1992; 2. 'The benefits of firm–creditor relationships: evidence from small business data' (with M. Petersen), *J Fin*, 49, 1994; 3. 'Why bank credit policies fluctuate: a theory and some evidence', *QJE*, 109, 1994; 4. 'Is the Glass–Steagall Act justified? Evidence from the US experience with Universal Banking 1921–1933' (with R. Kroszner), *AER*, 84, 1994; 5. 'The effect of credit market competition on lending relationships' (with M. Petersen), *QJE*, 110, 1995; 6. 'Is there an optimal capital structure? Some evidence from international data' (with L. Zingales), *J Fin*, 50, 1995; 7. 'Power in a theory of the firm' (with L. Zingales), *QJE*, 113, May 1998; 8. 'Financial dependence and growth' (with L. Zingales), *AER*, 88, June 1998; 9. 'The paradox of liquidity' (with S. Myers), *QJE*, 113, Aug. 1998; 10. 'Which capitalism? Lessons from the East Asian crisis' (with L. Zingales), *J. Apl. Corp. Fin.*, 11, Fall 1998; 11. 'The costs of diversity: the diversification discount and inefficient investment' (with H. Servaes, L. Zingales), *J Fin*, 55, 2000; 12. 'A theory of bank capital' (with D. Diamond), *J Fin*, 55, 2000; 13. 'The firm as a dedicated hierarchy: a theory of the origins and growth of firms' (with L. Zingales), *QJE*, 116, Aug. 2001; 14. 'Li-

quidity risk, liquidity creation and financial fragility: a theory of banking' (with D. Diamond), *JPE*, 109, 2001.

Principal Contributions My work spans a number of topics including the study of financial institutions, the workings of the modern corporation, and the causes and consequences of the development of the financial sector across countries.

RAMEY, Garey

Born 1958, Bakersfield, CA, USA.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof. Econ., Univ. California, San Diego, 1987–94, 1994–2000.

Degrees BA, MA Univ. Arizona, 1980, 1981; PhD Stanford Univ., 1987.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; L1 Market Structure, Firm Strategy, and Market Performance; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'Structural consistency, consistency and sequential rationality' (with D. Kreps), *Em*, 55, Nov. 1987; 2. 'Advertising and limit pricing' (with K. Bagwell), *RandJE*, 19, Spring 1988; 3. 'Oligopoly limit pricing' (with K. Bagwell), *RandJE*, 22, Summer 1991; 4. 'Expectation calculation and macroeconomic dynamics' (with G.W. Evans), *AER*, 82, March 1992; 5. 'Advertising and coordination' (with K. Bagwell), *REStud*, 61, Jan. 1994; 6. 'Coordination economies, advertising and search behavior in retail markets' (with K. Bagwell), *AER*, 84, June 1994; 7. 'Cross-country evidence on the link between volatility and growth' (with V. Ramey), *AER*, 85, Dec. 1995; 8. 'D1 signaling equilibria with multiple signals and a continuum of types', *JET*, 69, May 1996; 9. 'Capacity, entry and for-

ward induction' (with K. Bagwell), *RandJE*, 27, Winter 1996; 10. 'Dynamic retail price and investment competition' (with K. Bagwell, D. Spulber), *RandJE*, 28, Summer 1997; 11. 'Contractual fragility, job destruction and business cycles' (with J. Watson), *QJE*, 112, Aug. 1997; 12. 'Market structure, innovation and vertical product innovation' (with S. Greenstein), *IJIO*, 16, May 1998; 13. 'Job destruction and propagation of shocks' (with W. den Haan, J. Watson), *AER*, 90, June 2000; 14. 'Contractual intermediaries' (with J. Watson), *JLEO*, 18, Oct. 2002; 15. 'Liquidity flows and fragility of business enterprises' (with W. den Haan, J. Watson), *JME*, forthcoming.

Principal Contributions n.e.

RAMEY, Valerie

Born 1959, Canal Zone, Panama.

Current Post Prof. Econ., Univ. California, San Diego, La Jolla, CA, USA, 1998–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. California, San Diego, 1987–94, 1994–98.

Degrees BA (Econ. and Spanish), Univ. Arizona, 1981; PhD Stanford Univ., 1987.

Offices and Honours Faculty Res. Fell., Res. Assoc., NBER, 1989–97, 1997–.

Editorial Duties NSF Panel, 1994–96; Advisory Bd, *C-RPP*, 1996–; Co-Ed., *AER*, 1999–.

Principal Fields of Interest E2 Consumption, Saving, Production, Employment, and Investment; E3 Prices, Business Fluctuations, and Cycles.

Publications *Articles*: 1. 'The effects of market organization on conspiracies in restraint of trade' (with R.M. Isaac, A. Williams), *JEBO*, 5, 1984; 2. 'Inventories as factors of production and economic fluctuations', *AER*, 79, June 1989; 3. 'Nonconvex costs and the behavior of in-

ventories', *JPE*, 99, April 1991; 4. 'The source of fluctuations in money: evidence from trade credit', *JME*, 30, Nov. 1992; 5. 'Segment shifts and capacity utilization in the US automobile industry' (with T.F. Bresnahan), *AER*, 83, May 1993; 6. 'How important is the credit channel in the transmission of monetary policy?', *C-RPP*, 39, Dec. 1993; 7. 'Time series evidence on the sources of trends in wage inequality' (with G.J. Borjas), *AER*, 84, May 1994; 8. 'Output fluctuations at the plant level' (with T.F. Bresnahan), *QJE*, 109, Aug. 1994; 9. 'The relationship between wage inequality and trade' (with G. Borjas), in J.H. Bergstrand, T.F. Cosimano, J.W. Houck, R.G. Sheehan (eds), *The Changing Distribution of Income in an Open US Economy* (N-H, 1994); 10. 'Liquidity constraints and intertemporal consumer optimization: theory and evidence from durable goods' (with E.Y. Chah, R.M. Starr), *JMCB*, 27, Feb. 1995; 11. 'Foreign competition, market power and wage inequality' (with G.J. Borjas), *QJE*, 110, Nov. 1995; 12. 'Cross-country evidence on the link between volatility and growth' (with G. Ramey), *AER*, 85, Dec. 1995; 13. 'Costly capital reallocation and the effects of government spending' (with M.D. Shapiro), *C-RPP*, 48, June 1998; 14. 'Inventories' (with K.D. West), in J.D. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 1999); 15. 'The cost channel of monetary transmission' (with M.J. Barth), *NBER Macroecon. Annual*, 2001; 16. 'Displaced capital: a study of aerospace plant closings' (with M.D. Shapiro), *JPE*, 109, Oct. 2001.

Principal Contributions Introduced several new approaches to studying inventory fluctuations; tested various theories of monetary shocks and transmission mechanism; conducted detailed studies of output fluctuations at the plant level; developed and tested new links between

trade and wage inequality; showed a strong negative relationship between growth and volatility; studied capital allocation across industries.

RAMSEYER, John Mark

Born 1954, Chicago, IL, USA.

Current Post Mitsubishi Prof. Japanese Legal Stud., Harvard Univ., Cambridge, MA, USA, 1998–.

Past Posts Law Clerk, Hon. Stephen Breyer, 1st Circuit US Court Appointee, 1982–83; Assoc., Sidley & Austin, 1983–85; Acting Prof. Law, Prof. Law, UCLA, 1986–89, 1989–92; Prof. Law, Univ. Chicago, 1992–98.

Degrees BA (Hist.) Goshen Coll., 1976; AM (Japanese Stud.) Univ. Michigan, 1978; JD (Law, *mcl*) Harvard Univ., 1982.

Editorial Duties Co-Ed., *J. Legal Stud.*, 1995–98, *Stud. Law and Econ.*, 1996–.

Principal Field of Interest K0 Law and Economics: General.

Publications *Books*: 1. *Japan's Political Marketplace* (with F. Rosenbluth), (HUP, 1993); 2. *The Politics of Oligarchy* (with F. Rosenbluth), (CUP, 1995); 3. *Odd Markets in Japanese History* (CUP, 1996); 4. *Japanese Law* (with M. Nakazato), (UCP, 1998); 5. *Measuring Judicial Independence* (with E. Rasmusen), (UCP, 2003).

Articles: 1. 'The rational litigant: settlement amounts and verdict rates in Japan' (with M. Nakazato), *J. Legal Stud.*, 18, June 1989; 2. 'The leasing monopolist' (with J. Wiley, E. Rasmusen), *UCLA Law Rev.*, 37, 1990; 3. 'Legal rules in repeated deals: banking in the shadow of defection in Japan', *J. Legal Stud.*, 20, Jan. 1991; 4. 'Indentured prostitution in imperial Japan: credible commitments in the commercial sex industry', *JLEO*, 7, Spring 1991; 5. 'Naked exclusion' (with E. Rasmusen, J. Wiley), *AER*, 81, Dec. 1991; 6. 'The puz-

zling (in)dependence of courts: a comparative approach', *J. Legal Stud.*, 23, June 1994; 7. 'The market for children: evidence from early modern Japan', *JLEO*, 11, April 1995; 8. 'Judicial independence in a civil law regime: the evidence from Japan' (with E. Rasmusen), *JLEO*, 13, Oct. 1997; 9. 'Corporate governance in transitional economies: lessons from the pre-war Japanese cotton textile industry' (with Y. Miwa), *J. Legal Stud.*, 29, Jan. 2000; 10. 'Why is the Japanese conviction rate so high?' (with E. Rasmusen), *J. Legal Stud.*, 30, Jan. 2001; 11. 'Why are Japanese judges so conservative in politically charged cases?' (with E. Rasmusen), *Amer. Polit. Sc. Rev.*, 95, June 2001; 12. 'Banks and economic growth: implications from Japanese history' (with Y. Miwa), *J Law E*, 45, April 2002; 13. 'The myth of the main bank: Japan and comparative corporate governance' (with Y. Miwa), *Law and Social Inquiry*, 27, Spring 2002; 14. 'The value of prominent directors: corporate governance and bank access in transitional Japan' (with Y. Miwa), *J. Legal Stud.*, 31, June 2002; 15. 'The fable of the keiretsu' (with Y. Miwa), *JEMS*, 11, Summer 2002.

Principal Contributions n.e.

RANSOM, Michael R.

Born 1952, Salt Lake City, UT, USA.

Current Post Prof. Econ., Brigham Young Univ., Provo, UT, USA, 1997–.

Past Posts Asst Prof., Univ. Arizona, 1982–88; Assoc. Prof., Brigham Young Univ., 1988–97; Vis. Prof., Princeton Univ., 2000–01.

Degrees BA Brigham Young Univ., 1977; MA, PhD Princeton Univ., 1980, 1983.

Editorial Duties Bd Eds, *AER*, 1999–, *Contemporary Econ. Pol.*, 2000–.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J2

Time Allocation; Work Behavior; Employment Determination and Creation; J4 Particular Labor Markets.

Publications Articles: 1. 'Functional forms, estimation techniques and the distribution of income' (with J.B. McDonald), *Em*, 47, 1979; 2. 'An analysis of the bounds for the Gini coefficient' (with J.B. McDonald), *J Em*, 17, 1981; 3. 'The labor supply of married men: a switching regressions model', *J Lab E*, 5, 1987; 4. 'A comment on consumer demand systems with binding non-negativity constraints', *J Em*, 34, 1987; 5. 'An empirical model of discrete and continuous choice in family labor supply', *REStat*, 69, 1987; 6. 'Searching for the effect of unionism on the wages of union workers and nonunion workers' (with R.L. Oaxaca), *J. Labor Res.*, 9, 1988; 7. 'Gender segregation by field in higher education', *Res. Higher Educ.*, 31, 1990; 8. 'Why do states regulate admission to the bar? Economic theories and empirical evidence' (with R. Olsen, D. Lueck), *George Mason Univ. Law Rev.*, 14, Winter 1991; 9. 'Daily mortality and PM₁₀ pollution in Utah Valley' (with C.A. Pope III, J. Schwartz), *Archives Environmental Health*, 47, May/June 1992; 10. 'Elementary school absences and PM₁₀ pollution in Utah Valley' (with C.A. Pope III), *Environmental Res.*, 58, 1992; 11. 'Sex differences in the academic labor market in the affirmative action era' (with S.B. Megdal), *Econ. Educ. Rev.*, 12, March 1993; 12. 'Seniority and monopsony in the academic labor market', *AER*, 83, March 1993; 13. 'On discrimination and the decomposition of wage differentials' (with R. Oaxaca), *J Em*, 61, 1994; 14. 'External health costs of a steel mill' (with C.A. Pope III), *Contemporary Econ. Pol.*, 13, April 1995; 15. 'Market and regulatory forces in the pricing of legal services' (with D. Lueck, R. Olsen), *J. Regulatory Econ.*, 7, 1995; 16. 'Monopsony in the labor market' (with W.M. Boal) *JEL*,

35, March 1997; 17. 'Identification in detailed wage decompositions' (with R.L. Oaxaca), *REStat*, 81, Feb. 1999; 18. 'Does where you stand depend on where you sit? Tithing donations and self-serving beliefs' (with G.B. Dahl), *AER*, 89, Sept. 1999; 19. 'Sampling distributions of segregation indices', *Sociological Methods and Res.*, 28, May 2000; 20. 'The ten percent flat tax: tithing and the definition of income' (with G.B. Dahl), *EI*, 40, January 2002.

Principal Contributions My principal research contributions are in three main areas. First is labor supply decision-making within the family. Some of my early publications developed and estimated empirical models of how husbands and wives jointly make labor supply decisions, including whether to work and how many hours to work. A second area of my research deals with monopsony in the labor market. A third topic I have studied is the market for college and university professors. I have also made contributions to the study of air pollution and health, and to behavioral economics.

RASMUSEN, Eric Bennett

Born 1958, Urbana, IL, USA.

Current Posts Indiana Univ. Foundation Prof. Bus. Econ. and Public Pol., Kelley Sch. Bus., Indiana Univ., Bloomington, IN, USA, 1992–.

Past Posts Anderson Grad. Sch. Mgmt, 1984–92; Vis., Univ. Chicago, 1989–90, Yale Law Sch., 1991–92.

Degrees BA, MA Yale Univ., 1980; PhD MIT, 1984.

Principal Fields of Interest K0 Law and Economics: General; L0 Industrial Organization: General; H8 Miscellaneous Issues.

Publications *Books*: 1. *Games and Information* (Blackwell, 1989, 1994; trans.,

Japanese, Kyushu Univ. Press, Vol. 1, 1990, Vol. 2, 1991, Italian, Ulrico Hoepli Editore, Spanish, Fondo de Cultura Economica); 2. *Readings in Games and Information* (Blackwell, 2001); 3. *Measuring Judicial Independence: The Political Economy of Judging in Japan* (with M. Ramseyer), (UCP, 2003).

Articles: 1. 'Entry for buyout', *J Ind E*, 36, March 1988; 2. 'Stock banks and mutual banks', *J Law E*, 31, Oct. 1988; 3. 'A simple model of product quality with elastic demand', *Econ. Letters*, 29, 1989; 4. 'Cooperation in a repeated prisoner's dilemma with ostracism' (with D. Hirshleifer), *JEBQ*, 12, Aug. 1989; 5. 'Naked exclusion' (with M. Ramseyer, J. Wiley), *AER*, 81, Dec. 1991; 6. 'Managerial conservatism and rational information acquisition', *JEMS*, 1, Spring 1992; 7. 'Lobbying when the decisionmaker can acquire independent information', *Public Choice*, 77, 1993; 8. 'Predictable and unpredictable error in tort awards: the effect of plaintiff self selection and signalling', *Intl Rev. Law Econ.*, 15, Sept. 1995; 9. 'Stigma and self-fulfilling expectations of criminality', *J Law E*, 39, Oct. 1996; 10. 'Observed choice, estimation, and optimism about policy changes', *Public Choice*, 97, 1998; 11. 'Explaining incomplete contracts as the result of contract-reading costs', *Advances Econ. Analysis and Pol.*, 1, 2001; 12. 'Can high prices ensure product quality when buyers do not know the sellers' cost?' (with T. Perri), *EI*, 39, Oct. 2001; 13. 'Bertrand competition under uncertainty' (with M. Janssen), *J Ind E*, 50, March 2002.

Principal Contributions I am best known for my book on game theory, which aimed to present the subject with an emphasis on asymmetric information, sequential moves, and applications, while minimizing the use of mathematics. Which of the ideas in my articles is as important remains to be seen. My work began in

industrial organization, but I have shifted the emphasis to law and economics.

RATNESHWAR, S. n.e.

RAVALLION, Martin

Born 1952, Sydney, Australia.

Current Post Res. Manager, Devlp. Res. Group, World Bank, Washington, DC, USA, 2001–.

Past Posts Lead Econ., Sr Adviser, World Bank, 1994–99, 1999–2001.

Degrees BSc Univ. Sydney, 1974; MSc, PhD LSE, 1978, 1981.

Honours Univ. Sydney Medal, 1974; Ely Devons Prize, LSE, 1978.

Editorial Duties Assoc. Ed. or Ed. Bd, *JDE*, 1990–, *WD*, 1997–, *WBER*, 1998–, *Rev. Devlp. Econ.*, 1999–, *J. Econ. Inequality*, 2001–, *BE-Js on Econ. Devlp. and Growth*, 2001–, *China Econ. Rev.*, 2001, *Asian Devlp. Rev.*, 2002–.

Principal Fields of Interest I3 Welfare and Poverty; H3 Fiscal Policies and Behavior of Economic Agents; O1 Economic Development.

Publications *Books*: 1. *Markets and Famines* (OUP, 1987); 2. *Poverty Comparisons* (Harwood Acad., 1994).

Articles: 1. ‘The welfare economics of local public spending: an empirical approach’, *Ec*, 49, 1982; 2. ‘Testing market integration’, *AJAE*, 68, 1986; 3. ‘Social security in a “moral economy”: an empirical analysis for Java’ (with L. Dearden), *REStat*, 70, 1988; 4. ‘Expected poverty under risk-induced welfare variability’, *EJ*, 98, 1988; 5. ‘Growth and redistribution components of changes in poverty’ (with G. Datt), *JDE*, 38, April 1992; 6. ‘Reciprocity without commitment: characterization and performance of informal insurance arrangements’ (with S. Coate), *JDE*, 40, Feb. 1993; 7. ‘Pov-

erty and policy’ (with M. Lipton), in J. Behrman, T.N. Srinivasan (eds), *Handbook of Development Economics*, Vol. 3 (N-H, 1995); 8. ‘How important to India’s poor is the sectoral composition of economic growth?’ (with G. Datt), *WBER*, 10, Jan. 1996; 9. ‘Risk and insurance in village India: a comment’ (with S. Chaudhuri), *Em*, 65, Jan. 1997; 10. ‘Decomposing social indicators using distributional data’ (with B. Bidani), *J Em*, 77, March 1997; 11. ‘Famines and economics’, *JEL*, 35, Sept. 1997; 12. ‘Are there dynamic gains from a poor-area development program?’ (with J. Jalan), *J Pub E*, 67, Jan. 1998; 13. ‘Are the poor less well insured? Evidence on vulnerability to income risk in rural China’ (with J. Jalan), *JDE*, 58, Feb. 1999; 14. ‘Does child labor displace schooling? Evidence on behavioral responses to an enrolment subsidy’ (with Q. Wodon), *EJ*, 110, March 2000; 15. ‘Measuring poverty using qualitative perceptions of consumption adequacy’ (with M. Pradhan), *REStat*, 82, Aug. 2000; 16. ‘Identifying welfare effects from subjective questions’ (with M. Lokshin), *Ec*, 68, Aug. 2001; 17. ‘Geographic poverty traps? A micro model of consumption growth in rural China’ (with J. Jalan), *JAE*, 17, July 2002; 18. ‘Has India’s post-reform economic growth left the poor behind?’ (with G. Datt), *JEP*, 16, Summer 2002.

Principal Contributions The bulk of my research has concerned poverty and policies for fighting it. I have given emphasis to developing sound and policy-relevant empirical knowledge about poverty – knowledge that is also informed by, and provides feedback to, relevant social and economic theories. Specific topics on which I have tried to contribute include welfare and poverty measurement (using both objective and subjective methods), the interrelationship between risk and poverty, household income and wealth

dynamics, transitions into and out of poverty, poverty traps, informal safety nets, famines and crises, the economic geography of poverty, the performance of rural factor markets, the interlinkage between human resource development and poverty reduction, measuring and understanding the diverse impacts of economic growth on poverty and inequality, the design and evaluation of anti-poverty programs, the political economy of redistributive policies and assessing the welfare impacts of economy-wide policy reforms. I have worked in many countries, though Argentina, Bangladesh, China, India, Indonesia and Russia have been prominent. I have also been deeply involved in promoting high-quality analytic work on poverty and inequality by others, including managing research on this topic at the World Bank and continual training/dissemination efforts within and outside the Bank. I have strived to ensure fruitful (two-way) interaction between research and public action, and I am lucky to have had opportunities to see my research feed directly into practice.

RAVIKUMAR, B. n.e.

RAVIV, Artur n.e.

RAWSKI, Thomas George

Born 1943, Ithaca, NY, USA.

Current Posts Prof. Econ. and Hist. and Univ. Center for Intl Stud. Res. Prof., Univ. Pittsburgh, Pittsburgh, PA, USA, 1985–.

Past Posts Asst Prof. Econ., Assoc. Prof., Prof. Econ., Univ. Toronto, 1971–76, 1976–80, 1980–85.

Degrees BA (Hons) Cornell Univ., 1965; MA, PhD Harvard Univ., 1967, 1972.

Offices and Honours Postdoctoral Res. Appointment, Center for Chinese Stud., Univ. Michigan, 1974; Canada Council Leave Fellowship, 1977–78; Hoover Inst. Natl Fellowship Award, 1979–80; Connaught Sr Fellowship in Social Sc., 1981–82; Sr Fell., Trinity Coll., Univ. Toronto, 1981–85; Bd Dirs and China/Inner Asia Council, Assoc. Asian Stud., 1982–85; Mem., ACLS/SSRC Joint Comm. on Chinese Stud., 1987–90; Fell., Woodrow Wilson Intl Center for Scholars, 1992–93; Res. Fellowship, John Simon Guggenheim Memorial Foundation, 1993; Bd Dirs, Vice-Pres., Pres., Assoc. Comparative Econ. Stud., 1992–94, 1994, 1995; Res. Fell., William Davidson Inst., 1997–; Comm. to Visit East Asian Stud., Harvard Univ. Overseers, 1999–; Natl Endowment for Humanities Intl Postdoctoral Fellowship, ACLS/SSRC, 1999–2000; Co-recipient (with ten co-authors), Buchanan Prize for Curriculum Materials, for *Contemporary Chinese Society: Continuity and Change*, Interactive CD-ROM Project for Undergrad. Curriculum developed by Univ. Pittsburgh China Stud. Faculty (Columbia Univ. Press, 2001), Assoc. Asian Stud., 2002.

Editorial Duties Ed. Bds, *J Comp E*, 1982–85, 1995–98, *China Q.*, 1991–, *China Revs Intl*, 1994–, *China Econ. Rev.*, 1995–, *Global Econ. Rev.*, 1996–; Ed. Advisory Bd, *J. Asian Bus.*, 1996–; Advisory Bd, *China Rev.*, 2001–.

Principal Fields of Interest P2 Socialist Systems and Transitional Economies; O0 Economic Development, Technological Change, and Growth: General; O5 Economywide Country Studies.

Publications *Books*: 1. *Rural Small-Scale Industry in the People's Republic of China* (with *et al.*), (Univ. California Press, 1977); 2. *Economic Growth and Employment in China* (OUP, 1979); 3. *China's Transition to Industrialism: Producer Goods and Economic Development in the*

Twentieth Century (Univ. Michigan Press, 1980); 4. *Economic Growth in Prewar China* (Univ. California Press, 1989); 5. *Chinese History in Economic Perspective* (contrib. and ed. with L.M. Li), (Univ. California Press, 1992); 6. *Productivity, Efficiency, and Reform in China's Economy* (contrib. and ed. with K.-y. Tsui, T.-t. Hsueh), (Chinese Univ. Press, 1995); 7. *Economics and the Historian* (with *et al.*), (Univ. California Press, 1996).

Articles: 1. 'The simple arithmetic of income distribution in China', *Keizai Kenkyû* (Econ. Res., Tokyo), 33, 1982; 2. 'Milton Friedman, silver, and China', *JPE*, 101, 1993; 3. 'Enterprise reform in Chinese industry' (with G.H. Jefferson), *JEP*, 8, Spring 1994; 4. 'How industrial reform worked in China: the role of innovation, competition and property rights' (with G.H. Jefferson), in *Proceedings of the World Bank Annual Conference on Development Economics*, 1994, repr. in R. Ash, A. Booth (eds), *The Economies of Asia 1950–1998: Critical Perspectives on the World Economy* (Routledge, 2000); 5. 'Implications of China's reform experience', *China Q.*, 144, 1995; 6. 'Inequality in the rewards for holding up half the sky: gender wage gaps in China's urban labor markets, 1988–1994' (with M. Maurer-Fazio, W. Zhang), *China J.*, 41, 1999; 7. 'China's industrial innovation ladder: a model of endogenous reform' (with G.H. Jefferson), in G.H. Jefferson, I. Singh (eds), *Enterprise Reform in China: Ownership, Transition, and Performance* (OUP, 1999); 8. 'Ownership change in Chinese industry' (with G.H. Jefferson), in G.H. Jefferson, I. Singh (eds), *Enterprise Reform in China: Ownership, Transition, and Performance* (OUP, 1999); 9. 'Reforming China's economy: what have we learned?', *China J.*, 41, 1999; 10. 'China's move to market: how far? What next?', in T.G. Carpenter, J.A. Dorn (eds), *China's Future: Constructive Partner or Emerging*

Threat? (Cato Inst., 2000); 11. 'The political economy of China's declining growth', in P. Lloyd, X. Zhang (eds), *China in the World Economy* (Edward Elgar, 2000); 12. 'Ownership, productivity change, and financial performance in Chinese industry' (with G.H. Jefferson, L. Wang, Y. Zheng), *J Comp E*, 28, 2000; 13. 'What's happening to China's GDP statistics?', *China Econ. Rev.*, 12, 2001.

Principal Contributions I have focused my research on studies of China's economic development and modern history that are rooted in economic theory and informed by detailed scrutiny of quantitative information and careful study of Chinese economic policies and institutions.

RAZIN, Assaf

Born 1941, Kibbutz Shamir, Israel.

Current Posts Mario Henrique Simonsen Prof. Public Econ., Tel Aviv Univ., Israel, 1990–; Friedman Prof. Intl Econ., Cornell Univ., Ithaca, NY, USA, 2001–.

Past Posts Asst Prof., Univ. Minnesota, 1969–70; Vis. Prof., Dept Econ., Univ. Minnesota, 1973–74, Univ. California, Berkeley, 1974, Univ. Pennsylvania, 1976, 1981, Northwestern Univ., 1977–78, Princeton Univ., 1984, Univ. Chicago, 1986, 1987, 1991, 1995, 1997, Yale Univ., 1992, Harvard Univ., 1998, Stanford Univ., 1999–2001; Vis. Scholar, Res. Cons., Resident Scholar, Res. Dept, IMF, 1987–2002.

Degrees MSc Hebrew Univ., 1965; MA, PhD Univ. Chicago, 1968, 1969.

Offices and Honours Dir., Pinchas Sapir Center Devlp., Tel Aviv Univ., 1974–76; Dir., Econ. Planning Authority (Council Econ. Advisors) and Chief Econ. Advisor, Min. Fin., Govt Israel, 1979; (Position nk), Inst. Intl Econ. Stud., Univ.

Stockholm, 1980, 1981, 1982, 1985; Dean, Faculty Social Sc., Dep. Provost, Tel Aviv Univ., 1981–86, 1993–94; Vis. Scholar, Macroecon. Div., Devlp. Res. Dept, World Bank, 1987; Center for Adv. Stud., Hebrew Univ., Jerusalem, 1989; Res. Fell., CEPR, London, UK, 1990; Bd Governors, Fed. Reserve System, Washington, DC, 1991, 1992, 2000; Fell., Em Soc, 1995; Bd Dirs, First Intl Bank Israel, 1997–99; Chief Econ. Advisor, Israel's Employers' Assoc.; Res. Assoc., NBER; Mem. Sc. Comm, CESifo, Munich; Council Mem., Europ. Econ. Assoc.; Pres., Israel Econ. Assoc.; Chairperson, Dept Econ., Tel Aviv Univ.

Editorial Duties Assoc. Ed., *J Int E*, 1987–90, 1995–99, *Rev. Intl Econ.*, 1993, *JPE*, 1995–99; Co-Ed., *Rivoon L'Calcala*, J. of Israeli Econ. Assoc., 1993–; Co-Ed.-in-Chief, *ITPF*, 1999–2001.

Principal Fields of Interest J1 Demographic Economics; F1 Trade; H1 Structure and Scope of Government.

Publications *Books*: 1. *A Theory of International Trade Under Uncertainty* (with E. Helpman), (Acad. Press, 1978); 2. *Fiscal Policies and the World Economy* (with J. Frenkel), (MIT Press, 1987, 1992, 1996; trans., Japanese, 1990, Spanish, 1991); 3. *Population Policy and Individual Choice: A Theoretical Investigation* (with M. Nerlove, E. Sadka), Res. Report 60 (Intl Food Pol. Res. Inst., pb 1987); 4. *Household and Economy: Economics of Endogenous Fertility* (with M. Nerlove, E. Sadka), (Acad. Press, 1988); 5. *Spending, Taxes, and Deficits: International-Intertemporal Approach* (with J. Frenkel), *Princeton Stud. in Intl Fin.* series, 63 (Princeton Univ., pb, 1988); 6. *Israel's Economic Growth* (Hebrew), (with A. Neubach, E. Sadka), ('Maariv' Publ. House, 1988); 7. *Challenges to the Economy of Israel* (Hebrew), (with A. Neubach, E. Sadka), ('Maariv' Publ. House, 1990); 8. *International Taxation in an Integrated World* (with J. Frenkel,

E. Sadka), (MIT Press, 1992); 9. *The Economy of Modern Israel: Malaise and Promise* (with E. Sadka), (UCP, 1993); 10. *Population Economics* (with E. Sadka), (MIT Press, 1995); 11. *Current-Account Sustainability* (with G.M. Milesi-Ferretti), *Princeton Stud. in Intl Fin.* series, 81 (Princeton Univ., pb 1996); 12. *Fiscal Policies and Growth in the World Economy* (with J. Frenkel, co-op. C.-W. Yuen), (MIT Press; 3rd edn pb 1996); 13. *Labor, Capital, and Finance: International Flows* (with E. Sadka), (CUP, pb 2001).

Principal Contributions Early contributor to the endogenous growth literature, population growth literature, and the area of international trade under uncertainty, fiscal policy in the world economy and international taxation.

READY, Mark J. n.e.

REARDON, Thomas A.

Born 1954, Covina, CA, USA.

Current Post Prof., Dept Agric. Econ., Michigan State Univ., East Lansing, MI, USA, 1992–.

Past Posts Post-Doctoral Fell., Rockefeller Foundation, 1984–86; Res. Fell., Intl Food Pol. Res. Inst., 1986–91.

Degrees BA (Polit. Sc. and French, *mcl*) Claremont Men's Coll. (now Claremont McKenna Coll.), 1976; Diplôme (Intl Relations) Inst. Européen des Hautes Études Intl, Univ. Nice, 1977; Master's in Intl Affairs, Columbia Univ., 1979; DPhil (Agric. and Resource Econ.), Univ. California, Berkeley, 1984.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; O0 Economic Development, Technological Change, and Growth: General; L1 Market Structure, Firm Strategy, and Market Performance.

Publications Book: 1. *Sustainability, Growth, and Poverty Alleviation: Policy and Agroecological Perspectives* (ed. with S. Vosti), (JHUP, 1997).

Articles: 1. 'Coping with household-level food insecurity in drought-affected areas of Burkina Faso' (with P. Matlon, C. Delgado), *WD*, 16, 1988; 2. 'Determinants and effects of income diversification amongst farm households in Burkina Faso' (with C. Delgado, P. Matlon), *J Dev Stud*, 28, Jan. 1992; 3. 'Cereals demand in the Sahel and potential impacts of regional cereals protection', *WD*, 21, Jan. 1993; 4. 'Links between nonfarm income and farm investment in African households: adding the capital market perspective' (with E. Crawford, V. Kelly), *AJAE*, 76, Dec. 1994; 5. 'Links between rural poverty and environment in developing countries: asset categories and investment poverty' (with S.A. Vosti), *WD*, 23, Sept. 1995; 6. 'Mechanization and agricultural supply response in the Sahel: a farm-level profit function analysis' (with K. Savadogo, K. Pietola), *J. African Econ.*, 4, Dec. 1995; 7. 'Agroclimatic shock, income inequality, and poverty: evidence from Burkina Faso' (with J.E. Taylor), *WD*, 24, May 1996; 8. 'Using evidence of household income diversification to inform study of the rural nonfarm labor market in Africa', *WD*, 25, 1997; 9. 'Potential demand for drought insurance in Burkina Faso and its determinants' (with T. Sakurai), *AJAE*, 79, Nov. 1997; 10. 'Sustainable intensification in the Highland Tropics: Rwandan farmers' investments in land conservation and soil fertility' (with D. Clay, J. Kangasniemi), *EDCC*, 46, Jan. 1998; 11. 'Effects of the CFA franc devaluation on urban food consumption in West Africa: overview and cross-country comparisons' (with B. Diagona, F. Akindes, K. Savadogo, J. Staatz), *Food Pol.*, 24, Oct. 1999; 12. 'Policy reforms and sustainable agricultural intensification in Africa' (with C.

Barrett, V. Kelly, K. Savadogo), *Devlp. Pol. Rev.*, 17, Dec. 1999; 13. 'Global change in agrifood grades and standards: agribusiness strategic responses in developing countries', *Intl Food and Agribus. Mgmt Rev.*, 2, 1999; 14. 'Effects of nonfarm employment on rural income inequality in developing countries: an investment perspective' (with J.E. Taylor, K. Stamoulis, P. Lanjouw, A. Balisacan), *J. African Econ.*, 51, May 2000; 15. 'Institutional change and agroindustrialization on the Peruvian coast: innovations, impacts, and implications' (with J. Escobal, V. Agreda), *Agric. Econ.*, 23, Sept. 2000; 16. 'Agroindustrialization, globalization, and international development: an overview of issues, patterns, and determinants' (with C.B. Barrett), *Agric. Econ.*, 23, Sept. 2000; 17. 'Rural nonfarm employment and incomes in Latin America: overview of issues, patterns, and determinants' (with J. Berdegúe, G. Escobar), *WD*, 29, March 2001; 18. 'The rise of private food quality and safety standards: illustrations from Brazil' (with E.M.M.Q. Farina), *Intl Food and Agric. Mgmt Rev.*, 4, 2002; 19. 'The rapid rise of supermarkets in Latin America: challenges and opportunities for development' (with J.A. Berdegúe), *Devlp. Pol. Rev.*, 20, Sept. 2002.

Principal Contributions My contributions to economics have been in applied international development economics. (1) In 2002 I brought to the attention of development economists and practitioners the extremely rapid and recent rise of supermarkets in developing regions, with fundamental implications for small farms and firms and changes in agrifood markets. The work focusses on the rapid diffusion over Latin America (on which my work has mainly focussed), Asia, Eastern/Central Europe, and parts of Africa of supermarkets, and the consolidation and multinationalization of the supermarket

sector starting in the early 1990s and developing in earnest in the mid-1990s. This represents a fundamental 'sea change' in international development. This work is having major impacts on development assistance strategies. (2) Starting in 1999 I have contributed to development economics by an emphasis on the links among agroindustrialization, globalization, and international development. A major focus of this has been on changes in the organization and institutions of agrifood supply chains, including the transformation of the retail sector, and the rise of private quality and safety standards imposed by firms in the downstream sectors of the agrifood system. (3) From 1988 to the present my work has analyzed and documented and derived the implications for development economics and practitioners of the rapid rise of rural nonfarm employment in developing regions, focussing on Africa and Latin America. Among the implications explored are the effects of this employment and rural nonfarm income diversification in general on food security and disaster coping, income distribution, agricultural technology change, and rural asset distribution. (4) From the early 1990s I analyzed links between poverty ('investment poverty') and the environment, inspiring a series of field projects and debates in Latin America and other regions. In the 1980s I contributed to the understanding of imports of non-traditional cereals (rice and wheat) into the Sahel.

REBELO, Sergio Tavares

Born 1959, Viseu, Portugal.

Current Post Tokai Bank Disting. Prof. Intl Fin., Northwestern Univ., Evanston, IL, USA, 1997–.

Past Posts Instr., Asst Prof., Portuguese Catholic Univ., 1981–84, 1990–92; Asst Prof. Fin., Assoc. Prof. Fin., Northwest-

ern Univ., 1988–91, 1991–92; Assoc. Prof., Dept Econ., Univ. Rochester, 1992–97.

Degrees Licenciatura, Portuguese Catholic Univ., 1981; MSc (OR) Tech. Univ. Lisbon, 1985; MA, PhD Univ. Rochester, 1987, 1989.

Offices and Honours Res. Assoc., NBER, 1992–; Res. Fell., CEPR, 1992–; Chair, Fin. Dept, Kellogg Sch. Mgmt, 2000–02.

Editorial Duties Mem. Panel, *Econ. Pol.*, 1992–94; Assoc. Ed., *Europ ER*, 1995–98, *AER*, 1995–2001, *JME*, 1995–, *JEG*, 1997–; Advisory Comm., *C-RPP*, 1995–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General.

Publications Articles: 1. 'Production, growth and business cycles I: the basic neoclassical model' (with R. King, C. Plosser), *JME*, 21, March/May 1988; 2. 'Public policy and economic growth: developing neoclassical implications' (with R. King), *JPE*, 98, Oct. 1990; 3. 'Long-run policy analysis and long-run growth', *JPE*, 99, June 1991; 4. 'Growth in open economies', *C-RPP*, 36, 1992; 5. 'Business cycles 1850–1950: new facts about old data' (with I. Correia, J. Neves), *Europ ER*, 36, April 1992; 6. 'Low frequency filtering and real business cycles' (with R. King), *JEDC*, 17, 1993; 7. 'Marginal income tax rates and economic growth in developing countries' (with W. Easterly), *Europ ER*, 37, 1993; 8. 'Labor hoarding and the business cycle' (with C. Burnside, M. Eichenbaum), *JPE*, 101, 1993; 9. 'Transitional dynamics and economic growth in the neoclassical model' (with R. King), *AER*, 83, Sept. 1993; 10. 'Fiscal policy and economic growth: an empirical investigation' (with W. Easterly), *JME*, 32, Dec. 1993; 11. 'Business cycles in a small open economy' (with I. Correia, J. Neves), *Europ*

ER, 39, 1995; 12. 'Growth effects of flat-rate taxes' (with N. Stokey), *JPE*, 103, June 1995; 13. 'Capital utilization and returns to scale' (with C. Burnside, M. Eichenbaum), *NBER Macroecon. Annual*, 1995; 14. 'Exchange-rate-based stabilizations: an analysis of competing theories' (with C. Vegh), *NBER Macroecon. Annual*, 1995; 15. 'Sectoral Solow residuals' (with C. Burnside, M. Eichenbaum), *Europ ER*, 40, April 1996; 16. 'On the dynamics of trade reform' (with R. Albuquerque), *J Int E*, 51, June 2000; 17. 'Hedging and financial fragility in fixed exchange rate regimes' (with C. Burnside, M. Eichenbaum), *Europ ER*, 45, 2001; 18. 'Equilibrium unemployment' (with J. Gomes, J. Greenwood), *JME*, 48, 2001; 19. 'Prospective deficits and the Asian currency crises' (with C. Burnside, M. Eichenbaum), *JPE*, 109, 2001.

Principal Contributions My work has focussed on three areas: business cycles, economy growth and currency crises. In the area of business cycles I have studied the properties of different neoclassical models, as well as the role played by labor hoarding and capital utilization. In the growth area I studied the conditions for sustainable growth and examined, both theoretically and empirically, the impact of economic policy on the long-run growth rate of the economy. In the currency crises area I have focussed my attention on the role of government guarantees in creating prospective deficits that can be the root cause of currency collapses. Currently I am studying the dynamics of inflation in the aftermath of large devaluations and their implications for the government's intertemporal budget constraint.

REICHELSTEIN, Stefan

Born 1957, Bonn, Germany.

Current Post William R. Timken Prof.

Accounting, Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 2001–.

Past Posts Prof. Bus. Admin., Univ. Vienna, 1994–96; Michael N. Chetkovich Prof. Accounting, Haas Sch. Bus., Univ. California, Berkeley, 1990–2001.

Degrees Pre-diploma Univ. Bonn, 1978; Master (Managerial Econ. and Decision Sc.), PhD (Managerial Econ. and Decision Sc.) Northwestern Univ., 1980, 1984.

Honours Barclays Global Investors Best Paper Award, *Rev. Accounting Stud. Conf.*, 1999, 2001.

Editorial Duties Co-Ed., *Rev. Accounting Stud.*, 1998–; Ed., *German Econ. Rev.*, 1999–; Dept Ed., *Mgmt Sc.*, 2003–.

Principal Fields of Interest D8 Information and Uncertainty; L2 Firm Objectives, Organization, and Behavior; M4 Accounting.

Publications Articles: 1. 'Incentives in government contracts' (with K. Osband), *J Pub E*, 24, July 1984; 2. 'Incentive compatibility and informational requirements', *JET*, 34, Oct. 1984; 3. 'Information-eliciting compensation schemes' (with K. Osband), *J Pub E*, 27, June 1985; 4. 'Centralization versus delegation and the value of communication' (with N. Melumad), *J. Accounting Res.*, 25, 1987; 5. 'Game forms with minimal message spaces' (with S. Reiter), *Em*, 56, May 1988; 6. 'Value of communication in agencies' (with N. Melumad), *JET*, 47, April 1989; 7. 'Implementation via augmented revelation mechanisms' (with D. Mookherjee), *REStud*, 57, July 1990; 8. 'Dominant strategy implementation of Bayesian incentive compatible allocation rules' (with D. Mookherjee), *JET*, 56, April 1992; 9. 'Constructing incentive schemes for government contracts: an application of agency theory', *Accounting Rev.*, 67, Oct. 1992; 10. 'A theory of responsibility centers' (with N. Melumad, D. Mookherjee), *J. Accounting and Econ.*, 15, Nov. 1992; 11. 'Specific investment

under negotiated transfer pricing: an efficiency result' (with A. Edlin), *Accounting Rev.*, 70, April 1995; 12. 'Hierarchical decentralization of incentive contracts' (with N. Melumad, D. Mookherjee), *RandJE*, 26, Winter 1995; 13. 'Holdups, standard breach remedies and specific investment' (with A. Edlin), *AER*, 86, June 1996; 14. 'Investment decisions and managerial performance evaluation', *Rev. Accounting Stud.*, 2, 1997; 15. 'Contract complexity, incentives and the value of delegation' (with N. Melumad, D. Mookherjee), *JEMS*, 6, Summer 1997; 16. 'Budgeting and hierarchical control' (with D. Mookherjee), *J. Accounting Res.*, 35, Fall 1997; 17. 'Network mechanisms, informational efficiency and hierarchies' (with T. Marschak), *JET*, 79, March 1998; 18. 'Providing managerial incentives: cash flows versus accrual accounting', *J. Accounting Res.*, 38, Autumn 2000; 19. 'Incentives and coordination in hierarchies' (with D. Mookherjee), *Advances in Econ. Theory*, May 2001; 20. 'Controlling investment decisions: depreciation and capital charges' (with S. Dutta), *Rev. Accounting Stud.*, 7, Sept. 2002.

Principal Contributions My research has focussed primarily on the economics of organization, in particular issues related to decentralization, managerial incentives and performance measurement. My earlier work was concerned with the foundations of management control systems, in particular the communication requirements of alternative incentive mechanisms. This line of research led to one of the first explorations of the role of responsibility centers (e.g., cost or profit centers) and hierarchical control systems within firms. I have also worked on the theory of incomplete contracts and applied this framework to the study of transfer pricing mechanisms in multidivisional firms. In recent years, my research has focussed on dynamic incentive problems

and the role of accounting information in providing useful managerial performance measures. Some of the incentive mechanisms identified in my theoretical work have subsequently been implemented by select firms and government organizations.

REINHART, Carmen Maria

Born 1955, Havana, Cuba.

Current Post Dep. Dir., Res. Dept, IMF, Washington, DC, USA, 2002–.

Past Posts Bear Stearns', 1982–86; IMF, 1988–96; Prof., Sch. Public Affairs and Dept Econ., Dir., Intl Security and Econ. Pol. Specialization Sch. Public Affairs, Univ. Maryland, 1996– (currently on leave), 1998–2001.

Degrees MA, MPhil, PhD Columbia Univ., 1980, 1982, 1988.

Offices and Honours Pres.'s Fell., Columbia Univ., 1978, 1979; H.B. Earhart Fell., Earhart Foundation, 1980; Teaching Award, Dept Econ., Univ. Maryland, 1997–2000.

Editorial Duties Assoc. Ed., *J Int E*, 1998–2001; Bd Eds, *Economia* (j. of Latin Amer. and Caribbean Econ. Assoc.), 1999–2001, *WBER*, 1999–, *Rev. Intl Econ.*, 2000–01, *AER*, 2001–.

Principal Fields of Interest F3 International Finance; F4 Macroeconomic Aspects of International Trade and Finance; E0 Macroeconomics and Monetary Economics: General.

Publications Articles: 1. 'Capital inflows and real exchange rate appreciation in Latin America: the role of external factors' (with G. Calvo, L. Leiderman), *IMF Staff Papers*, 40, March 1993; 2. 'Targeting the real exchange rate: theory and evidence' (with G. Calvo, C. Végh), *JDE*, 47, 1995; 3. 'Nominal interest rates, consumption booms, and lack of credibility: a quantitative examination' (with C. Végh), *JDE*, 46, 1995; 4. 'Capital flows

to developing countries in the 1990s: causes and effects' (with G. Calvo, L. Leiderman), *JEP*, 10, Spring 1996; 5. 'Is there evidence of contagion effects?' (with S. Calvo), in G. Calvo, M. Goldstein, E. Hochreiter (eds), *Private Capital Flows to Emerging Markets After the Mexican Crisis* (Inst. Intl Econ., 1996); 6. 'Leading indicators of currency crises' (with G. Kaminsky, S. Lizondo), *IMF Staff Papers*, 45, March 1998; 7. 'Are financial crises in Asia and Latin America different: then and now' (with G. Kaminsky), *AER*, 88, May 1998; 8. 'Measuring intertemporal substitution: the role of durable goods' (with M. Ogaki), *JPE*, 106, Oct. 1998; 9. 'Dealing with the mixed blessing of capital inflows' (with V. Reinhart), in M. Kahler (ed.), *Capital Flows and Financial Crises* (Cornell Univ. Press, 1998); 10. 'The twin crises: the causes of banking and balance of payments problems' (with G. Kaminsky), *AER*, 89, June 1999; 11. 'On crises, contagion, and confusion' (with G. Kaminsky), *J Int E*, 51, June 2000; 12. 'Fixing for your life (with G. Calvo), in S. Collins, D. Rodrik (eds), *Brookings' Trade Policy Forum 2000* (Brookings Inst., 2000); 13. 'Stopping hot money' (with H. Edison), *JDE*, 66, Dec. 2001; 14. 'Bank lending and contagion: evidence from the Asian crisis' (with G. Kaminsky), in T. Ito, A. Krueger (eds), *Regional and Global Capital Flows: Macroeconomic Causes and Consequences* (UCP for NBER, 2001); 15. 'What hurts most: G-3 exchange rate or interest rate volatility?' (with V. Reinhart), in M. Edwards, J. Frankel (eds), *Preventing Currency Crises in Emerging Markets* (UCP for NBER, 2001); 16. 'Fear of floating' (with G. Calvo), *QJE*, 117, May 2002; 17. 'Temporary controls on capital inflows' (with R.T. Smith), *J Int E*, 57, Sept. 2002.

Principal Contributions My work has focussed on issues in open economy mac-

roeconomics with emphasis on developing countries. The work on capital flows with Calvo and Leiderman assessed whether capital flows to emerging markets were primarily driven by external factors, such as international interest rates, or by domestic pull factors, such as market-oriented reforms. We find that that external factors play a critical role in explaining the rise and fall of capital flows to emerging markets. We studied what the appropriate policy response to surges in capital flows could be. In my papers with Reinhart and Smith, we consider policies that adjust reserve requirements, taxes on capital flows, or monetary policy (open market operations and sterilized or unsterilized intervention) in response to the capital flow cycle. The capital flow boom and bust cycles also fueled my interest in currency and banking crises. Several papers with Kaminsky examined the macroeconomic and financial antecedents and aftermath of crises as well as the possible channels of financial contagion. We studied the links between currency and banking crises and financial liberalization and concluded that banking crises often follow financial liberalization and that a weak banking sector is a key factor in explaining modern currency crises. More recently, my work has studied exchange rate policies. In my work with Calvo, we find broad cross-country evidence of 'fear of floating' – that is, countries that claim they allow their exchange rate to fluctuate freely frequently do not. In my recent work with Rogoff, we reassess the post-World War II history of exchange rate arrangements only to conclude that the 'official classification' of exchange rate policies, as reported by the IMF, is very far removed from actual country practices – even for many industrial countries during much of the Bretton Woods era.

RENY, Philip J. n.e.

REY, Patrick

Born 1957, Tunis, Tunisia.

Current Posts Prof. Econ., Univ. Toulouse, Toulouse, France, 1995–; Res. Dir., Inst. d'Écon. Ind., Toulouse, France, 1995–; Assoc. Prof., École Polytech., Paris, France, 1991–.

Past Posts Vis. Prof., ENSAE, EHESS, École Nationale des Ponts et Chaussées and École Nationale de l'Aviation Civile, 1983–87; Sec., 'Micro-Decisions' Comm., Commissariat Général du Plan, 1983–87; Asst Prof., Dir. Stud., Dir., SEA Div., ENSAE, 1983–89, 1989–91, 1991–92; Bureau Econ. Forecasts, INSEE, 1986–88; Vis. Prof., Dept Econ., MIT, 1988–89; Dir., Lab. d'Écon. Ind., CREST, INSEE, 1992–95; Sc. Advisor, Directorate Econ. Stats, INSEE, 1992–95; Assoc. Prof., Univ. Lausanne, 1994–95.

Degrees Eng., École Polytech., 1981; Stat. Écon., ENSAE, 1983; PhD Univ. Toulouse, 1992.

Offices and Honours Fell., Em Soc, 1998; Council Mem., Europ. Econ. Assoc., 2000–.

Editorial Duties Ed. Bd, *REStud*, 1992–99, *J Pub E*, 1998–2001.

Principal Fields of Interest L0 Industrial Organization: General; D0 Microeconomics: General; K0 Law and Economics: General.

Publications Articles: 1. 'The logic of vertical restraints' (with J. Tirole), *AER*, 76, 1986; 2. 'Government intervention in production and incentives theory: a review of recent contributions' (with B. Caillaud, R. Guesnerie, J. Tirole), *RandJE*, 19, 1988; 3. 'Long-term, short-term and renegotiation: on the value of commitment in contracting' (with B. Salanié), *Em*, 58, 1990; 4. 'Noisy observation in adverse selection models' (with B. Caillaud,

R. Guesnerie), *REStud*, 59, 1992; 5. 'Renegotiation design with unverifiable information' (with P. Aghion, M. Dewatripont), *Em*, 62, 1994; 6. 'Repeated moral hazard: the role of memory, commitment, and the access to credit markets' (with P.A. Chiappori, I. Macho, B. Salanié), *Europ ER*, 38, 1994; 7. 'Strategic aspects of delegation' (with B. Caillaud), *Europ ER*, 39, 1995; 8. 'The role of exclusive territories in producers' competition' (with J. Stiglitz), *RandJE*, 26, 1995; 9. 'Long-term, short-term and renegotiation: on the value of commitment with asymmetric information' (with B. Salanié), *Em*, 64, 1996; 10. 'Competition between telecommunications operators' (with J.-J. Laffont, J. Tirole), *Europ ER*, 41, 1997; 11. 'Corporate governance, competition policy and industrial policy' (with P. Aghion, M. Dewatripont), *Europ ER*, 41, 1997; 12. 'Network competition: I. Overview and nondiscriminatory pricing' (with J.-J. Laffont, J. Tirole), *RandJE*, 29, 1998; 13. 'Network competition: II. Price discrimination' (with J.-J. Laffont, J. Tirole), *RandJE*, 29, 1998; 14. 'Pricing regulation under bypass competition' (with N. Curien, B. Jullien), *RandJE*, 29, 1998; 15. 'Competition, financial discipline and growth' (with P. Aghion, M. Dewatripont), *REStud*, 66, 1999; 16. 'Connectivity in the commercial Internet' (with J. Crémer, J. Tirole), *J Ind E*, 48, 2000; 17. 'Vertical restraints and the market power of large distributors' (with W.S. Comanor), *Rev. Ind. Org.*, 17, 2000; 18. 'Internet peering' (with J.-J. Laffont, S. Marcus, J. Tirole), *AER*, 91, 2001; 19. 'Capacity constraints, mergers and collusion' (with O. Compte, F. Jenny), *Europ ER*, 46, 2002; 20. 'On partial contracting' (with P. Aghion, M. Dewatripont), *Europ ER*, 46, 2002.

Principal Contributions I have worked on the economics of incentives and on industrial organization, with applications

to regulation, contract and organization theory, and to competition policy. In the first field my papers with B. Salanié stress that overlapping short-term contracts can suffice to get the full value of long-term commitment. I have also studied the impact of *ex post* uncertainty on contract design with B. Caillaud and R. Guesnerie. With P. Aghion and M. Dewatripont, I have studied the role of partial contracts in situations where, even *ex post*, some actions are not verifiable by third parties. We have also analyzed how internal agency problems affect the behavior of firms and the nature of their strategic interaction. In the field of industrial organization I have highlighted possible anti-competitive effects of vertical restraints (excessive limitation on intrabrand competition, collusion, competition-dampening and foreclosure) in joint works with J. Tirole, J. Stiglitz, B. Jullien, W. Comanor and T. Vergé. More recently, with Laffont and Tirole, I have studied the interplay of interconnection agreements and competition in the telecommunications and Internet industry. A paper with O. Compte and F. Jenny stresses that symmetry in production capacities facilitates tacit collusion, which has implications for merger control.

RICHARDSON, Matthew Philip

Born 1964, Tynemouth, England.

Current Post Prof. Fin., Stern Sch. Bus., NYU, New York City, NY, USA, 1995–.

Past Posts Asst Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1985–95.

Degrees BA, MA UCLA, 1984, 1984; PhD (Fin.) Grad. Sch. Bus., Stanford Univ., 1989.

Offices and Honours Res. Assoc., NBER, 1996–; Rosenthal Award for Fin. Innovation, 1997.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1997–2000, *JFQA*, 1997–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; G0 Financial Economics: General; G1 General Financial Markets.

Publications Articles: 1. ‘Drawing inferences from statistics based on multi-year asset returns’ (with J. Stock), *J Fin E*, 25, Nov. 1989; 2. ‘Using generalized method of moments to test mean-variance efficiency’ (with C. MacKinlay), *J Fin*, 46, June 1991; 3. ‘Test of financial models in the presence of overlapping observations’ (with T. Smith), *Rev. Fin. Stud.*, 4, June 1991; 4. ‘A test for multivariate normality of stock returns’ (with T. Smith), *J Bus*, 66, April 1993; 5. ‘Temporary components of stock prices: a skeptic’s view’, *JBES*, 11, April 1993; 6. ‘Is the *ex-ante* risk premium always positive? A new approach to testing conditional asset pricing models’ (with J. Boudoukh, T. Smith), *J Fin E*, 34, Dec. 1993; 7. ‘Stock returns and inflation: a long-horizon perspective’ (with J. Boudoukh), *AER*, 83, Dec. 1993; 8. ‘A direct test of the mixture of distributions hypothesis: measuring the daily flow of information’ (with T. Smith), *JFQA*, 29, March 1994; 9. ‘The statistics of long-horizon regressions revisited’ (with Jacob Boudoukh), *Math. Fin.*, 4, April 1994; 10. ‘A unified approach to testing for serial correlation in stock returns’ (with T. Smith), *J Bus*, 67, July 1994; 11. ‘A tale of three schools: insights on auto-correlations of short-horizon stock returns’ (with J. Boudoukh, R.F. Whitelaw), *Rev. Fin. Stud.*, 7, 1994; 12. ‘Industry returns and the Fisher effect’ (with J. Boudoukh, R.F. Whitelaw), *J Fin*, 49, 1994; 13. ‘Market efficiency around the clock: some supporting evidence from foreign-based derivatives’ (with A. Craig, A. Dravid), *J Fin E*, 39, Oct. 1995; 14. ‘Nonlinearities in the relation between the equity risk premium and the term structure’ (with J.

Boudoukh, R.F. Whitelaw), *Mgmt Sc.*, 43, 1997; 15. 'Pricing mortgage-backed securities in a multifactor interest rate environment: a multivariate density estimation approach' (with J. Boudoukh, R. Stanton, R.F. Whitelaw), *Rev. Fin. Stud.*, 10, 1997; 16. 'Why do stock prices move? A transactions-based analysis of NYSE stocks' (with A. Madhavan, M. Roomans), *Rev. Fin. Stud.*, 10, Winter 1997; 17. 'Optimal risk management using options' (with D.-H. Ahn, J. Boudoukh, R.F. Whitelaw), *J Fin*, 54, 1999; 18. 'Ex ante bond returns and the liquidity preference hypothesis' (with J. Boudoukh, T. Smith, R.F. Whitelaw), *J Fin*, 54, 1999; 19. 'Partial adjustment or stale prices? Implications from stock index and futures return autocorrelations' (with D.-H. Ahn, J. Boudoukh, R. Whitelaw), *Rev. Fin. Stud.*, 15, 2002; 20. 'DotCom mania: the rise and fall of Internet stock prices' (with E. Ofek), *J Fin*, forthcoming.

Principal Contributions My primary research is in the area of financial economics with occasional forays into pure econometric theory. The research covers a wide array of topics in finance; for example, I have published papers in the area of financial econometrics, asset pricing theory and empirical work, market efficiency, international finance, fixed income, derivatives, and market microstructure. Some of my earlier work was focussed on understanding the econometrics of asset return distributions and predictability. In particular, a number of these papers derived and implemented new test methodologies. For example, some of this work showed that previous conclusions in the literature regarding asset return serial dependence properties were vastly overstated, and, in fact, were consistent with random walk behavior of stock prices. Another branch of my work looks at how asset pricing models imply a series of inequality restrictions, develops tests of these restrictions, and then imple-

ments them, generating new empirical results in the literature. Other areas of research have focussed on the question of whether financial markets respond efficiently to information. Much of this work shows how the existing literature is too 'quick' to provide behavioral explanations of so-called financial anomalies when standard rational frameworks suffice. Examples of my work include investigations of the intraday behavior of stock prices; the relation between spot and futures return indices; international co-movements in markets across time zones; short horizon autocorrelations of returns; and the relation between FCOJ futures prices and weather. In somewhat more contradictory and recent work, I have begun to explore the conditions under which asset prices can drift away from fundamentals, focussing in particular on the importance of short sales restrictions. In one paper, the recent internet 'bubble' is considered as an example.

RICHINS, Marsha L.

Born 1950, Chicago, IL, USA.

Current Post Prof. Marketing, Univ. Missouri, St. Louis, MO, USA, 1992–.

Past Posts Asst Prof. Marketing, Louisiana State Univ., 1982–87; Assoc. Prof. Marketing, Univ. Massachusetts, 1987–92.

Degrees BA (Psychology) California State Univ., 1974; MA (Psychology), PhD (Bus.), MBA Univ. Texas, 1976, 1979, 1980.

Offices and Honours Bonham Fellowship for Doctoral Res., Univ. Texas, 1977–78; Disting. Res. Fell., Univ. Missouri Coll. Bus., 1996–97; Best Article Award, *J. Consumer Res.*, 1997; Pres., Assoc. Consumer Res., 2000.

Editorial Duties Guest Ed., *Psychology and Marketing J.*, 1993; Assoc. Ed., *J. Consumer Res.*, 1994–97.

Principal Field of Interest D1 Household Behavior.

Publications *Articles*: 1. 'An analysis of consumer interaction styles in the marketplace', *J. Consumer Res.*, 10, June 1983; 2. 'A theoretical model for the study of product importance perceptions' (with P. Bloch), *J. Marketing*, 47, Summer 1983; 3. 'Seeking redress for consumer dissatisfaction: the role of attitudes and situational factors' (with B. Verhage), *J. Consumer Pol.*, 8, March 1985; 4. 'Assertiveness and aggression in marketplace exchanges: testing measure equivalence' (with B. Verhage), *J. Cross-Cultural Psychology*, 18, March 1987; 5. 'A multivariate analysis of responses to dissatisfaction', *J. Acad. Marketing Sc.*, 15, Fall 1987; 6. 'Social comparison and the idealized images of advertising', *J. Consumer Res.*, 18, June 1991; 7. 'Post-purchase product satisfaction: incorporating the effects of involvement and time' (with P. Bloch), *J. Bus. Res.*, 23, Sept. 1991; 8. 'Some theoretical and popular notions concerning materialism' (with S. Fournier), *J. Social Behav. and Personality*, 6, 1991; 9. 'A consumer values orientation for materialism and its measurement: measure development and validation' (with S. Dawson), *J. Consumer Res.*, 19, Dec. 1992; 10. 'Attractiveness, adornments, and exchange', *Psychology and Marketing*, 10, Nov. 1993; 11. 'Materialism and economic psychology' (with F. Rudmin), *J. Econ. Psychology*, 15, June 1994; 12. 'Special possessions and the expression of material values', *J. Consumer Res.*, 21, Dec. 1994; 13. 'Valuing things: the public and private meanings of possessions', *J. Consumer Res.*, 21, Dec. 1994; 14. 'Social comparison, advertising, and consumer discontent', *Amer. Behav. Scientist*, 38, Feb. 1995; 15. 'Measuring emotions in the consumption experience', *J. Consumer Res.*, 24, Sept. 1997; 16. 'Consumer behavior as a social science', *Advances in Consumer Res.*, 28, 2001.

Principal Contributions Research and contributions have focused primarily on the motivations for consumption in affluent societies. It is well known that, when possible, consumers desire and purchase more goods than are needed to sustain a healthful and comfortable life. The consequences of this consumption are uneven distribution of material resources across population segments, higher prices for desired goods, and faster depletion of natural resources. The primary contribution has been to more fully explicate the construct of materialism as it relates to consumption and to develop a measurement instrument to assess materialism at the individual level. Related contributions include examining the psychological correlates of materialism. This has involved investigating consumption motivations, the benefits consumers desire from consumption, and consumers' consumption dreams. In addition, affective and emotional correlates of consumption have been identified. Theoretical work has also focused on the ways in which the cultural environment, including advertising and other media, serve to perpetuate materialistic tendencies within a culture. Earlier research and contributions have been in the area of consumer product satisfaction, including identification of factors that encourage and inhibit consumers from seeking redress in the marketplace when they have an unsatisfactory marketplace exchange.

RIDDER, Geert n.e.

RIETVELD, Piet

Born 1952, Berkel en Rodenrijs, The Netherlands.

Current Post Prof. Transport Econ., Faculty Econ., Vrije Univ., Amsterdam, The Netherlands, 1990–.

Past Posts Res. Asst Econ., Erasmus Univ., 1972–75; Asst Prof. Regional Econ., Assoc. Prof. Regional Econ., Vrije Univ., 1975–80, 1986–90; Fell., Intl Inst. Apl. Systems Analysis, Austria, 1980–81; Sr Researcher, Univ. Kristen Satya Wacana, 1983–86.

Degrees MSc Erasmus Univ., 1995; PhD Vrije Univ., 1980.

Offices and Honours Chairman, Dutch-speaking Regional Sc. Assoc., 1994–96; Hendrik Muller Prize, Royal Netherlands Acad. Sc., 1999; Chairman, Europ. Network Transport and Communications Res., 2001–.

Editorial Duties Ed. Bd, *Annals Regional Sc.*, 1992–, *Intl Regional Sc. Rev.*, 1995–, *Transportation Res. D.*, 1996–, *Bull. Indonesian Econ. Stud.*, 1996–, *Tijdschrift Vervoerwetenschap*, 1996–, *Europ. Rev. Infrastructure Res.*, 2000–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; R4 Transportation Systems; O1 Economic Development.

Publications *Books*: 1. *Multiple Objective Decision Methods and Regional Planning* (N-H, 1980); 2. *Is Transport Infrastructure Effective? Transport Infrastructure and Accessibility: Impacts on the Space Economy* (with F. Bruinsma), (Springer, 1998).

Articles: 1. ‘Multiobjective multilevel policy models’ (with P. Nijkamp), *Europ ER*, 15, 1981; 2. ‘Vacancies and mobility in the housing market; an exploratory analysis’, *Environment and Planning A*, 24, 1984; 3. ‘Non-agricultural activities and income distribution in rural Java’, *Bull. Indonesian Econ. Stud.*, 22, 1986; 4. ‘Intraregional income distribution and poverty: some investigations for the Netherlands between 1960 and 1981’, *Environment and Planning A*, 21, 1989; 5. ‘Infrastructure and regional development: a survey of multiregional economic models’, *Annals Regional Sc.*, 23, 1989; 6.

‘Multidimensional inequality comparisons; on aggravation and mitigation of inequalities’, *Econ. Letters*, 32, 1990; 7. ‘Telephone calls and communication barriers; the case of the Netherlands’ (with L. Janssen), *Annals Regional Sc.*, 24, 1990; 8. ‘A note on interregional versus intraregional inequality’, *RSUE*, 21, 1991; 9. ‘Ordinal data in multicriteria decision making; a stochastic dominance approach to siting nuclear power plants’ (with H. Ouwersloot), *Europ. J. OR*, 56, 1992; 10. ‘Urban agglomerations in European infrastructure networks’ (with F. Bruinsma), *Urb Stud*, 30, 1993; 11. ‘Changes in commuting distances of Dutch households’ (with J. Rouwendal), *Urb Stud*, 31, 1994; 12. ‘Second-best regulation of road transport externalities’ (with E. Verhoef, P. Nijkamp), *J Trans EP*, 29, 1995; 13. ‘Commuting: in search of jobs and residences’ (with J. Van Ommeren, P. Nijkamp), *JUE*, 42, 1997; 14. ‘Spatial moving behavior of two-earner households’ (with J. Van Ommeren, P. Nijkamp), *J Reg S*, 38, 1998; 15. ‘Information effects in transport with stochastic capacity and uncertainty costs’ (with R. Emmerink, E. Verhoef), *IER*, 39, 1998; 16. ‘Border effects and spatial autocorrelation in the supply of network infrastructure’ (with P. Winterhoven), *Papers in Regional Sc.*, 77, 1998; 17. ‘Airport and airline competition for passengers departing from a large metropolitan area’ (with E. Pels), *JUE*, 48, 2000; 18. ‘Coping with unreliability in public transport chains: a case study for Netherlands’ (with F. Bruinsma, D. van Vuuren), *Transportation Res. A*, 35, 2001.

Principal Contributions I have contributed to various fields in regional and transport economics. Early work addressed multicriteria analysis. Special contributions related to the treatment of ordinal information by means of order statistic approaches and the use of multilevel programming in hierarchical decision mak-

ing. Another line of research concerns regional development problems in developing countries. Here I contributed by addressing the links between farm and off-farm employment of rural households, and the role of infrastructure. In my analysis of regional inequality I have contributed to the treatment of multidimensional inequality, where welfare depends on bundles of goods rather than on only one good. In addition I have studied decomposition issues in inequality leading to empirical estimates of the regional component in total inequality for a variety of welfare components. Infrastructure and regional development has been studied from a theoretical and empirical perspective. Case studies have been carried out for the economic effects of orbital motorways and transport corridors. Special attention has been paid to generative versus distributive effects of transport infrastructure improvements. Barrier effects of borders have been another field of research. In addition to conceptual work, various empirical studies have been carried out on the impact of borders on the intensity of spatial interaction. Borders lead to substantial reductions of spatial interaction (transport flows, telecommunication) and in addition to economic factors such as trade blocs, various institutional and historical factors also play a large role here. The economics of transport nodes has been studied by considering the interactions between actors operating on lines and in nodes, as well as customers. Also quality of transport nodes has been studied from this perspective. Spatial search behavior has been analyzed for choice of location of jobs and residences. A novel contribution has been the introduction of two-worker households in this context.

RINDFUSS, Ronald R.

Born 1946, Buffalo, NY, USA.

Current Post Robert Paul Ziff Disting. Prof., Dept Sociology, Univ. North Carolina, Chapel Hill, NC, USA, 2000–.

Past Posts Res. Asst, 1970 Natl Fertility Study, Office Pop. Res., Princeton Univ., 1971–73; Res. Assoc., Center Demography and Ecology, and Inst. Res. on Poverty, Univ. Wisconsin-Madison, 1973–76; Asst Prof., Assoc. Prof., Prof., Dept Sociology, Univ. North Carolina, 1976–79, 1979–84, 1984–2000; Advisory Council, Dir., Carolina Pop. Center, Univ. North Carolina, 1981–86, 1992–97.

Degrees BA Fordham Univ., 1968; PhD Princeton Univ., 1974.

Offices and Honours Council Mem., William J. Goode Award Comm., Chair Sociology Pop., Amer. Sociological Assoc., 1985–88, 1988, 1989–90; Exec. Comm., Southern Regional Demographic Group, 1978–90; Inter-Univ. Consortium Polit. and Social Res., 1980 Census Advisory Comm., 1980–81; Bd Dirs, Irene Taeuber Award Comm., Second Vice-Pres., Mindel C. Sheps Award Comm., Pres., PAA, 1981–83, 1985, 1987–88, 1990, 1991; Mem., Chair, US Bureau of Census Advisory Comm., 1983–89, 1985–86; Working Group on Survey of Income and Program Participation (SIPP) Personal Hist. Data Collection, SSRC, 1986; Mem., Social Sc. and Pop. Study Section, NIH, 1983–87; Fell., Sociological Res. Assoc., 1987, Amer. Assoc. Adv. Sc., 1992; Comm. on Pop., Comm. Human Dimensions of Global Change, NRC, 1989–95, 1993–99; Admin. Bd, Inst. Res. Social Sc., 1993–96; Mem., Chair, NASA Socioecon. Data Apl. Center (SEDAC), Distributed Active Archive Center (DAAC), 1994–2002, 1999–2001; Comm. on the Profession, Southern Sociological Soc., 1996–98; External Advisory Bd, Pop. Res. Inst., Pennsylvania State Univ.,

1997–99; Sc. Steering Comm., Land Use Cover and Change Program, Intl Human Dimensions Program and Intl Geosphere-Biosphere Program, 1999–2004; Steering Comm., Pop.-Environment Res. Network, Intl Union for Sc. Study of Pop. and Intl Human Dimensions Program, 2000–; ERDAS Award for Best Sc. Paper in Remote Sensing (with S.J. Walsh, T.P. Evans, W.F. Welsh, B. Entwisle), 2000; Intl Advisory Comm., Intl Seminar on Pop., Devlp. and Environment, Pilani, India, 2001–02; Mem, Chair, Fellowship Comm., Pop. Council, 2001–03, 2003.

Editorial Duties Contrib. Ed., *Social Biology*, 1974; Assoc. Ed., *Social Forces*, 1976–; Consulting Ed., *Amer. J. Sociology*, 1977–80; Ed. Bd, *Korean J. Pop. and Devlp.*, 1990–98; Ed. Advisory Comm., *Family Planning Perspectives*, 1994–97.

Principal Fields of Interest D1 Household Behavior; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *People and Pixels* (ed. with D. Liverman, E. Moran, P. Stern), (Natl Acad. Press, 1998); 2. *People and the Environment: Approaches for Linking Household and Community Surveys to Remote Sensing and GIS* (ed. with J. Fox, S.J. Walsh, V. Mishra), (Kluwer Acad. Press, 2003).

Articles: 1. ‘Intergenerational contact in the US and Japan’ (with R.K. Raley), in K.O. Mason, N.O. Tsuya, M.K. Choe (eds), *The Changing Family in Comparative Perspective: Asia and the US* (East-West Center Press, 1998); 2. ‘Linking remote sensing and social science: the need and the challenges’ (with P.C. Stern), in D. Liverman, E.F. Moran, R.R. Rindfuss, P.C. Stern (eds), *People and Pixels* (Natl Acad. Press, 1998); 3. ‘Land-use/land cover and population dynamics, Nang Rong, Thailand’ (with B. Entwisle, S.J. Walsh, A. Chamrathirong), in D. Liverman, E.F. Moran, R.R. Rindfuss, P.C.

Stern (eds), *People and Pixels* (Natl Acad. Press, 1998); 4. ‘The changing impact of religion on the sexual and contraceptive behavior of adolescent women in the United States’ (with K. Brewster, E. Cooksey, D. Guilkey), *J. Marriage and Family*, 60, 1998; 5. ‘Spatial arrangement of social and economic networks among villages in Nang Rong district, Thailand’ (with K. Faust, B. Entwisle, S.J. Walsh, Y. Sawangdee), *Social Networks*, 21, 1999; 6. ‘The effects of respondent’s kinship position on reported levels of inter-generational contact: United States and Japan’ (with R.K. Raley), *Pop. Res. and Pol. Rev.*, 18, 1999; 7. ‘Young adult occupational achievement: early expectations versus behavioral reality’ (with E. Cooksey, R. Sutterlin), *Work and Occupations*, 26, 1999; 8. ‘Landscape characterization through remote sensing, GIS, and population surveys’ (with S.J. Walsh, B. Entwisle), in S. Morain (ed.), *GIS Solutions in Natural Resource Management: Balancing the Technical–Political Equation* (OnWord Press, 1999); 9. ‘Re-examining the link between early childbearing and subsequent fertility’ (with S.P. Morgan), *Demography*, 36, 1999; 10. ‘Scale dependent relationships between population and environment in Northeast Thailand’ (with S.J. Walsh, T.P. Evans, W.F. Welsh, B. Entwisle), *Photogrammetric Eng. and Remote Sensing*, 65, 1999; 11. ‘The quality and comparability of child care data in US Surveys’ (with R.K. Raley, K.M. Harris), *Social Sc. Res.*, 29, 2000; 12. ‘Fertility and women’s employment in industrialized countries’ (with K. Brewster), *Annual Rev. Sociology*, 26, 2000; 13. ‘Patterns of change in land use and land cover and plant biomass: separating intra-and inter-annual signals in monsoon-driven Northeast Thailand’ (with S.A. Walsh, K.A. Crews-Meyer, T.W. Crawford, W.F. Welsh, B. Entwisle), in A.C. Millington, S.J. Walsh, P.E. Osborne

(eds), *GIS and Remote Sensing Applications in Biogeography and Ecology* (Kluwer Acad., 2001); 14. 'Patterns of work and schooling in young adulthood' (with E. Cooksey), *Sociological Forum*, 16, 2001; 15. 'Family configurations and child care patterns: families with two or more preschool age children' (with K.M. Harris, R.K. Raley), *Social Sc. Q.*, 83, 2002; 16. 'Linking household and remotely sensed data: methodological and practical problems' (with S.J. Walsh, V. Mishra, J. Fox, G.P. Dolcemascolo), in J. Fox, R.R. Rindfuss, S.J. Walsh, V. Mishra (eds), *People and the Environment: Approaches for Linking Household and Community Surveys to Remote Sensing and GIS* (Kluwer Acad., 2002); 17. 'Household-parcel linkages in Nang Rong, Thailand: challenges of large samples' (with P. Prasartkul, S.J. Walsh, B. Entwisle, Y. Sawangdee, J.B. Vogler), in J. Fox, R.R. Rindfuss, S.J. Walsh, V. Mishra (eds), *People and the Environment: Approaches for Linking Household and Community Surveys to Remote Sensing and GIS* (Kluwer Acad., 2002); 18. 'Continuous and discrete: where they have met in Nang Rong, Thailand' (with B. Entwisle, S.J. Walsh, P. Parsartkul, Y. Sawangdee, T.W. Crawford, J. Reade), in S.J. Walsh, K.A. Crews-Meyer (eds), *Remote Sensing and GIS Applications for Linking People, Place and Policy*, (Kluwer Acad., 2002).

Principal Contributions n.e.

RIORDAN, Michael Henry

Born 1951, Teaneck, NJ, USA.

Current Post Laurans A. and Arlene Mendelson Prof. Econ. and Bus., Columbia Univ., New York, NY, USA, 2000–.

Past Posts Asst Prof. Econ., Univ. Pennsylvania, 1981–84, Stanford Univ., 1984–88; Prof. Econ., Boston Univ.,

1988–99; Vis. Res. Prof., Univ.-Wide Energy Res. Group, Univ. California, Berkeley, 1991–92; Econ. Advisor, FTC, 1992–93; Chief Econ., FCC, 1997–98; Prof. Econ. and Bus., Columbia Univ., 1999–2000.

Degrees BS (Intl Relations) Georgetown Univ., 1973; MA (Distinction) Univ. Essex, 1975; PhD Univ. California, Berkeley, 1981.

Offices and Honours Natl Fell., Hoover Inst., Stanford Univ., 1986–87; Fell., Em Soc, 1994–; Jerry S. Cohen Memorial Award for Antitrust Scholarship, 2002.

Editorial Duties Assoc. Ed., *QJE*, 1988–97; Co-Ed., *RandJE*, 1990–97; Bd Eds, *AER*, 1999–.

Principal Field of Interest L0 Industrial Organization: General.

Publications Articles: 1. 'Uncertainty, asymmetric information and bilateral contracts', *REStud*, 51, Jan. 1984; 2. 'On delegating price authority to a regulated firm', *RandJE*, 15, Spring 1984; 3. 'Advertising as a signal' (with R. Kihlstrom), *JPE*, 92, June 1984; 4. 'Imperfect information and dynamic conjectural variations', *RandJE*, 16, Spring 1985; 5. 'Information, incentives and organizational mode' (with D. Sappington), *QJE*, 102, May 1987; 6. 'Awarding monopoly franchises' (with D. Sappington), *AER*, 77, June 1987; 7. 'On governing multilateral transactions with bilateral contracts' (with J. Cremer), *RandJE*, 18, Autumn 1987; 8. 'Optimal contracts with public *ex post* information' (with D. Sappington), *JET*, 45, June 1988; 9. 'Second sourcing' (with D. Sappington), *RandJE*, 20, Spring 1989; 10. 'What is vertical integration?', in M. Aoki, B. Gustafsson, O. Williamson (eds), *The Firm as a Nexus of Treaties* (Sage, 1990); 11. 'High and declining prices signal product quality' (with K. Bagwell), *AER*, 81, March 1991; 12. 'Regulation and preemptive technology', *RandJE*, 23, Autumn 1992; 13. 'The learning curve, market

dominance and predatory pricing' (with L. Cabral), *Em*, 65, Sept. 1994; 14. 'Price and quality in a new product monopoly' (with K. Judd), *REStud*, 61, Oct. 1994; 15. 'Incomplete information and optimal market structure: public purchases from private providers' (with T. McGuire), *J Pub E*, 56, Jan. 1995; 16. 'Regulating complementary products: a comparative institutional analysis' (with R. Gilbert), *RandJE*, 26, Summer 1995; 17. 'Evaluating vertical mergers: a post-Chicago approach' (with S. Salop), *Antitrust Law J.*, 63, 1995. 18. 'Anticompetitive vertical integration by a dominant firm', *AER*, 88, Dec. 1998; 19. 'Predatory pricing: strategic theory and legal policy' (with P. Bolton, J. Brodley), *Georgetown Law J.*, Aug. 2000; 20. 'Dynamics of price regulation' (with G. Biglaiser), *RandJE*, 31, Winter 2000.

Principal Contributions Many of my works applied mechanism design theory to problems of procurement and regulation, including journal articles with D. Sappington on second-sourcing and franchise-bidding. I studied the theory of price as a signal of quality in articles with R. Kihlstrom and K. Bagwell. I developed a model of dynamic competition with imperfect information featuring what has since become known as 'signal jamming'. Vertical integration has been a recurrent topic of my research. I wrote an article with Oliver Williamson formalizing ideas from transaction-cost economics on the trade-off between internal and market organization of procurement. I interpreted vertical integration as contracting for inputs rather than outputs, arguing that vertical integration changed the information structure of procurement. I developed with S. Salop a policy framework for evaluating vertical mergers, and, most recently, developed a model of the competitive effects of vertical integration by a dominant firm. I developed with L. Cabral a dy-

namic model of duopoly with learning curves, leading to a theory of rational predatory pricing. Finally, I developed with P. Bolton and J. Brodley a legal framework for evaluating claims of predatory pricing in light of modern economic theory.

RITTER, Jay R.

Born 1954, Milwaukee, WI, USA.

Current Post Cordell Prof. Fin., Univ. Florida, Gainesville, FL, USA, 1996–.

Past Posts Asst Prof., Wharton Sch., Univ. Pennsylvania, 1981–85; Asst Prof. Univ. Michigan Bus. Sch., 1985–89; Assoc. Prof., Prof., Bailey Prof. Fin., Univ. Illinois Bus. Sch., 1989–95; Vis. Prof. Fin., Sloan Sch., MIT, 1995–96.

Degrees AB, AM, PhD Univ. Chicago, 1976, 1976, 1981.

Offices and Honours Smith–Breedon Prize, *J Fin*, 1991; Bd Dirs, AFA, 1993–96.

Editorial Duties Assoc. Ed., *Fin. Mgmt*, 1990–93, 2000–, *J Fin*, 1991–2000, *J Fin E*, 1993–, *JFQA*, 2001–.

Principal Fields of Interest G0 Financial Economics: General; G3 Corporate Finance and Governance; G2 Financial Institutions and Services.

Publications Articles: 1. 'The hot issue market of 1980', *J Bus*, 15, April 1984; 2. 'Investment banking, reputation, and the underpricing of initial public offerings' (with R. Beatty), *J Fin E*, 15, Jan. 1986; 3. 'The costs of going public', *J Fin E*, 19, Dec. 1987; 4. 'The buying and selling behavior of individual investors at the turn of the year', *J Fin*, 43, July 1988; 5. 'The long-run performance of initial public offerings', *J Fin*, 46, March 1991; 6. 'Measuring abnormal performance: do stocks overreact?' (with N. Chopra, J. Lakonishok), *J Fin E*, 31, April 1992; 7. 'The market's problems with the pricing

of initial public offerings' (with R. Ibbotson, J. Sinclair), *J Apl. Corp. Fin.*, 7, Spring 1994; 8. 'Initial public offerings: international insights' (with T. Loughran, K. Rydqvist), *Pacific Basin Fin. J.*, 2, May 1994; 9. 'The new issues puzzle' (with T. Loughran), *J Fin*, 50, March 1995; 10. 'The costs of raising capital' (with I. Lee, S. Lochhead, Q. Zhao), *J. Fin. Res.*, 19, Spring 1996; 11. 'Long-term market overreaction: the effect of low-priced stocks' (with T. Loughran), *J Fin*, 52, Dec. 1996; 12. 'The operating performance of firms conducting seasoned equity offerings' (with T. Loughran), *J Fin*, 52, Dec. 1997; 13. 'Valuing IPOs' (with M. Kim), *J Fin E*, 53, Sept. 1999; 14. 'Uniformly least powerful tests of market efficiency' (with T. Loughran), *J Fin E*, 55, March 2000; 15. 'The seven percent solution' (with H. Chen), *J Fin*, 55, June 2000; 16. 'Institutional affiliation and the role of venture capital: evidence from initial public offerings in Japan' (with Y. Hamao, F. Packer), *Pacific Basin Fin. J.*, 8, Oct. 2000; 17. 'The decline of inflation and the bull market of 1992–1999', *JFQA*, 37, March 2002; 18. 'Why don't issuers get upset about leaving money on the table in IPOs?' (with T. Loughran), *Rev. Fin. Stud.*, 15, 2002; 19. 'A review of IPO activity, pricing, and allocations' (with I. Welch), *J Fin*, 57, Aug. 2002; 20. 'The quiet period goes out with a bang' (with D. Bradley, B. Jordan), *J Fin*, 58, Feb. 2003.

Principal Contributions Most of my work has focused on equity issuance, especially initial public offerings (IPOs) of common stock. I have also published papers dealing with seasonal patterns in stock returns and long-term return measurement, as well as several other topics. My work on IPOs has focussed on documenting and explaining three empirical patterns: short-run underpricing, long-run underperformance, and cycles in the re-

turns and volume of IPOs. This has led to related work on the role of the investment banking industry. My early work used a reputation-theoretic paradigm, but my later work emphasizes unresolved agency problems and behavioral finance.

RIVERA-BATIZ, Luis Antonio

Born 1949, Ponce, Puerto Rico, USA.

Current Posts Adjunct Prof., Columbia Univ., New York, NY, USA, 2002–; Asst Prof., McGill Univ., Montreal, Canada, 1997–; Assoc. Prof., Univ. Puerto Rico, San Juan, Puerto Rico, 2002–.

Past Posts Asst Prof., Univ. California, San Diego, 1990–92; Vis. Prof., Assoc. Prof., Univ. Pompeu Fabra, 1992–97, 1997–2000; Cons., IMF, 1995–96; Sr Econ., Inter-Amer. Devlp. Bank, 1999–2000.

Degrees MA, PhD Univ. Chicago, 1976, 1992.

Editorial Duties Ed., *Investigaciones Economicas*, 1993.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth: General; F1 Trade; F3 International Finance.

Publications *Books*: 1. *International Finance and Open Economy Macroeconomics* (with F.L. Rivera-Batiz), (Macmillan, 1985, Prentice-Hall, 1994); 2. *International Trade* (with M.-A. Oliva), (OUP, 2003).

Articles: 1. 'The effects of direct foreign investment in the presence of increasing returns due to specialization' (with F.L. Rivera-Batiz), *JDE*, 34, Nov. 1990; 2. 'Economic integration and endogenous growth' (with P.M. Romer), *QJE*, 106, May 1991; 3. 'International trade with endogenous technological change' (with P.M. Romer), *Europ ER*, 35, May 1991; 4. 'GATT, trade and growth' (with X. Danyang), *AER*, 82, May 1992; 5. 'Inte-

gration between unequals' (with X. Danyang), *RSUE*, 23, July 1993; 6. 'Discipline, signaling and currency boards' (with M.-A. Oliva, A. Sy), *Rev. Intl Econ.*, 9, Nov. 2001; 7. 'Political institutions, capital flows and developing country growth: an empirical investigation' (with M.-A. Oliva), *Rev. Devlp. Econ.*, 6, June 2002.

Principal Contributions Most of my work is related to international economics. The paper with F.L. Rivera-Batiz showed that direct foreign investment would have positive welfare effects in the presence of industry linkages related to specialization due to increasing returns to scale. The two papers with P.M. Romer developed the theory of international trade in the presence of endogenous growth. The paper on integration and economic growth showed that integration could have positive income and growth effects that work by expanding the range of available manufacturing inputs and by exploiting the externalities from R&D. The paper on international trade with endogenous technological change showed that the relation between tariffs and the growth rate is not monotonic and examined the growth effects of property rights. More recently work on currency boards with A. Sy and M.-A. Oliva produced the first formal model of the operation and exit of a currency board regime. The empirical paper on foreign direct investment (FDI) presents evidence suggesting that FDI has positive growth effects on developing countries while other types of capital flows might not have positive effects.

ROB, Rafael

Born 1950, Jerusalem, Israel.

Current Post Prof. Econ., Univ. Pennsylvania, Philadelphia, PA, USA, 1984–.

Past Posts Res. Assoc., Univ. Minne-

sota, 1983–84; Asst Prof. Econ., Brown Univ., 1981–83.

Degrees BA Hebrew Univ., Jerusalem, 1976; PhD UCLA, 1981.

Offices and Honours Fell., Em Soc, 1995.

Editorial Duties Ed. Bd, *IER*, 1993–98.

Principal Fields of Interest D8 Information and Uncertainty; L1 Market Structure, Firm Strategy, and Market Performance; C7 Game Theory and Bargaining Theory.

Publications Articles: 1. 'A condition guaranteeing the optimality of public choice', *Em*, 49, 1981; 2. 'Asymptotic efficiency of the demand revealing mechanism', *JET*, 28, 1982; 3. 'Equilibrium price distributions', *REStud*, 52, 1985; 4. 'A note on competitive bidding with asymmetric information', *Mgmt Sc.*, 31, 1985; 5. 'The design of procurement contracts', *AER*, 76, 1986; 6. 'Demand driven innovation and spatial competition over time' (with B. Jovanovic), *REStud*, 54, 1987; 7. 'Entry, fixed costs and the aggregation of private information', *REStud*, 54, 1987; 8. 'Pollution claim settlements under private information', *JET*, 47, 1989; 9. 'The growth and diffusion of knowledge' (with B. Jovanovic), *REStud*, 56, 1989; 10. 'Long waves and short waves: growth through intensive and extensive search' (with B. Jovanovic), *Em*, 58, 1990; 11. 'Learning and capacity expansion under demand uncertainty', *REStud*, 58, 1991; 12. 'Learning, mutation and long-run equilibria in games' (with M. Kandori, G. Mailath), *Em*, 61, 1993; 13. 'Switching costs and sectoral adjustments in general equilibrium with uninsured risk' (with A. Dixit), *JET*, 62, 1994; 14. '*p*-dominance and belief potential' (with S. Morris, H. Shin), *Em*, 63, 1995; 15. 'Evolution of equilibria in the long run: general theory and applications' (with M. Kandori), *JET*, 65, 1995; 16. 'The size of firms and R&D

investment' (with A. Fishman), *IER*, 40, 1999; 17. 'The dynamics of technological adoption in hardware/software: the case of compact disc players' (with N. Gandal, M. Kende), *RandJE*, 31, 2000; 18. 'Product durability and innovation' (with A. Fishman), *RandJE*, 31, 2000; 19. 'Social capital, corporate culture and incentive intensity' (with P. Zemsky), *RandJE*, 33, 2002; 20. 'Consumer inertia, firm growth and industry dynamics' (with A. Fishman), *JET*, 83, 2003.

Principal Contributions I have made diverse contributions to the economics of uncertainty and its applications. In an early paper I showed the conditions under which an identical product sells at different prices, violating 'the law of one price'. More recently, I have extended this line of research to repeated purchase and have shown how firms accumulate a clientele base and how that relates to pricing, reputation building and R&D expenditures. In another line of research, I have shown how uncertainty and private information about pollution-related losses generate market failure, which is especially severe in economies with many individuals and which cannot be remedied by 'Coasian-type bargaining'. In a third line of research, I have shown how the expansion of industrial capacity is driven by uncertainty about market size and that the rate of capacity expansion is inefficiently low due to 'informational externalities'. In other papers, I considered the inefficiency of labor movements in economies with sectoral shocks and where workers pay switching costs when changing occupations. I have also contributed to evolutionary game theory, analyzing the dynamic of games where players gradually adjust their behavior as they learn from experience about the effectiveness of different strategies. The thrust of this line of research is to show that when this learning process is 'noisy' a particular equilib-

rium is selected although the underlying game has multiple equilibria. Most recently, I have done work on technology adoption and applied it to the question of why per capita incomes are so diverse across nations of the world.

ROBERTS, Donald John

Born 1945, Winnipeg, Manitoba, Canada.

Current Posts John H. and Irene S. Scully Prof. Econ., Strategic Mgmt and Intl Bus., Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 2001–; Prof. (by courtesy), Dept Econ., Stanford Univ., 1986–.

Past Posts Instr., Asst Prof., Assoc. Prof., Prof., Dept Managerial Econ. and Decision Sc., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1971–80; Res. Fell., CORE, Catholic Univ. Louvain, 1974–75; Jonathan B. Lovelace Prof. Econ., Jonathan B. Lovelace Prof. Econ. and Strategic Mgmt, Grad. Sch. Bus., Stanford Univ., 1980–98, 1998–2001; Fell., Center for Adv. Study in Behav. Sc., 1991–92; Vis. Fell., All Souls Coll., Oxford Univ., 1995; Vis. Acad. Fell. Leadership and Org., McKinsey & Co., UK, 1999–2000; Acad. Visitor, Nuffield Coll., Oxford Univ., 1999–2000; Vis. Prof., Univ. Sc. Sociales de Toulouse, 1999.

Degrees BA (Hons) Univ. Manitoba, 1967; PhD Univ. Minnesota, 1972.

Offices and Honours Fell., Council Mem., Em Soc, 1982, 1994–96; Assoc. Dean and Dir. Res., Sr Assoc. Dean, Stanford Grad. Sch. Bus., 1987–90, 2000–; Inaugural Clarendon Lect. Mgmt Stud., Oxford Univ., 1997; Minnesota Lect., Univ. Minnesota, 2000.

Editorial Duties Assoc. Ed., *JET*, 1977–92, *Em*, 1985–87, *Games and Econ. Behav.*, 1988–, *AER*, 1991–95; Ed. Bd, *JEMS*, 1991–98.

Principal Fields of Interest L2 Firm Objectives, Organization, and Behavior; L1 Market Structure, Firm Strategy, and Market Performance; C7 Game Theory and Bargaining Theory.

Publications *Book*: 1. *Economics, Organization and Management* (with P. Milgrom), (Prentice-Hall, 1992; trans., Spanish, 1992, Italian, 1993, Japanese, 1997, Czech, 1997, French, 1997, Russian, 1999, Chinese, 2000).

Articles: 1. 'Existence of Lindahl equilibrium with a measure space of consumers', *JET*, 6, Aug. 1973; 2. 'The incentives for price-taking behavior in large exchange economies' (with A. Postlewaite), *Em*, 44, Jan. 1976; 3. 'On the foundations of the theory of monopolistic competition' (with H. Sonnenschein), *Em*, 45, Jan. 1977; 4. 'Incentives in planning procedures for the provision of public goods', *RESud*, 46, April 1979; 5. 'Limit pricing and entry under incomplete information: an equilibrium analysis' (with P. Milgrom), *Em*, 50, March 1982; 6. 'Predation, reputation and entry deterrence' (with P. Milgrom), *JET*, 27, Aug. 1982; 7. 'Rational cooperation in the finitely repeated prisoners' dilemma' (with D. Kreps, P. Milgrom, R. Wilson), *JET*, 27, Aug. 1982; 8. 'Relying on the information of interested parties' (with P. Milgrom), *RandJE*, 17, Spring 1986; 9. 'Price and advertising signals of product quality' (with P. Milgrom), *JPE*, 94, Aug. 1986; 10. 'An equilibrium model with involuntary unemployment at flexible, competitive prices and wages', *AER*, 77, Dec. 1987; 11. 'The simple economics of optimal auctions' (with J. Bulow), *JPE*, 97, Oct. 1989; 12. 'Bargaining costs, influence costs and the organization of economic activity' (with P. Milgrom), in J. Alt, K. Shepsle (eds), *Perspectives on Positive Political Economy* (CUP, 1990); 13. 'The economics of modern manufacturing: technology, strategy and organiza-

tion' (with P. Milgrom), *AER*, 80, June 1990; 14. 'Rationalizability, learning and equilibrium in games with strategic complementarities' (with P. Milgrom), *Em*, 58, Nov. 1990; 15. 'Adaptive and sophisticated learning in repeated normal form games' (with P. Milgrom), *Games and Econ. Behav.*, 3, Feb. 1991; 16. 'Organizational prospects, influence costs and ownership changes' (with M. Meyer, P. Milgrom), *JEMS*, 1, Spring 1992; 17. 'Complementarities and systems: understanding Japanese economic organization' (with P. Milgrom), *Estudios Economicos*, 9, Jan.–June 1994; 18. 'The LeChatelier principle' (with P. Milgrom), *AER*, 86, March 1995; 19. 'The boundaries of the firm revisited' (with B. Holmström), *JEP*, 12, Fall 1998.

Principal Contributions My work has largely been concerned with strategic behavior in markets and firms and with the implications for the design of economic institutions. In this work I have used game theory and information economics extensively and I have contributed to the development of these areas. My contributions (often with co-authors) have included: examining strategic behavior in the presence of public goods; analyzing imperfectly competitive behavior in partial and general equilibrium, including showing the consistency of Keynesian unemployment with full rationality and strong notions of equilibrium; introducing the methods of games of incomplete information to study industrial organization (limit pricing, predatory pricing, 'uninformative' advertising); analyzing information transmission under bounded rationality assumptions; showing the connections between the theory of auctions and standard monopoly theory; examining the nature and effects of rent-seeking inside firms; introducing Topkis's lattice-programming methods into economics to do comparative statics analysis

and using these methods to build rich, multi-dimensional models of organizations and economic systems; exploring the properties of games with strategic complementarities; and raising issues around the economic analysis of the boundaries of the firm. I have also carried out field-based work on the organizational design of large multinational firms (leading to a number of teaching cases and practitioner-oriented articles) and am currently involved in developing theory around this topic.

ROBINS, James M. n.e.

ROBINS, Philip K. n.e.

ROBINSON, Peter Michael

Born 1947, Southampton, England.

Current Post Tooke Prof. Econ. Sc. and Stats, LSE, London, UK, 1995–.

Past Posts Lect., LSE, 1969–70; Asst Prof., Assoc. Prof., Harvard Univ., 1973–77, 1977–79; Assoc. Prof., UBC, 1979–80; Prof., Univ. Surrey, 1980–84; Prof. Em., Leverhulme Personal Res. Prof., LSE, 1984–95, 1998–2003.

Degrees BSc (Stats) Univ. Coll., London Univ., 1968; MSc (Stats) LSE, 1969; PhD (Stats) ANU, 1973.

Offices and Honours Fell., Em Soc, 1989, Inst. Math. Stats, 2000, BA, 2000; Doctor (*hc*), Univ. Carlos III, Madrid, 2000.

Editorial Duties Ed. Bds, *REStat*, 1977–79, *Amer. Stat.*, 1978–81, *Infor*, 1981–92, *ET*, 1985–88, *J Em*, 1985–91, *Em*, 1986–91, *Ec*, 1986–92, *JRSS-A*, 1987–91, *Intl Stats Rev.*, 1988–91, *Em. Rev.*, 1990–91, *J. Nonparametric Stats*, 1990–97, *J. Time Series Analysis*, 1994–, *Annals Stats*, 1997–, *Stat. Inference for Stochastic Processes*, 1997, *Statistica*

Sinica, 2002–; Co-Ed., *ET*, 1989–91, *Em*, 1991–96, *J Em*, 1997–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C3 Econometric Methods: Multiple/Simultaneous Equation Models; C4 Econometric and Statistical Methods: Special Topics.

Publications Articles: 1. ‘The estimation of linear differential equations with constant coefficients’, *Em*, 44, July 1976; 2. ‘Instrumental variables estimation of differential equations’, *Em*, 44, July 1976; 3. ‘Asymptotic properties of estimators of models containing limited dependent variables’, *Em*, 50, Jan. 1982; 4. ‘Asymptotically efficient estimation in the presence of heteroskedasticity of unknown form’, *Em*, 55, July 1987; 5. ‘The stochastic difference between econometric statistics’, *Em*, 56, May 1988; 6. ‘Root-N-consistent semiparametric regression’, *Em*, 56, July 1988; 7. ‘Best nonlinear three-stage least squares estimation of certain econometric models’, *Em*, 59, May 1991; 8. ‘Automatic frequency-domain inference on semiparametric and nonparametric models’, *Em*, 59, Sept. 1991; 9. ‘Highly insignificant F-ratios’, *Em*, 61, May 1993; 10. ‘The normal approximation for semiparametric averaged derivatives’, *Em*, 63, May 1995.

Principal Contributions In the 1970s, proposed flexible and computationally feasible estimates of continuous-time econometric models, based on discrete data. In 1977, proved asymptotic theory for maximum-likelihood estimates of continuous-time models based on irregularly-spaced data, and established methods and theory for nonlinear moving-average time-series models. In 1982, motivated by the computational intractability of maximum-likelihood estimates of limited dependent variable models with error autocorrelation, established consistency of estimates which ignore the autocorrelation. In 1983, show-

ed that standard kernel nonparametric estimates of densities and other functions have the same asymptotic distributional properties under mixing dependence as under independence. A 1987 paper on adapting for heteroskedasticity of unknown form justified use of nearest-neighbour estimates, and under mild conditions. A 1988 paper on the partly linear model proposed and justified the use of higher-order kernels in semiparametric problems in which bias reduction is needed to produce root- n -consistency. In 1991, justified general data-dependent bandwidths in semiparametric problems, and also showed the consistency of cross-validated spectral bandwidths. Higher-order asymptotic work included a bound for the stochastic difference between statistics, with application to statistical performance of iterative schemes, and Berry-Esseen bounds. For long-memory time series, showed effects of cross-sectional averaging of autoregressions in 1978, and the unusual properties of kernel density estimates in 1988, and worked intensively on the topic in the 1990s: proposed in 1991 a GARCH-type model for long memory; proved consistency and asymptotic normality of various semiparametric estimates of long memory and derived optimal bandwidths; proposed tests for unit root and other nonstationarity against fractional alternatives. Other research has been on various topics in time series, asymptotic theory, sample survey and latent variables.

ROBSON, Arthur John

Born 1948, Wellington, New Zealand.

Current Post Prof. Econ., Univ. Western Ontario, London, Ontario, Canada, 1984–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Western Ontario, 1975–80, 1980–84.

Degrees BSc (Maths, Hons) Victoria Univ., New Zealand, 1968; PhD MIT, 1974.

Offices and Honours Fulbright Fellowship, 1969; Killam Res. Fellowship, 2000–01; Glenn Campbell Fellowship, 2000–05; Canada Res. Chair, 2003–10.

Editorial Duties Ed. Bds, *J. Public Econ. Theory*, 1999–2001, *Econ. Bull.*, 2000–, *JEL*, 2003–.

Principal Fields of Interest A1 General Economics; C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty.

Publications *Articles*: 1. 'Sequential exploitation of uncertain deposits of a depletable natural resource', *JET*, 21, 1979; 2. 'Stackelberg and Marshall', *AER*, 80, 1990; 3. 'Efficiency in evolutionary games: Darwin, Nash and the secret handshake', *J. Theoretical Biology*, 144, 1990; 4. 'Subgame-perfect equilibrium in continuous games of perfect information: an elementary approach to existence and to approximation by discrete games' (with M. Hellwig, W. Leininger, P. Reny), *JET*, 52, 1990; 5. 'Status, the distribution of wealth, private and social attitudes to risk', *Ec*, 60, 1992; 6. 'An "informationally robust equilibrium" for two-person nonzero sum games', *Games and Econ. Behav.*, 7, 1994; 7. 'The existence of subgame-perfect equilibrium in continuous games with almost perfect information: a case for public randomization' (with C. Harris, P. Reny), *Ec*, 63, 1995; 8. 'The evolution of attitudes to risk: lottery tickets and relative wealth', *Games and Econ. Behav.*, 14, 1996; 9. 'A biological basis for expected and non-expected utility', *JET*, 68, 1996; 10. 'Efficient equilibrium selection in evolutionary games with random matching' (with F. Vega-Redondo), *JET*, 70, 1996; 11. 'The growth-maximizing distribution of income' (with M. Wooders), *IER*, 38, 1997; 12. 'Naive adaptive behavior and the observability of gam-

bles', *Games and Econ. Behav.*, 24, 1998; 13. 'Forward induction, public randomization and admissibility' (with S. Govindan), *JET*, 82, 1998; 14. 'Risky business: sexual and asexual reproduction in variable environments' (with C. Bergstrom, J. Pritchard), *J. Theoretical Biology*, 197, 1999; 15. 'The biological basis of economic behavior', *JEL*, 39, 2001; 16. 'Why would Nature give individuals utility functions?', *JPE*, 109, 2001; 17. 'Evolution and human nature', *JEP*, 16, 2002; 18. 'The emergence of humans: the coevolution of intelligence and longevity with intergenerational transfers' (with H. Kaplan), *Proceedings NAS US*, 99, 2002; 19. 'The evolution of rationality and the Red Queen', *JET*, forthcoming; 20. 'The evolution of human longevity and intelligence in hunter-gatherer economies' (with H. Kaplan), *AER*, forthcoming.

Principal Contributions I have made previous research contributions to congestion and pollution as part of urban economics, to issues involving the exploitation of depletable natural resources and to industrial organization. My consuming current interest, however, is the biological underpinnings of modern economic behaviour. With this rationale implicit, I considered the evolution of attitudes to risk with a concern for status, with it explicit, I considered these as the outcome of a polygynous mating system. I drew the quite distinct implications of aggregate and idiosyncratic risk for attitudes to risk, in economics, and for the maintenance of sexual reproduction, in biology. I also provided a basic biological rationale for the existence of von Neumann–Morgenstern utility functions, in the first place. A recent project involves reversing the order of biology and economics. This project considers how the economics of hunting and gathering might have driven the evolution of human biological characteristics. So far, data from modern hunter-

gatherers and theoretical models have been used to show that human intelligence and longevity would evolve simultaneously. I maintain a strong current interest in game theory. Under this heading, I examined the technical questions of the existence of Nash equilibrium or subgame-perfect equilibrium in games with infinite action sets. Also as a matter of pure game theory, I have attempted to provide an interpretation of mixed strategy equilibrium that remains true to the spirit of that offered by von Neumann and Morgenstern. I have done some work on evolutionary game theory, where evolution is a metaphor for simple form of learning. Finally, I have applied game theory to consider the evolution of human characteristics; in particular, to an alternative model of the evolution of intelligence. This involves the so-called 'Red Queen' effect, where it is relative rather than absolute intelligence that matters.

ROCHET, Jean-Charles

Born 1957, Bordeaux, France.

Current Posts Prof. Maths and Econ., Toulouse Univ., France, 1988–; Res. Dir., Inst. d'Économie Industrielle, Toulouse, France, 1992–.

Past Posts Asst Prof., Paris 9 Univ., 1984–86; Prof., ENSAE, 1986–88.

Degrees École Normale Supérieure, PhD (Math. Econ.) Paris 9 Univ., 1980, 1986.

Offices and Honours Arconati-Visconti Prize, 1988; Inst. Universitaire de France, 1993–98; Council, Europ. Econ. Assoc., 1994–98; Fell., Em Soc, 1995–; Gaston Eyskens Lectures, Leuven Univ., 2000; BP Centennial Prof., LSE, 2001–02.

Editorial Duties Assoc. Ed., *J Math E*, 1985–93, *Em*, 1990–2002, *Geneva Papers on Risk and Insurance*, 1990–, *Res. in Econ.*, 1997–.

Principal Fields of Interest D0 Microeconomics: General; G2 Financial Institutions and Services; H0 Public Economics: General.

Publications *Book*: 1. *Microeconomics of Banking* (with X. Freixas), (MIT Press, 1997; trans., Spanish, 1999, Chinese, 1999).

Articles: 1. 'Myopic vs intertemporal manipulation in decentralized planning procedures' (with G. Laroque), *REStud*, 50, 1983; 2. 'Bunching and second order conditions: a note on optimal tax theory' (with S. Lollivier), *JET*, 31, 1983; 3. 'Bilateral monopoly with imperfect information', *JET*, 36, 1985; 4. 'Multi-dimensional signalling' (with M. Quinzii), *J Math E*, 14, 1985; 5. 'Hopf formula and multi-time Hamilton-Jacobi equations' (with P.L. Lions), *Proceedings Amer. Math. Soc.*, 91, 1986; 6. 'Revealed preferences and differentiable demand' (with P.A. Chiappori), *Em*, 55, 1987; 7. 'Optimal nonlinear pricing with two dimensional characteristics' (with J.J. Laffont, E. Maskin), in T. Groves, R. Radner, S. Reiter (eds), *Essays in Honor of Leonid Hurwicz* (Univ. Minnesota Press, 1987); 8. 'Multiproduct duopolists' (with P. Champsaur), *Em*, 57, 1989; 9. 'Capital requirements and the behaviour of commercial banks', *Europ ER*, 36, 1992; 10. 'Destabilizing properties of futures markets: an alternative viewpoint' (with R. Guesnerie), *Europ ER*, 37, 1993; 11. 'Insider trading without normality' (with J.L. Vila), *REStud*, 61, 1994; 12. 'Interbank lending and systemic risk' (with J. Tirole), *JMCB*, 28, 1996; 13. 'Strategic information gathering before a contract is offered' (with J. Cremer, F. Khalil), *JET*, 81, 1998; 14. 'Ironing, sweeping and multidimensional screening' (with P. Chone), *Em*, 66, 1998; 15. 'Competing mechanisms in a common value environment' (with B. Biais, D. Martimort), *Em*, 68, 2000; 16. 'An optimal IPO mechanism' (with B. Biais, P. Bossaert), *REStud*, 69, 2000; 17. 'Direct

vs indirect taxation: the design of the tax structure revisited' (with H. Cremer, P. Pestieau), *IER*, 42, 2001; 18. 'Nonlinear pricing with random participation' (with L. Stole), *REStud*, 69, 2002; 19. 'Cooperation among competitors: some economics of credit card associations' (with J. Tirole), *RandJE*, 33, 2002.

Principal Contributions Most of my work is dedicated to the consequences of unobservable heterogeneity of economic agents (adverse selection) on the pricing policies of producers, the contracts offered by employers or lenders and the tax schedules chosen by governments. One recurring theme is the lack of robustness of established theory when multidimensional heterogeneity is introduced or when the single crossing assumption is abandoned. I have also worked on the justifications and design of solvency regulations for financial intermediaries. More recently, I have started a long-term research programme with Jean Tirole on the economics of payment card networks and two-sided industries like media, Internet portals, software and intermediaries.

RODRIK, Dani

Born 1957, Istanbul, Turkey.

Current Post Prof. Intl Polit. Econ., John F. Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1996–.

Past Posts Asst Econ. Affairs Officer, UNCTAD, Geneva, Switzerland, 1980, 1981–82; Asst Prof., Assoc. Prof. Public Pol., John F. Kennedy Sch. Govt, Harvard Univ., 1985–89, 1989–92; Prof. Econ. and Intl Affairs, Columbia Univ., 1992–96.

Degrees AB (*scl*) Harvard Coll., 1979; MPA (Distinction) Woodrow Wilson Sch. Public and Intl Affairs, Princeton Univ., 1981; PhD Princeton Univ., 1985.

Offices and Honours World Bank McNamara Fellowship, 1987–88;

Raymond Vernon Prize, Assoc. Public Pol. Analysis and Mgmt, 1988; NBER Olin Fell., 1990–91; Hoover Inst. Natl. Fell., 1991–92; Center for Inst. Reform and the Informal Sector Scholar, Univ. Maryland, 1992–93; Advisory Comm., Inst. Intl Econ., 1995–; Sr Advisor, Overseas Devlp. Council, 1997–2000; Best Paper Award, *Pacific Econ. Rev.*, 1997; Res. Coordinator, Intergovt. Group of 24 on Intl Monetary Affairs (G-24), 1999–2002; Chair, Res. and Program Advisory Comm., Center for Global Devlp., 2001–; Hons Carnegie Scholar 2001.

Editorial Duties Assoc. Ed., *JDE*, 1990–, *J Int E*, 1991–93, *REStat*, 1996–2002, *JEP*, 1997–; Overseas Ed., *Europ ER*, 1994–; Co-Ed., *J. Pol. Reform*, 1996–2000, *REStat*, 2002–; Ed. Bd, *Stud. in Comparative Intl Devlp.*, 2000–.

Principal Fields of Interest F0 International Economics: General; O0 Economic Development, Technological Change, and Growth: General.

Publications *Books*: 1. *Has Globalization Gone Too Far?* (Inst. Intl Econ., 1997; trans., Chinese, German, Turkish); 2. *Making Openness Work: The New Global Economy and Developing Countries* (Overseas Devlp. Council, 1999; trans., Spanish, Turkish, Chinese); 3. *In Search of Prosperity: Analytic Narratives on Economic Growth* (ed.), (Princeton Univ. Press, 2003).

Articles: 1. ‘Resistance to reform: status quo bias in the presence of individual-specific uncertainty’ (with R. Fernandez), *AER*, 81, Dec. 1991; 2. ‘Distributive politics and economic growth’ (with A. Alesina), *QJE*, 109, May 1994; 3. ‘Why do more open economies have bigger governments?’, *JPE*, 106, Oct. 1998; 4. ‘Democracies pay higher wages’, *QJE*, 114, Aug. 1999.

Principal Contributions I have published widely in the areas of international economics, economic development, and

political economy. What constitutes good economic policy and why some governments are better than others in adopting it are the central questions on which my research focuses.

ROE, Mark J.

Born 1951, New York, NY, USA.

Current Post Berg Prof. Corp. Law, Harvard Law Sch., Cambridge, MA, USA, 2001–.

Past Posts Attorney, Fed. Reserve System, 1975–77, Cahill Gordon & Reindel, NY, 1977–80; Assoc. Prof. Law, Rutgers Univ. Sch. Law, 1980–88; Prof. Law, Univ. Pennsylvania Sch. Law, 1986–88; Prof. Law, Columbia Univ. Sch. Law, 1988–92; Milton Handler Prof. Bus. Regulation, Columbia Univ. Sch. Law, 1992–2001; Olin Vis. Prof. Law, Harvard Law Sch., 1999–2001.

Degrees BA Columbia Univ., 1972; JD Harvard Law Sch., 1975.

Principal Field of Interest G3 Corporate Finance and Governance.

Publications *Books*: 1. *Strong Managers, Weak Owners: The Political Roots of American Corporate Finance* (Princeton Univ. Press, 1994); 2. *Corporate Reorganization and Bankruptcy: Legal and Financial Materials* (Foundation Press, 2000); 3. *Political Determinants of Corporate Governance* (OUP, 2003).

Articles: 1. ‘Bankruptcy and debt: a new model for corporate reorganization’, *Columbia Law Rev.*, 83, 1983; 2. ‘The voting prohibition in bond workouts’, *Yale Law J.*, 97, 1987; 3. ‘Political and legal restraints on corporate control’, *J Fin E*, 27, 1990; 4. ‘A political theory of American corporate finance’, *Columbia Law Rev.*, 91, 1991; 5. ‘Understanding the Japanese Keiretsu: overlaps between corporate governance and industrial organization’ (with R. Gilson), *Yale Law J.*, 102,

1993; 6. 'Some differences in corporate structure in Germany, Japan, and the United States', *Yale Law J.*, 102, 1993; 7. 'The modern corporation and private pensions', *UCLA Law Rev.*, 41, 1993; 8. 'Chaos and evolution in law and economics', *Harvard Law Rev.*, 109, 1996; 9. 'From antitrust to corporate governance: the corporation and the law, 1959–1995', in C. Kaysen (ed.), *The American Corporation Today* (OUP, 1996); 10. 'Backlash', *Columbia Law Rev.*, 98, 1998; 11. 'German securities markets and German co-determination', *Columbia Bus. Law Rev.*, 98, 1998; 12. 'A theory of path dependence in corporate ownership and governance' (with L. Bebchuk), *Stanford Law Rev.*, 52, 1999; 13. 'Political preconditions to separating ownership from corporate control', *Stanford Law Rev.*, 53, 2000; 14. 'Rents and their corporate consequences', *Stanford Law Rev.*, 53, 2001; 15. 'The shareholder wealth maximization norm and industrial organization', *Univ. Pennsylvania Law Rev.*, 149, 2001; 16. 'Corporate law's limits', *J. Legal Stud.*, 31, 2002; 17. 'Can culture constrain the economic model of corporate law', *Univ. Chicago Law Rev.*, 69, 2002.

Principal Contributions n.e.

ROGERS, John

Born 1961, Buffalo, NY, USA.

Current Post Sr Econ., FRB, Washington, DC, USA, 1994–.

Past Posts Asst Prof., Assoc. Prof., Econ. Dept, Pennsylvania State Univ., 1989–96.

Degrees BA Univ. Delaware, 1983; PhD Univ. Virginia, 1989.

Editorial Duties Assoc. Ed., *J Int E*, 1999–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; F3 International Finance; F4 Macroeconomic

Aspects of International Trade and Finance.

Publications Articles: 1. 'Foreign inflation transmission under flexible exchange rates and currency substitution', *JMCB*, 22, May 1990; 2. 'The currency substitution hypothesis and relative money demand in Mexico and Canada', *JMCB*, 24, Aug. 1992; 3. 'Sources of fluctuations in relative prices: evidence from high inflation countries' (with P. Wang), *REStat*, 75, Nov. 1993; 4. 'Output, inflation, and stabilization in a small, open economy: evidence from Mexico' (with P. Wang), *JDE*, 46, April 1995; 5. 'Haircuts or hysteresis? Sources of movements in real exchange rates' (with M. Jenkins), *J Int E*, 38, May 1995; 6. 'International stock price spillovers and market liberalization: evidence from Korea, Japan, and the United States' (with S. Kim), *J. Empirical Fin.*, 2, June 1995; 7. 'Output, inflation and stabilization: a counterfactual analysis' (with J. Fackler), *JIMF*, 14, Oct. 1995; 8. 'Government budget deficits and trade deficits: are present-value constraints satisfied in long-term data?' (with S. Ahmed), *JME*, 36, Oct. 1995; 9. 'Monetary policy in the end-game to exchange rate-based stabilizations: evidence from Mexico' (with S. Kamin), *J Int E*, 41, Aug. 1996; 10. 'How wide is the border?' (with C. Engel), *AER*, 86, Dec. 1996; 11. 'Monetary shocks and real exchange rates', *J Int E*, 48, Dec. 1999; 12. 'Output and the real exchange rate in developing countries: an application to Mexico' (with S. Kamin), *JDE*, 61, Feb. 2000; 13. 'Inflation and the great ratios: evidence from long-term US data' (with S. Ahmed), *JME*, 45, Feb. 2000; 14. 'Violating the law of one price: should we make a federal case out of it?' (with C. Engel), *JMCB*, 33, Feb. 2001; 15. 'Deviations from the law of one price: sources and welfare costs' (with C. Engel), *J Int E*, 55, Oct. 2001; 16. 'Preventing deflation: lessons from Ja-

pan's experience in the 1990s' (with A. Ahearne, J. Gagnon, J. Haltmaier, S. Kamin, C. Erceg, J. Faust, L. Guerrieri, C. Hemphill, L. Kole, J. Roush, N. Sheets, J. Wright), Intl Fin. Discussion Paper 729, Bd Governors, Fed. Reserve System, Washington, DC, June 2002; 17. 'Puzzles in the Chinese stock market' (with J. Fernald), *REStat*, 84, Aug. 2002; 18. 'Investment and the current account in the short run and the long run' (with J. Nason), *JMCB*, 34, Nov. 2002; 19. 'Exchange rate forecasting: the errors we've really made' (with J. Faust, J. Wright), *J Int E*, forthcoming; 20. 'Monetary policy's role in exchange rate behavior' (with J. Faust), *JME*, forthcoming.

Principal Contributions n.e.

ROGERS, Richard G. n.e.

ROGERSON, Richard D. n.e.

ROGOFF, Kenneth S.

Born 1953, Rochester, NY, USA.

Current Posts Econ. Counselor and Dir., Res. Dept, IMF, Washington, DC, USA, 2001–; Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1999–.

Past Posts Econ., Intl Fin. Div., Bd Governors, Fed. Reserve System, 1979–84; Section Chief, Trade and Fin. Stud. Section, Fed. Reserve System, 1984–85; Assoc. Prof. Econ., Univ. Wisconsin-Madison, 1985–89; Prof. Econ., Univ. California, Berkeley, 1989–92; Charles and Marie Robertson Prof. Econ. and Intl Affairs, Princeton Univ., 1992–99.

Degrees BA/MA Yale Univ., 1975; PhD MIT, 1980.

Offices and Honours Alfred P. Sloan Res. Fell., 1986; Natl Fell., Hoover Inst., 1987; German Marshall Foundation Fell.,

1991; Fell., Em Soc, 1991; John Simon Guggenheim Fell., 1998; Fell., AAAS, 2001.

Editorial Duties Assoc. Ed., *REStat*, 1993–, *Econ. Letters*, 1993–, *J Int E*, 1995–, *QJE*, 1984–95, *JEP*, 1987–90; Ed., *NBER Macroecon. Annual*, 2000–.

Principal Fields of Interest F3 International Finance; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *Handbook of International Economics*, Vol. 3 (ed. with G. Grossman), (Elsevier, 1995); 2. *Foundations of International Macroeconomics* (with M. Obstfeld), (MIT Press, 1996).

Articles: 1. 'Empirical exchange rate models of the seventies: do they fit out of sample?' (with R. Meese), *J Int E*, 14, Feb. 1983; 2. 'Speculative hyperinflations in maximizing models: can we rule them out?' (with M. Obstfeld), *JPE*, 91, Aug. 1983; 3. 'Can international monetary cooperation be counterproductive?', *J Int E*, 18, May 1985; 4. 'The optimal degree of commitment to an intermediate monetary target', *QJE*, 100, Nov. 1985; 5. 'Reputational constraints on monetary policy', *C-RPP*, 26, Spring 1987, K. Brunner, A. Meltzer (eds), suppl. to *JME*, 141, revised and repr. as 'Reputation, coordination and monetary policy', in R.J. Barro (ed.), *Modern Business Cycle Theory* (HUP, 1989); 6. 'The buyback boondoggle' (with J. Bulow), *BPEA*, 2, 1988; 7. 'A constant recontracting model of sovereign debt' (with J. Bulow), *JPE*, 97, Feb. 1989; 8. 'Equilibrium political budget cycles', *AER*, 80, March 1990; 9. 'Exchange rate dynamics redux' (with M. Obstfeld), *JPE*, 103, June 1995; 10. 'The six major puzzles in international macroeconomics: is there a common cause?' (with M. Obstfeld), *NBER Macroecon. Annual*, 2000.

Principal Contributions My early empirical work with Richard Meese showed the stunning empirical failure of structural models of exchange rate determina-

tion. Fifteen years of subsequent research has shown that our key result – that no model of exchange rate determination can systematically out-perform a random walk model at one- to twelve-month horizons – still holds. Much of my subsequent work has dealt with issues relating to political economy and macroeconomics. My work on equilibrium political budget cycles provided the first fully-specified model of election year tax cuts and spending bulges. My paper on ‘The optimal degree of commitment’ (article 4) showed that by creating an independent central bank and appointing a ‘conservative’ central banker to head it, society could mitigate the effects of the problem of time inconsistency in monetary policy. A central point of the paper is that there is a tradeoff between credibility and commitment. My research on political economy also includes extensive work with Jeremy Bulow on the developing country debt problem. Together with Maurice Obstfeld, I have written an advanced graduate text in international finance that is the first attempt to present a unified treatment of the field, using a relatively small number of models to explain a broad range of phenomena. Our ‘Redux’ paper (article 9) gives microfoundations to the classic Mundell–Fleming–Dornbusch open-economy macroeconomics framework. This paper, and our text, have given rise to the rapidly growing field of ‘New Open Economy Macroeconomics’. Finally, my paper with Maurice Obstfeld (article 10) shows that many of the major empirical puzzles in international finance – including the Feldstein–Horioka puzzle, the international consumption correlations puzzle, the equity home bias puzzle, the home bias in trade puzzle, the PPP puzzle and the exchange rate disconnect puzzle – can all potentially be explained, quantitatively and qualitatively, in frameworks that explicitly incorporate trade frictions.

ROLAND, Gérard

Born 1954, Jemappes, Belgium.

Current Post Full Prof., Dept Econ., Univ. California, Berkeley, CA, USA, 2001–.

Past Posts Teaching Asst, Assoc. Prof., Full Prof., Univ. Libre de Bruxelles, 1983–91, 1991–96, 1996–2000.

Degrees BA, MA, PhD Univ. Libre de Bruxelles, 1983, 1984, 1988.

Offices and Honours Invited Prof., École des Hautes Études en Sc. Sociales, Paris, 1989–90, Univ. California, Davis, 1990–91; Vis. Fell., Collegium Budapest, 1993–94; CEPR Res. Fell., 1991; Program Dir., Transition Econ., CEPR, 1995–; Medal of Univ. Helsinki, 1996; Europ. Network for Training in Econ. Res. Vis. Chair, Univ. Coll. London, 1996; William Davidson Inst. Res. Fell., 1997–; William Davidson Inst. Vis. Chair, Univ. Michigan Bus. Sch., 1997; Officier de l’Ordre de Léopold II, 1997; Fell., Center Adv. Stud. in Behav. Sc., Stanford, 1998–99; Program Chair EEA Congress, 1998; Jean Monnet Professorship, 2000–; Hon. Prof., Renmin Univ. of China, 2002.

Editorial Duties Publication Dir., *Pays de l’Est* series, L’Harmattan, Paris, 1989–91; Assoc. Ed., *Europ ER*, 1991–96, *Econ. Transition*, 1991–98, *Econ. Systems*, 1991–2001, *J Comp E*, 1995–2000, *Transition Econ. Abstracts* series (TEASE), 1997–, *Europ. JPE*, 1997–, *Europ. Econ. Abstracts*, 1997–, *J Pub E*, 2001–; Ed., *Econ. Transition*, 1998–.

Principal Fields of Interest P5 Comparative Economic Systems; D7 Analysis of Collective Decision-Making; H7 State and Local Government; Intergovernmental Relations.

Publications *Books*: 1. *Économie politique du système soviétique* (Édns l’Harmattan, 1989), 2: *Transition and Economics* (MIT Press, 2000).

Articles: 1. 'Complexity, bounded rationality and equilibrium: the Soviet-type case', *J Comp E*, 14, 1990; 2. 'Economic reform and dynamic political constraints' (with M. Dewatripont), *REStud*, 59, 1992; 3. 'The economics of mass privatization' (with P. Bolton), *Econ. Pol.*, 15, 1992; 4. 'Privatization in Eastern Europe: irreversibility and critical mass effects' (with T. Verdier), *J Pub E*, 54, 1994; 5. 'On the speed and sequencing of privatization and restructuring', *EJ*, 104, 1994; 6. 'The design of reform packages under uncertainty' (with M. Dewatripont), *AER*, 83, 1995; 7. 'Distributional conflicts, factor mobility and political integration' (with P. Bolton), *AER*, 86, 1996; 8. 'Transition as a process of large scale institutional change' (with M. Dewatripont), in D. Kreps, K. Wallis (eds), *Advances in Economic Theory* (CUP, 1997); 9. 'The breakup of nations: a political economy analysis' (with P. Bolton), *QJE*, 112, 1997; 10. 'Separation of powers and political accountability' (with T. Persson, G. Tabellini), *QJE*, 112, 1997; 11. 'Soft budget constraints and credit crunches in financial transition' (with E. Berglöf), *Europ ER*, 41, 1997; 12. 'Soft budget constraints and banking in transition economies' (with E. Berglöf), *J Comp E*, 26, 1998; 13. 'Federalism and the soft budget constraint' (with Y. Qian), *AER*, 88, 1998; 14. 'Transition and the output fall' (with T. Verdier), *Econ. Transition*, 7, 1999; 15. 'The optimal speed of transition: a general equilibrium analysis' (with M. Castanheira), *IER*, 41, 2000; 16. 'Managerial career concerns, privatization and restructuring in transition economies' (with K. Sekkat), *Europ ER*, 44, 2000; 17. 'Reform without losers: an interpretation of China's dual-track approach to reforms' (with L. Lau, Y. Qian), *JPE*, 108, 2000; 18. 'Comparative politics and public finance' (with T. Persson, G. Tabellini), *JPE*, 108, 2000.

Principal Contributions In the beginning of my career, I tried to understand how the Soviet economic system could function, albeit inefficiently, and produce coordinated outcomes despite the absence of markets and of coherent plans. After the collapse of the communist regimes, my research switched to the economics of transition and to the modelling of large-scale institutional reforms of the transition period, with special emphasis on microeconomic reforms as privatization and restructuring. My research has covered many aspects of transition but my main emphasis has been on the political economy of reforms. My research on the transition process, and that of others, has contributed to a change of focus in our understanding of the capitalist system with a stronger emphasis on contracts and on the general political, legal and social environment of contracting. In parallel, I extended my work in political economy beyond the transition process, with a particular real world interest in the future of political institutions in the EU. First, I have started to study informal models of questions of secession, integration and co-existence of regions within federal institutions. Here, my joint work with Patrick Bolton has emphasized the political incentives not to integrate or to secede in democracies and the various conditions under which these incentives operate. The second direction has been to apply game-theoretic tools to the analysis of democratic constitutions and of comparative politics. The latter work, joint with Torsten Persson and Guido Tabellini, has emphasized the conditions under which separation of powers improves accountability of elected policy-makers and the trade-offs involved between a presidential regime with such separation of powers and a parliamentary regime where legislative cohesion is stronger. I have also started to do empirical work on the European Par-

liament by gathering all roll call vote data in the European Parliament in a joint project with Abdul Noury from Univ. Libre de Bruxelles and Simon Hix from LSE.

ROMANO, Roberta

Born 1952, Brooklyn, NY, USA.

Current Post Allen Duffy/Class of 1960 Prof. Law, Yale Law Sch., Yale Univ., New Haven, CT, USA, 1991–.

Past Posts Asst Prof., Assoc. Prof., Stanford Law Sch., 1981–84, 1984–85, Prof., Yale Law Sch., 1985–91.

Degrees BA (Hist. and English) Univ. Rochester, 1973; AM (Hist.) Univ. Chicago, 1975; JD Yale Univ., 1980.

Offices and Honours Fell., AAAS, 1995–; Pres., Amer. Law and Econ. Assoc., 1998–99; Res. Assoc., Corp. Fin. Program, NBER, 1999–.

Editorial Duties Co-Ed., *JLEO*, 1988–92; Ed. Bds, *Supreme Court Econ. Rev.*, 1992–, *Amer. Law and Econ. Rev.*, 1998–, *Fin. Rev.*, 1998–; Advisory Bd, *Europ. Bus. Org. Law Rev.*, 2000–, *J. Corp. Law Stud.*, 2001–.

Principal Fields of Interest K2 Regulation and Business Law; G3 Corporate Finance and Governance.

Publications *Books*: 1. *The Genius of American Corporate Law* (AEI Press, 1993); 2. *Foundations of Corporate Law* (Foundation Press, 1993) 3. *The Advantage of Competitive Federalism for Securities Regulation* (AEI Press, 2002).

Articles: 1. ‘Law as a product: some pieces of the incorporation puzzle’, *JLEO*, 1, 1985; 2. ‘The political economy of takeover statutes’, *Virginia Law Rev.*, 73, 1987; 3. ‘The shareholder suit: litigation without foundation?’, *JLEO*, 7, 1991; 4. ‘Public pension fund activism in corporate governance reconsidered’, *Columbia Law Rev.*, 93, 1993; 5. ‘Empowering in-

vestors: a market approach to securities regulation’, *Yale Law J.*, 107, 1998; 6. ‘Less is more: making institutional investor activism a valuable mechanism of corporate governance’, *Yale J. Regulation*, 18, 2001.

Principal Contributions My work uses quantitative methods and economic analysis to address issues of corporate governance and the production of corporate law. My research has focussed on state competition for corporate charters, shareholder litigation, institutional investor activism in corporate governance, the political economy of takeover regulation, and regulation of financial instruments and securities markets.

ROMER, Christina Duckworth

Born 1958, Alton, IL, USA.

Current Post Class of 1957 Prof. Econ., Univ. California, Berkeley, CA, USA, 1997–.

Past Posts Asst Prof. Econ. and Public Affairs, Woodrow Wilson Sch., Princeton Univ., 1985–88; Acting Assoc. Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Univ. California, Berkeley, 1988–90, 1990–93, 1993–97.

Degrees BA Coll. William and Mary, 1981; PhD MIT, 1985.

Offices and Honours Alfred P. Sloan Res. Fellowship, 1989–91; NSF Presidential Young Investigator Award, 1989–94; Res. Assoc., NBER, 1990–; Disting. Teaching Award, Univ. California, Berkeley, 1994; Guggenheim Memorial Foundation Fellowship, 1998–99; Exec. Comm., AEA, 2001–03.

Editorial Duties Ed. Bd, *JEH*, 1994–97.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; N1 Macroeconomics and Monetary Economics; Growth and

Fluctuations; E3 Prices, Business Fluctuations, and Cycles.

Publications Articles: 1. 'Spurious volatility in historical unemployment data', *JPE*, 94, Feb. 1986; 2. 'Is the stabilization of the postwar economy a figment of the data?', *AER*, 76, June 1986; 3. 'World War I and the postwar depression: a reinterpretation based on alternative estimates of GNP', *JME*, 22, July 1988; 4. 'The prewar business cycle reconsidered: new estimates of gross national product, 1869–1908', *JPE*, 97, Feb. 1989; 5. 'Does monetary policy matter? A new test in the spirit of Friedman and Schwartz' (with D.H. Romer), *NBER Macroecon. Annual*, 4, 1989; 6. 'A new monthly index of industrial production, 1884–1940' (with J.A. Miron), *JEH*, 50, June 1990; 7. 'The Great Crash and the onset of the Great Depression', *QJE*, 105, Aug. 1990; 8. 'The cyclical behavior of individual production series, 1889–1984', *QJE*, 106, Feb. 1991; 9. 'What ended the Great Depression?', *JEH*, 52, Dec. 1992; 10. 'The nation in depression', *JEP*, 7, Spring 1993; 11. 'Monetary policy matters' (with D.H. Romer), *JME*, 33, Aug. 1994; 12. 'Remeasuring business cycles', *JEH*, 54, Sept. 1994; 13. 'What ends recessions?', *NBER Macroecon. Annual*, 9, 1994; 14. 'Why did prices rise in the 1930s?', *JEH*, 59, March 1999; 15. 'Changes in business cycles: evidence and explanations', *JEP*, 13, Spring 1999; 16. 'Federal Reserve information and the behavior of interest rates' (with D.H. Romer), *AER*, 90, June 2000; 17. 'A rehabilitation of monetary policy in the 1950s' (with D.H. Romer), *AER*, 92, May 2002.

Principal Contributions My research contributions center on three topics: changes in business cycles over the 20th century, the causes of the Great Depression, and the effects of monetary policy. First, on changes in business cycles, I have shown that the data typically used for com-

parisons of cycles over time are not consistent. Traditional estimates of such macroeconomic indicators as the unemployment rate and industrial production for the prewar period tend to accentuate the size of short-run fluctuations. This excess volatility stems from the fact that these series were created using limited data which over-represent volatile components. I demonstrated the importance of these inconsistencies by showing that when the prewar methods are used to construct postwar estimates, these estimates are systematically more volatile than the official data. Second, on the causes of the Great Depression, I have shown that the Great Crash of the stock market in 1929 lowered consumer spending substantially by creating income uncertainty. This finding helps to explain why the US economy plummeted even before the banking panics and the related collapse of the money supply. I have also shown that monetary expansion played a crucial role in ending the Depression in the US. Third, on the effects of monetary policy, my co-author, David Romer, and I have used narrative analysis of the records of the Federal Reserve to identify times when monetary policymakers decided to reduce aggregate demand because the current level of inflation was felt to be unacceptable. We found that such decisions have been followed by large, systematic declines in real output. We have also shown that monetary policy actions affect interest rates in part because they reveal important Federal Reserve private information about future inflation.

ROMER, David Hibbard

Born 1958, Northampton, MA, USA.

Current Post Herman Royer Prof. Polit. Econ., Univ. California, Berkeley, CA, USA, 2000–.

Past Posts Asst Prof., Princeton Univ., 1985–88; Acting Assoc. Prof., Assoc. Prof., Prof., Univ. California, Berkeley, 1988–90, 1990–93, 1993–2000.

Degrees AB Princeton Univ., 1980; PhD MIT, 1985.

Principal Field of Interest E0 Macroeconomics and Monetary Economics: General.

Publications *Book*: 1. *Advanced Macroeconomics* (McGraw-Hill, 1996, 2001).

Articles: 1. ‘The new Keynesian economics and the output–inflation trade-off’ (with L. Ball, N.G. Mankiw), *BPEA*, 1988; 2. ‘Does monetary policy matter? A new test in the spirit of Friedman and Schwartz’ (with C.D. Romer), *NBER Macroecon. Annual*, 4, 1989; 3. ‘Real rigidities and the non-neutrality of money’ (with L. Ball), *REStud*, 57, April 1990; 4. ‘New evidence on the monetary transmission mechanism’ (with C.D. Romer), *BPEA*, 1990; 5. ‘A contribution to the empirics of economic growth’ (with N.G. Mankiw, D.N. Weil), *QJE*, 107, May 1992; 6. ‘Openness and inflation: theory and evidence’, *QJE*, 108, Nov. 1993; 7. ‘Rational asset-price movements without news’, *AER*, 83, Dec. 1993; 8. ‘What ends recessions?’ (with C.D. Romer), *NBER Macroecon. Annual*, 9, 1994; 9. ‘Does trade cause growth?’ (with J.A. Frankel), *AER*, 89, June 1999; 10. ‘Keynesian macroeconomics without the LM curve’, *JEP*, 14, Spring 2000; 11. ‘Federal Reserve information and the behavior of interest rates’ (with C.D. Romer), *AER*, 90, June 2000.

Principal Contributions Much of my work falls into three areas. First, early in my career, I worked on new Keynesian economics, focussing on the question of whether small barriers to nominal adjustment at the microeconomic level can generate a large amount of nominal rigidity at the aggregate level. Second, I have done a large amount of work with Christina Romer on the effects of monetary policy.

Our emphasis has been especially on combining evidence from narrative sources with statistical analysis to disentangle the channels of causation between monetary policy and the economy. Third, I have investigated the sources of the large differences in average incomes across countries.

ROMER, Paul Michael

Born 1955, Denver, CO, USA.

Current Post Prof., Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1996–.

Past Posts Asst Prof., Univ. Rochester, 1982–88; Prof., Univ. Chicago, 1988–90; Prof., Univ. California, Berkeley, 1990–96.

Degrees BS (Maths), PhD Univ. Chicago, 1977, 1983.

Offices and Honours One of *Time Magazine*’s 25 most influential people; Fell., Em Soc, 1996, AAAS, 2000.

Principal Fields of Interest O3 Technological Change; O4 Economic Growth and Aggregate Productivity; E1 General Aggregative Models.

Publications *Articles*: 1. ‘Cake eating, chattering and jumps: existence results for variational problems’, *Em*, 54, July 1986; 2. ‘Increasing returns and long-run growth’, *JPE*, 94, Oct. 1986; 3. ‘Ski-lift pricing, with applications to labor and other markets’ (with R. Barro), *AER*, 77, Dec. 1987; 4. ‘Determinacy of equilibria in dynamic models with finitely many consumers’ (with T.J. Kehoe, D.K. Levine), *JET*, 50, Feb. 1990; 5. ‘Endogenous technological change’, *JPE*, 98, Oct. 1990; 6. ‘Economic integration and endogenous growth’ (with L. Rivera-Batiz), *QJE*, 106, May 1991; 6. ‘Looting: the economic underworld of bankruptcy for profit’ (with G. Akerlof), in W.C. Brainard, G.L. Perry (eds), *BPEA*, 2, 1993; 7. ‘New goods, old

theory, and the welfare costs of trade restrictions', *J Dev Stud*, 43, 1994; 8. 'Preferences, promises, and the politics of entitlement', in V.R. Fuchs (ed.), *Individual and Social Responsibility: Child Care, Education, Medical Care, and Long-term Care in America* (UCP, 1995); 9. 'Wages, skills and technology in the United States and Canada' (with K. Murphy, C. Riddell), in E. Helpman (ed.), *General Purpose Technologies and Economic Growth* (MIT Press, 1998).

Principal Contributions When I started graduate school in the late 1970s, growth theory was a dead field in economics. The existing theory of growth recognized that technological change was the driving force behind economic growth, but it offered no insight into the economic forces that drove technological change. The fundamental challenge was to reconcile the concept of diminishing returns, which is critical to our understanding of markets, with historical evidence and theoretical intuitions, both of which suggested that knowledge is associated with increasing returns. My PhD thesis marked the beginning of a resurgence of interest in the underlying theory of growth that has culminated in a body of work known as the 'new growth theory'. The starting point for this theory is the observation that knowledge or ideas are critical inputs into economic activity. New ideas drive growth in advanced economies. Inflows of existing ideas can spur rapid growth in poor countries. These ideas are the recipes or formulas that tell us how to make productive use of raw materials. The theory recognizes that ideas differ from conventional inputs like land or labor in two critical ways. First, the set of all possible ideas or recipes is virtually infinite. In the future, we shall not have more mass per person, but we shall know how to rearrange what we have in ways that are more valuable. We shall enjoy unlimited growth in the

value of output per person, not in kilograms of output per person. Second, each specific idea or recipe has the property that everyone in the world can use it at the same time. This is where increasing returns enters the theory in a critical way. Together, these differences mean that societies must craft special institutional arrangements to take advantages of the economic power of ideas.

ROSE, Andrew K. n.e.

ROSEN, Harvey S.

Born 1949, Chicago, IL, USA.

Current Posts John L Weinberg Prof. Econ. and Bus. Pol. and Co-Dir., Center for Econ. Pol. Stud., Princeton Univ., Princeton, NJ, USA; Res. Asst, NBER, Cambridge, MA, USA.

Past Posts Asst Prof., Assoc. Prof., Princeton Univ., 1974–80, 1980–84; Fell., Inst. Adv. Stud., Hebrew Univ., Jerusalem, 1978; Vis. Scholar, Hoover Inst., Stanford Univ., 1981, Russell Sage Foundation, 1996–97; Dep. Asst Secretary, Tax Analysis, US Treasury Dept, 1989–91.

Degrees AB Univ. Michigan, 1970; AM, PhD Harvard Univ., 1972, 1974.

Offices and Honours Phi Beta Kappa, 1969; NSF Grad. Fell., 1970–73; Allyn Young Teaching Prize, Harvard Univ., 1974; Fell., Em Soc, 1986–.

Editorial Duties Co-Ed., *AEA Papers and Proceedings*, 1986–88; Ed. Bds, *ITPF, Public Fin. Q., JEL*; Advisory Bds, *Electronic J., RSUE, NTJ*.

Principal Fields of Interest H0 Public Economics: General; J0 Labor and Demographic Economics: General.

Publications *Books*: 1. *Public Finance* (Richard D. Irwin, 1985, 1988, 1992, 1995, 1999, 2002; trans., Spanish, Basque, German, Chinese); 2. *Studies in State and*

Local Public Finance (ed.), (UCP, 1986); 3. *Fiscal Federalism: Quantitative Studies* (ed.), (UCP, 1988); 4. *The Conflict Between Equilibrium and Disequilibrium Theories: The Case of the US Labor Market* (with R.E. Quandt), (W.E. Upjohn Inst., 1988); 5. *Microeconomics* (with M.L. Katz), (Richard D. Irwin, 1991, 1994, 1998; trans., Spanish); 6. *The Fiscal Behavior of State and Local Governments* (Edward Elgar, 1997).

Articles: 1. 'Taxes in a labor supply model with joint wage-hours determination', *Em*, 44, May 1976; 2. 'Estimation of a disequilibrium aggregate labor market' (with R.E. Quandt), *REStat*, 60, Aug. 1978; 3. 'Housing decisions and the US income tax: an econometric analysis', *J Pub E*, 11, Feb. 1979; 4. 'Taxation, human capital and uncertainty' (with J. Eaton), *AER*, 70, Sept. 1980; 5. 'Notches' (with A.S. Blinder), *AER*, 75, Sept. 1985; 6. 'Estimating vector autoregressions with panel data' (with D. Holtz-Eakin, W. Newey), *Em*, 56, Nov. 1988; 7. 'Municipal labor demand in the presence of uncertainty' (with D. Holtz-Eakin), *J Lab E*, 9, July 1991; 8. 'The Carnegie conjecture: some empirical evidence' (with D. Holtz-Eakin, D. Joulfaian), *QJE*, 108, May 1993; 9. 'Sticking it out: entrepreneurial survival and liquidity constraints' (with D. Holtz-Eakin, D. Joulfaian), *JPE*, 102, Feb. 1994; 10. 'Turning points in the Civil War: views from the greenback market' (with K.L. Willard, T.W. Guinnane), *AER*, 86, Sept. 1996; 11. 'Estate taxes, life insurance, and small business' (with D. Holtz-Eakin, J. Phillips), *REStat*, 83, Feb. 2001.

Principal Contributions Most of my work has used the tools of economic theory and econometrics to analyze problems that are of relevance to public policy. Many of my articles have dealt with taxation, where I have looked at the impact of the tax system on labor supply, home-

ownership, and other household decisions. I have also explored the operation of labor markets, the spending and taxing behavior of state and local governments, the formation and evolution of entrepreneurial enterprises, and health insurance. From time to time I have written on methodological issues, but always with an eye toward developing tools that can be used for applied work.

ROSENTHAL, Robert W. n.e.

ROSENTHAL, Stuart S. n.e.

ROSENZWEIG, Mark Richard

Born 1947, New York, NY, USA.

Current Post Mohamed Kamal Prof. Public Pol., Harvard Univ., Cambridge, MA, USA, 2002–.

Past Posts Asst Prof., Assoc. Prof., Yale Univ., 1973–78, 1978–79; Dir. Res. Select Commission Immigration and Refugee Pol., Washington, DC, 1979–80; Assoc. Prof., Prof., Univ. Minnesota, 1979–82, 1982–90; Vis. Assoc. Prof., Princeton Univ., 1982; Vis. Prof., Univ. Chicago, 1986, Stanford Univ., 1999–2000; Prof. Econ., Walter H. Annenberg Prof. in Social Sc., Univ. Pennsylvania, 1990–2002.

Degrees BA Columbia Coll., 1969; MA, PhD Columbia Univ., 1971, 1973.

Offices and Honours Woodrow Wilson Dissertation Fell., 1972–73; NIH Res. Service Fell., 1976–77; US SSRC Training Fell., 1976–77; Mem., Social Sc. and Pop. Study Section, NIH, 1980–84, Panel on Immigration Stats, NRC, NAS, 1983–84, Pop. Res. Comm., NICHHD, 1995–98, Panel on Human Dimensions of Seasonal-to-Interannual Climate Variability, NRC, NAS, 1997–98, Comm. Human Di-

mensions Global Change, NRC, NAS, 1998–, Nominating Comm., Exec. Comm., AEA, 1997–99, 2002–04; Fell., Em Soc, 1994.

Editorial Duties Ed. Bds, *JEL*, 1980–82, 1999–, *WBEB*, 1991–; Assoc. Ed., *JDE*, 1990–95, *REStat*, 1995–, *Pop. and Devlp. Rev.*, 1996–; Co-Ed., *JDE*, 1995–.

Principal Fields of Interest O1 Economic Development; J1 Demographic Economics; I2 Education.

Publications *Books*: 1. *Contractual Arrangements, Employment and Wages in Rural Labor Markets: A Critical Review* (with H. Binswanger), (Agric. Devlp. Council, 1981); 2. *The Theory and Experience of Economic Development: Essays in Honour of Sir W. Arthur Lewis* (ed. with M. Gersovitz, C. Diaz-Alejandro, G. Ranis), (A&U, 1982); 3. *Contractual Arrangements, Employment and Wages in Rural Labor Markets in Asia* (ed. with H. Binswanger), (YUP, 1984); 4. *The New Chosen People: Immigrants in the United States* (with G. Jasso), (Russell Sage, 1990); 5. *Handbook of Population and Family Economics* (with O. Stark), (N-H, 1997).

Articles: 1. ‘Testing the quantity–quality model of fertility: the use of twins as a natural experiment’ (with K.I. Wolpin), *Em*, 48, Jan. 1980; 2. ‘Consumption smoothing migration and marriage: evidence from rural India’ (with O. Stark), *JPE*, 97, Aug. 1989; 3. ‘Credit market constraints and the accumulation of durable production assets in low-income countries: investments in bullocks’ (with K.I. Wolpin), *JPE*, 101, April 1993; 4. ‘A test for moral hazard in the labor market: contractual arrangements, efficiency, and health’ (with A.D. Foster), *REStat*, 76, May 1994; 5. ‘Parental and public transfers to young women and their children’ (with K.I. Wolpin), *AER*, 82, Dec. 1994; 6. ‘Endowments and the allocation of schooling in the family and in the mar-

riage market: the twins experiment’ (with J.R. Behrman, P.A. Taubman), *JPE*, 102, Dec. 1994; 7. ‘Learning by doing and learning from others: human capital and technical change in agriculture’ (with A.D. Foster), *JPE*, 103, Dec. 1995; 8. ‘Technical change and human capital returns and investments: evidence from the green revolution’ (with A.D. Foster), *AER*, 86, Sept. 1996; 9. ‘Comparative advantage, information, and the allocation of workers to tasks: evidence from an agricultural labor market’ (with A.D. Foster), *REStud*, 63, Nov. 1996; 10. ‘Welfare, marital prospects and nonmarital childbearing’, *JPE*, 107, Dec. 1999; 11. “Natural” natural experiments in economics’ (with K. Wolpin), *JEL*, 38, Dec. 2000; 12. ‘Imperfect commitment, altruism and the family: evidence from transfer behavior in low-income rural areas’ (with A. Foster), *REStat*, 83, Aug. 2001; 13. ‘Does increasing the schooling of women increase the schooling of the next generation?’ (with J. Behrman), *AER*, 92, March 2002; 14. ‘Household division and rural economic growth’ (with A. Foster), *REStud*, 70, Oct. 2002; 15. ‘Economic growth and the rise in forests’ (with A. Foster), *QJE*, forthcoming.

Principal Contributions My work has principally been concerned with obtaining a better understanding of household decision-making in a variety of economic settings, with particular attention to the formation of human capital. My initial work examined the empirical and theoretical foundations of rural employment and wage determination, which forms the underpinnings of most macro development models. Data on labor supply behavior and rural wages in developing countries, evidently not used by development theorists, were exploited to test various pervasive assumptions in the development literature. Much of my work has also been concerned with family investments in hu-

man capital, with particular focus on the role of household formation, the effects of program interventions, and economic growth. I have also investigated how family structure and formation as well as agricultural investment behavior is shaped by risk considerations in rural areas characterized by incomplete markets. I have also returned to the study of rural labor markets in low-income countries with attention to how consumption and wages are linked and how occupation and wage distributions as well as work effort reflect information asymmetries and contractual incentives. Recently I have been interested as well in the relationship between household behavior, government programs and natural resources; the effects of growth on household structure and networks, and political economy.

ROSENZWEIG, Michael R. n.e.

ROSSI, Peter E. n.e.

ROTEMBERG, Julio Jacobo

Born 1953, Buenos Aires, Argentina.

Current Post William Ziegler Prof. Bus. Admin., Harvard Bus. Sch., Boston, MA, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., Prof., Sloan Sch. Mgmt, MIT, 1980–84, 1984–89, 1989–97.

Degrees BA Univ. California, Berkeley, 1975; PhD Princeton Univ., 1981.

Offices and Honours Res. Fell., Sloan Foundation, 1986–88; Res. Assoc., NBER, 1986–; Fell., Em Soc, 1991.

Editorial Duties Amer. Ed., *REStud*, 1985–88; Assoc. Ed., *Em*, 1987–93, *QJE*, 1989–95, *Econ. Letters*, 1993–2002; Co.-Ed., *NBER Macroecon. Annual*, 1993–98, *JEMS*, 1996–2002; Ed., *REStat*, 2002–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E4 Money and Interest Rates; L1 Market Structure, Firm Strategy, and Market Performance.

Publications Articles: 1. 'Monopolistic price adjustment and aggregate output', *REStud*, 49, Oct. 1982; 2. 'Sticky prices in the United States', *JPE*, 90, Dec. 1982; 3. 'Dynamic factor demands and the effects of energy price shocks' (with R. Pindyck), *AER*, 73, Dec. 1983; 4. 'A monetary equilibrium model with transaction costs', *JPE*, 92, Feb. 1984; 5. 'Intertemporal substitution in macroeconomics' (with N.G. Mankiw, L. Summers), *QJE*, 100, Feb. 1985; 6. 'A supergame theoretic model of price wars during booms' (with G. Saloner), *AER*, 76, June 1986; 7. 'Inflexible prices and procyclical productivity' (with L. Summers), *QJE*, 105, Nov. 1990; 8. 'A theory of inefficient intrafirm transactions', *AER*, 81, March 1991; 9. 'Markups and the business cycle' (with M. Woodford), *NBER Macroecon. Annual*, 1991; 10. 'Oligopolistic pricing and the effects of aggregate demand on economic activity' (with M. Woodford), *JPE*, 100, Dec. 1992; 11. 'Power in profit maximizing organizations', *JEMS*, 2, June 1993; 12. 'Human relations in the workplace', *JPE*, 102, Aug. 1994; 13. 'Benefits of narrow business strategies' (with G. Saloner), *AER*, 84, Dec. 1994; 14. 'Real business cycle models and the forecastable movements in output, hours and consumption' (with M. Woodford), *AER*, 86, March 1996; 15. 'Prices, output and hours: an empirical analysis based on a sticky price model', *JME*, 37, June 1996; 16. 'Imperfect competition and the effects of energy price increases on economic activity' (with M. Woodford), *JMCB*, 28, Nov. 1996; 17. 'An optimization-based econometric framework for the evaluation of monetary policy' (with M. Woodford), *NBER Macroecon.*

Annual, 1997; 18. 'The cyclical behavior of prices and costs' (with M. Woodford), in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H/Elsevier Sc., 1999); 19. 'Visionaries, managers, and strategic direction' (with G. Saloner), *RandJE*, 31, Winter 2000; 20. 'Perceptions of equity and the distribution of income', *J Lab E*, 20, April 2002.

Principal Contributions n.e.

ROTH, Alvin E.

Born 1951, New York City, NY, USA.

Current Post Gund Prof. Econ. and Bus. Admin., Harvard Univ., Cambridge, MA, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Prof., Dept Bus. Admin. and Dept Econ., Univ. Illinois, 1974–77, 1977–79, 1979–82; Inst. Assoc., Inst. Math. Stud. in Social Sc., Stanford Univ., 1978; A.W. Mellon Prof. Econ., Univ. Pittsburgh, 1982–98; Mendes-France Vis. Prof. Econ., Technion, Haifa, Israel, 1986; Bogen Vis. Prof. Econ., Hebrew Univ., Jerusalem, 1995; Vis. Prof. Econ., Univ., Tel Aviv, 1995.

Degrees BS (OR) Columbia Univ., 1971; MS (OR), PhD (OR) Stanford Univ., 1973, 1974.

Offices and Honours Founders' Prize, Texas Instruments Foundation, 1980; Guggenheim Fell., 1983–84; Fell., Em Soc, 1983, AAAS, 1998; Alfred P. Sloan Res. Fell., 1984–86; Lanchester Prize, OR Soc. Amer., 1990.

Editorial Duties Ed. Bds, *AER*, 1986–88, *Games and Econ. Behav.*, 1989–92, *ET*, 1991–; Advisory Bds, *Negotiation J.*, 1984–89, *JRU*, 1988–, *J. Experimental Econ.*, 1998–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; D4 Market Structure and Pricing.

Publications Books: 1. *Axiomatic Models of Bargaining*, Lecture Notes in Econ. and Math. Systems, 170 (S-V, 1979); 2. *Game-Theoretic Models of Bargaining* (ed.), (CUP, 1985); 3. *Laboratory Experimentation in Economics: Six Points of View* (CUP, 1987); 4. *The Shapley Value: Essays in Honor of Lloyd S. Shapley* (ed.), (CUP, 1988); 5. *Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis* (with M. Sotomayer), Em Soc Monograph series (CUP, 1990, Lanchester Prize, pb 1990); 6. *Handbook of Experimental Economics* (ed. with J.H. Kagel), (Princeton Univ. Press, 1995); 7. *Game Theory in the Tradition of Bob Wilson* (with B. Holmström, P. Milgrom), (Berkeley Electronic Press, 2002, <http://www.bepress.com/wilson>).

Articles: 1. 'A lattice fixed-point theorem with constraints', *Bull. Amer. Math. Soc.*, 81, Jan. 1975; 2. 'Game-theoretic models and the role of information in bargaining' (with M.K. Malouf), *Psychological Rev.*, 86, 1979; 3. 'Expectations and reputations in bargaining: an experimental study' (with F. Schoumaker), *AER*, 73, 1983; 4. 'The evolution of the labor market for medical interns and residents: a case study in game theory', *JPE*, 92, 1984; 5. 'An experimental study of sequential bargaining' (with J. Ochs), *AER*, 79, 1989; 6. 'A natural experiment in the organization of entry level labor markets: regional markets for new physicians and surgeons in the UK', *AER*, 81, June 1991; 7. 'Bargaining and market behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: an experimental study' (with V. Prasnikar, M. Okuno-Fujiwara, S. Zamir), *AER*, 81, Dec. 1991; 8. 'Jumping the gun: imperfections and institutions related to the timing of market transactions' (with X. Xiang), *AER*, 84, Sept. 1994; 9. 'Learning in extensive-form games: experimental data and simple dynamic models in the intermediate term' (with I. Erev), *Games and Econ.*

Behav., special issue, Nobel Symposium, 8, Jan. 1995; 10. 'Turnaround time and bottlenecks in market clearing: decentralized matching in the market for clinical psychologists' (with X. Xing), *JPE*, 105, April 1997; 11. 'The redesign of the matching market for American physicians: some engineering aspects of economic design' (with E. Peranson), *AER*, 89, Sept. 1999; 12. 'The dynamics of reorganization in matching markets: a laboratory experiment motivated by a natural experiment' (with J. Kagel), *QJE*, 115, Feb. 2000; 13. 'Last-minute bidding and the rules for ending second-price auctions: evidence from eBay and Amazon Auctions on the Internet' (with A. Ockenfels), *AER*, 92, Sept. 2002.

Principal Contributions Much of my work can be seen as part of the effort to develop game theory as a part of applied economics. To this end, I have spent a good deal of time thinking about how experiments can enlarge the portfolio of tools economists use to test theories, and to generally study strategic interactions in ways unavailable in field data. And I have devoted substantial effort to field studies which trace over time the evolution of rules and procedures as they are put under stress by the ways they are strategically 'gamed' by market participants. Both of these empirical streams of work have led me in my theoretical work to look for robust ways to think about stability, and about learning and adaptation in strategic environments. Lately I have also had a good deal of opportunity to think about how game theory, experimental economics, and theoretical computation can be brought to bear on the problems of designing markets and allocation mechanisms (see my essay 'The economist as engineer' in the July 2002 issue of *Econometrica*). The big American market for new physicians now uses a clearing-house algorithm of my design to match

over 20,000 physicians a year with their first jobs.

ROTHSCHILD, Michael

Born 1942, Chicago, IL, USA.

Current Post William Stuart Tod Prof. Econ. Public Affairs, Princeton Univ., Princeton, NJ, USA, 2002–.

Past Posts Instr., Boston Coll., 1968–69; Asst Prof., Harvard Univ., 1969–73; Lect., Assoc. Prof., Prof., Princeton Univ., 1972–76; Vis. Prof., Hebrew Univ., Jerusalem, 1972; Prof. Econ., Univ. Wisconsin, Madison, 1976–82; Prof. Econ., Dean Div. Social Sc., Univ. California, San Diego, 1982–95, 1983–95; Dean, Woodrow Wilson Sch. and Prof. Econ. Public Affairs, Princeton Univ., 1995–2002.

Degrees BA (Anthropology) Reed Coll., 1963; MA (Intl Relations) Yale Univ., 1965; PhD MIT, 1969.

Offices and Honours Fell., Council Mem., Em Soc, 1972, 1979–84; Oskar Morgenstern Disting. Fellowship, Mathematica Inc., 1981–82; Rommnes Faculty Fell., Univ. Wisconsin, 1977; Guggenheim Foundation Fell., 1978–79; Fell., AAAS, 1994, Amer. Assoc. Advancement Sc., 1998.

Editorial Duties Assoc. Ed., *Em*, 1970–73, 1979–, *JET*, 1973–88; Ed. Bd, *JEL*, 1981–83, 1997–2000.

Principal Fields of Interest D0 Microeconomics: General; D8 Information and Uncertainty; I2 Education.

Publications *Books*: 1. *Uncertainty in Economics: Readings and Exercises* (ed. with P.A. Diamond), (Acad. Press, 1978, revised edn 1989); 2. *Studies of Supply and Demand in Higher Education* (ed. with C.T. Clotfelter), (UCP, 1993).

Articles: 1. 'Increasing risk: I. A definition' (with J.E. Stiglitz), *JET*, 2, Sept. 1970; 2. 'Searching for the lowest price when the distribution of prices is unknown', *JPE*,

82, July–Aug. 1974; 3. ‘A two-armed bandit theory of market pricing’, *JET*, 9, Oct. 1974; 4. ‘On the allocation of effort’ (with R. Radner), *JET*, 10, 1975; 5. ‘Convergence of the age structure: applications of the projective metric’ (with M. Golubitsky, E. Keeler), *Theoretical Pop. Biology*, 7, Feb. 1975; 6. ‘Equilibrium in competitive insurance markets: an essay on the economics of imperfect information’ (with J.E. Stiglitz), *QJE*, 90, Nov. 1976; 7. ‘A model of the jury decision process’ (with A.K. Klevorick), *J. Legal Stud.*, 8, Jan. 1979; 8. ‘Arbitrage, factor structure, and mean-variance analysis on large asset markets’ (with G.S. Chamberlain), *Em*, 51, 1983; 9. ‘Information processing and jury decision-making’ (with A. Klevorick, C. Winship), *JPE*, 23, 1984; 10. ‘Stochastic capital theory’ (with W.A. Brock, J.E. Stiglitz), in G. Feiwel (ed.), *John Robinson and Modern Economic Theory* (Macmillan, 1989); 11. ‘Monopolistic competition and preference diversity’ (with R. Deneckere), *REStud*, 59, 1992; 12. ‘Some simple analytics of the pricing of higher education’ (with L.J. White), *JPE*, 3, June 1995.

Principal Contributions Devising tools, concepts and models for studying markets with uncertainty and imperfect information.

ROTNITZKY, Andrea n.e.

ROUBINI, Nouriel n.e.

ROUSSEEUW, Peter J. n.e.

RUBIN, Donald Bruce

Born 1943, Washington, DC, USA.

Current Posts John L. Loeb Prof. Stats and Chair, Stats Dept, Harvard Univ.,

Cambridge, MA, USA, 1984–; Pres., Datametrics Res., Inc., Waban, MA, USA, 1981–; Res. Assoc., Natl Opinion Res. Center, Chicago, IL, USA, 1983–; Fell. Theoretical and Apl. Stats, NBER, Cambridge, MA, USA, 1999–.

Past Posts Res. Stat., Chair, Stats Group, Sr Stats Res. Advisor, Educational Testing Service, Princeton, 1971–75, 1975–79, 1980–82; Vis. Prof., Maths Res. Center, Univ. Wisconsin, Madison, 1981–82; Prof., Depts Stats and Educ., Univ. Chicago, 1982–84; Chair, Bd Dir, Analytical Bus. Systems, Philadelphia, PA, USA, 1985–94, 2000–03.

Degrees AB (Psychology) Princeton Univ., 1965; MS (Computer Sc.), PhD (Stats) Harvard Univ., 1966, 1970.

Offices and Honours NSF Res. Fell., Princeton Univ., 1964, 1965; Howard Crosby Warren Award, Princeton Univ., 1964, 1965; Phi Beta Kappa, 1965; Woodrow Wilson Grad. Fell., 1965; NSF Grad. Fell., 1965–70; Fell., ASA, 1977, Inst. Math. Stats, 1977, Amer. Assoc. Advancement Sc., 1984; John Simon Guggenheim Fell., 1977–78; Mem., Intl Stats Inst., 1984, AAAS, 1993; 7th most highly-cited author in Maths, 1991–2000; Stat. of Year, ASA, Boston, 1995, Chicago, 2001; Samuel S. Wilks Memorial Medal, 1995; Emanuel and Carol Parzen Prize for Stats Innovation, 1996; Mitchell Prize, Intl Soc. for Bayesian Analysis, 2001.

Editorial Duties Assoc. Ed., *Theory and Methods*, Assoc. Ed., Book Rev., *JASA*, 1975–79, 1975–79; Assoc. Ed., *J. Educ. Stat.*, 1976–79, *Survey Methodology*, 1988–93, *Statistica Sinica*, 1993–; Corres. Assoc. Ed., *Brain and Behav. Sc.*, Coordinating Ed. and Apl. Ed., *JASA*, 1980–82; Cons. Ed., Chapman & Hall Publishers, 1985–95; Stats Ed., *Intl J. Psychology in Medicine*, 1991–95; Guest Ed. (EM Algorithm), Ed. Testing, *Statistica Sinica*, 1992–95, 1995–98.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C8 Data Collection and Data Estimation Methodology; Computer Programs; C9 Design of Experiments.

Publications *Books*: 1. *Incomplete Data in Sample Surveys, Vol. 2: Theory and Bibliographies* (with W.G. Madow, I. Olkin), (Acad. Press, 1983); 2. *Multiple Imputation for Nonresponse in Surveys* (Wiley, 1987); 3. *Statistical Analysis with Missing Data* (with R.J.A. Little), (Wiley, 1987, 2002; trans., Russian, A. Nikiforev, translator, Finansy and Statistika Publ., 1991); 4. *Bayesian Data Analysis* (with A. Gelman, J. Carlin, H. Stern), (Chapman & Hall, 1995).

Articles: 1. 'Estimating causal effects of treatments in randomized and non-randomized studies', *J. Educ. Psychology*, 66, 1974; 2. 'Inference and missing data', *Biometrika*, 63, 1976; 3. 'Maximum likelihood from incomplete data via the EM Algorithm' (A.P. Dempster, N. Laird), *JRSS-B*, 39, 1977; 4. 'Bayesian inference for causal effects: the role of randomization', *Annals Stats*, 7, 1978; 5. 'Using multivariate matched sampling and regression adjustment to control bias in observational studies', *JASA*, 74, 1979; 6. 'The Bayesian bootstrap', *Annals Stats*, 9, 1981; 7. 'The central role of the propensity score in observational studies for causal effects' (with P. Rosenbaum), *Biometrika*, 70, 1983; 8. 'Assessing sensitivity to an unobserved binary covariate in an observational study with binary outcome' (with P. Rosenbaum), *JRSS-B*, 45, 1983; 9. 'William G. Cochran's contributions to the design, analysis, and evaluation of observational studies', in *W.G. Cochran's Impact on Statistics* (Wiley, 1984); 10. 'Bayesianly justifiable and relevant frequency calculations for the applied statistician', *Annals Stats*, 12, 1984; 11. 'Using the SIR Algorithm to simulate posterior distributions', in *Bayesian Sta-*

tistics III (OUP, 1988); 12. 'Affinely invariant matching methods with ellipsoidal distributions' (with N. Thomas), *Annals Stats*, 20, 1992; 13. 'A single series from the Gibbs Sampler provides a false sense of security' (with A. Gelman), in *Bayesian Statistics IV* (OUP, 1992); 14. 'Identification of causal effects using instrumental variables' (with J.D. Angrist, G. Imbens), *JASA*, 91, 1996; 15. 'Bayesian inference for causal effects in randomized experiments with noncompliance' (with G. Imbens), *Annals Stats*, 25, 1997; 16. 'Principal stratification in causal inference' (with C. Frangakis), *Biometrics*, 58, 2002.

Principal Contributions In the 1970s, I introduced a framework, with accompanying basic terminology and results, for missing data problems (article 2), including inventing multiple imputation for missing data (summarized in books 1, 2 and 3). Also in the 1970s, I created a general formulation for causal inference in both randomized and observational studies, from either frequentist or Bayesian inferential perspectives, based on potential outcomes ('Rubin's Causal Model' – articles 1 and 4). With Dempster and Laird, I introduced the EM Algorithm (article 3) and with others, continued to develop its extensions (ECM, PX-EM) in the next decades. In a paper that has been widely cited, I defined and motivated the Bayesian Bootstrap (article 6). Paralleling my work in causal inference, I introduced basic matching methods for observational studies, including Mahalanobis metric matching in the 1970s (articles 5 and 9), and ellipsoidal/affinely invariant extensions in the 1990s (with Thomas, article 12). With Rosenbaum, I proposed propensity score methods and general sensitivity analyses in observational data in the 1980s (articles 7 and 8). Also in the 1980s, I proposed posterior predictive checks, as a generalization of Fisher's randomization test, for testing with irregular likelihoods

and in other complex situations (article 10). More recently, I proposed sampling/importance resampling to simplify simulation-based inference (article 11), and with Gelman, proposed multiple-chain methods for assessing convergence of MCMC simulations (article 13). With Angrist and Imbens, I described methods for dealing with noncompliance to treatment assignment, thereby bridging statistical and econometric instrumental variables (IV) approaches to causality (article 14). With Imbens and Frangakis, I implemented conceptual and Bayesian computational extensions of the IV framework and techniques (articles 15 and 16). Throughout, my work has attempted to bridge frequentist and Bayesian methods, with a focus on the latter (book 4, with Gelman, Carlin and Stern).

RUBINSTEIN, Ariel

Born 1951, Jerusalem, Israel.

Current Posts Prof. Econ., Tel Aviv Univ., Tel Aviv, Israel, 1990–; Lect. in Rank of Prof., Princeton Univ., Princeton, NJ, USA, 1991–.

Past Posts Res. Fell., Nuffield Coll., Oxford, 1979–80; Vis., Bell Labs, Murray Hill, 1980–81; Prof., Hebrew Univ., Jerusalem, 1981–90; Mem., Math. Sc. Res. Inst., Berkeley, 1985; Vis. Prof., LSE, 1986–89, Princeton Univ., 1987, Univ. Chicago, 1988, Univ. Pennsylvania, 1989; Olin Fell., Columbia Univ., 1990, NYU, 1996; Fell., Russell-Sage Foundation, 1996–97.

Degrees BSc (Maths, Econ. Stats), MA, MSc (Maths), PhD Hebrew Univ., 1974, 1975, 1976, 1979.

Offices and Honours Pazner Lecture, Tel Aviv, 1982; Fell., Em Soc, 1985; Invited Lecture, Fifth World Congress, Em Soc, 1985; Walras–Bowley Lecture, 1988; Foreign Hon. Mem., AAAS, 1994, AEA,

1995; Fell., Israeli Acad. Sc., 1995; CORE Lectures, Louvain-La-Neuve, 1995; Churchill Lecture, Cambridge, 1996; Pareto Lecture, Alicante, 1996; Zeuthen Lecture, Copenhagen, 1996; Schwartz Lecture, Northwestern Univ., 1998; Schumpeter Lecture, EEA, Bolzano, 2000; Michael Bruno Memorial Award, 2000; 2nd Vice-Pres., 1st Vice-Pres., Em Soc, 2002, 2003; Israel Prize, 2002; Dr (*hc*) Tilburg Univ., 2002; Hon. Fell., Nuffield Coll., Oxford, 2002.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D0 Microeconomics: General.

Editorial Duties Assoc. Ed., *Em*, 1984–92, *JET*, 1986–94, *Games and Econ. Behav.*, 1988–2002, *Math. Social Sc.*, 1993–; Ed. Bds, *REStud*, 1987–88, *Econ. Design*, 1993–, *Philo. and Econ.*, 1994–, *Intl J. Game Theory*, 1995–, *NAJE*, 2001–; Foreign Ed., *REStud*, 1988–92; Advisory Comm., *JEEA*, 2003–.

Publications Books: 1. *Bargaining and Markets* (with M. Osborne), (Acad. Press, 1990); 2. *A Course in Game Theory* (with M. Osborne), (MIT Press, 1994); 3. *Modeling Bounded Rationality* (MIT Press, 1998); 4. *Economics and Language* (CUP, 2000).

Articles: 1. ‘Equilibrium in supergames with the overtaking criterion’, *JET*, 21, 1979; 2. ‘An optimal policy for offenses that may have been committed by accident’, in S. Brams, A. Schotter, G. Schwodiauer (eds), *Applied Game Theory* (Physica-Verlag, 1979); 3. ‘Perfect equilibrium in a bargaining model’, *Em*, 50, 1982; 4. ‘The single profile analogies to multi profile theorems: mathematical logic’s approach’, *IER*, 25, 1984; 5. ‘Equilibrium in a market with sequential bargaining’ (with A. Wolinsky), *Em*, 53, 1985; 6. ‘Finite automata play the repeated prisoner’s dilemma’, *JET*, 39, 1986; 7. ‘Similarity and decision-making under risk’, *JET*, 46, 1988; 8. ‘The electronic mail

game: a game with almost common knowledge, *AER*, 79, 1989; 9. 'Decentralized trading, strategic behavior and the Walrasian outcome' (with A. Wolinsky), *REStat*, 57, 1990; 10. 'Comments on the interpretation of game theory', *Em*, 59, 1991; 11. 'On the interpretation of the Nash bargaining solution' (with Z. Safra, W. Thomson), *Em*, 60, 1992; 12. 'On price recognition and computational complexity in a monopolistic model', *JPE*, 101, 1993; 13. 'Why are certain properties of binary relations relatively more common in natural language?', *Em*, 64, 1996; 14. 'On the interpretation of decision problems with imperfect recall' (with M. Piccione), *Games and Econ. Behav.*, 20, 1997; 15. 'Games with procedurally rational players' (with M. Osborne), *AER*, 88, 1998; 16. 'Debates and decisions, on a rationale of argumentation rules' (with J. Glazer), *Games and Econ. Behav.*, 36, 2001.

Principal Contributions Most of my work was done in the foundations of game theory and its applications to economics. The main subfields in which I was working are: (1) The model of infinite horizon repeated games. The main results achieved simultaneously with Aumann and Shapley are the so-called 'perfect-folk theorems' with the limit of the means and the overtaking criterion. (2) The alternating offers bargaining model which provided a non-cooperative foundation to Nash bargaining solution. (3) (With A. Wolinsky) Pairwise matching bargaining market models and the examination of the foundations of the competitive equilibrium notion. (4) The model of repeated games with finite automate in which bounded rationality considerations were embedded explicitly into the model. (5) Questions of interpretations of game theory. (6) Modeling bounded rationality in decision making and game theory. (7) (With M. Piccione). Decision making with imperfect recall.

(8) Economics and language: viewing phenomena from the natural language from an economic perspective. (9) Experimental economics and its methodology.

RUDEBUSCH, Glenn D.

Born 1959, Milwaukee, WI, USA.

Current Post Vice Pres., FRB, San Francisco, CA, USA, 2002–.

Past Posts Econ., FRB, 1986–1994; Res. Officer, FRB, San Francisco, 1994–2002.

Degrees BA Northwestern Univ., 1981; PhD Univ. Pennsylvania, 1986.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *The Estimation of Macroeconomic Disequilibrium Models with Regime Classification Information* (S-V, 1987); 2. *Business Cycles: Durations, Dynamics, and Forecasting* (with F. Diebold), (Princeton Univ. Press: 1999).

Articles: 1. 'Long memory and persistence in aggregate output' (with F. Diebold), *JME*, 24, Sept. 1989; 2. 'A nonparametric investigation of duration dependence in the American business cycle' (with F. Diebold), *JPE*, 98, June 1990; 3. 'Is consumption too smooth? Long memory and the Deaton Paradox' (with F. Diebold), *REStat*, 73, Feb. 1991; 4. 'Forecasting output with the composite leading index: a real-time analysis' (with F. Diebold), *JASA*, 86, Sept. 1991; 5. 'Trends and random walks in macroeconomic time series: a re-examination', *IER*, 33, Aug. 1992; 6. 'Have postwar economic fluctuations been stabilized?' (with F. Diebold), *AER*, 82, Sept. 1992; 7. 'The uncertain unit root in real GNP', *AER*, 83, March 1993; 8. 'Federal Reserve interest rate targeting, rational expectations,

and the term structure', *JME*, 24, April 1995; 9. 'The Lucas Critique revisited: assessing the stability of empirical Euler equations for investment' (with S. Oliner, D. Sichel), *J Em*, 70, Jan. 1996; 10. 'Measuring business cycles: a modern perspective' (with F. Diebold), *REStat*, 78, Feb. 1996; 11. 'Judging instrument relevance in instrumental variables estimation' (with A. Hall, D. Wilcox), *IER*, 37, May 1996; 12. 'Do measures of monetary policy in a VAR make sense?', *IER*, 39, Nov. 1998; 13. 'Policy rules for inflation targeting' (with L.E.O. Svensson), in J. Taylor (ed.), *Monetary Policy Rules* (UCP, 1999); 14. 'Opportunistic and deliberate disinflation under imperfect credibility' (with A. Bomfim), *JMCB*, 32, Nov. 2000; 15. 'Is the Fed too timid? Monetary policy in an uncertain world', *REStat*, 83, May 2001; 16. 'Eurosystem monetary targeting: lessons from US data' (with L.E.O. Svensson), *Europ ER*, 46, 2002; 17. 'Assessing nominal income rules for monetary policy with model and data uncertainty', *EJ*, 112, April 2002; 18. 'Term structure evidence on interest rate smoothing and monetary policy inertia' *JME*, 49, Sept. 2002.

Principal Contributions I have researched a wide variety of topics in empirical macroeconomics. These are some notable results and findings: (1) The duration stabilization of postwar business cycles. (2) The lack of predictive information in the leading index in real time. (3) The lack of duration dependence in postwar US business expansions. (4) The plausibility of traditional smooth trend/cycle macroeconomic decompositions. (5) The implausibility of measures of monetary policy shocks in a VAR. (6) The modeling of inflation targetting as a monetary policy rule. (7) The weak empirical relevancy of the Lucas Critique in many situations. (8) The implausibility of historical estimates of partial adjustment

monetary policy rules. (9) A characterization of the nature of optimal monetary policy rules under model and data uncertainty.

RUHM, Christopher J.

Born 1955, San Francisco, CA, USA.

Current Post Jefferson-Pilot Excellence Prof. Econ., Univ. North Carolina, Greensboro, NC, USA, 1991–.

Past Posts Res. Assoc., Lawrence Berkeley Lab., 1980; Res. Asst, Los Alamos Natl Lab., 1981–83; Asst Prof., Boston Univ., 1984–91; Post-Doctoral Res. Fell., Brandeis Univ., 1988–90; Sr Staff Econ., US President's Council Econ. Advisers, 1996–97.

Degrees BA Univ. California, Davis, 1978; MA, PhD Univ. California, Berkeley, 1981, 1984.

Offices and Honours Natl Merit Scholarship Commendation, 1973; Phi Kappa Phi, 1978; Res. Fell., Employee Benefits Res. Inst., Washington, DC, 1991–; Res. Assoc., NBER, 1994–.

Editorial Duties Assoc. Ed., *Europ ER*, 2003–.

Principal Fields of Interest I1 Health; J0 Labor and Demographic Economics: General.

Publications Articles: 1. 'The economic consequences of labor mobility', *ILRR*, 41, Oct. 1987; 2. 'When equal opportunity is not enough: training costs and intergenerational inequality', *JHR*, 23, Spring 1988; 3. 'Incentives to transfer patients under alternative reimbursement mechanisms' (with R. Ellis), *J Pub E*, 37, Dec. 1988; 4. 'Do earnings increase with job seniority', *REStat*, 72, Feb. 1990; 5. 'Bridge jobs and partial retirement', *J Lab E*, 8, Oct. 1990; 6. 'Are workers permanently scarred by job displacements', *AER*, 81, March 1991; 7. 'Career employment and job stopping', *Ind. Relations*, 30,

Spring 1991; 8. 'Displacement induced joblessness', *REStat*, 73, Aug. 1991; 9. 'Advance notice and postdisplacement joblessness', *J Lab E*, 10, Jan. 1992; 10. 'Workplace drug abuse policy' (with T. McGuire), *JHE*, 12, April 1993; 11. 'Advance notice, job search, and post-displacement earnings', *J Lab E*, 12, Jan. 1994; 12. 'Secular changes in the work and retirement patterns of older men', *JHR*, 30, Spring 1995; 13. 'Economic conditions and alcohol problems', *JHE*, 14, Dec. 1995; 14. 'Do pensions increase the labor supply of older men?', *J Pub E*, 59, Feb. 1996; 15. 'Alcohol policies and highway vehicle fatalities', *JHE*, 15, Aug. 1996; 16. 'Is high school employment consumption or investment?', *J Lab E*, 15, Oct. 1997; 17. 'The economic consequences of parental leave mandates: lessons from Europe', *QJE*, 113, Feb. 1998; 18. 'Are recessions good for your health?', *QJE*, 115, May 2000; 19. 'Parental leave and child health', *JHE*, 19, Nov. 2000; 20. 'Does drinking really decrease in bad times?' (with W. Black), *JHE*, 21, July 2002.

Principal Contributions Much of my early research examined the consequences of job change and labor displacements. A series of papers illustrated the substantial variance in wage changes following job mobility, the contrast between the persistence of wage losses following job displacements and the relatively short-lasting increases in unemployment, and the extent to which advance notice mitigates adjustment problems. A second line of my inquiry demonstrated that the transition process into retirement is considerably more complex than is often thought, by stressing the importance of gradual withdrawal from the labor force which often includes periods of employment in bridge jobs, partial retirement, and reverse retirement. This research also shows that pensions delay retirement in some situa-

tions (while promoting it in others), and provides information on secular changes in the retirement process. Much of my recent work examines issues at the intersection between health and labor economics. Using cross-country data, I have provided evidence that entitlements to parental leave following the birth of a child increase female employment and improve child health. However, rights to lengthy job absences may have negative effects on women's wages. I have also investigated how macroeconomic conditions are related to health. This research indicates that health improves when the economy temporarily deteriorates, and provides several mechanisms for these effects, including reductions in vehicle fatalities, heavy drinking, smoking, obesity and physical inactivity. Some of these changes are related to declining incomes and others to decreases in the time costs of investing in health. I have also conducted research examining the effects of high school employment on future economic attainment, intergenerational transmission of economic inequality, consequences of workplace drug abuse policies and the effects of alternative medical reimbursement systems on hospital transfer policies.

RUNKLE, David E. n.e.

RUPPERT, D. n.e.

RUSH, Mark n.e.

RUSSETT, Bruce Martin

Born 1935, North Adams, MA, USA.

Current Post Dean Acheson Prof. Intl Relations, Yale Univ., New Haven, CT, USA, 1985–.

Past Posts Instr., MIT, 1961–62; Asst Prof., Assoc. Prof., Prof. Polit. Sc., Yale Univ., 1962–66, 1966–68, 1968–85.

Degrees BA (Polit. Econ.) Williams Coll., 1956; Diploma King's Coll., Cambridge Univ., 1957; PhD (Polit. Sc.) Yale Univ., 1961.

Offices and Honours Guggenheim Foundation Fell., 1969, 1977; Fulbright-Hays Fell., Belgium, 1969, Israel, 1989; Kammerer Book Award, Amer. Polit. Sc. Assoc., 1971; German Marshall Fund Fell. 1977; Pres., Peace Sc. Soc. (Intl), 1977; Pres., Intl Stud. Assoc., 1983; Fell., Netherlands Inst. Adv. Study, 1984, AAAS, 1995; Vis. Prof. Polit. Sc., Tel Aviv Univ. 1989; Vis. Prof. Intl Capital Markets Law, Tokyo Univ., 1996; Vis. Prof. Govt, Harvard Univ., 2001; Hon. Dr, Uppsala Univ., 2002.

Editorial Duties Ed., *J. Conflict Resolution*, 1972–.

Principal Fields of Interest F1 Trade; H4 Publicly Provided Goods; C8 Data Collection and Data Estimation Methodology; Computer Programs.

Publications *Books*: 1. *Community and Contention: Britain and America in the Twentieth Century* (MIT Press, 1963); 2. *World Handbook of Political and Social Indicators* (with H. Alker, K. Deutsch, H. Lasswell), (YUP, 1964; trans., Spanish, 1969); 3. *International Regions and the International System* (Rand McNally, 1967); 4. *Economic Theories of International Politics* (Markham, 1968); 5. *What Price Vigilance? The Burdens of National Defense* (YUP, 1970); 6. *Interest and Ideology: The Foreign Policy Beliefs of American Businessmen* (with E. Hanson), (Freeman, 1975); 7. *World Politics: The Menu for Choice* (with H. Starr), (Freeman, 1981, 1985, 1989, 1992, 1996), (with H. Starr, D. Kinsella), (Wadsworth 2000, 2003, trans., Italian, 1989, Chinese, 1992, 1996, Japanese, 2000); 8. *Controlling the Sword: The Democratic Governance of*

National Security (HUP, 1990); 9. *Grasping the Democratic Peace* (Princeton Univ. Press, 1993; trans., Japanese, 1996); 10. *Triangulating Peace: Democracy, Interdependence, and International Organizations* (with J. Oneal), (Norton, 2001).

Articles: 1. 'On measuring inequality' (with H. Alker), *Behav. Sc.*, 9, July 1964; 2. 'Who pays for defense?', *Amer. Polit. Sc. Rev.*, 63, June 1969; 3. 'The marginal utility of income transfers to the third world', *Intl Org.*, 32, Fall 1978; 4. 'Health and population patterns as indicators of income inequality' (with S. Jackson, D. Snidal, D. Sylvan), *EDCC*, 29, July 1981; 5. 'Defense expenditures and national well-being', *Amer. Polit. Sc. Rev.*, 76, Dec. 1982; 6. 'Dimensions of resource vulnerability', *Intl Org.*, 36, Summer 1984; 7. 'Public opinion and the common defense: who governs military spending?' (with T. Hartley), *Amer. Polit. Sc. Rev.*, 86, Dec. 1992; 8. 'General deterrence between enduring rivals: testing three competing models' (with P. Huth), *Amer. Polit. Sc. Rev.*, 87, March 1993; 9. 'Diminished expectations of nuclear war and increased personal savings' (with J. Slemrod), *AER*, 83, Sept. 1993; 10. 'Civil wars kill people – long after the shooting stops' (with H. Ghobarah, P. Huth), *Amer. Polit. Sc. Rev.*, 97, May 2003.

Principal Contributions Most of my work has involved theory and statistical analysis at the nexus of economics and political science, especially as they affect conditions of peace and war. My early work involved the effect of international ties of trade and finance in promoting peaceful relations between countries. I returned to this topic in the 1990s, addressing the inter-relationship of four elements of international relations: democratic political systems, trade, international organizations, and the reduction of violent conflict, with J. Oneal and other co-authors. This work required the

creation of a very large historical database on the characteristics of countries and their interactions, and the solution of difficult methodological problems. We established strong evidence of a positive feedback system among these elements, which we call a 'Kantian' peace system, embodied in its highest form in the European Union. My other work included analysis of the political influences on military expenditures; the effect of military spending and international tensions on reducing savings and investment; the social and economic development of less-developed countries; the impact of eco-

nomie interests on US foreign policy; the effect of alliances on spending for collective goods such as military deterrence; and the creation and empirical testing of models to predict success or failure of acts of deterrence. Most recently I have been engaged in a large-scale statistical study of the comparative political economy of health conditions across the world, especially of the long-term mortality and disability deriving indirectly from the effects of civil war.

RUSTICHINI, Aldo n.e.

S

SAARI, Donald Gene

Born 1940, Ironwood, MI, USA.

Current Posts Disting. Prof. Econ. and Maths, and Dir., Center for Decision Analysis, and Prof. (courtesy) Logic and Philo. Sc., Univ. California, Irvine, CA, USA, 2000–.

Past Posts Post-Doctoral, Yale Astronomy Dept, 1967–68; Asst Prof. Maths and Assoc. Prof. Maths, Prof. Maths, Prof. Econ., Pancoe Prof. Maths, Northwestern Univ., 1968–74, 1974–2000, 1988–2000, 1995–2000.

Degrees BS (Maths) Michigan Tech. Univ., 1962; PhD (Maths) Purdue Univ., 1967.

Offices and Honours Lester Ford Award, 1985; Guggenheim Fell., 1988–89; Doctorat (*hc*), Purdue Univ., 1989, Univ. Caen, 1998, Michigan Tech. Univ., 1999; Duncan Black Award, *Public Choice*, 1991; Chauvenet Prize, 1995; Allendoerfer Award, Math. Assoc. Amer., 1999; Fell., NAS, 2001.

Editorial Duties Assoc. Ed., *Celestial Mechanic*, 1972–85, 1989–97, *JEBO*, 1987–93, *ET*, 1990–, *Social Choice and Welfare*, 1997–2002; Ed., *J. Math. Analysis*, 1981–86; Chief Ed., *Bull. Amer. Math. Soc.*, 1999–2005.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; C7 Game Theory and Bargaining Theory.

Publications *Books*: 1. *Basic Geometry of Voting* (S-V, 1995); 2. *Chaotic Elections! A Mathematician Looks At Voting* (Amer. Math. Soc., 2001); 3. *Decisions and Elections; Explaining the Unexpected* (CUP, 2001).

Articles: 1. ‘Effective price mechanisms’ (with C. Simon), *Em*, 46, 1978; 2. ‘Methods of apportionment and the House of Representatives’, *Amer. Math. Monthly*,

85, Dec. 1978; 3. ‘Iterative price mechanisms’, *Em*, 53, 1985; 4. ‘The source of some paradoxes from social choice and statistics’, *JET*, 41, 1987; 5. ‘Is approval voting an “unmitigated evil”’ (with J. van Newenhizen), *Public Choice*, 59, 1988; 6. ‘A dictionary for voting paradoxes’, *JET*, 48, 1989; 7. ‘The Borda Dictionary’, *Social Choice and Welfare*, 7, 1990; 8. ‘The aggregate excess demand function and other aggregation procedures’, *ET*, 2, 1992; 9. ‘Mathematical complexity of simple economics’, *Notices Amer. Math. Soc.*, 42, Feb. 1995; 10. ‘A chaotic exploration of aggregation paradoxes’, *SIAM Rev.*, 37, March 1995; 11. ‘The ease of generating chaos in economics’, *Chaos, Solutions, and Fractals*, 7, 1996; 12. ‘The generic existence of a core for q -rules’, *ET*, 9, 1997; 13. ‘Connecting and resolving Sen’s and Arrow’s theorems’, *Social Choice and Welfare*, 15, 1998; 14. ‘Explaining all three-alternative voting outcomes’, *JET*, 87, 1999; 15. ‘Mathematical structure of voting paradoxes’, *ET*, 15, 2000; 16. ‘The sum of the parts can violate the whole’ (with K. Sieberg), *Amer. Polit. Sc. Rev.*, 95, June 2001; 17. ‘Some surprising properties of power indices’ (with K. Sieberg), *Games and Econ. Behav.*, 36, 2001.

Principal Contributions My recent contributions involve voting and social choice. For instance, in my Cambridge University Press book, I show that Arrow’s and Sen’s theorems admit benign interpretations, rather than impossibility assertions; the problem is caused because their procedures are prohibited from using crucial, available information about the voters. This interpretation introduces simple ways to sidestep these problems and it adds to the strength of Arrow’s and Sen’s insights because the basic cause is central to many other economic issues. Beyond the inherent interest in ‘voting procedures’, they provide simple proto-

types for other aggregation methods from economics and the social sciences; a recently completed project (reported in my Math. Society book and recent *ET* and *JET* papers) was to identify all possible paradoxes that could ever occur with any standard voting methods and with any number of alternatives and voters, to find a way to create all possible illustrating profiles, and to explain all of these problems. In game theory, Sieberg and I discovered that power indices allow wide classes of unexpected outcomes while admitting strong relationships; earlier work (1997) resolved the problem about the dimensions of issue space which permit stable (core) outcomes. What attracted me to economics was the price mechanism; here I extended (1992) the Sonnenschein–Mantel–Debreu theorem from their setting of the set of all alternatives to all possible subsets, and (one paper with C. Simon) showed it is impossible to construct price mechanisms which always work; the informational demands are infinite. By using dynamical systems, some of my work has shown why it is so easy and likely for price mechanisms to be chaotic with unexpected behavior and why even simple economic and decision procedures can be so complex.

SACHS, Jeffrey David

Born 1954, Detroit, MI, USA.

Current Posts Dir., Earth Inst., Columbia Univ., New York, NY, USA, 2002–; Special Advisor to UN Secretary-General Kofi Annan, New York, NY, USA, 2002–; Res. Assoc., NBER, Cambridge, MA, USA, 1979–; Mem., Brookings Panel Econ., Brookings Inst., Washington, DC, USA, 1983–.

Past Posts Staff Asst, Subcomm. Anti-trust and Monopolies, Judiciary Comm., US Senate, 1973, US Senator Phillip A.

Hart, 1974; Student Intern, Fed. Reserve Bd, Washington, DC, 1977; Vis. Scholar, Inst. Intl Econ. Stud., Stockholm, 1978; Jr Fell., Harvard Soc. Fells, 1978–80; Res. Assoc., Falk Inst. Econ. Res., Jerusalem, 1979, 1980; Vis. Res. Assoc., LSE, 1981; Cons., IMF, 1982; Vis. Prof., École des Hautes Études, Paris, 1983; Cons., OECD, Paris, 1983; Prof. Econ., Harvard Univ., 1984–2002; Dir., Harvard Inst. for Intl Devlp., 1995–99, Center for Intl Devlp., Harvard Univ., 1998–2002; Chair, Commission on Macroecon. and Health, WHO, 2000–01.

Degrees BA, MA, PhD Harvard Univ., 1976, 1978, 1980.

Offices and Honours Merit Scholar, 1972; John Harvard Scholar Highest Acad. Achievement, 1973–76; Detur Book Prize, 1976; Whitaker Prize, Harvard Univ., 1976; John Williams Prize, Harvard Univ., 1976; Leontief Award Outstanding Dissertations, EEA, 1981; Wells Prize Econ. Dissertations, Harvard Univ., 1981; Irving Fisher Award Outstanding Dissertations, Omicron Delta Epsilon Soc., 1982; Mem., Council Foreign Relations, New York City, 1981–; Hon. Degrees from St. Gallen Univ., 1990, Univ. Pacífico, Peru, 1997, Lingnan Coll., Hong Kong, 1998, Varna Econ. Univ., Bulgaria, 2000, Iona Coll., 2000; Frank E. Seidman Award in Polit. Econ., 1991; Bernhard Harms Prize, Germany, 2000; Disting. Public Service Award, Secretary of State's Open Forum, 2002; Disting. lectures: Lionel Robbins Memorial Lectures, LSE, John Hicks Lectures, Oxford, David Horowitz Lectures, Tel Aviv, Panglaykim Lectures, Jakarta, Okun Lectures, Yale; Govt Advisor (partial list), Bolivia, 1986–90, Argentina, Brazil, Ecuador, Venezuela, 1988–90, Poland, 1989–91; Commanders Cross of Order of Merit, Republic of Poland, Russia, 1991–92, Mongolia, 1991–93, Slovenia, 1992, Kyrgyzstan, 1992–94, Estonia, 1993, Burkina Faso, 1996, Costa Rica, El Sal-

vador, Guatemala, Honduras, Nicaragua, 1996–99, Mozambique, 1998–, India, 1998–, Nigeria, 2000–, Bolivia, Colombia, Ecuador, Peru, Venezuela, 2001–02, China, 2001–02.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth: General; Q0 Agricultural and Natural Resource Economics: General; I0 Health, Education, and Welfare: General.

Publications *Books*: 1. *Economics of Worldwide Stagflation* (with M. Bruno), (HUP, 1985); 2. *Macroeconomics in the Global Economy* (with F. Larrain), (Prentice-Hall/Harvester Wheatsheaf, 1992); 3. *Poland's Jump to the Market Economy* (MIT Press, 1993); 4. *Economies in Transition* (ed. with W.T. Woo), (MIT Press, 1997); 5. *Emerging Asia: Changes and Challenges* (acad. coordinator with D. Bloom), (Asian Devlp. Bank, 1997); 6. *Macroeconomics and Health: Investing in Health for Economic Development* (report of Commission on Macroecon. and Health), (WHO, 2001).

Articles: 1. 'Wages, profits, and macroeconomic adjustment; a comparative study', *BPEA*, 2, 1979; 2. 'Supply vs. demand approaches to the problem of stagflation' (with M. Bruno), in H. Giersch (ed.), *Macroeconomic Policies for Growth and Stability* (Inst. für Weltwirtschaft, 1981); 3. 'The current account and macro adjustment in the 1970s', *BPEA*, 1, 1981; 4. 'Macroeconomic policy coordination among the industrial economies' (with G. Oudiz), *BPEA*, 1, 1984; 5. 'Theoretical issues in international borrowing', *Princeton Stud. in Intl Fin.*, 54, 1984; 6. 'A strategy for efficient debt reductions', *JEP*, 4, 1990; 7. 'Creating a market economy in eastern Europe: the case of Poland' (with D. Lipton), *BPEA*, 1, 1990; 8. 'Economic reform and the process of global integration' (with A. Warner), *BPEA*, 1, 1995; 9. 'The East Asian finan-

cial crises: diagnosis, remedies, prospects' (with S. Radalet), *BPEA*, 1, 1998; 10. 'Geography and economic development' (with J.L. Gallup, A. Mellinger), *Annual World Bank Conf. Devlp. Econ.*, 1998; 11. 'Geography, demography and economic growth in Africa' (with D. Bloom), *BPEA*, 2, 1998; 12. 'The economic burden of malaria', suppl. to *Amer. J. Tropical Medicine and Hygiene*, 64, 2001.

Principal Contributions Research interests include the links of health and development, economic geography, globalization, transition to market economies in Eastern Europe and the former Soviet Union, international financial markets, international macroeconomic policy coordination, emerging markets, economic development and growth, global competitiveness, and macroeconomic policies in developing and developed countries. In 1987 and 1988, I directed a large-scale research project at the NBER on the international debt crisis, which is published under my editorship in a four-volume series, *Developing Country Debt and the Economic Performance*, by University of Chicago Press, 1989. From 1990–92, I directed a project on economic reform in the Soviet republics and in Eastern Europe for the United Nations University, World Institute for Development Economics Research (WIDER), in Helsinki, Finland. During 2000–01, I directed a major research program on global public health and economic development as Chairman of the WHO Commission on Macroeconomics and Health. I led a team of economists in annually preparing *The Global Competitiveness Report*, in 1998 *The Asian Competitiveness Report*, and in 1998 and 2000, *The African Competitiveness Report*, with the World Economic Forum. Along with David Bloom, I coordinated a large research project culminating in the publication of *Emerging Asia: Changes and Challenges* by the Asian

Development Bank in May 1997. In February 1997, I prepared a proposal for 'A New Partnership for Growth in Africa', which has contributed to the reformulation of US foreign assistance policies with regard to Africa.

SADOULET, Elisabeth

Born 1945, Lyon, France.

Current Post Prof., Dept Agric. and Resource Econ., Univ. California, Berkeley, CA, USA, 1985–.

Past Posts Teaching and Res. Asst, Sr Asst, Dept Em., Univ. Geneva, 1977–83.

Degrees Licence (Maths), Diplôme d'études approfondies (Apl. Maths) Univ. Lyon, 1966, 1968; Doctorat en sc. écon. et sociales, Univ. Geneva, 1982.

Honour Outstanding Dissertation Award, Switzerland, 1983.

Editorial Duties Ed. Bds, *Revista Politicas Agrícolas* (Mexico), 1996–, *Revue d'Économie du Développement* (France), 2001–, *AJAE*, 2002–, *BE-Js Econ. and Growth of Devlp. Areas*, 2002–.

Principal Fields of Interest O1 Economic Development; I0 Health, Education, and Welfare: General; F1 Trade.

Publications *Books*: 1. *Quantitative Development Policy Analysis* (with A. de Janvry), (JHUP, 1995); 2. *State, Market, and Civil Organizations* (ed. with A. de Janvry, E. Thorbecke), (Macmillan, 1995); 3. *Mexico's Second Agrarian Reform: Household and Community Responses* (with A. de Janvry, G.G. de Anda), (Center US–Mexico Stud., Univ. California, San Diego, 1997); 4. *Access to Land, Rural Poverty, and Public Action* (ed. with A. de Janvry, G. Gordillo, J.-P. Platteau), (OUP, 2001).

Articles: 1. 'Peasant household behavior with missing markets: some paradoxes explained' (with A. de Janvry, M. Fafchamps), *EJ*, 101, Nov. 1991; 2.

'Labor-service tenancy contracts in a Latin American context', *AER*, 82, Sept. 1992; 3. 'NAFTA and Mexico's maize producers' (with A. de Janvry, G.G. de Anda), *WD*, 23, 1995; 4. 'The meaning of kinship in sharecropping contracts' (with A. de Janvry, S. Fukui), *AJAE*, 79, May 1997; 5. 'Land allocation under dual individual–collective use in Mexico' (with N. McCarthy, A. de Janvry), *JDE*, 56, 1998; 6. 'Household behavior with imperfect labor market' (with A. de Janvry, C. Benjamin), *Ind. Relations*, 37, 1998; 7. 'Sustainability in the diffusion of innovations: smallholder nontraditional agro-exports in Guatemala' (with C. Carletto, A. de Janvry), *EDCC*, 47, 1999; 8. 'Marchés imparfaits et modélisation des comportements des ménages paysans: où en sommes-nous?', *L'Actualité Écon.*, 76, Dec. 2000; 9. 'Transactions costs and agricultural household supply response' (with N. Key, A. de Janvry), *AJAE*, 82, 2000; 10. 'Growth, poverty, and inequality in Latin America: a causal analysis, 1970–94' (with A. de Janvry), *RIW*, 46, 2000; 11. 'Family and community networks in Mexico–US migration' (with P. Winters, A. de Janvry), *JHR*, 36, 2001; 12. 'Income strategies among rural households in Mexico: the rule of off-farm activities in poverty reduction' (with A. de Janvry), *WD*, 29, 2001; 13. 'Cash transfer programs with income multipliers: PROCAMPO in Mexico' (with A. de Janvry, B. Davis), *WD*, 29, 2001; 14. 'Common pool resource appropriation under costly cooperation' (with N. McCarthy, A. de Janvry), *JEEM*, 42, 2001; 15. 'World poverty and the role of agricultural technology: direct and indirect effects' (with A. de Janvry), *J Dev Stud*, 38, 2002; 16. 'Localized and incomplete mutual insurance' (with R. Murgai, P. Winters, A. de Janvry), *JDE*, 67, 2002.

Principal Contributions Most of my work has been directed at understanding

the causes of underdevelopment, poverty, and environmental degradation, and at analyzing policies and programs that can help remedy these situations. To do this, I have used theoretical and empirical tools, as well as extensive field visits and case studies. My work has covered Africa, Latin America, and some of East Asia. I have worked with most of the international development agencies, particularly the World Bank, the FAO, the International Fund for Agricultural Development, the UNDP, the Inter American Development Bank, and the ILO.

SAIKKONEN, Pentti Juhani

Born 1952, Lahti, Finland.

Current Post Prof. Stats, Univ. Helsinki, Helsinki, Finland, 1998–.

Past Posts Asst Stats, Sr Asst Stats, Assoc. Prof. Stats, Univ. Helsinki, 1978–87, 1987–91, 1992–98.

Degrees M Social Sc. (Stats), Licentiate Social Sc. (Stats), Dr Social Sc. (Stats) Univ. Helsinki, 1975, 1981, 1986.

Honours Tjalling Koopmans Em. Theory Prize, 1991–93; Em. Theory Plura Scripsit Award, 1997; Res. Award, Alexander von Humboldt Foundation, 1999; Em. Theory Plurima Scripsit Award, 2001.

Editorial Duties Assoc. Ed., *ET*, 1994–99, *Scandinavian J. Stats*, 1995–2000; Co-Ed., *ET*, 2000–.

Principal Fields of Interest C3 Econometric Methods: Multiple/Simultaneous Equation Models; C1 Econometric and Statistical Methods: General.

Publications *Articles*: 1. ‘Lagrange multiplier tests for testing non-linearities in time series models’ (with R. Luukkonen), *Scandinavian J. Stats*, 15, 1988; 2. ‘Testing linearity in univariate time series models’ (with R. Luukkonen, T. Teräsvirta), *Scandinavian J. Stats*, 15, 1988; 3. ‘Testing linearity against smooth

transition autoregressive models’ (with R. Luukkonen, T. Teräsvirta), *Biometrika*, 75, Sept. 1988; 4. ‘Asymptotic relative efficiency of the classical test statistics under misspecification’, *J Em*, 42, 1989; 5. ‘Asymptotically efficient estimation of cointegration regressions’, *ET*, 7, March 1991; 6. ‘Estimation and testing of cointegrated systems by an autoregressive approximation’, *ET*, 8, March 1992; 7. ‘Estimation of cointegration vectors with linear restrictions’, *ET*, 9, March 1993; 8. ‘Testing for a moving average unit root in autoregressive integrated moving average models’ (with R. Luukkonen), *JASA*, 88, June 1993; 9. ‘Continuous weak convergence and stochastic equicontinuity results for integrated processes with an application to the estimation of a regression model’, *ET*, 9, June 1993; 10. ‘Point optimal tests for testing the order of differencing in ARIMA models’ (with R. Luukkonen), *ET*, 9, Sept. 1993; 11. ‘Problems with the asymptotic theory of maximum likelihood estimation in integrated and cointegrated systems’, *ET*, 11, Dec. 1995; 12. ‘Testing cointegration in infinite order cointegrated vector autoregressive processes’ (with R. Luukkonen), *J Em*, 81, Nov. 1997; 13. ‘Local power of likelihood ratio tests for the cointegrating rank of a VAR process’ (with H. Lütkepohl), *ET*, 15, Feb. 1999; 14. ‘Testing for the cointegrating rank of a VAR process with a time trend’ (with H. Lütkepohl), *J Em*, 95, March 2000; 15. ‘Testing for the cointegrating rank of a VAR process with an intercept’ (with H. Lütkepohl), *ET*, 16, June 2000; 16. ‘Trend adjustment prior to testing for the cointegrating rank of a VAR process’ (with H. Lütkepohl), *J. Time Series Analysis*, 21, July 2000; 17. ‘Testing for the cointegrating rank of a VAR process with structural shifts’ (with H. Lütkepohl), *JBES*, 18, Oct. 2000; 18. ‘Consistent estimation in cointegrated vector autoregres-

sive processes with nonlinear time trends in cointegrating relations', *ET*, 17, April 2001; 19. 'Statistical inference in cointegrated vector autoregressive processes with nonlinear time trends in cointegrating relations', *ET*, 17, April 2001; 20. 'Testing for a unit root in a time series with a level shift at unknown time' (with H. Lütkepohl), *ET*, 18, April 2002.

Principal Contributions My work has been related to time-series econometrics. In the late 1980s, R. Luukkonen, T. Teräsvirta and I developed Lagrange multiplier type tests for testing linearity in time-series models. We also studied the power of these tests against various nonlinear alternatives. In this context I derived general theoretical results about asymptotic relative efficiency of classical likelihood based tests under misspecification. In the 1990s I did research on unit roots and cointegration which had become important areas of time-series econometrics. Luukkonen and I developed tests for a moving average unit root which provided a way to test the null hypothesis of cointegration with a known cointegrating vector. I also worked on various estimation and testing problems in cointegrated systems. My early work in this area included finding a way to measure estimation efficiency and developing asymptotically efficient estimators of cointegrating vectors. I was also interested in extending cointegrated systems to allow for structural restrictions on cointegrating vectors. This led me to develop estimation and testing theory in cointegrated systems first with linear and then with nonlinear parameter restrictions and nonlinear deterministic time trends. In the late 1990s, Luukkonen, H. Lütkepohl and I used some alternative detrending methods previously used for univariate unit root tests and derived tests for the cointegrating rank in the context of vector autoregressive models. We also studied the asymptotic local power of these tests and some related tests. Part

of this work allowed the order of the autoregression to be infinite. The latest work on this topic focused on processes with a structural level shift and it was started by first developing similar univariate tests for an autoregressive unit root.

SAINT-PAUL, Gilles Jacques Bruno

Born 1963, Saint-Étienne, France.

Current Post Prof., Inst. d'Économie Ind. (IDEI), Univ. Sc. Sociales, Toulouse, France, 2000–.

Past Posts Researcher, DELTA, Paris, 1990–97; Prof., Dept Econ., Univ. Pompeu Fabra, Barcelona, 1997–2000.

Degrees BSc (Eng.) École Polytech., 1985; MSc (Maths) Univ. Paris IX, 1986; PhD MIT, 1990.

Offices and Honours Res. Dir., IDEI, Toulouse, 2000–; Programme Dir. in Labor Econ., CEPR, London, 2001–; Mem., CESifo Council of Econ. Advisors, 2001–.

Editorial Duties Ed. Bds, *Investigaciones Economicas*, 1992–96, *Econ. Pol.*, 1995–96, *Macroecon. Dynamics*, 2000–, *Labour Econ.*, 2000–, *Europ ER*, 2000–, *Electronic Res. Network Europe*, 2001–, *J. Pop. Econ.*, 2001–.

Principal Fields of Interest E2 Consumption, Saving, Production, Employment, and Investment; J6 Mobility, Unemployment, and Vacancies; O1 Economic Development.

Publications *Books*: 1. *Dual Labor Markets: A Macroeconomic Perspective* (MIT Press, 1996); 2. *The Political Economy of Labour Market Institutions* (OUP, 2000).

Articles: 1. 'Technological choice, financial markets, and economic development', *Europ ER*, 36, April 1992; 2. 'The macroeconomic impact of flexible labor contracts' (with S. Bentolila), *Europ ER*, 36, June 1992; 3. 'Fiscal policy in an endogenous growth model', *QJE*, 107, 1992;

4. 'On the political economy of labor market flexibility', *NBER Macroecon. Annual*, 1993; 5. 'Education, democracy, and growth' (with T. Verdier), *JDE*, 42, 1993; 6. 'Productivity growth and the structure of the business cycle', *Europ ER*, 37, 1993; 7. 'The high unemployment trap', *QJE*, 110, May 1995; 8. 'Exploring the political economy of labour market institutions', *Econ. Pol.*, 23, 1996; 9. 'Are the unemployed unemployable?', *Europ ER*, 40, 1996; 10. 'Unemployment and increasing returns to human capital', *J Pub E*, 61, 1996; 11. 'The rise and persistence of rigidities', *AER*, 87, May 1997; 12. 'The role of rents to human capital in economic development', *JDE*, 53, Aug. 1997; 13. 'French unemployment: a transatlantic perspective' (with D. Cohen, A. Lefranc), *Econ. Pol.*, 25, 1997; 14. 'On the virtues of bad times' (with P. Aghion), *Macroecon. Dynamics*, 2, 1998; 15. 'On the distribution of income and worker assignment under intra-firm spillovers, with an application to ideas and networks', *JPE*, 109, 2001; 16. 'The dynamics of exclusion and fiscal conservatism', *Rev. Econ. Dynamics*, 4, 2001; 17. 'The political economy of employment protection', *JPE*, 110, 2002; 18. 'Employment protection, innovation, and international specialization', *Europ ER*, 46, 2002.

Principal Contributions Analysis of the effect of labour market regulations on unemployment in dynamic general equilibrium, in particular in the case of employment protection legislation. Theoretical determinants of the effects of financial development on real development and economic growth. Macroeconomic properties of two-tier labour markets, with an analysis of the role of employment protection legislation and of the consequences for the returns of skill acquisition. Analysis of the interaction between aggregate fluctuations and economic growth. Effects of budget deficits and intergenerational trans-

fers on long-run economic growth in an endogenous growth framework. Empirical analysis of labour market flows in the French and Spanish labour markets. Historical study of French post-war economic reconstruction in the light of recent macroeconomic theory. Empirical and theoretical analysis of the political economy of labour market institutions: employment protection, wage compression, active labour market policy, minimum wages, unemployment benefits. Political economy of redistributive transfers, and consequences for the dynamics of output and income distribution. Analysing the effect of technical progress on employment dynamics and income distribution, in particular the effect of informational networks and new information technologies on worker assignment and the clustering of the labour market by skill levels. More recently, I have studied the evolutionary foundations of price stickiness in macroeconomics, the role of complexity in optimal policy design, and the role of intellectual property rights in the determination of economic growth and the distribution of income.

SALA-I-MARTIN, Xavier

Born 1963, Barcelona, Spain.

Current Post Prof. Econ., Columbia Univ., New York, NY, USA, 1995–.

Past Posts Asst Prof., Assoc. Prof., Yale Univ., 1990–93, 1993–95.

Degrees MA, PhD Harvard Univ., 1987, 1990.

Honours King Juan Carlos I of Spain Prize for best social sc. under 40, 1998; Kenneth Arrow Prize for best Paper in Health Econ. publ. in 1999, 2000; Banco Herrero Prize for best Spanish econ. under age of 40, 2002.

Principal Fields of Interest N1 Macroeconomics and Monetary Economics;

Growth and Fluctuations; 00 Economic Development, Technological Change, and Growth: General; 10 Health, Education, and Welfare: General.

Publications Books: 1. *Apuntes de Crecimiento Económico* (ed. with A. Bosch), (Barcelona, 1994, 2nd edn 2001); 2. *Economic Growth. A Graduate Textbook on Economic Growth* (with R. Barro), (McGraw-Hill, 1995, 2nd edn MIT Press, forthcoming; trans., French (by McGraw-Hill), German (by Oldenbourg), Japanese, Chinese); 3. *Economia Liberal per a No Economistes i No Liberals* (Editorial Enciclopèdia Catalana, 2001, in Catalan; trans., Spanish, Plaza Janes, 2002).

Articles: 1. 'Convergence' (with R.J. Barro), *JPE*, 100, April 1992; 2. 'Fiscal federalism and optimum currency areas: evidence for Europe from the United States', in M.B. Canzoneri, V. Grilli, P.R. Masson (eds), *Establishing a Central Bank: Issues in Europe and Lessons from the US* (CUP, 1992); 3. 'Financial repression and economic growth' (with N. Roubini), *JDE*, 39, July 1992; 4. 'Public finance in models of economic growth' (with R.J. Barro), *REStud*, 59, Nov. 1992; 5. 'US money demand: surprising cross-sectional estimates' (with C.B. Mulligan), *BPEA*, II, 1992; 6. 'Transitional dynamics in two-sector models of endogenous growth' (with C.B. Mulligan), *QJE*, 108, Aug. 1993; 7. 'Cross sectional regressions and the empirics of economic growth', *Europ ER*, 40, April 1994; 8. 'Capital mobility in neoclassical models of economic growth' (with R.J. Barro, N.G. Mankiw), *AER*, 85, March 1995; 9. 'A growth model of inflation, tax evasion, and financial repression' (with N. Roubini), *JME*, 35, April 1995; 10. 'A positive theory of social security', *JEG*, 1, June 1996; 11. 'Regional cohesion: evidence and theories of regional growth and convergence', *Europ ER*, 40, June 1996; 12. 'The classical ap-

proach to convergence analysis', *EJ*, 106, July 1996; 13. 'I just ran two million regressions', *AER*, 87, 1997; 14. 'The optimum quantity of money: theory and evidence' (with C.B. Mulligan), *JMCB*, 29, Nov. 1997; 15. 'Technological diffusion, convergence, and growth' (with R.J. Barro), *JEG*, 2, 1997; 16. 'Health investment complementarities under competing risks' (with W. Dow, T. Philipson), *AER*, 89, Dec. 1999; 17. 'Extensive margins and the demand for money at low interest rates' (with C. Mulligan), *JPE*, 108, Oct. 2000.

Principal Contributions n.e.

SALONER, Garth

Born 1955, Johannesburg, South Africa.

Current Posts Jeffrey S. Skoll Prof. and Co-Dir., Center for Electronic Commerce, Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1990–.

Past Posts Asst Prof., Assoc. Prof., Prof. Mgmt and Econ., Dept Econ., MIT, 1982–90; Assoc. Prof. Econ. and Apl. Econ., Sloan Sch. Mgmt, MIT, 1987–90; Vis. Assoc. Prof. Bus. Admin., Harvard Bus. Sch., 1989–90.

Degrees BCom, MBA Univ. Witwatersrand, 1976, 1977; AM, MS (Stats) Stanford Univ., 1981, 1982; PhD (Econ., Bus., Public Pol.) Grad. Sch. Bus., Stanford Univ., 1982.

Offices and Honours Res. Assoc., NBER, 1991–.

Editorial Duties Assoc. Ed., *RandJE*, 1986–88, *IJIO*, 1988–96; Co-Ed., *RandJE*, 1988–95; Ed. Bd, *Econ. Innovation and New Tech.*, 1989–96, *Strategic Mgmt J.*, 1991–94.

Principal Fields of Interest L1 Market Structure, Firm Strategy, and Market Performance; M1 Business Administration.

Publications Books: 1. *Strategic Management* (with A. Shepard, J. Podolny),

(Wiley, 2000); 2. *Creating and Capturing Value: Perspectives and Cases on Electronic Commerce* (with A.M. Spence), (Wiley, 2001).

Articles: 1. 'Standardization, compatibility and innovation' (with J. Farrell), *RandJE*, 16, Spring 1985, repr. in S.A. Lippman, D.K. Levine (eds), *The Economics of Information, The International Library of Critical Writings in Economics* series (ed. M. Blaug), (Edward Elgar, 1993); 2. 'Old-boy networks as screening mechanisms', *J Lab E*, 3, July 1985; 3. 'A supergame-theoretic model of price wars during booms' (with J. Rotemberg), *AER*, 76, June 1986, repr. as chap. 33 in N.G. Mankiw, D. Romer (eds), *New Keynesian Economics* (MIT Press, 1991); 4. 'Installed base and compatibility: predation, product preannouncements and innovation' (with J. Farrell), *AER*, 76, Dec. 1986; 5. 'Predation, mergers, and incomplete information', *RandJE*, 18, Summer 1987; 6. 'The relative rigidity of monopoly pricing' (with J. Rotemberg), *AER*, 77, Dec. 1987; 7. 'Cournot duopoly with two production periods', *JET*, 41, 1987; 8. 'Coordination through committees and markets' (with J. Farrell), *RandJE*, 19, Summer 1988; 9. 'Predation, monopolization, and antitrust' (with J. Ordovery), in R. Schmalensee, R. Willig (eds), *The Handbook of Industrial Organization* (N-H, 1989); 10. 'Strategic inventories and the excess volatility of production' (with J. Rotemberg), *QJE*, 104, Feb. 1989; 11. 'Equilibrium vertical foreclosure' (with J. Ordovery, S. Salop), *AER*, 80, March 1990; 12. 'Modeling, game theory, and strategic management', *Strategic Mgmt J.*, 12, Winter 1991; 13. 'Leadership style and incentives' (with J. Rotemberg), *Mgmt Sc.*, 39, Nov. 1993; 14. 'The benefits of narrow business strategies' (with J. Rotemberg), *AER*, 84, Dec. 1994; 15. 'Adoption of technologies with network effects: an empirical examination of the adoption of

automated teller machines' (with A. Shepard), *RandJE*, 26, Autumn 1995; 16. 'Large firms' demand for computer products and services: competing market models, inertia, and enabling strategic change' (with T. Bresnahan), chap. 7 in D.B. Yoffie (ed.), *Competing in the Age of Digital Convergence* (Harvard Bus. Sch. Press, 1997); 17. 'The vertical organization of industry: systems competition versus component competition' (with J. Farrell, H. Munroe), *JEMS*, 7, Summer 1998; 18. 'Visionaries, managers, and strategic direction' (with J. Rotemberg), *RandJE*, 31, Winter 2000.

Principal Contributions Joseph Farrell and I made a number of the earliest contributions to the literature on network effects, showing how consumer preferences for compatibility and standardization could affect market structure and competition. Julio Rotemberg and I have explored the relationship between strategic firm interactions and the behavior of prices, markups, and inventories over the business cycle. In a more recent line of work we have explored the relationship between organizational incentives and business strategy, vision, and leadership. Most recently I have explored the implications of economics to strategic management (in a book with Andrea Shepard and Joel Podolny) and to Electronic Commerce (in a book with Michael Spence).

SALOP, Steven C.

Born 1946, Reading, PA, USA.

Current Post Prof. Econ., Georgetown Univ. Law Center, Washington, DC, USA, 1981–.

Past Posts Econ., US Civil Aeronautics Bd, 1971–78, Fed. Reserve Bd, Washington, DC, 1972–77; Econ., Dep. Asst Dir., Consumer Protection, Asst Dir., Ind. Analysis, Assoc. Dir., Special Projects, US FTC,

1978–81; Adjunct Prof., George Washington Univ., 1975–78, Univ. Pennsylvania, 1978–79.

Degrees BA Univ. Pennsylvania, 1968; MPhil, PhD Yale Univ., 1971, 1972.

Offices and Honours Phi Beta Kappa, 1962; Shoebaun Prize Econ., 1968; NSF Fell., 1968–72; Nomination Comm., AEA, 1982.

Editorial Duties Econ. Ed. Adviser, *J. Consumer Res.*, 1982–85.

Principal Fields of Interest D0 Microeconomics: General; L0 Industrial Organization: General; D8 Information and Uncertainty.

Publications *Books*: 1. *Consumer Information Remedies* (ed.), (FTC, 1979); 2. *Consumer Post-Purchase Remedies* (ed. FTC, 1980); 3. *Strategy, Predation and Antitrust Analysis* (ed.), (FTC, 1981).

Articles: 1. ‘The noisy monopolist: information, price dispersion and price discrimination’, *REStud*, 44, Oct. 1977; 2. ‘Bargains and ripoffs: a model of monopolistically competitive price dispersion’ (with J. Stiglitz), *REStud*, 44, Oct. 1977; 3. ‘Parables of information transmission in markets’, in A. Mitchell (ed.), *The Effect of Information on Consumer and Market Behavior* (Amer. Marketing Assoc., 1978); 4. ‘A model of the natural rate of unemployment’, *AER*, 69, March 1979; 5. ‘Monopolistic competition with outside goods’, *Bell JE*, 10, Spring 1979; 6. ‘Strategic entry deterrence’, *AER*, 73, May 1979; 7. ‘Efficient regulation of consumer information’ (with H. Beales, R. Craswell), *J Law E*, 24, Dec. 1981; 8. ‘Raising rivals’ cost’ (with D. Scheffman), *AER*, 73, May 1983; 9. ‘Judo economics: capacity limitations and coupon competition’ (with J. Gelman), *Bell JE*, 14, Autumn 1983; 10. ‘Practices that (credibly) facilitate oligopoly coordination’, in J.E. Stiglitz (ed.), *New Developments in Market Structure* (MIT Press, 1984); 11. ‘Anticompetitive exclusion: raising rivals

costs to gain power over price’ (with T. Krattenmaker), *Yale Law J.*, 96, 1986; 12. ‘Evaluating vertical mergers: a post-Chicago approach’, *Antitrust Law J.*, 63, 1995; 13. ‘Decision theory and antitrust rules’ (with C.F. Beckner III), *Antitrust Law J.*, 67, 1999; 14. ‘Competitive effects of partial ownership’ (with D. O’Brien), *Antitrust Law J.*, 67, 2000.

Principal Contributions My thesis and early articles examined the role of imperfect information in various types of markets. The resulting need to better understand how imperfectly competitive equilibria led into monopolistic competition theory and then to industrial organization, deregulation and antitrust. More recently I have been applying industrial organisation models to a variety of antitrust issues, particularly exclusionary conduct. As a general matter, I have tried to formulate rigorous economic theories of antitrust liability and formulate efficiency and market power rationales for business conduct.

SAMUELSON, Larry W. n.e.

SANDLER, Todd

Born 1946, Mt Kisco, NY, USA.

Current Post Robert R. and Katheryn A. Dockson Prof. Intl Relations and Econ., Sch. Intl Relations, Univ. Southern California, Los Angeles, CA, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof., Arizona State Univ., 1971–75, 1975–76; Assoc. Prof., Prof., Univ. Wyoming, 1976–79, 1979–85; Prof., Univ. South Carolina, 1985–86; Prof., Disting. Prof., Iowa State Univ., 1986–95, 1995–2000.

Degrees BA, MA, PhD SUNY, Binghamton, 1968, 1970, 1971.

Offices and Honours NATO Fell., 1977–78, 1998–2000; Vis. Fell., Univ. Ab-

erdeen, UK, 1980, ANU, 1981, 1982, Univ. York, UK, 1983, 1984, Univ. Keele, 1996; Hon. Fell., Univ. Wisconsin, 1990; Sr Fell., Inst. Pol. Reform, 1990, 1991, 1992, 1993, 1994; Vis. Disting. Scholar, Univ. Newcastle, Australia, 1996; Hon. Vis. Prof., Univ. York, UK, 1999–2002; Exec. Bd, Intl Defense Econ. Assoc., 1990–; Co-Recipient, NAS Award for Res. Relating to the Prevention of Nuclear War, 2003.

Editorial Duties Ed. Bds, *JEEM*, 1986–87, 1992–2001, *Defence and Peace Econ.*, 1995–99, *Fiscal Stud.*, 2000–, *Public Fin. Rev.*, 2000–, *Nação e Defesa*, 2002–; Assoc. Ed., *JEEM*, 1988–90, *J. Public Econ. Theory*, 1997–, *BER*, 2000–; Co-Ed., *Defence Econ.*, 1988–94; Special Advising Ed., *Defence and Peace Econ.*, 1999–.

Principal Fields of Interest D0 Microeconomics: General; D7 Analysis of Collective Decision Making; H0 Public Economics: General.

Publications *Books*: 1. *The Theory of Externalities, Public Goods, and Club Goods* (with R. Cornes), (CUP, 1986, 2nd edn 1996); 2. *International Terrorism in 1980s: A Chronology of Events* (with E. Mickolus, J.M. Murdoch), (Iowa State Univ. Press, 1988); 3. *Collective Action: Theory and Applications* (Univ. Michigan Press, 1992); 4. *The Economics of Defense* (with K. Hartley), (CUP, 1995); 5. *Handbook of Defense Economics* (ed. with K. Hartley), (N-H, 1995); 6. *Global Challenges* (CUP, 1997); 7. *The Political Economy of NATO* (with K. Hartley), (CUP, 1999); 8. *The Future of Development Assistance: Common Pools and International Public Goods* (with R. Kanbur), (JHUP, 1999); 9. *Economic Concepts for the Social Sciences* (CUP, 2001); 10. *Regional Public Goods: Typologies, Provision, Financing, and Development Assistance* (with D. Arce), (Almqvist & Wiksell, 2002).

Articles: 1. ‘Optimum population: a further look’ (with T.D. Hogan), *JET*, 6, Dec. 1973; 2. ‘Intertemporal and intergenerational Pareto efficiency’ (with V.K. Smith), *JEEM*, 2, 1976; 3. ‘The properties and generation of homothetic production functions’ (with A. Swimmer), *JET*, 18, Aug. 1978; 4. ‘Burden sharing, strategy, and the design of NATO’ (with J. Forbes), *EI*, 18, July 1980; 5. ‘The economic theory of clubs: an evaluative survey’ (with J. Tschirhart), *JEL*, 18, Dec. 1980; 6. ‘A theoretical analysis of transnational terrorism’ (with J. Tschirhart, J. Cauley), *Amer. Polit. Sc. Rev.*, 77, March 1983; 7. ‘On commons and tragedies’ (with R. Cornes), *AER*, 73, Sept. 1983; 8. ‘Easy riders, joint production, and public goods’, *EJ*, 94, Sept. 1984; 9. ‘Nash–Cournot or Lindahl behavior? An empirical test for the NATO allies’ (with J.C. Murdoch), *QJE*, 105, Nov. 1990; 10. ‘Economics of alliances: the lessons for collective action’ (with K. Hartley), *JEL*, 39, Sept. 2001.

Principal Contributions Most of my work is related to market failures, e.g., externalities, public goods, and the commons. My 1986 book with Richard Cornes synthesized the theory of public goods, externalities, and club goods. This book presented a private provision of public goods model that has grown to dominate the analysis in the study of public economics. This model was first presented in a series of papers that we wrote from 1980 to 1985. My 1992 book, *Collective Action*, synthesized many strains of thought on collective action. In particular, it showed when Mancur Olson’s axioms of collective action held and when they did not hold. The book also contained many applications. In 1997, my book *Global Challenges* examined a wide range of challenges from global warming to antibiotic-resistant microbes. This book demonstrated the useful application of game

theory to these global contingencies. From 1982 on, I have worked with a number of economists (e.g., Walter Enders, John Tschirhart) to apply theoretical and empirical tools of economics to the study of transnational terrorism. Since 11 September 2002, there has been tremendous interest in this body of work. I continue to publish on the topic. Keith Hartley and I have promoted *defence economics* as a subfield of economics. We have done so through our writings and editing activities. Our defence economics book (CUP) and our co-edited Handbook (N-H) are the two standard references in the field. I have written extensively since 1972 on the economics of alliances. In 2001, I published *Economic Concepts for the Social Sciences*, which evaluated economists' many contributions over the last 100 years. I have also made many contributions to environmental economics and economic development.

SANTOS, Manuel S. n.e.

SAPPINGTON, David E.M. n.e.

SARGENT, Thomas J. n.e.

SAUNDERS, Antony n.e.

SCHARFSTEIN, David S. n.e.

SCHEINKMAN, José Alexandre

Born 1948, Rio de Janeiro, Brazil.

Current Post Theodore Wells '29 Prof. Econ., Princeton Univ., Princeton, NJ, USA, 1999–.

Past Posts Post-Doctoral Fell. Polit.

Econ., Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Alvin H. Baum Prof. Econ., Chairman, Dept Econ., Alvin H. Baum Disting. Service Prof. Econ., Univ. Chicago, 1973–74, 1973–76, 1976–81, 1981–86, 1987–97, 1995–98, 1997–99; Vice Pres., Fin. Strategies Group, Goldman, Sachs & Co. (NY), 1987–88.

Degrees BA Fed. Univ. Rio de Janeiro, Brazil, 1969; MS (Maths) Inst. Matemática Pura e Aplicada, Brazil, 1970; MA, PhD Univ. Rochester, 1973, 1974.

Offices and Honours Fell., Em Soc, 1978, AAAS, 1992; Council Mem., Em Soc, 1999–2002; Docteur (*hc*), Univ. Paris-Dauphine 2001; Chaire Blaise Pascal de l'État et de la Région Île de France, 2002.

Editorial Duties Assoc. Ed., *JET*, 1976–80; Co-Ed., *JPE*, 1983–94; Ed. Bd, *Fin. and Stochastics*, 1995–; Advisory Bd, *Portuguese Econ. J.*, 2000–.

Principal Fields of Interest D0 Micro-economics: General; G1 General Financial Markets.

Publications Articles: 1. 'On optimal steady states of n -sector growth models when utility is discounted', *JET*, 12, Feb. 1976; 2. 'Relevance of the two-sector production model in trade theory' (with R.W. Jones), *JPE*, 85, Feb. 1977; 3. 'Smoothness, comparative dynamics and the turnpike property' (with A. Araujo), *Ec*, 45, May 1977; 4. 'Stability of separable Hamiltonians and investment theory', *REStud*, 45, Oct. 1978; 5. 'On the differentiability of the value function in dynamic models of economics' (with L. Benveniste), *Ec*, 47, May 1979; 6. 'Quantity pre-commitment and Bertrand competition yield Cournot outcomes' (with D. Kreps), *Bell JE*, Spring 1983; 7. 'Borrowing constraints and aggregate economic activity' (with L. Weiss), *Ec*, 54, Jan. 1986; 8. 'The importance of bundling in a Gorman–Lancaster model of earnings' (with J. Heckman), *REStud*, 54, 1987; 9.

'Nonlinear dynamics and stock returns' (with B. LeBaron), *J Bus*, July 1989; 10. 'Common factors affecting bond returns' (with R. Litterman), *J. Fixed Income*, 1, June 1991; 11. 'Growth in cities' (with E. Glaeser, H. Kallal, A. Shleifer), *JPE*, 100, Dec. 1992; 12. 'Aggregate fluctuations from independent sectoral shocks: self-organized criticality in a model of production and inventory dynamics' (with P. Bak, K. Chen, M. Woodford), *Ricerche Economiche*, 47, 1993; 13. 'Cattle cycles' (with S. Rosen, K. Murphy), *JPE*, 102, June 1994; 14. 'Back to the future: generating moment implications for continuous-time Markov processes' (with L. Hansen), *Ec*, 63, July 1995; 15. 'Crime and social interactions' (with E. Glaeser, B. Sacerdote), *QJE*, May 1996; 16. 'A test for independence based on the correlation dimension' (with W.A. Brock, W.D. Dechert, B. LeBaron), *Em. Revs*, 15, 1996; 17. 'Short-term interest rates as subordinated diffusions' (with T. Conley, L. Hansen, E. Luttmner), *Rev. Fin. Stud.*, 10, 1997; 18. 'Measuring trust' (with E. Glaeser, D. Laibson, C. Soutter), *QJE*, Aug. 2000; 19. 'Financial intermediation without exclusivity' (with T. Santos), *AER*, May 2001; 20. 'Competition among exchanges' (with Tano Santos), *QJE*, Aug. 2001.

Principal Contributions Some of my work involved developing new mathematical or statistical tools for the study of economics such as articles 5, 12, 14 and 16 above. In other cases, I started with a precise economic question and developed a mathematical model that was capable of shedding light on the question (for example, articles 6, 7, 8, 9, 12, 13, 15, 19, 20). I also established empirical regularities that had not been previously recognized (articles 9, 10, 11, 17).

SCHKADE, David A.

Born 1955, Port Arthur, TX, USA.

Current Post Herbert D. Kelleher/MCorp Regents Prof. Bus., McCombs Sch. Bus., Univ. Texas at Austin, TX, USA, 1984–.

Past Posts Vis. Asst Prof. Behav. Sc., Grad. Sch. Bus., Univ. Chicago, 1989–90; Vis. Assoc. Prof. Bus., Fuqua Sch. Bus., Duke Univ., 1995–96; Vis. Sr Res. Scholar, Woodrow Wilson Sch. Public and Intl Affairs, Princeton Univ., 2001–02.

Degrees BA (Maths, Hons), MBA Univ. Texas, Austin, 1978, 1980; MS (Ind. Admin.), PhD (Ind. Admin.) Carnegie-Mellon Univ., 1982, 1986.

Offices and Honours William Larimer Mellon Doctoral Fell., Continental Group Foundation Doctoral Fell., Carnegie-Mellon Univ., 1980–82, 1982–83; IBM Corp. Doctoral Fell., 1983–84; Grant Rev. Panel, EPA/NSF Partnership for Environmental Res., Program in Decision-Making and Valuation for Environmental Pol., 1997, 1998, 2002; Res. Excellence Award, Grad. Sch. Bus., Univ. Texas, 1999; Vis. Sr Res. Scholar, Princeton Univ., 2001–02; Grant Rev. Panel, Decision, Risk and Mgmt Sc. Program, NSF, 2001–03; Advisory Roundtable on Integrated Res. in Risk Analysis and Decision Making, NSF, 2002.

Editorial Duties Assoc. Ed., *OR*, 2000–, *Org. Behav. and Human Decision Processes*, 2001–, *Decision Analysis*, 2001–.

Principal Fields of Interest D1 Household Behavior; H1 Structure and Scope of Government; K0 Law and Economics: General.

Publications *Book*: 1. *Punitive Damages: How Juries Decide* (with C.R. Sunstein, R. Hastie, J.W. Payne, W.K. Viscusi), (UCP, 2002).

Articles: 1. 'Risk preferences for gains and losses in multiple objective decision

making' (with G.W. Fischer, M.S. Kamlet, S.E. Fienberg), *Mgmt Sc.*, 32, Sept. 1986; 2. 'Bias in utility assessments: Further evidence and explanations' (with E.J. Johnson), *Mgmt Sc.*, 35, April 1989; 3. 'Cognitive processes in preference reversals' (with E.J. Johnson), *Org. Behav. and Human Decision Processes*, 44, Oct. 1989; 4. 'Numeric and linguistic information representation in multiattribute choice' (with D.N. Stone), *Org. Behav. and Human Decision Processes*, 49, June 1991; 5. 'Information displays in decision making' (with D.N. Kleinmuntz), *Psychological Sc.*, 4, July 1993; 6. 'How people respond to contingent valuation questions: a verbal protocol analysis of willingness to pay for an environmental regulation' (with J.W. Payne), *JEEM*, 26, Jan. 1994; 7. 'Information display and choice processes: differential effects of form, organization, and sequence' (with D.N. Kleinmuntz), *Org. Behav. and Human Decision Processes*, 57, March 1994; 8. 'Effects of attribute scaling on process and performance in multiattribute choice' (with D.N. Stone), *Org. Behavior and Human Decision Processes*, 59, Aug. 1994; 9. 'A psychological approach to decision support systems' (with S.J. Hoch), *Mgmt Sc.*, 42, Jan. 1996; 10. 'Shared outrage and erratic awards: the psychology of punitive damages' (with D. Kahneman, C.R. Sunstein), *JRU*, 16, April 1998; 11. 'Assessing punitive damages' (with C.R. Sunstein, D. Kahneman), *Yale Law J.*, 107, May 1998; 12. 'Does living in California make people happy? A focusing illusion in judgments of life satisfaction' (with D. Kahneman), *Psychological Sc.*, 9, Sept. 1998; 13. 'Wouldn't it be nice? Predicting future feelings' (with G.F. Loewenstein), in D. Kahneman, E. Diener, N. Schwartz (eds), *Well Being: The Foundations of Hedonic Psychology* (Russell Sage Foundation, 1999); 14. 'Economic preferences or attitude expres-

sions? An analysis of dollar responses to public issues' (with D. Kahneman, I. Ritov), *JRU*, 19, Dec. 1999; 15. 'Measuring constructed preferences: toward a building code' (with J.W. Payne, J.R. Bettman), *JRU*, 19, Dec. 1999; 16. 'Do people want optimal deterrence?' (with C.R. Sunstein, D. Kahneman), *J. Legal Stud.*, 29, Jan. 2000; 17. 'Deliberating about dollars: the severity shift' (with C.R. Sunstein, D. Kahneman), *Columbia Law Rev.*, 100, May 2000; 18. 'Valuation of multiple environmental programs' (with J.W. Payne, W. Desvousges, C. Aultman), *JRU*, 21, July 2000; 19. 'Predictably incoherent judgments' (with C.R. Sunstein, D. Kahneman, I. Ritov), *Stanford Law Rev.*, 54, July 2002.

Principal Contributions My research concerns the theory of preferences and choice. My work has focussed on investigating the nature of preferences and, in particular, the assumption that preferences are well defined and coherent. The conclusion of this work is that preferences are generally constructed – not revealed – at the time a choice or judgment is required. One key implication of this view (and the evidence for such a viewpoint) is that preferences are highly contingent upon a variety of factors characterizing decision problems (e.g., information format, framing of outcomes as gains or losses). My two main areas of application of the idea of constructed preferences have been in environmental valuation, and in law and economics. In the environmental domain, I have studied the method of contingent valuation, which uses stated preferences to value public goods such as pristine wilderness and the viability of endangered species. My best-known work in this area (with John Payne) showed that the considerations that people use when constructing their willingness to pay for an improvement in an environmental good are often normatively indefensible.

Further work (variously with Daniel Kahneman, John Payne and William Desvousges) has shown that people's evaluations of environmental goods are best viewed as affective responses, which are imperfectly mapped into actions such as monetary amounts. My work on law and economics concerns how juries make decisions about punitive damages. This work (with Kahneman, Cass Sunstein, Payne, and Reid Hastie) has focussed on the idea that jurors' evaluations, in the form of a dollar amount of punitive damages, are best viewed as expressions of outrage at a defendant's behavior, rather than as calculated judgments about social deterrence. The difficulty of translating these reasonably well-behaved moral judgments onto a monetary scale is identified as the key cause of unpredictable jury awards.

SCHMALENSEE, Richard Lee

Born 1944, Belleville, IL, USA.

Current Posts John C Head III Dean, Prof. Econ. and Mgmt, Sloan Sch., MIT, Cambridge, MA, USA, 1998–; Prof., Dept Econ., MIT, 1986–.

Past Posts Asst Prof., Assoc. Prof., Univ. California, San Diego, 1970–77; Res. Fell., Univ. Louvain, 1973–74; Assoc. Prof., Gordon Y Billard Prof., Sloan Sch., MIT, 1977–98; Mem., US President's Council Econ. Advisers, 1989–91.

Degrees BS, PhD MIT, 1965, 1970.

Offices and Honours Res. Fell., Univ. Louvain, 1973–74; Fell., Em Soc, 1982–, AAAS, 1995–; Exec. Comm., AEA, 1993–95; Mem., Intl Acad. Mgmt, 1998–.

Editorial Duties Ed. Bds, *J Ind E*, 1977–89, *AER*, 1982–86, *IJIO*, 1982–89, *JEP*, 1992–98.

Principal Fields of Interest L0 Industrial Organization: General; D0 Microeconomics: General; Q2 Renewable Re-

sources and Conservation: Environmental Management.

Publications Books: 1. *The Economics of Advertising* (N-H, 1972); 2. *Markets for Power: An Analysis of Electric Utility Deregulation* (with P.L. Joskow), (MIT Press, 1983); 3. *Economics* (with S. Fischer, R. Dornbusch), (McGraw-Hill, 1988); 4. *Handbook of Industrial Organization* (ed. with R.D. Willig), (N-H, 1989); 5. *Paying with Plastic: The Digital Revolution in Buying and Borrowing* (with D.S. Evans), (MIT Press, 1999); 6. *Markets for Clean Air: The US Acid Rain Program* (with A.D. Ellerman, P.L. Joskow, J.P. Montero, E.M. Bailey), (CUP, 2000).

Articles: 1. 'A note on the theory of vertical integration', *JPE*, 81, March/April 1973; 2. 'A model of promotional competition in oligopoly', *REStud*, 43, Oct. 1976; 3. 'Entry deterrence in the ready-to-eat breakfast cereal industry', *Bell JE*, 9, Autumn 1978; 4. 'Output and welfare implications of monopolistic third-degree price discrimination', *AER*, 71, March 1981; 5. 'Monopolistic two-part pricing arrangements', *Bell JE*, 11, Autumn 1981, 6. 'Product differentiation advantages of pioneering brands', *AER*, 72, June 1982; 7. 'Do markets differ much?', *AER*, 75, June 1985; 8. 'Good regulatory regimes', *RandJE*, 20, Autumn 1989; 9. 'Competition policy in Russia during and after privatization' (with P.L. Joskow, N. Tsukanova), *BPEA*, 1994; 10. 'World carbon dioxide emissions: 1950–2050' (with T.M. Stoker, R.A. Judson), *REStat*, 80, Feb. 1998; 11. 'An interim evaluation of sulfur dioxide emissions trading' (with P.L. Joskow, A.D. Ellerman, J.-P. Montero, E.M. Bailey), *JEP*, 12, Summer 1998; 12. 'Kyoto's unfinished business' (with H.D. Jacoby, R.G. Prinn), *Foreign Affairs*, 77, July/Aug. 1998; 13. 'Antitrust issues in Schumpeterian industries', *AER*, 90, May 2000; 14. 'Payment systems and interchange fees', *J Ind E*, 50, June 2002.

Principal Contributions I began my career as a microeconomist working on a wide range of topics, from macroeconomic modeling to cost/benefit analysis. During the 1970s, my work came to center on industrial organization and related policy domains. Much of my research in this broad area has stressed the use of theory to illuminate market reality and the importance of nonprice competition in modern markets. On the Bush Council of Economic Advisers, I worked on and learned about a wide range of policy issues. Since returning to MIT in 1991, I have been more engaged in antitrust, regulatory, and environmental policy. In the last of these areas, I have studied the economics of climate change policy and the use of tradable emission permits to control acid rain in the US. Antitrust engagements have led to work on policy toward dynamic industries and payment systems. In recent years, my administrative duties have taken a substantial share of what had been research time. I remain a variety-seeker who enjoys using economics to understand the world.

SCHMEIDLER, David

Born 1939, Krakow, Poland.

Current Posts Prof. Econ. and Stats, Tel Aviv Univ., Israel, 1978–; Prof. Econ., Ohio State Univ., Columbus, OH, USA, 1987–.

Past Posts Res. and Teaching Asst, Dept Maths, Hebrew Univ., Jerusalem, 1965–69; Charge de Cours Invité, CORE, Catholic Univ. Louvain, 1969–70; Asst Prof. Maths and Econ., Univ. California, Berkeley, 1970–71; Sr Lect., Assoc. Prof., Tel Aviv Univ., 1971–74, 1974–78.

Degrees BSc, MSc (Maths), PhD (Maths) Hebrew Univ., Jerusalem, 1963, 1965, 1969.

Offices and Honours Chairman, Dept

Stats, Tel Aviv Univ., 1983–85; Fell., Em Soc, 1990.

Editorial Duties Assoc. Ed./Ed. Bds, *Rev. Econ. Design*, *Intl J. Game Theory*, *J Pub Econ Theory*, current.

Principal Fields of Interest D8 Information and Uncertainty; C0 Mathematical and Quantitative Methods: General.

Publications *Book*: 1. *A Theory of Case-based Decisions* (with I. Gilboa), (CUP, 2001).

Articles: 1. ‘The nucleolus of a characteristic function game’, *J. Apl. Maths*, 24, 1970; 2. ‘Fatou’s Lemma in several dimensions’, *Proceedings Amer. Math. Soc.*, 24, 1970; 3. ‘Equilibrium points of non-atomic games’, *J. Stat. Physics*, 7, 1973; 4. ‘Egalitarian equivalent allocations: a new concept of economic equity’ (with E. Pazner), *QJE*, 92, 1978; 5. ‘Walrasian analysis via strategic outcome functions’, *Em*, 48, 1980; 6. ‘Implementation in differential information economies’ (with A. Postlewaite), *JET*, 39, 1986; 7. ‘Subjective probability and expected utility without additivity’, *Em*, 57, 1989; 8. ‘Maxmin expected utility with a non-unique prior’ (with I. Gilboa), *J Math E*, 18, 1989; 9. ‘Case-based decision theory’ (with I. Gilboa), *QJE*, 110, 1995; 10. ‘Cumulative utility consumer theory’ (with I. Gilboa), (previous title: ‘Case-based consumer theory’), *IER*, 38, 1997; 11. ‘Cognitive foundations of probability’ (with I. Gilboa), *Maths OR*, 27, 2002; 12. ‘Inductive inference: an axiomatic approach’ (with I. Gilboa), *Em*, 71, 2003.

Principal Contributions My research interests in recent years have dealt mainly with the informational aspects of decisions under uncertainty. My other research interests have included and include cooperative and non-cooperative games and topics in microeconomics, including general equilibrium implementation and equity. My academic position has been divided between mathematics and economics.

SCHMIDT, Klaus M.

Born 1961, Koblenz, Germany.

Current Post Prof. Econ., Univ. Munich, Munich, Germany, 1995–.

Past Posts Asst Prof., Univ. Bonn, 1991–95; Vis. Asst Prof., MIT, 1992; Vis. Prof., Stanford Univ., 2000.

Degrees Dipl. Volkswirt, Dipl. Politologe, Univ. Hamburg, 1997, 1997; Dr rer. pol., Dr rer. pol. habil., Univ. Bonn, 1991, 1995.

Honours Walter-Adolf-Jörn Prize for best dissertation, Univ. Bonn, 1993; Gossen Prize, German Econ. Assoc., 2001; Commerzbank Prize, Berlin-Brandenburg Acad. Sc., 2001.

Editorial Duties Asst Ed., *REStud*, 1993–, *RandJE*, 1995–; Ed., *Europ ER*, 1999–2002.

Principal Fields of Interest D0 Microeconomics: General; C7 Game Theory and Bargaining Theory; D8 Information and Uncertainty.

Publications Articles: 1. ‘Commitment through incomplete information in a simple repeated bargaining game’, *JET*, 60, 1993; 2. ‘Privatization and management incentives in the transition period in Eastern Europe’ (with M. Schnitzer), *J Comp E*, 17, 1993; 3. ‘Reputation and equilibrium characterization in repeated games with conflicting interests’, *Em*, 61, 1993; 4. ‘The interaction of explicit and implicit contracts’ (with M. Schnitzer), *Econ. Letters*, 48, 1995; 5. ‘Option contracts and renegotiation: a solution to the hold-up problem’ (with G. Nöldeke), *RandJE*, 26, 1995; 6. ‘The costs and benefits of privatization – an incomplete contracts approach’, *JLEO*, 12, 1996; 7. ‘Reputation in perturbed repeated games’ (with M. Cripps, J. Thomas), *JET*, 69, 1996; 8. ‘Incomplete contracts and privatization’, *Europ ER*, 40, 1996; 9. ‘Managerial incentives and product market competition’, *REStud*, 64, 1997; 10. ‘Sequential invest-

ments and options to own’ (with G. Nöldeke), *RandJE*, 29, 1998; 11. ‘A theory of fairness, competition and cooperation’ (with E. Fehr), *QJE*, 114, 1999; 12. ‘The political economy of mass privatization and the threat of expropriation’, *Europ ER*, 44, 2000; 13. ‘Fairness, incentives, and contractual choices’ (with E. Fehr), *Europ ER*, 44, 2000; 14. ‘Discrete-time approximations of the Holmström–Milgrom Brownian motion model of intertemporal incentive provision’ (with M. Hellwig), *Em*, 72, 2003; 15. ‘Convertible securities and venture capital finance’, *J Fin*, forthcoming 2003.

Principal Contributions n.e.

SCHMIDT, Peter

Born 1947, Port Washington, WI, USA.

Current Post Univ. Disting. Prof., Michigan State Univ., East Lansing, MI, USA, 1997–.

Past Posts Asst Prof., Wayne State Univ., 1971; Asst Prof., Assoc. Prof., Univ. North Carolina, Chapel Hill, 1971–77; Prof., Michigan State Univ., 1977–97; Vis. Prof., Univ. Bonn, 1980; Vis. Sr Fell., Univ. Southampton, 1985; Vis. Disting. Prof., Arizona State Univ., 1987; Vis. Fell., ANU, 1989.

Degrees BA, MA, PhD Michigan State Univ., 1969, 1970, 1970.

Offices and Honours NSF Grad. Fellowship, 1969–70; *J Em* Fell., 1987; Fell., Em Soc, 1988, ASA, 2002; Michigan State Univ. Disting. Faculty Award, 1990.

Editorial Duties Assoc. Ed., *SEJ*, 1976–78, *J Em*, 1977–89, *Em*, 1978–96, *Em. Rev.*, 1982–, *JAE*, 1985–, *JASA*, 2002.

Principal Field of Interest C5 Econometric Modeling.

Publications Books: 1. *Econometrics* (Marcel Dekker, 1976); 2. *An Economic Analysis of Crime and Justice* (with A.D. Witte), (Acad. Press, 1984); 3. *Predicting*

Recidivism Using Survival Models (with A.D. Witte), (S-V, 1988); 4. *Handbook of Applied Econometrics, Vol. II: Micro-econometrics* (ed. with H. Pesaran), (Blackwell, 1997).

Articles: 1. 'The asymptotic distribution of forecasts in the dynamic simulation of an econometric model', *Em*, 42, March 1974; 2. 'Formulation and estimation of stochastic frontier production function models' (with D.J. Aigner, C.A. Knox Lovell), *J Em*, 6, July 1977; 3. 'On the estimation of triangular structural systems' (with K. Lahiri), *Em*, 46, Sept. 1978; 4. 'On the estimation of technical inefficiency in the stochastic frontier production function model' (with J. Jondrow, C.A. Knox Lovell, I.S. Materov), *J Em*, 19, Aug. 1982; 5. 'Production frontiers and panel data' (with R.C. Sickles), *JBES*, 2, Oct. 1984; 6. 'Efficient estimation using panel data' (with T.S. Breusch, G. Mizon), *Em*, 57, May 1989; 7. 'Three-stage least squares with different instruments in different equations', *J Em*, 43, March 1990; 8. 'Simultaneous equations and panel data' (with C. Cornwell, D. Wyhowski), *J Em*, 51, Jan.-Feb. 1992; 9. 'Testing the null hypothesis of stationarity against the alternative of a unit root: how sure are we that economic time series have a unit root?' (with D. Kwiatkowski, P.C.B. Phillips, Y. Shin), *J Em*, 54, Oct.-Dec. 1992; 10. 'Efficient estimation of models for dynamic panel data' (with S.C. Ahn), *J Em*, 68, July 1995.

Principal Contributions My earliest work was on a fairly wide variety of then-standard econometric topics, with some emphasis on autocorrelation, distributed lag models, and forecasting. Some of this work was related to the preparation of my 1976 text. In the late 1970s I became interested in models for qualitative and limited dependent variables, a topic that I pursued for some ten years or so. At about the same time I started working on

frontier production functions and the measurement of productive efficiency, and I have continued my interest in this topic to the present day. This work has received a mixed reaction from economists, who have trouble believing in inefficiency as an economic concept, but has clearly been my most heavily cited and empirically influential contribution. I also started a long-term collaboration with Ann Witte on problems in criminology and the economics of crime, which led to two books. In the 1980s I became interested in panel data, and I have continued to work on this topic since then, with some focus on its relationship to the efficiency measurement problem. Since the late 1980s I have also been involved in the widespread econometric research agenda on unit roots and cointegration, and most recently on models for long-memory time series. Finally, I have recently written papers on some specialized aspects of generalized method of moments estimation, and the application of GMM to panel data models.

SCHOLZ, John Karl

Born 1959, Lincoln, NE, USA.

Current Posts Prof. Econ., Univ. Wisconsin-Madison, Madison, WI, USA, 1988–; Dir., Inst. Res. on Poverty, Univ. Wisconsin-Madison, 2000–; Faculty Res. Assoc., NBER, Cambridge, MA, USA, 1991–.

Past Posts Sr Staff Econ., US President's Council Econ. Advisers, Exec. Office of the President, 1990–91; Dep. Asst Secretary, Office Tax Analysis, US Treasury Dept, 1997–98.

Degrees BA Carleton Coll., 1981; PhD Stanford Univ., 1988.

Editorial Duties Co-Ed., *JHR*, 1994–; Ed. Bd, *NTJ*, 1998–.

Principal Fields of Interest H0 Public

Economics: General; H2 Taxation, Subsidies, and Revenue.

Publications Articles: 1. 'A direct examination of the dividend clientele hypothesis', *J Pub E*, 49, 1992; 2. 'The earned income tax credit: participation, compliance, and anti-poverty effectiveness', *NTJ*, 47, March 1994; 3. 'Do saving incentives work?' (with E. Engen, W. Gale), *BPEA*, 1, 1994; 4. 'Intergenerational transfers and the accumulation of wealth' (with W. Gale), *JEP*, 8, Fall 1994; 5. 'IRAs and household saving' (with W. Gale), *AER*, 94, Dec. 1994; 6. 'In-work benefits in the United States: the earned income tax credit', *EJ*, 106, Jan. 1996; 7. 'The illusory effects of saving incentives on saving' (with E. Engen, W. Gale), *JEP*, 10, Fall 1996; 8. 'Personal bankruptcy and credit supply and demand' (with R. Gropp, M. White), *QJE*, 112, Feb. 1997; 9. 'An econometric analysis of charitable giving with interdependent preferences' (with J. Andreoni), *EI*, 36, July 1998; 10. 'The evolution of income support policies in recent decades' (with K. Levine), in S. Danziger, R. Haveman (eds), *Understanding Poverty* (HUP and Russell Sage Foundation, 2002); 11. 'Welfare, employment and income: evidence on the effects of benefit reductions in California' (with C. Mullin, V.J. Hotz), *AER*, 92, May 2002; 12. 'The earned income tax credit' (with V.J. Hotz), in R. Moffitt (ed.), *Means-Tested Transfer Programs in the US* (UCP and NBER, 2003).

Principal Contributions My work focusses on taxation and wealth accumulation and public policy targetted at low-wage labor markets. In work with W. Gale and E. Engen we have raised questions of whether tax incentives for saving, such as individual retirement accounts and 401(k)s, are an effective mechanism for increasing household saving in the United States. I have done considerable work on the distributional, compliance, and labor

market effects of the earned income tax credit, a tax provision targetted at low-income working families in the United States.

SCHOTMAN, Peter C. n.e.

SCHULTZ, Paul Harvey

Born 1956, Hancock, MI, USA.

Current Post John and Maude Clarke Prof. Fin., Notre Dame Univ., Notre Dame, IN, USA, 1998–.

Past Posts Instr., Univ. Illinois, Chicago, 1986–88; Asst Prof., Univ. Iowa, 1988–90; Asst Prof., Assoc. Prof., Ohio State Univ., 1990–95, 1995–97; Vis. Assoc. Prof., Univ. Chicago, 1997–98.

Degrees BA Macalester Coll., 1978; MBA, PhD Univ. Chicago, 1988, 1988.

Honour Smith–Breedon Prize, 1995.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets; G3 Corporate Finance and Governance.

Publications Articles: 1. 'Personal income taxes and the January effect: small firm stock returns before the War Revenue Act of 1917: a note', *J Fin*, 40, March 1985; 2. 'Pricing warrants: an empirical study of the Black–Scholes model and its alternatives' (with B. Lauterbach), *J Fin*, 45, Sept. 1990; 3. 'Unit initial public offerings: a form of staged financing', *J Fin E*, 34, Oct. 1993; 4. 'Aftermarket support and underpricing of initial public offerings' (with M. Zaman), *J Fin E*, 35, April 1994; 5. 'Why do NASDAQ market makers avoid odd-eighth quotes?' (with W. Christie), *J Fin*, 49, Dec. 1994; 6. 'The trading profits of SOES bandits' (with J. Harris), *J Fin E*, 50, Oct. 1998; 7. 'The effect of NASDAQ market reform on trading costs and depth' (with M. Barclay, W. Christie, J. Harris, E. Kandel), *J Fin*, 54,

Feb. 1999; 8. 'Do the individuals closest to Internet firms believe they are overvalued?' (with M. Zaman), *J Fin E*, 59, March 2001; 9. 'Pseudo market timing and the long-run performance of IPOs', *J Fin*, 58, April 2003.

Principal Contributions My work has examined the organization and operation of securities markets, and has explored topics in corporate finance. My work with W. Christie documenting the quotation practices of NASDAQ market makers led to a reorganization of the NASDAQ market. My paper with Mir Zaman on Internet IPOs provides evidence that the people closest to Internet firms did not believe the Internet sector was overpriced in 1999–2000. My paper on the long-run performance of IPOs provides an efficient markets explanation for the poor long-run performance of firms that issue equity.

SCHULTZ, T. Paul

Born 1940, Ames, IA, USA.

Current Post Malcolm K. Brachman Prof. Econ. and Demography, Yale Univ., New Haven, CT, USA, 1977–.

Past Posts Res. Econ., Dir. Pop. Res., Rand Corp., 1965–68, 1968–72; Prof. Econ., Univ. Minnesota, 1972–75; Prof. Econ., Yale Univ., 1974–.

Degrees BA Swarthmore Coll., 1961; PhD MIT, 1966.

Offices and Honours Mem., Res. Advisory Panels, NIH, 1968–78, NAS Study Group on Pop., 1969–71, Steering Group, Pop. and Employment Project, ILO, 1971–78, Intl Union Sc. Study Pop., 1972–, UN World Food and Nutrition, 1976–77; Dir., PAA, 1979–81, Soc. Study Social Biology, 1986–90, Europ. Soc. Pop. Econ. (ESPE), 1992–2004; Fell., AAAS, 1980; Advisory Comm., US Census Bureau on Pop. Stats, 1980–86; Working Group on Causes and Consequences of Demo-

graphic Change, NAS, 1984–85; Commission on Grad. Educ. in Econ., AEA–NSF, 1988–90; Bd Trustees, Econ. Res. Forum for Arab Countries, Iran and Turkey, 1993–2001; Mem., Divs Comm. Behav. and Social Sc. and Educ., NRC, 1996–; Pres., ESPE, 1997; AEA Nominating Comm., 1997–98.

Editorial Duties Co-Ed., *Econ. Devlp.* series, JHUP, *Res. in Pop. Econ.*, 1981–96; Asst Ed., *J. Pop. Econ.*, 1991–, *Econ. Educ. Rev.*, 1993–, *China Econ. Rev.*, 1994–.

Principal Fields of Interest J1 Demographic Economics; J4 Particular Labor Markets.

Publications *Books*: 1. *The Distribution of Personal Income* (US Govt Printing Office, 1964); 2. *Structural Change in a Developing Economy* (with R.R. Nelson, R.L. Slighton), (Princeton Univ. Press, 1971); 3. *Economics of Population* (Addison-Wesley, 1981); 4. *The State of Development Economics: Progress and Perspectives* (with G. Ranis), (Blackwell, 1988); 5. *Investment in Women's Human Capital* (UCP, 1995).

Articles: 1. 'An economic model of family planning and fertility', *JPE*, 77, March–April 1969; 2. 'An economic perspective on population growth', in *Rapid Population Growth* (JHUP, 1971); 3. 'Estimating labor supply functions for married women', in J.P. Smith (ed.), *Female Labor Supply: Theory and Estimation* (Princeton Univ. Press, 1980); 4. 'Market opportunities, genetic endowments and the intrafamily distribution of resources: child survival in rural India' (with M.R. Rosenzweig), *AER*, 72, Sept. 1982; 5. 'Estimating a household production function: heterogeneity and the demand for health inputs' (with M.R. Rosenzweig), *JPE*, 91, Oct. 1983; 6. 'The supply and demand of births and their life cycle consequences' (with M.R. Rosenzweig), *AER*, 75, Dec. 1985; 7. 'Education investments and re-

turns', in *Handbook of Development Economics*, Vol. 1 (N-H, 1988); 8. 'Testing the neoclassical model of family labor supply and fertility', *JHR*, 25, Fall 1990; 9. 'The demand for children in low income countries', in *Handbook of Population and Family Economics* (N-H, 1997); 10. 'Wage and labor supply effects of illness in Côte d'Ivoire and Ghana' (with A. Tansel), *JDE*, 53, Aug. 1997; 11. 'Inequality in the distribution of personal income in the world: how it is changing and why', *J. Pop. Econ.*, 11, 1998; 12. 'Labor unions and the distribution of wages and employment in South Africa' (with G. Mwabu), *ILRR*, 51, 1998; 13. 'Women's roles in the agricultural household: bargaining and human capital investments', in B. Gardner, G. Rauser (eds), *Handbook of Agricultural Economics*, Vol. 1A (Elsevier, 2001); 14. 'Why governments should invest more to educate girls', *WD*, 30, 2002; 15. 'School subsidies for the poor: evaluating the Mexican Progresa poverty program', *JDE*, forthcoming 2003.

Principal Contributions Applying microeconomic theories of individual and family behavior to empirically account for a wider range of economic and demographic choices and outcomes. Adapting these theories to describe conditions relevant for fertility and women's behavior in low- and high-income countries raises questions of what life-cycle events are exogenous constraints on fertility, in the sense of being uncorrelated with the errors in family demand equations. Conditions of the family that at first appear to be determinants of fertility – such as age-at-marriage, migration, investments in the human capital of children, child mortality – are reconsidered as being endogenous. When they are treated as jointly and simultaneously determined in the life-cycle context, empirical estimates of the response of fertility are shown to change substantially with respect to female and

male wage rates, relative prices, non-employment income, and community services. Standard regression estimates of household production functions for health and fertility appear biased, because individual endowments of healthiness and fecundity influence behavior and cannot be observed and controlled, thereby distorting estimates of technical effectiveness of behaviors, such as the use of health care on health outcomes or birth control on fertility. Simultaneous equations and instrumental variable methods are informative when forcing variables can be specified and observed. Panel data permit closer examination of behavioral dynamics. Family formation and intra-family allocation of resources require proceeding beyond the unified model of family-coordinated behavior, to models of bargaining and cooperative sharing-rules that identify how gender and intergenerational differences in well-being arise in families. Families coordinate and finance human capital investments in children, and society subsidizes these investments. Cooperative models of the family clarify both the determinants and consequences of such home-production of child nutrition, health, and schooling, contributing to a new consensus on how to measure personal empowerment which affects child development outcomes.

SCHWAB, Robert M. n.e.

SCHWARTZ, Alan n.e.

SCHWARTZ, Eduardo S. n.e.

SCHWERT, G. William (Bill)

Born 1950, Durham, NC, USA.

Current Post Disting. Univ. Prof. Fin. and Stats, William E. Simon Grad. Sch. Bus. Admin., Univ. Rochester, Rochester, NY, USA, 1998–.

Past Posts Asst Prof., Grad. Sch. Bus., Univ. Chicago, 1975–76; Asst Prof., Assoc. Prof., Prof., Gleason Prof. Fin. Stat., Univ. Rochester, 1976–79, 1979–84, 1984–86, 1986–98.

Degrees AB (Hons) Trinity Coll., Hartford, CT, 1971; MBA Univ. Chicago, 1973; PhD Univ. Chicago, 1975.

Offices and Honours Batterymarch Fellowship, 1982–83; Dir., AFA, 1987–89; Chair, Bus. Econ. Section, ASA, 1990; Graham and Dodd Plaque, Assoc. Investment Mgmt and Res. for best paper publ. in *Fin. Analysts J.*, 1990; Smith–Breedon Disting. Paper Prize, *J Fin*, 1990.

Editorial Duties Assoc. Ed., Ed., Advisory Ed., Managing Ed., *J Fin E*, 1977–78, 1979–86 and 1989–95, 1986–89, 1995–; Assoc. Ed., *J. Accounting and Econ.*, 1978–87, *J Fin*, 1983–2000; Assoc. Ed., Advisory Ed., *JME*, 1984–95, 1995–.

Principal Fields of Interest G1 General Financial Markets; G3 Corporate Finance and Governance; C2 Econometric Methods: Single Equation Models.

Publications Articles: 1. ‘Public regulation of national securities exchanges: a test of the capture hypothesis’, *Bell JE*, 8, Spring 1977; 2. ‘On testing the hypothesis that the real rate of interest is constant’ (with C.R. Nelson), *AER*, 67, June 1977; 3. ‘Asset returns and inflation’ (with E.F. Fama), *J Fin E*, 5, Nov. 1977; 4. ‘Money, income and sunspots: measuring economic relationships and the effects of differencing’ (with C.I. Plosser), *JME*, 4, Nov. 1978; 5. ‘The adjustment of stock prices to information about inflation’, *J Fin*, 36, March 1981; 6. ‘Using financial data to measure effects of regulation’, *J*

Law E, 24, April 1981; 7. ‘Tests for predictive relationships between time series variables: a Monte Carlo investigation’ (with C.R. Nelson), *JASA*, 77, March 1982; 8. ‘Differencing as a test of specification’ (with C.I. Plosser, H. White), *IER*, 23, Oct. 1982; 9. ‘Effects of nominal contracting on stock returns’ (with K.R. French, R.S. Ruback), *JPE*, 91, Feb. 1983; 10. ‘Information aggregation, inflation, and the pricing of indexed bonds’ (with G. Huberman), *JPE*, 93, Feb. 1985; 11. ‘Effects of model specification on tests for unit roots in macroeconomic data’, *JME*, 20, July 1987; 12. ‘Expected stock returns and volatility’ (with K.R. French, R.F. Stambaugh), *J Fin E*, 19, Sept. 1987; 13. ‘Tests for unit roots: a Monte Carlo investigation’, *JBES*, 7, April 1989; 14. ‘Why does stock market volatility change over time?’, *J Fin*, 44, Dec. 1989; 15. ‘Alternative models for conditional stock volatility’ (with A.R. Pagan), *J Em*, 45, July 1990; 16. ‘Heteroskedasticity in stock returns’ (with P.J. Seguin), *J Fin*, 45, Sept. 1990; 17. ‘Poison or placebo? Evidence on the deterrent effect of modern anti-takeover measures’ (with R. Comment), *J Fin E*, 39, Sept. 1995; 18. ‘Markup pricing in mergers and acquisitions’, *J Fin E*, 41, June 1996; 19. ‘Hostility in takeovers: in the eyes of the beholder?’, *J Fin*, 55, Dec. 2000; 20. ‘IPO market cycles: bubbles or sequential learning?’ (with M. Lowry), *J Fin*, 57, June 2002.

Principal Contributions I have worked in several areas, including: the relations among interest, inflation rates, and asset returns; the volatility on asset returns; the effects of government regulation on business; the market for corporate control; and the use of time-series techniques. C. Nelson and I showed how nominal interest rates vary with changes in expected inflation and with expected real interest rates. E. Fama and I showed that expected stock returns varied negatively with nominal in-

terest rates and expected inflation. I have also studied the behavior of stock market volatility. K. French, R. Stambaugh, and I found that volatility is highly persistent, and that there is a strong asymmetric effect of returns on volatility – it rises sharply following crashes. I found that it is hard to explain time-varying volatility with macroeconomic factors or leverage. A. Pagan and I studied time-varying volatility using GARCH, regime-switching, and non-parametric models. Several of my papers have studied statistical problems caused by ‘unit roots’. In particular, I have studied the behavior of data processes that have a slowly moving ‘permanent’ component and a volatile ‘transitory’ component. Many common macroeconomic time series exhibit such behavior. I have also studied the market for corporate control and for initial public offerings (IPOs). R. Comment and I find that takeover defenses increased the bargaining power of target firms, increasing the gains to target firm shareholders, but having minimal effect on the number of successful takeovers. I find that ‘hostility’ in takeover contests is mostly a manifestation of bargaining strategy, rather than agency costs imposed by entrenched target managers. M. Lowry and I find that the pronounced cycles in the IPO market reflect the price discovery process that occurs during the marketing phase of the IPO, which is correlated across similar deals that occur at the same time.

SCOTCHMER, Suzanne Andersen

Born 1950, Seattle, WA, USA.

Current Post Prof. Econ. and Public Pol., Univ. California, Berkeley, CA, USA, 1986–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Harvard Univ., 1981–86.

Degrees BA Univ. Washington, 1970;

MA (Stats), PhD Univ. California, Berkeley, 1979, 1980.

Offices and Honours Hoover Natl Fell., Stanford Univ., 1988–89; Olin Fell., Yale Univ. Law Sch., 1992–93; Res. Assoc., NBER, 1996–; Prof. Invité, Univ. Cergy-Pontoise (Fell., Inst. Universitaire de France), 1998–99.

Editorial Duties Assoc. Ed., *J Pub E*, 1989–2001, *AER*, 1992–95, *RSUE*, 1992–, *JEP*, 1994–97.

Principal Fields of Interest D0 Microeconomics: General; K0 Law and Economics: General; L0 Industrial Organization: General.

Publications Articles: 1. ‘Profit-maximizing clubs’, *J Pub E*, 27, Sept. 1985; 2. ‘Partnerships’ (with J. Farrell), *QJE*, 103, May 1988; 3. ‘Standing on the shoulders of giants: cumulative research and the patent law’, *JEP*, 5, Winter 1991; 4. ‘On the evolution of optimizing behavior’ (with E. Dekel), *JET*, 57, Aug. 1992; 5. ‘Crime and prejudice: the use of character evidence in criminal trials’ (with J. Schrag), *JLEO*, 10, 1994; 6. ‘On the division of profit between sequential innovators’ (with J. Green), *RandJE*, 26, Spring 1995; 7. ‘The core and the hedonic core: equivalence and comparative statics’ (with G. Engl), *J Math E*, 26, 1996; 8. ‘On the self-reinforcing nature of crime’ (with J. Schrag), *Intl J. Law and Econ.*, 17, 1997; 9. ‘The law of supply in games, markets and matching models’ (with G. Engl), *ET*, 9, 1997; 10. ‘Rules of evidence and statistical reasoning in court’, in P. Newman (ed.), *New Palgrave Dictionary of Economics and the Law* (Macmillan, 1998); 11. ‘Patent breadth, patent life, and the pace of technological improvement’ (with T. O’Donoghue, J. Thisse), *JEMS*, 7, 1998; 12. ‘Database protection: is it broken and should we fix it?’ (with S.M. Maurer), *Sc.*, 14, May 1999; 13. ‘On the optimality of the patent renewal system’, *RandJE*, 30, Summer 1999; 14. ‘On the evolution

of attitudes toward risk in winner-take-all games' (with E. Dekel), *JET*, 87, 1999; 15. 'Clubs and the market' (with B. Ellickson, B. Grodal, W. Zame), *Em*, 67, 1999; 16. 'Constitutional rules of exclusion in jurisdiction formation' (with P. Jehiel), *REStud*, 68, 2001; 17. 'Clubs and the market: large finite economies' (with B. Ellickson, B. Grodal, W. Zame), *JET*, 101, 2001; 18. 'The law and economics of reverse engineering' (with P. Samuelson), *Yale Law J.*, 111, May 2002; 19. 'Intellectual property: when is it the best incentive mechanism?' (with N. Gallini), *Innovation Policy and the Economy*, Vol. 2 (MIT Press, 2002); 20. 'Local public goods and clubs', in A. Auerbach, M. Feldstein (eds), *Handbook of Public Economics*, Vol. IV (N-H, 2002).

Principal Contributions My contributions have been mainly in three subjects: club theory, intellectual property and incentives for R&D, and evolutionary game theory. In club theory, my co-authors and I have succeeded in integrating group formation into general equilibrium theory. The main problem we solved was that of ensuring consistent choices of club membership. Prices for memberships must be such that whenever one agent wants to join a group of a certain type, there are other agents who want to fill the other memberships. In intellectual property, my contributions have been twofold: in the design of patent law when innovation is cumulative, especially as to 'breadth' of protection, and in the study of optimal mechanisms for supporting R&D, recognizing that intellectual property is a single example of such mechanisms. In evolutionary game theory, my co-author and I have studied the attitudes toward risk that would arise from evolutionary forces, and whether the preferences over strategies that evolve can be understood as rational behavior.

SCOTT, Allen John

Born 1938, Liverpool, UK.

Current Post Prof., UCLA, CA, USA, 1980–.

Past Posts Univ. Pennsylvania, 1965–68; Univ. Toronto, 1969–70.

Degrees BA (Geography) Oxford Univ., 1961; PhD (Geography) Northwestern Univ., 1965.

Offices and Honours Guggenheim Fellowship, 1986–87; Honors of Assoc. Amer. Geographers, 1987; Assoc. Dean, Sch. Public Pol. and Social Res., UCLA, 1994–97; Corres. Fell., BA, 1999; Dir., Center for Globalization and Pol. Res., UCLA, 2000–;

Principal Fields of Interest Z0 Other Special Topics: General (Economic Geography); Z0 Other Special Topics: General (Location Theory); R0 Urban, Rural, and Regional Economics: General.

Publications *Books*: 1. *Studies in Regional Science*, London Papers in Regional Sc. (ed.), (Pion, 1969); 2. *Combinatorial Programming, Spatial Analysis, and Planning* (Methuen, 1971); 3. *The Urban Land Nexus and the State* (Pion, 1980); 4. *Urbanization and Urban Planning in Capitalist Society* (ed. with M. Dear), (Methuen, 1981; trans., Korean, 1988); 5. *Production, Work, Territory: The Geographical Anatomy of Industrial Capitalism* (ed. with M. Storper), (A&U, 1986); 6. *New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe* (Pion, 1988); 7. *Metropolis: From the Division of Labor to Urban Form* (Univ. California Press, 1988; trans., Japanese (with new preface), Kokon Shoin, 1996); 8. *Pathways to Industrialization and Regional Development* (ed. with M. Storper), (Routledge, 1992); 9. *Technopolis: High-Technology Industry and Regional Development in Southern California* (Univ. California Press, 1993); 10. *The*

City: Los Angeles and Urban Theory at the End of the Twentieth Century (ed. with E. Soja), (Univ. California Press, 1996); 11. *Cities, Enterprises and Society on the Eve of the 21st Century* (ed. with F. Moulaert), (Pinter, 1997); 12. *Regions and the World Economy: The Coming Shape of Global Production, Competition and Political Order* (OUP, 1998; trans., French, *Les Régions et l'Économie Mondiale: La Nouvelle Géopolitique Globale de la Production et de la Compétition Économique*, L'Harmattan, 2001; trans., Italian, *Le Regioni nell'Economia Mondiale: Produzione, Competizione, e Politica nell'Era della Globalizzazione*, Il Mulino, 2001); 13. *The Cultural Economy of Cities: Essays on the Geography of Image-Producing Industries, Theory, Culture and Society* series (Sage, 2000); 14. *Global City-Regions: Trends, Theory, Policy* (ed.), (OUP, 2001).

Principal Contributions My contributions include: quantitative models of spatial systems; studies of urban land value and land use; applications of neo-Ricardian economics to problems in economic geography; the interrelations between industrial organization and location; theoretical and empirical research on the logic and dynamics of agglomeration; work on the intellectual history of economic geography.

SCOTT, Linda M. n.e.

SEGAL, Uzi

Born 1954, Jerusalem, Israel.

Current Post Prof. Econ., Boston Coll., Chestnut Hill, MA, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof., Prof., Univ. Toronto, 1985–90, 1990–92, 1992–94; Prof. Econ., Univ. Western Ontario, 1994–2000.

Degrees BSc, MA, PhD Hebrew Univ., Jerusalem, 1979, 1980, 1984.

Editorial Duties Advisory Ed., *JRU*, 1992–93; Assoc. Ed., *JRU*, 1994–, *Em*, 1995–.

Principal Fields of Interest D8 Information and Uncertainty; D7 Analysis of Collective Decision-Making.

Publications Articles: 1. 'The Ellsberg paradox and risk aversion: an anticipated utility approach', *IER*, 28, 1987; 2. 'Anticipated utility: a measure representation approach', *Annals OR*, 19, 1989; 3. 'First order versus second order risk aversion' (with A. Spivak), *JET*, 51, 1990; 4. 'Two stage lotteries without the reduction axiom', *Em*, 58, 1990; 5. 'Existence and dynamic consistency of Nash equilibrium with nonexpected utility preferences' (with E. Dekel, Z. Safra), *JET*, 55, 1991; 6. 'Mixture symmetry utility functions' (with S.H. Chew, L.G. Epstein), *Em*, 59, 1991; 7. 'Additively separable representations on non-convex sets', *JET*, 56, 1992; 8. 'Quadratic social welfare functions' (with L.G. Epstein), *JPE*, 100, 1992; 9. 'Stochastic dominance under Bayesian learning' (with S. Bikhchandani, S. Sharma), *JET*, 56, 1992; 10. 'Dynamic consistency implies approximately expected utility' (with K. Border), *JET*, 63, 1994; 11. 'Dynamic consistency and reference points', *JET*, 72, 1997; 12. 'Preferences over solutions to the bargaining problems' (with K.C. Border), *Em*, 65, 1997; 13. 'Constant risk aversion' (with Z. Safra), *JET*, 83, 1998; 14. 'Efficient incentive compatible economies are perfectly competitive' (with L. Makowski, J.M. Ostroy), *JET*, 85, 1999; 15. 'Let's agree that all dictatorships are equally bad', *JPE*, 108, 2000; 16. 'Min, max, and sum' (with J. Sobel), *JET*, 106, 2002.

Principal Contributions Analysis of preference relations over lotteries without the reduction of compound lotteries axioms, with applications to the Ellsberg

paradox and to the existence of Nash equilibrium; axiomatizations of some non-expected utility models; analysis of social welfare functions without expected utility.

SEGERSON, Kathleen n.e.

SEGERSTROM, Paul Stephen

Born 1957, Winchester, MA, USA.

Current Post Tore Browaldh Prof. Intl Econ., Stockholm Sch. Econ., Stockholm, Sweden, 2000–.

Past Post Prof. Econ., Michigan State Univ., 1985–2000.

Degrees BA Brandeis Univ., 1979; MA Brown Univ., 1981; PhD Univ. Rochester, 1985.

Principal Fields of Interest F1 Trade; O4 Economic Growth and Aggregate Productivity.

Publications Articles: 1. ‘Demons and repentance’, *JET*, 45, June 1988; 2. ‘Moral efficiency: a new criterion for social choice’, *Social Choice and Welfare*, 7, April 1990; 3. ‘A Schumpeterian model of the product life cycle’ (with E. Dinopoulos, T. Anant), *AER*, 80, Dec. 1990; 4. ‘On the feasibility of maximal collusion’, *JET*, 54, June 1991; 5. ‘Innovation, imitation and economic growth’, *JPE*, 99, Aug. 1991; 6. ‘High-technology-industry trade and investment’ (with E. Dinopoulos, J. Oehmke), *J Int E*, 34, Feb. 1993; 7. ‘R&D subsidies and economic growth’ (with C. Davidson), *RandJE*, 29, Autumn 1998; 8. ‘Endogenous growth without scale effects’, *AER*, 88, Dec. 1998; 9. ‘The dynamic effects of contingent tariffs’ (with E. Dinopoulos), *J Int E*, 47, Feb. 1999; 10. ‘A Schumpeterian model of protection and relative wages’ (with E. Dinopoulos), *AER*, 89, June 1999; 11. ‘The R&D incentives of industry leaders’

(with J. Zolnierek), *IER*, 40, Aug. 1999; 12. ‘The long-run growth effects of R&D subsidies’, *JEG*, 5, Sept. 2000; 13. ‘International migration and growth in developed countries: a theoretical analysis’ (with P. Lundborg), *Ec*, 67, Nov. 2000; 14. ‘The growth and welfare effects of international mass migration’ (with P. Lundborg), *J Int E*, 56, Jan. 2002.

Principal Contributions My research has focused on incorporating Joseph Schumpeter’s insights into mainstream economic theory. I have developed economic models where firms invest in R&D (research and development) in each industry with the goal of developing higher-quality products. When they are successful, innovative firms earn monopoly profits from selling these new products until they are driven out of business by further innovation. Thus, the identity of industry leaders changes over time and behind the steady economic growth at the aggregate level, there is a ‘process of creative destruction’ occurring at the industry level. Because technological change is ultimately determined by the R&D choices of profit-maximizing firms and technological change is the engine driving economic growth, countries can influence how fast their economies grow by changing the R&D incentives firms face. My research shows that countries can promote economic growth not only by subsidizing R&D activities, but also by lowering common international trade barriers, by reducing trade protection for dying industries and by enforcing more strongly intellectual property rights.

SEGUIN, Paul J. n.e.

SEIFORD, Lawrence M. n.e.

SELDEN, Thomas M. n.e.

SELTEN, Reinhard

Born 1930, Breslau, then Germany, now Poland.

Current Post Head, Laboratorium für experimentelle Wirtschaftsforschung, Univ. Bonn, Germany, 1996–.

Past Posts Vis. Prof., Sch. Bus. Admin., Univ. California, Berkeley, 1967–68; Prof. Econ., Free Univ. Berlin, 1969–72; Prof., Inst. Math. Econ., Univ. Bielefeld, 1972–84; Prof. Econ., Rheinische Friedrich-Wilhelms-Univ., Bonn, 1984–96.

Degrees Master (Maths) Johann-Wolfgang-Goethe-Univ., 1957.

Offices and Honours Hon. Dr Univ. Bielefeld, 1989, Johann-Wolfgang-Goethe-Univ., 1991, Univ. Graz, 1996, Univ. Breslau, 1996, Univ. East Anglia, 1997; Nobel Memorial Prize in Econ. (with J.C. Harsanyi, J.F. Nash), 1994; Hon. Prof., Jiaotong Univ., Shanghai, 1996; École Normale Supérieure, 1998.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; D5 General Equilibrium and Disequilibrium.

Publications *Books*: 1. *Preispolitik der Mehrproduktenunternehmung in der statischen Theorie* (S-V, 1970); 2. *General Equilibrium with Price-making Firms* (with T. Marschak), Lecture Notes in Econ. and Math. Systems (S-V, 1974), 3. *A General Theory of Equilibrium Selection in Games* (with J.C. Harsanyi), (MIT Press, 1988); 4. *Models of Strategic Rationality, Theory and Decision Library, Series C: Game Theory, Mathematical Programming and Operations Research* (Kluwer, 1988).

Articles: 1. ‘Spieltheoretische Behandlung eines Oligopolmodells mit Nachfragerträge – Teil I: Bestimmung des dynamischen Preisgleichgewichts’,

ZGS, 121, 1965; 2. ‘Spieltheoretische Behandlung eines Oligopolmodells mit Nachfragerträge – Teil II: Eigenschaften des dynamischen Preisgleichgewichts’, ZGS, 121, 1965; 3. ‘Reexamination of the perfectness concept for equilibrium points in extensive games’, *Intl J. Game Theory*, 4, 1975; 4. ‘The chain store paradox, theory and decision’, *Theory and Decision*, 9, 1978; 5. ‘The equity principle in economic behavior’, in H.W. Gottinger, W. Leinfellner (eds), *Decision Theory Social Ethics, Issues in Social Choice* (Reidel, 1978); 6. ‘Gaps in Harley’s argument on evolutionarily stable learning rules and in the logic of “tit for tat”’ (with P. Hammerstein), *Behav. and Brain Sc.*, 7, 1984; 7. ‘End behavior in sequences of finite prisoner’s dilemma supergames’ (with R. Stoecker), *JEBO*, 10, 1986; 8. ‘Bounded rationality’, *J. Inst. and Theoretical Econ.*, 146, 1990; 9. ‘Game theory and evolutionary biology’ (with P. Hammerstein), in R.J. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. 2, (Elsevier Sc., 1994); 10. ‘Duopoly strategies programmed by experienced players (with M. Mitzkewitz, G.R. Uhlich), *Em*, 65, 1997.

Principal Contributions I was awarded the Nobel Prize for Economics in 1994 for two publications from the years 1965 and 1975. With these papers I achieved a decisive breakthrough in game theory: the introduction of the concepts of sub-game perfect and perfect equilibria reduced the set of Nash equilibria drastically by excluding threats that are not credible. Thus, more precise and sensible predictions can be made for many games, e.g., markets. My work contributed greatly to the applicability of game theory to large parts of economic theory. Today, most of the leading scientific journals are dominated by game-theoretic articles. Additionally, game theory has found applications in all of the social sciences and even in biol-

ogy. As well as being a founder of the game-theoretic method, I have also contributed some of the most important applications of game theory to economic questions, especially in the theory of oligopolies. I have, for example, shown that strict cartel laws can be surprisingly positive for the economy. But I have also contributed a number of applications to other disciplines. I have (co-) written papers on linguistics, criminology, and botany. I call myself a 'methodic dualist'. Next to my work on normative theory, in which subjects are presumed completely rational, I always also was – and recently have been even more – concerned with research on descriptive theories with which the observed boundedly rational behavior of subjects is explained. Thirty years ago, I was the first to introduce experimental economics in Germany. I ran experiments in which subjects made economic decisions in a controlled environment. The goal of these – and of the various other experiments I ran later – was to construct positive theories with which the subjects' boundedly rational behavior could be better described and predicted than with traditional theory. Quite a number of such descriptive theories have evolved in the years in which my team and I have been doing experimental work at the *Laboratorium für experimentelle Wirtschaftsforschung*.

SEN, Amartya Kumar

Born 1933, Santiniketan, Bengal, India.

Current Post Master, Trinity Coll., Cambridge Univ., Cambridge, UK, 1998–.

Past Posts Prof. Econ., Delhi Univ., 1963–71; Prof. Econ., LSE, 1971–77; Prof. Econ., Univ. Oxford, 1977–80; Drummond Prof. Polit. Econ., Fell., All Souls Coll., Oxford, 1981–87; Prof., Harvard Univ.,

Cambridge, USA, 1987–98; Prof., Lamont Univ., 1987–98.

Degrees BA Calcutta Univ., 1953; BA, PhD Univ. Cambridge, 1955, 1959.

Offices and Honours Fell., BA, Em Soc; Foreign Hon. Mem., AAAS; Andrew D. White Prof., Cornell Univ.; Chairman, UN Expert Group Role Advanced Skill and Tech., 1968; Mahalanobis Prize, 1976; Past Pres., Em Soc, IEA, AEA; Hon. DLitt, Visva-Bharati Univ., India, 1982; Hon. DSc, Univ. Bath, 1983; Hon. DU, Univ. Essex, 1983; Nobel Prize Econ., 1998.

Principal Fields of Interest D6 Welfare Economics; O4 Economic Growth and Aggregate Productivity; O1 Economic Development.

Publications *Books*: 1. *Choice of Techniques* (Blackwell, 1960, 1968, Indian edn, CUP, 1960); 2. *Collective Choice and Social Welfare* (HoldenDay, 1970, Oliver & Boyd, 1971, N-H, 1980); 3. *On Economic Inequality* (OUP, W.W. Norton, 1973, Indian edn, OUP, 1973; trans., German, 1975, Japanese, 1975, Spanish, 1979); 4. *Employment, Technology and Development* (OUP, 1975, Indian edn, OUP, 1975); 5. *Poverty and Famines: An Essay on Entitlement and Deprivation* (OUP, 1981); 6. *Choice, Welfare and Measurement* (Blackwell, MIT Press, 1982, Indian edn, OUP, 1983); 7. *Commodities and Capabilities* (N-H, 1985); 8. *On Ethics and Economics* (OUP, 1987); 9. *Inequality Re-examined* (OUP, 1992); 10. *India: Economic Development and Social Opportunity* (OUP, 1995).

Principal Contributions Works in welfare economics and social choice theory, particularly in expanding their informational bases, incorporating considerations of liberty and rights, and exploring problems of collective rationality. Contributions to methods and techniques of economic measurement, particularly of real national income, poverty, inequality and

unemployment. Exploration of the analytic foundations of rational choice and of the behavioural bases of economic theory. Contributions to the choice of technology in developing countries, and to methods of shadow pricing and cost-benefit analysis. Developing a theory of the causation of famines, focusing on entitlement relations and general economic interdependence rather than just on food supply, and application to particular famines in Asia and Africa.

SEN, Arunava n.e.

SERLETIS, Apostolos

Born 1954, Karia Elasonos, Greece.

Current Post Prof. Econ., Univ. Calgary, Canada, 1991–.

Past Posts Vis. Asst Prof., Univ. Texas, Austin, 1986–87; Asst Prof., Assoc. Prof., Univ. Calgary, 1987–88, 1988–91.

Degrees BA Univ. Piraeus, 1976; MA Univ. Windsor, 1979; PhD McMaster Univ., 1984.

Honours Disting. Res. Award, Faculty Social Sc., Univ. Calgary, 1997.

Editorial Duties Ed. Bd, *CJ*, 1990–92.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; E4 Money and Interest Rates; G2 Financial Institutions and Services.

Publications *Books*: 1. *The Theory of Monetary Aggregation* (with W.A. Barnett), (N-H, 2000); 2. *The Demand for Money: Theoretical and Empirical Approaches* (Kluwer Acad., 2001); 3. *The Economics of Money, Banking, and Financial Markets: First Canadian Edition* (with F.S. Mishkin), (Addison Wesley Longman, 2002); 4. *Macroeconomic Policy in the Canadian Economy* (with P.C. Afxentiou), (Kluwer Acad., 2002); 5. *Financial Markets and Institutions: First*

Canadian Edition (with F.S. Mishkin, S.G. Eakins), (Addison Wesley Longman, 2003).

Articles: 1. ‘Divisia aggregation and substitutability among monetary assets’ (with A.L. Robb), *JMCB*, 18, Nov. 1986; 2. ‘Translog flexible functional forms and substitutability of monetary assets’, *JBES*, 6, Jan. 1988; 3. ‘A dispersion-dependency diagnostic test for aggregation error: with applications to monetary economics and income distribution’ (with W.A. Barnett), *J Em*, 43, Jan.–Feb. 1990; 4. ‘The demand for divisia money in the United States: a dynamic flexible demand system’, *JMCB*, 23, Feb. 1991; 5. ‘Consumer theory and the demand for money’ (with W.A. Barnett, D. Fisher), *JEL*, 30, Dec. 1992; 6. ‘Random walks, breaking trend functions, and the chaotic structure of the velocity of money’, *JBES*, 13, Oct. 1995; 7. ‘Government activities and tests of the long-run implications of the neoclassical growth model for Canada’, *CJ*, 29, Aug. 1996; 8. ‘Resolving the liquidity puzzle’ (with V. Chwee), *Macroecon. Dynamics*, 1, 1997; 9. ‘International evidence on the neutrality of money’ (with Z. Koustas), *JMCB*, 30, Feb. 1998; 10. ‘Electoral and partisan cycle regularities in Canada’ (with P.C. Afxentiou), *CJ*, 31, Feb. 1998; 11. ‘On the Fisher effect’ (with Z. Koustas), *JME*, 44, Aug. 1999; 12. ‘Martingales, nonlinearity, and chaos’ (with W.A. Barnett), *JEDC*, 24, June 2000; 13. ‘Monetary aggregation and the neutrality of money’ (with Z. Koustas), *EI*, 39, Jan. 2001; 14. ‘An empirical comparison of flexible demand system functional forms’ (with D. Fisher, A.R. Fleissig), *JAE*, 16, Jan.–Feb. 2001; 15. ‘Semi-nonparametric estimates of substitution for Canadian monetary assets’ (with A.R. Fleissig), *CJ*, 35, Feb. 2002.

Principal Contributions My research has mostly been concerned with the identification of a theoretical structure that

links neoclassical microeconomic theory with the final monetary aggregates that are employed by central banks around the world. I have been investigating the gains that can be achieved by a rigorous use of microeconomic- and aggregation-theoretic foundations in the construction of monetary aggregates, and provided convincing evidence that simple-sum monetary aggregates and log-linear money demand functions, currently used by central banks, are inappropriate for monetary policy purposes. In investigating the role of monetary aggregates in monetary policy, I have looked at the question of whether monetary aggregates are good high-frequency indicators of changes in the stance of monetary policy. I have investigated this issue in the context of monetary vector autoregressions, explicitly taking into account central bank operating procedures and making comparisons among traditional simple-sum monetary aggregates and microeconomic- and aggregation-theoretic monetary aggregates. I have also been concerned with a long-run question about the role of money in monetary policy. Building on recent developments in the field of applied econometrics (such as integration theory, cointegration theory, and error correction modelling), I have tested the long-run neutrality and superneutrality propositions taking into account the time-series properties of the variables. I have provided conclusive evidence consistent with the quantity-theoretic proposition that money is neutral in the long run. I have also been interested in chaotic dynamics. My most recent work in this area provides statistically significant evidence against low-dimensional chaos in economic and financial time series. Of course, the failure to detect low-dimensional chaos does not preclude the possibility of high-dimensional chaos. The presence, however, of dynamic noise makes it difficult to distinguish between (noisy) high-di-

mensional chaos and pure randomness, rendering this an area for potentially productive future research.

SERVAES, Henri

Born 1966, Reet, Belgium.

Current Posts Prof. Fin., London Bus. Sch., London, UK, 1998–; Res. Fell., CEPR, London, UK, 1999–; Res. Assoc., Europ. Corp. Governance Inst., Brussels, Belgium, 2002–.

Past Posts Vis. Asst Prof. Fin., Univ. Chicago, 1989–91, 1993; Vis. Prof., Katholieke Univ. Leuven, 1992; Asst Prof. Fin., Assoc. Prof. Fin., Univ. North Carolina, 1993–96, 1996–2000; Vis. Asst Prof. Fin., Duke Univ., 1995.

Degrees BS (Info. Systems), BBA Europ. Univ., 1985, 1985; MS (Ind. Admin.), PhD (Fin.) Purdue Univ., 1986, 1989.

Principal Fields of Interest G3 Corporate Finance and Governance; L2 Firm Objectives, Organization, and Behavior; G2 Financial Institutions and Services.

Publications *Articles*: 1. 'Additional evidence on equity ownership and corporate value' (with J. McConnell), *J Fin E*, 27, 1990; 2. 'Tobin's q and the gains from takeovers', *J Fin*, 46, 1991; 3. 'The economics of pre-packaged bankruptcy' (with J. McConnell), *J. Apl. Corp. Fin.*, 4, 1991; 4. 'Do takeover targets overinvest?', *Rev. Fin. Stud.*, 7, 1994; 5. 'Taxes and the returns to foreign acquisitions in the US' (with M. Zenner), *Fin. Mgmt*, 23, 1994; 6. 'Equity ownership and the two faces of debt' (with J. McConnell), *J Fin E*, 39, 1995; 7. 'The role of investment banks in acquisitions' (with M. Zenner), *Rev. Fin. Stud.*, 9, 1996; 8. 'The value of diversification during the conglomerate merger wave', *J Fin*, 51, 1996; 9. 'Analyst following of initial public offerings' (with R. Rajan), *J Fin*, 52, 1997; 10. 'The de-

terminants of mutual fund starts' (with A. Khorana), *Rev. Fin. Stud.*, 12, 1999; 11. 'International evidence on the value of corporate diversification' (with K. Lins), *J Fin*, 54, 1999; 12. 'The cost of diversity: the diversification discount and inefficient investment' (with R. Rajan, L. Zingales), *J Fin*, 55, 2000; 13. 'Is corporate diversification beneficial in emerging markets?' (with K. Lins), *Fin. Mgmt*, 31, 2002.

Principal Contributions My work has focussed on corporate governance. My initial research analyzed the determinants of value gains in takeovers. In later work, I documented that overinvestment by takeover targets is limited to a small subset of companies. I have also done research on the relationship between firm value and share ownership by corporate insiders (with J. McConnell). In particular, we find that firm value first increases and then decreases as the fraction of shares owned by insiders increases. Subsequently we documented that this effect is stronger for firms with low growth opportunities. More recently, I have focussed on the impact of industrial diversification on firm value. I have provided evidence that diversified firms are valued at a discount relative to focussed firms active in the same industries, and that this result holds over different time periods and across several countries (with K. Lins). I have also developed and tested a model of the inefficient transfer of resources across divisions of conglomerates (with R. Rajan and L. Zingales), aimed at explaining the discount. Finally, I have done research on financial intermediation, initially on the role of investment banks in acquisitions (with Marc Zenner), and later on decision making of mutual funds, in particular on the factors that lead fund families to open new funds (with A. Khorana).

SEXTON, Richard John

Born 1955, Mora, MN, USA.

Current Posts Prof., Dept Agric. and Resource Econ., Univ. California, Davis, CA, USA, 1994–; Dir., Giannini Foundation Agric. Econ., Univ. California, Oakland, CA, USA, 2000–.

Past Posts Dept Chair, Dept Agric. and Resource Econ., Univ. California, Davis, 1994–98.

Degrees BA (Econ. and Public Admin.) St. Cloud State Univ., 1977; MS (Agric. Econ.), PhD (Agric. Econ.) Univ. Minnesota, 1980, 1984.

Offices and Honours Public Pol. Res. Award, Amer. Council Consumer Interests, 1980; Edwin G. Nourse Award for Doctoral Dissertation, Amer. Inst. Co-op., 1984; Hicks–Tinbergen Medal for best article in *Europ ER*, Europ. Econ. Assoc., 1993; Outstanding article, *AJAE*, AA, 1996; Hon. Mention, Outstanding Publ. Res. Award, Western Agric. Econ. Assoc., 1996; Outstanding Publ. Res. Award, Western Agric. Econ. Assoc., 1999; Waugh Lecture, AA Annual Meeting, Tampa, Florida, Aug. 2000.

Editorial Duties Co-Ed., *AJAE*, 1998–2000.

Principal Fields of Interest Q1 Agriculture; L1 Market Structure, Firm Strategy, and Market Performance.

Publications *Articles*: 1. 'The formation of cooperatives: a game theoretic approach with implications for cooperative finance, decision making and stability', *AJAE*, 68, May 1986; 2. 'Cooperatives as entrants' (with T.A. Sexton), *RandJE*, 18, Winter 1987; 3. 'Bootstrapping in applied welfare analysis' (with C.L. Kling), *AJAE*, 72, May 1990; 4. 'Imperfect competition in agricultural markets and the role of cooperatives: a spatial analysis', *AJAE*, 72, Aug. 1990; 5. 'Confidence intervals for elasticities and flexibilities: re-evaluating the ratio of normals case' (with J.H.

Dorfman, C.L. Kling), *AJAE*, 72, Nov. 1990; 6. 'Market integration, efficiency of arbitrage, and imperfect competition: methodology and application to US celery' (with C.L. Kling, H.F. Carman), *AJAE*, 73, Aug. 1991; 7. 'Analysis of oligopsony potential in agricultural markets: residual supply estimation in California's processing tomato market' (with C. Durham), *AJAE*, 74, Nov. 1992; 8. 'Imperfect competition in multiproduct food industries with application to pear processing' (with J. Wann), *AJAE*, 74, Nov. 1992; 9. 'Customer coalitions, monopoly price discrimination, and generic entry deterrence' (with R. Innes), *Europ ER*, 37, 1993; 10. 'Strategic buyers and exclusionary contracts' (with R. Innes), *AER*, 81, June 1994; 11. 'Assessing the importance of oligopsony power in agricultural markets' (with R. Rogers), *AJAE*, 76, Dec. 1994; 12. 'Measuring returns to an innovation in an imperfectly competitive market: application to mechanical harvesting of processing tomatoes in Taiwan' (with S.-Y. Huang), *AJAE*, 78, Aug. 1996; 13. 'A model of price determination for fresh produce with application to California iceberg lettuce' (with M. Zhang), *AJAE*, 78, Nov. 1996; 14. 'The effects of imperfect competition on the size and distribution of research benefits' (with J. Alston, M. Zhang), *AJAE*, 79, 1997; 15. 'Captive supplies and the cash market price: a spatial markets approach' (with M. Zhang), *J. Agric. and Resource Econ.*, 25, July 2000; 16. 'Industrialization and consolidation in the US food sector: implications for competition and welfare', *AJAE*, 82, Dec. 2000; 17. 'FoB or uniform delivered prices: strategic choice and welfare effects' (with M. Zhang), *J Ind E*, 49, 2001; 18. 'Food processing and distribution: an industrial organization approach' (with N. Lavoie), in B. Gardner, G. Rausser (eds), *Handbook of Agricultural Economics* (N-H, 2001); 19. 'Marketing orders, grading

errors, and price discrimination' (with J. Chalfant), *AJAE*, 84, Feb. 2002; 20. 'Optimal commodity promotion when downstream markets are imperfectly competitive' (with M. Zhang), *AJAE*, 84, May 2002.

Principal Contributions My research has focused primarily on the analysis of agricultural markets, with special emphasis on fruit, vegetable, and nut industries. A particular focus has been the role that imperfect competition plays in agricultural markets. Although these markets are sometimes offered as textbook examples of competitive markets, the reality is quite different. Agricultural markets often exhibit high levels of concentration at multiple points in the market chain, from the farm gate to the consumer. These markets also often exhibit institutions and organizations of producer power, such as marketing cooperatives, bargaining associations, marketing boards, and state trading organizations. These forces interact to influence market behaviour in ways that may not be well captured by a basic competitive markets model. My basic research thrust has been to apply tools of industrial organization to analyse relevant issues in agricultural markets. My earliest work involved conceptual modelling of the behaviour of agricultural cooperatives and the effect of cooperatives on market performance. Because cooperatives generally have a procompetitive effect on market performance, incumbent firms with market power have incentives to deter the formation of such organizations. This insight led Robert Innes and I to develop a theory of generic entry deterrence, which showed how an incumbent seller could use price discrimination to 'divide and conquer' customers, thereby preventing them from forming procompetitive coalitions. These ideas were subsequently applied to analysis of exclusive contracts. Other work involved application of the

methods of the new empirical industrial organization to conduct tests for oligopoly and oligopsony power in agricultural markets. Most recently, I have worked on the implications of imperfect competition in agricultural markets for optimal application of industry policy instruments such as investments in research and commodity promotion and the distribution of benefits from such policies among producers, consumers and marketing firms.

SHANKEN, Jay n.e.

SHAPIRO, Carl

Born 1955, Austin, TX, USA.

Current Posts Prof. Bus. and Econ., Transamerica Prof. Bus. Strategy, Walter A. Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1990–, 1994–; Dir., Inst. Bus. and Econ. Res., Univ. California, Berkeley, 1998–.

Past Posts Econ., Bureau Econ., FTC, 1980; Vis. Asst Prof. Econ. and Public Pol., Grad. Sch. Bus., Stanford Univ., 1982–83; Vis. Fell., Inst. Intl Econ. Stud., Univ. Stockholm, 1986; Res. Fell., Center Adv. Study Behav. Sc., Stanford Univ., 1989–90; Vis. Scholar, Stanford Law Sch., Stanford Univ., 1989–90; Asst Prof., Prof. Econ. and Public Affairs, Woodrow Wilson Sch. Public and Intl Affairs and Dept Econ., Princeton Univ., 1980–87, 1987–90; Chairman, Econ. Analysis and Pol. Group, Walter A. Haas Sch. Bus., Univ. California, Berkeley, 1991–93; Dep. Asst Attorney General for Econ., Antitrust Div., US Dept Justice, 1995–96.

Degrees BS (Maths), BS (Econ.), PhD MIT, 1976, 1976, 1981; MA (Maths) Univ. California, Berkeley, 1977.

Offices and Honours Univ. California Fellowship, 1976–77; Phi Beta Kappa and Sigma Xi, MIT, 1976; Grad. Fellowship,

NSF, 1977–80; Res. Assoc., NBER, 1985–; Alfred P. Sloan Foundation Res. Fellowship, 1985–87; Assoc. Dir., Dir., John M. Olin Program for Study Econ. Org. and Public Pol., Princeton Univ., 1987–88, 1988–89; Mem., Defense Sc. Bd Task Force on Antitrust Aspects of Defense Ind. Consolidation, US Dept Defense, 1993–94; Vice-Chair, Econ. Comm., Antitrust Section, Amer. Bar Assoc., 1995–98; Pres., Ind. Org. Soc., 1995–96; Mem., Market Surveillance Comm., California Independent System Operator, 1997–; Mem., AEA, Amer. Bar Assoc.; Sr Cons., Charles River Assoc., 1998–.

Editorial Duties Assoc. Ed., *RandJE*, 1984–86, *QJE*, 1984–87; Co-Ed., *JEP*, 198–93; Ed., *JEP*, 1993–95.

Principal Fields of Interest n.e.

Publications *Book*: 1. *Information Rules: A Strategic Guide to the Network Economy* (with H.R. Varian), (Harvard Bus. Sch. Press, 1999).

Articles: 1. ‘Consumer information, product quality, and seller reputation’, *Bell JE*, 13, Spring 1982; 2. ‘A theory of factor mobility’ (with G.M. Grossman), *JPE*, 90, Oct. 1982; 3. ‘Premiums for high quality products as returns to reputation’, *QJE*, 98, Nov. 1983; 4. ‘Informative advertising with differentiated products’ (with G.M. Grossman), *REStud*, 51, Jan. 1984; 5. ‘Equilibrium unemployment as a worker discipline device’ (with J.E. Stiglitz), *AER*, 74, June 1984; 6. ‘On the licensing of innovations’ (with M.L. Katz), *RandJE*, 16, Winter 1985; 7. ‘Investment, moral hazard, and occupational licensing’, *REStud*, 53, Oct. 1986; 8. ‘Dynamic R&D competition’ (with G.M. Grossman), *EJ*, 97, June 1987; 9. ‘Theories of oligopoly behavior’, in R. Schmalensee, R.D. Willig (eds), *The Handbook of Industrial Organization* (N-H, 1989); 10. ‘Antitrust issues in the licensing of intellectual property: the nine no-no’s meet the nineties’ (with R.J. Gilbert), *BPEA: Microecon.*, 1998.

Principal Contributions Extensive experience working with private parties and government agencies on matters involving antitrust, regulation, intellectual property, measurement of damages, and general business litigation. Additional information and references available upon request.

SHARPE, Steven A. n.e.

SHAVELL, Steven

Born 1946, Washington, DC, USA.

Current Post Prof., Harvard Law Sch., Harvard Univ., Cambridge, MA, USA, 1982–.

Past Posts Asst Prof., Dept Econ., Boston Coll., 1973–74; Asst Prof., Assoc. Prof., Dept. Econ., Harvard Univ., 1974–79, 1979–80; Asst Prof., Harvard Law Sch., 1980–82.

Degrees AB (Maths) Univ. Michigan, 1968; PhD MIT, 1973.

Offices and Honours Guggenheim Fellowship, 1983; Fell., Em Soc, 1988; Pres., Amer. Law and Econ. Assoc., 2002; Mem., AAAS, 2002.

Editorial Duties Bd Eds, *Amer. Law and Econ. Rev.*, *JLEO*, *Intl Rev. Law and Econ.*, current.

Principal Fields of Interest D0 Microeconomics: General; D6 Welfare Economics; D8 Information and Uncertainty.

Publications *Books*: 1. *Economic Analysis of Accident Law* (HUP, 1987); 2. *Fairness versus Welfare* (with L. Kaplow), (HUP, 2002); 3. *Foundations of Economic Analysis of Law* (HUP, 2003).

Articles: 1. ‘Risk sharing and incentives in the principal and agent relationship’, *Bell JE*, 10, Spring 1979; 2. ‘On moral hazard and insurance’, *QJE*, 92, Nov. 1979; 3. ‘The optimal tradeoff between the probability and magnitude of

finer’ (with A.M. Polinsky), *AER*, 69, Dec. 1979; 4. ‘Strict liability versus negligence’, *J. Legal Stud.*, 9, Jan. 1980; 5. ‘Damage measures for breach of contract’, *Bell JE*, 11, Autumn 1980; 6. ‘On liability and insurance’, *Bell JE*, 13, Spring 1982; 7. ‘Liability for harm versus regulation of safety’, *J. Legal Stud.*, 13, June 1984; 8. ‘Criminal law and the optimal use of nonmonetary sanctions as a deterrent’, *Columbia Law Rev.*, 85, Oct. 1985; 9. ‘Sharing of information prior to settlement or litigation’, *RandJE*, 20, Summer 1989; 10. ‘The optimal structure of law enforcement’, *J Law E*, 36, April 1993; 11. ‘Acquisition and disclosure of information prior to sale’, *RandJE*, 25, Spring 1994; 12. ‘Why the legal system is less efficient than the income tax in redistributing income’ (with L. Kaplow), *J. Legal Stud.*, 23, June 1994; 13. ‘The appeals process as a means of error correction’, *J. Legal Stud.*, 24, June 1995; 14. ‘The fundamental divergence between the private and the social motive to use the legal system’, *J. Legal Stud.*, 26, June 1997; 15. ‘Any non-welfarist method of policy assessment violates the Pareto principle’ (with L. Kaplow), *JPE*, 109, April 2001; 16. ‘Rewards versus intellectual property rights’ (with T. van Ypersele), *J Law E*, 44, Oct. 2001; 17. ‘Law versus morality as regulators of conduct’, *Amer. Law and Econ. Rev.*, 4, 2002.

Principal Contributions Economic analysis of basic areas of law: tort (accident) law; property law; contract law; and criminal law. Also, economic analysis of litigation, public law enforcement, and welfare economics and morality. Work on tort law is brought together in my first book; that on welfare economics and morality as it relates to law is developed in my second book (with L. Kaplow); and all of the work is presented in my third book (*Foundations of Economic Analysis of Law*).

SHAW, Kathryn n.e.

SHEPHARD, Neil

Born 1964, Plymouth, UK.

Current Posts Official Fell. Econ., Nuffield Coll., Oxford, UK, 1993–; Prof. Econ., Univ. Oxford, UK, 1999–.

Past Posts Lect., LSE, 1988–93; Garsby Res. Fell., Nuffield Coll., Oxford, 1991–93.

Degrees BA (Hons) Univ. York, 1986; MSc, PhD LSE, 1987, 1990.

Editorial Duties Ed. Bds, *REStud*, 1996–, *Em*, 2002–; Head Ed., *Em. J.*, 1998–.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C3 Econometric Methods: Multiple/Simultaneous Equation Models; G1 General Financial Markets.

Publications *Book*: 1. *Realised Power Variation and Stochastic Volatility Models* (with O.E. Barndorff-Nielsen), (Bernoulli, forthcoming 2003).

Articles: 1. ‘The exact score for time series models in state space form’ (with S.J. Koopman), *Biometrika*, 79, 1992; 2. ‘Fitting nonlinear time series models with applications to stochastic variance models’, *JAE*, 8, 1993; 3. ‘A local scale model: state space alternatives to integrated GARCH processes’, *J Em*, 60, 1994; 4. ‘Partial non-Gaussian time series models’, *Biometrika*, 81, 1994; 5. ‘Multivariate stochastic variance models’ (with A.C. Harve, E. Ruiz), *REStud*, 7, 1994; 6. ‘The simulation smoother for time series models’ (with P. de Jong), *Biometrika*, 82, 1995; 7. ‘Statistical aspects of ARCH and stochastic volatility’, in D.R. Cox, D.V. Hinkley, O.E. Barndorff-Nielsen (eds), *Time Series Models in Econometrics, Finance and Other Fields* (Chapman & Hall, 1996); 8. ‘Detecting shocks: outliers and breaks in time series’ (with A.C. Atkinson,

S.J. Koopman), *J Em*, 80, 1997; 9. ‘Likelihood analysis of non-Gaussian measurement time series’ (with M.K. Pitt), *Biometrika*, 84, 1997; 10. ‘Stochastic volatility: likelihood inference and comparison with ARCH models’ (with S. Kim, S. Chib), *REStud*, 65, 1998; 11. ‘Filtering via simulation: auxiliary particle filter’ (with M.K. Pitt), *JASA*, 94, 1999; 12. ‘Non-Gaussian Ornstein–Uhlenbeck-based models and some of their uses in financial economics’ (with discussion), (with O.E. Barndorff-Nielsen), *JRSS-B*, 63, 2001; 13. ‘Likelihood inference for discretely observed non-linear diffusions’ (with O. Elerian, S. Chib), *Em*, 69, 2001; 14. ‘Markov chain Monte Carlo methods for stochastic volatility models’ (with S. Chib, F. Nardari), *J Em*, 108, 2002; 15. ‘Econometric analysis of realised volatility and its use in estimating stochastic volatility models’ (with O.E. Barndorff-Nielsen), *JRSS-B*, 63, 2002; 16. ‘Computationally-intensive econometrics using a distributed matrix-programming language’ (with J.A. Doornik, D.F. Hendry), *Philo. Transactions Royal Soc. London*, series A, 360, 2002; 17. ‘Estimating quadratic variation using realised variance’ (with O.E. Barndorff-Nielsen), *JAE*, forthcoming.

Principal Contributions My recent work is concerned with the development of econometric techniques. Most of this has been in two areas: (i) the use of simulation to estimate and test economic models, (ii) the development of time-series models to estimate and predict volatility in financial markets. Of particular interest has been the development of methods for the analysis of stochastic volatility models.

SHILLER, Robert James

Born 1946, Detroit, MI, USA.

Current Post Stanley B. Resor Prof. Econ., Cowles Foundation, Yale Univ., New Haven, CT, USA, 1982–.

Past Posts Asst Prof., Univ. Minnesota, 1972–74; Res. Fell., NBER, 1974–75, 1980–81; Assoc. Prof., Univ. Pennsylvania, 1974–80; Vis. Prof. Econ., MIT, 1981–82.

Degrees BA Univ. Michigan, 1967; SM, PhD MIT, 1968, 1972.

Offices and Honours Res. Assoc., NBER, 1979–; Fell., Em Soc, 1980–, AAAS, 1994–; Econ. Panel, NSF, 1983–85; Brookings Panel Econ. Activity, 1984–85; Acad. Advisory Panel, FRB, New York, 1990–; Guggenheim Fell., 1991; Co-Founder, Case, Shiller Weiss, Inc., Cambridge, MA, 1991–; Paul A. Samuelson Award TIAA-CREF, 1996; Co-Founder, Macro Securities Res. L.L.C. Cambridge, MA, 1999; Bd Dirs, AREUEA, 1998–; Commonfund Prize, 2000.

Editorial Duties Assoc. Ed., *J Em*, 1980–83, *J. Portfolio Mgmt*, 1983–89, *J. Real Estate Econ. and Fin.*, 1990–, *Real Estate Econ.*, 1994–; Foreign Ed., *REStud*, 1981–84.

Principal Fields of Interest G1 General Financial Markets; E0 Macroeconomics and Monetary Economics: General; R1 General Regional Economics.

Publications *Books*: 1. *Market Volatility* (MIT Press, 1989); 2. *Who's Minding the Store?* (Twentieth Century Fund, 1992); 3. *Macro Markets: Creating Institutions for Managing Society's Largest Economic Risks* (OUP, 1993); 4. *Irrational Exuberance* (Princeton Univ. Press, 2000); 5. *The New Financial Order: Risk in the Twenty-First Century* (Princeton Univ. Press, 2003).

Articles: 1. 'A distributed lag estimator derived from smoothness priors', *Em*, 41, July 1973; 2. 'Can the Federal Reserve

control real interest rates?', in S. Fischer (ed.), *Rational Expectations and Economic Policy* (NBER, UCP, 1980); 3. 'Do stock prices move too much to be justified by subsequent changes in dividends?', *AER*, 71, June 1981; 4. 'The dividend-price ratio and expectations of future dividends and discount factors' (with J. Campbell), *Rev. Fin. Stud.*, 1, Fall 1988; 5. 'The efficiency of the market for single family homes' (with K.E. Case), *AER*, 79, March 1989; 6. 'Popular attitudes towards free markets: the Soviet Union and the United States compared' (with M. Boycko, V. Korobov), *AER*, 81, June 1991; 7. 'Measuring asset value for cash settlement in derivative markets: hedonic repeated measures indices and perpetual futures', *J Fin*, 8, July 1993; 8. 'Why do people dislike inflation?', in D. Romer, C. Romer (eds), *Reducing Inflation: Motivation and Strategy* (NBER, UCP, 1997); 9. 'Human behavior and the efficiency of financial markets', in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics* (N-H, 1998); 10. 'Social security and intergenerational, intragenerational and international risk sharing', *C-RPP*, 50, June 1999; 11. 'Home equity insurance' (with A. Weiss), *J. Real Estate Econ. and Fin.*, 19, July 1999; 12. 'The significance of the market portfolio' (with S. Athanasoulis), *Rev. Fin. Stud.*, 13, Summer 2000; 13. 'World income components: measuring and exploiting risk sharing opportunities' (with S. Athanasoulis), *AER*, 91, Sept. 2001; 14. 'Indexed units of account: theory and analysis of historical experience', in F. Lefort, K. Schmidt-Hebbel (eds), *Indexation, Inflation, and Monetary Policy* (Central Bank of Chile, 2002); 15. 'Bubbles, human judgment and expert opinion', *Fin. Analysts J.*, 58, May/June 2002.

Principal Contributions My work has largely centered on the use of speculative markets: how people in fact have used

these markets, how the mass behavior of people with regard to these markets relates to observed aggregate phenomena, and how markets may be extended and expanded to work better to handle the basic risk problems that people face. My early work was spent on trying to understand the apparently random patterns of financial (such as stock market) price movements. The theory of efficient markets offers a simple explanation of the randomness observed in these prices: if the price incorporates all information, then in a sense the changes in the price must be essentially random, since price changes must relate to new information, which by its very essence must be unpredictable. The theory does not tell us, however, what the new information is about. It could be information about fundamentals such as profits and central bank policy, or it could be information about mass psychology or herd behavior. At the time I was working in this area, virtually all scholarly articles in finance presumed that there was no possible role for mass psychology. I argued, in a series of articles, that there is substantial evidence that both fundamentals and mass psychology play important roles. I argued this from many perspectives; the one that received the most attention was that there is statistical evidence of 'excess volatility'. Much of my more recent work has been on methods for extending and developing risk management, so that risks that people face can be shared better. I have studied a number of possible new risk management institutions: livelihood insurance, home equity insurance, macro markets, income-linked loans, inequality insurance, intergenerational social security, international agreements for risk control, and indexed units of account.

SHIN, Hyun-Song n.e.

SHLEIFER, Andrei n.e.

SHOGREN, Jason Fredrick

Born 1958, Cloquet, MN, USA.

Current Posts Stroock Disting. Prof. Natural Resource Conservation and Mgmt, and Prof. Econ., Univ. Wyoming, Laramie, WY, USA, 1995–.

Past Posts Asst Prof. Econ., Appalachian State Univ., 1986–89; Head, Resource and Environment Pol. Div., Center Agric. and Rural Devlp., Asst Prof. Econ., Assoc. Prof. Econ., Iowa State Univ., 1990–92, 1990–92, 1992–96; Vis. Assoc. Prof. Natural Resource Econ., Yale Univ., 1993; Sr Econ., Environmental and Natural Resource Pol., US President's Council Econ. Advisers, Washington, DC, 1997.

Degrees BA Univ. Minnesota, 1980; PhD Univ. Wyoming, 1986.

Offices and Honours Award for Early Achievement in Res., Iowa State Foundation, 1992; Mem., Complex Ecological Econ. Systems Working Group, Beijer Intl Inst. Ecological Econ., Royal Swedish Acad. Sc., 1992–94; Advisory Bd, Sch. Environmental and Natural Resources, Univ. Wyoming, 1994–95; Disting. Alumni Award, Coll. Bus., Univ. Wyoming, 1994; Advisory Comm., Harvard Center for Risk Analysis, Harvard Sch. Public Health, 1997–; Trustee, Bd Educ., Albany County Sch. District #1, Wyoming, 1997–; Sc. Advisory Bd, Environmental Econ. Advisory Comm., US EPA, 1998–2002; Outstanding Sr Res. Award, Coll. Bus., Univ. Wyoming, 1999, 2002; Trustee, Environmental Quality Council, State Wyoming, 2000–; Award for Professional Excellence, AA, Outstanding Article in *Choices*, 2000.

Editorial Duties Ed. Bds, *Environmental and Resource Econ.*, 1991, *Environment and Devlp. Econ.*, 1995–; Ed., *Assoc. Environmental and Resources Econ.*

Newsletter, 1992–97, *Advances in Economics of Environmental Resources* series, Elsevier, 2001–; Ed. Council, *JEEM*, 1993, 2001–; Assoc. Ed., *JEEM*, 1993–97, *AJAE*, 1997–2001.

Principal Fields of Interest C9 Design of Experiments; D0 Microeconomics: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *Environmental Economics: Theory and Practice* (with N. Hanley, B. White), (OUP and Macmillan, 1997); 2. *An Introduction to Environmental Economics* (with N. Hanley, B. White), (OUP, 2001); 3. *Protecting Endangered Species in the United States: Biological Needs, Political Realities, Economic Choices* (ed. with J. Tschirhart), (CUP, 2001).

Articles: 1. ‘The impact of self-protection and self-insurance on individual response to risk’, *JRU*, 3, 1990; 2. ‘Risk, self-protection, and *ex ante* economic value’ (with T.D. Crocker), *JEEM*, 20, 1991; 3. ‘Endogenous risk and protection premiums’, *Theory Decision*, 31, 1991; 4. ‘Strategic behavior in contests: comment’ (with K. Baik), *AER*, 82, 1992; 5. ‘Resolving differences in willingness to pay and willingness to accept’ (with S. Shin, J. Kliebenstein, D. Hayes), *AER*, 84, 1994; 6. ‘Environmental conflicts with reimbursement for citizen suits’ (with K. Baik), *JEEM*, 27, 1994; 7. ‘Self-interest and equity in a bargaining tournament with non-linear payoffs’, *JEBO*, 32, 1997; 8. ‘Environmental conflict and the SLAPP’ (with T. Hurley), *JEEM*, 33, 1997; 9. ‘Economics of the Endangered Species Act’ (with G. Brown), *JEP*, 12, 1998; 10. ‘A political economy in an ecological web’, *Environmental Resource Econ.*, 11, 1998, repr. in R. Stavins (ed.), *Economics and the Environment* (Norton, 2000); 11. ‘Effort levels in a Cournot Nash contest with asymmetric information’ (with T. Hurley), *J Pub E*, 69, 1998; 12. ‘Voluntary incen-

tive design for endangered species protection’ (with R. Smith), *JEEM*, 43, 2002; 13. ‘On environmental federalism and direct emission control’ (with M. Kunce), *JUE*, 51, 2002; 14. ‘Prices and health: identifying the effects of nutrition, exercise, and medication choices on blood pressure’ (with S.-N. Chen, P. Orazem, T. Crocker), *AJAE*, 84, 2002; 15. ‘Rationality spillovers’ (with T.L. Cherry, T.D. Crocker), *JEEM*, 45, 2002; 16. ‘Hardnose the Dictator’ (with T. Cherry, P. Frykblom), *AER*, 92, 2002; 17. ‘Skill and the value of life’ (with T. Stamland), *JPE*, 110, 2002.

Principal Contributions My research examines the behavioural underpinnings of private choice and public policy, especially for environmental and natural resource policy. The main themes of my work have been in risky decisions, environmental conflict, Coasean cooperation, non-market valuation, mechanism design, and prosperity. The main principle guiding my thinking is the theory of endogenous risk – how and why people expend private resources to increase the odds that good things happen and bad things do not, and how this affects collective public policy. Together with my colleagues, I have helped establish the use of experimental economic methods to elicit values for new products and non-market goods, including a comparison of willingness to pay and willingness to accept measures of value and the creation of the random *n*th-price auction. My research has worked to demonstrate why economic behaviour matters more for environmental policy than many people think, e.g., climate change, endangered species protection, invasive species, air quality, non-point pollution, and food safety. Our work also shows how accounting for economics can make good policy better by developing integrated models of economic and ecological systems for United States agricul-

ture, Yellowstone National Park and invasive species in the Great Lakes.

SICHEL, Daniel Eric

Born 1961, Princeton, NJ, USA

Current Post Sr Econ., Fed. Reserve Bd, Washington, DC, USA, 1996–.

Past Posts Econ., Fed. Reserve Bd, Washington, DC, 1988–93; Res. Assoc., Brookings Inst., Washington, DC, 1993–95; Dep. Asst Secretary for Macroecon., US Dept Treasury, Washington, DC, 1995–96.

Degrees BA, MPP (Public Pol.) Univ. Michigan, 1983, 1983; PhD Princeton Univ., 1988.

Honours Truman Scholar, 1981; Phi Beta Kappa, 1983.

Principal Fields of Interest O4 Economic Growth and Aggregate Productivity; E0 Macroeconomics and Monetary Economics: General; O3 Technological Change.

Publications Book: 1. *The Computer Revolution: An Economic Perspective* (Brookings, 1997).

Articles: 1. 'On the mis-use of forecast errors to distinguish between level and first difference specifications' (with S. Goldfeld), *Econ. Letters*, 23, 1987; 2. 'Money demand: the effects of inflation and alternative adjustment mechanisms' (with S. Goldfeld), *REStat*, 69, Aug. 1987; 3. 'Are business cycles asymmetric: a correction', *JPE*, 97, 1989; 4. 'The demand for money' (with S. Goldfeld), in B. Friedman, F. Hahn (eds), *Handbook of Monetary Economics* (N-H, 1990); 5. 'Business cycle duration dependence: a parametric approach', *REStat*, 73, May 1991; 6. 'Cyclical patterns in the variance of economic activity' (with M. French), *JBES*, 11, Jan. 1993; 7. 'Further evidence on business cycle duration dependence' (with F. Diebold, G. Rudebusch), in J.

Stock, M. Watson (eds), *New Research on Business Cycles, Indicators, and Forecasting* (NBER and UCP, 1993); 8. 'Business cycle asymmetry: a deeper look', *EI*, 31, April 1993; 9. 'Inventories and the three phases of the business cycle', *JBES*, 12, July 1994; 10. 'Computers and output growth revisited: how big is the puzzle?' (with S. Oliner), *BPEA*, 2, 1994; 11. 'New and old models of business investment: a comparison of forecasting performance' (with S. Oliner, G. Rudebusch), *JMCB*, 27, Aug. 1995; 12. 'Is the shift toward employment in services stabilizing?' (with D. Lebow), in P. Harker (ed.), *Service Quality and Productivity: Research, Policy, and Management Challenges* (Fishman-Davidson Center for Study of Service Sector and Kluwer Publishers, 1995); 13. 'The Lucas Critique revisited: assessing the stability of empirical euler equations for investment' (with S. Oliner, G. Rudebusch), *J Em*, 70, Jan. 1996; 14. 'The productivity slowdown: is mismeasurement the culprit?', *REStat*, 79, Aug. 1997; 15. 'Computers and aggregate growth: an update', *Bus. Econ.*, 51, April 1999; 16. 'The resurgence of growth in the late 1990s: is information technology the story?' (with S. Oliner), *JEP*, 14, Fall 2000; 17. 'Information technology and productivity: where are we now and where are we going?', *FRB-Atlanta Econ. Rev.*, 87, 3Q, 2002.

Principal Contributions n.e.

SICHERMAN, Nachum

Born 1954, Jaffo, Israel.

Current Post Prof. Econ. and Fin., Grad. Sch. Bus., Columbia Univ., New York, NY, USA, 2003–.

Past Posts Vis. Asst Prof., Grad. Sch. Bus., Univ. Chicago, 1987–88; Asst Prof. Econ., Rutgers Univ., 1988–91; Assoc. Prof. Econ. and Fin., Grad. Sch. Bus., Columbia Univ., 1991–2003.

Degrees BA, MA (*cl*) Hebrew Univ., Jerusalem, 1980, 1982; MPhil, PhD Columbia Univ., 1985, 1987.

Honours H. Gregg Lewis Prize, for best paper published in *J Lab E* in Vols 14–15, 1996–97, 1998.

Editorial Duties Ed. Bd, *EEJ*, 1997–.

Principal Fields of Interest J2 Time Allocation; Work Behavior; Employment Determination and Creation; J3 Wages, Compensation, and Labor Costs; J6 Mobility, Unemployment, and Vacancies.

Publications *Articles*: 1. ‘Education and occupational mobility’, *Econ. Educ. Rev.*, 9, 1990; 2. ‘A theory of career mobility’ (with O. Galor), *JPE*, 98, Feb. 1990; 3. ‘Do workers prefer increasing wage profiles?’ (with G. Loewenstein), *J Lab E*, 9, Feb. 1991; 4. ‘“Over-education” in the labor market’, *J Lab E*, 9, April 1991; 5. ‘The measurement of on-the-job training’, *J. Econ. Social Measurement*, 16, 1991; 6. ‘Technological change and retirement decisions of older workers’ (with A. Bartel), *J Lab E*, 11, Jan. 1993; 7. ‘Current maternal age recommendations for prenatal diagnosis: a reappraisal using expected utility theory’ (with P. Rappoport, A.T. Bombard), *Fetal Diagnosis and Therapy*, 10, May–June 1995; 8. ‘Gender differences in departure from a large firm’, *ILRR*, 49, April 1996; 9. ‘The dynamics of job mobility and dual job holding’ (with C. Paxson), *J Lab E*, 14, 3, July 1996; 10. ‘Evaluation of algorithms for the diagnosis of pulmonary embolism’ (with C. Henschke, D. Yankelevitz), *Seminars in Ultrasound, CT, and MR*, 18, Oct. 1997; 11. ‘Earning patterns and changes in economics and other sciences’ (with J. O’Neill), *EEJ*, 23, Fall 1997; 12. ‘Technological change and the skills acquisition of young workers’ (with A. Bartel), *J Lab E*, 16, Oct. 1998; 13. ‘Technological change and wages: an inter-industry analysis’ (with A. Bartel), *JPE*, 107, 1999.

Principal Contributions n.e.

SICKLES, Robin C.

Born 1949, Pittsburgh, PA, USA.

Current Post Prof., Dept Econ., Rice Univ., Houston, TX, USA, 1987–; Res. Fell., C.V. Starr Center for Apl. Econ., NYU, New York, NY, USA, 1989–.

Past Posts Asst Prof., Dept Econ., George Washington Univ., 1976–79; Vis. Asst Prof., Dept Econ., Univ. North Carolina, 1979; Vis. Lect., Asst Prof., Dept Econ., Univ. Pennsylvania, 1979–80, 1980–85; Adjunct Faculty, Fels Sch. Public and Urban Pol., Univ. Pennsylvania, 1979–85; Faculty Res. Fell., NBER, 1982–94; Assoc. Prof., Dept Econ., Rice Univ., 1985–87; Vis. Fell., CORE, Univ. Catholique de Louvain, 1992, Inst. Stat., Univ. Catholique de Louvain, 1993, 1995, 2002, Wissenschaftszentrum, Berlin, 1995, 1997; Adjunct Vis. Prof., INSEAD, 1991–93; Vis. Scholar, Univ. Michigan, 1992; Bd Governors, Fed. Reserve System, Washington, DC, 1993; Adjunct Prof. Medicine, Baylor Coll. Medicine, 1994; Vis. Prof. Pure and Apl. Maths, Inst. Stat., Univ. Catholique de Louvain, 1999.

Degrees BS Georgia Inst. Tech., 1972; PhD Univ. North Carolina, 1976.

Offices and Honours Teaching Award, Univ. Grad. Student Assoc., Rice Univ., 1998; Chair, Athletics Comm., Rice Univ., 1999–; Dir., Center for Inst. and Values, Rice Univ., 1999–2002; Dir. Grad. Stud., Dept Econ., Rice Univ., 2000–; Outstanding Faculty Assoc., Baker Coll., Rice Univ., 2002.

Editorial Duties Assoc. Ed., *JAE*, 1988–92, *J. Productivity Analysis*, 1988–2002, *Communication in Stats*, 1995–, *SEJ*, 1996–99, *JBES*, 1998–, *J Em*, 2000–, *Empirical Econ.*, 2000–; Ed.-in-Chief, *J. Productivity Analysis*, 2003–.

Principal Fields of Interest C0 Mathematical and Quantitative Methods: General; J0 Labor and Demographic Econom-

ics: General; L0 Industrial Organization: General.

Publications Books: 1. *The Causes, Correlates and Consequences of Death Among Older Adults: Some Methodological Approaches and Substantive Analysis* (with J. Behrman, P. Taubman), (Kluwer Acad., 1998); 2. *Energy in the Caspian Region: Present and Future* (ed. with Y. Kalyuzhnova, A.M. Jaffe, D. Lynch), (Palgrave, 2002).

Articles: 1. 'Some further evidence on the use of the Chow test under heteroskedasticity' (with P. Schmidt), *Em*, 46, 1977; 2. 'Simultaneous equations models with truncated dependent variables: a simultaneous Tobit model' (with P. Schmidt), *J. Econ. Bus.*, 30, 1978; 3. 'Testing efficiency hypotheses in joint production: a parametric approach' (with C.A.K. Lovell), *REStat*, 65, 1983; 4. 'A comparison of the performance of three flexible functional forms' (with D.K. Guilkey, C.A.K. Lovell), *IER*, 24, 1983; 5. 'The impact of minimum wages on the distributions of earnings for major race-sex groups: a dynamic analysis' (with J. Behrman, P. Taubman), *AER*, 73, 1983; 6. 'Production frontiers and panel data' (with P. Schmidt), *JBES*, 2, 1984; 7. 'A non-linear multivariate error components analysis of technology and specific factor productivity growth with an application to the US airlines', *J Em*, 27, 1985; 8. 'An analysis of the health and retirement status of the elderly' (with P. Taubman), *Em*, 54, 1986; 9. 'Allocative distortions and the regulatory transition of the US airline industry' (with D. Good, R. Johnson), *J Em*, 33, 1986; 10. 'Production frontiers with cross-sectional and time series variation in efficiency levels' (with C. Cornwell, P. Schmidt), *J Em*, 46, 1990; 11. 'Mortality and morbidity among adults and the elderly' (with P. Taubman), in M.R. Rosenzweig, O. Stark (eds), *Handbook of Population and Family Econom-*

ics (N-H, 1995); 12. 'Index number and factor demand approaches to the estimation of productivity' (with D. Good, M.I. Nadiri), in M.H. Pesaran, P. Schmidt, (eds), *Handbook of Applied Economics, Vol. II, Microeconometrics* (Blackwell, 1997); 13. 'Stochastic panel frontiers: a semiparametric approach' (with B. Park, L. Simar), *J Em*, 84, 1998; 14. 'On the dynamics of demand for leisure and production of health: evidence from the retirement history survey' (with A. Yazbeck), *JBES*, 16, 1998; 15. 'A time series analysis of deregulatory dynamics and technical efficiency: the case of the US airline industry' (with I.S. Alam), *IER*, 41, 2000; 16. 'Capacity and product market competition: measuring market power in a "puppy-dog" industry' (with L.-H. Röller), *IJIO*, 18, 2000; 17. 'An analysis of the crime as work model: evidence from the 1958 Philadelphia birth cohort study' (with J. Williams), *JHR*, 37, 2002; 18. 'Semiparametric efficient estimation of panel models with AR(1) errors' (with B. Park, L. Simar), *J Em*, forthcoming 2003.

Principal Contributions The principal focus of my work has been in the area of applied econometrics and micro-econometrics with extensive applications in parametric and semi/nonparametric panel data methods, productivity and empirical industrial organization, and labor and health economics. My interest in modeling productive enterprises encompasses health production and the many subtle static and dynamic feedbacks among socioeconomic factors and measures of morbidity and mortality. I have a long-standing research program evaluating productivity and efficiency in the presence of regulatory distortions in the domestic and international airline industry. I have made contributions to the literature in the modeling of stochastic frontier production processes and in the identification and estimation of static and dynamic

productive efficiencies. This work relates to my interest in assessing the supply-side benefits of domestic and international deregulatory initiatives.

SIEGFRIED, John J.

Born 1945, Allentown, PA, USA.

Current Post Prof. Econ., Vanderbilt Univ., Nashville, TN, USA, 1981–.

Past Posts Instr., Pennsylvania State Univ., 1968–69; Asst Prof., Assoc. Prof., Vanderbilt Univ., 1972–75, 1975–81; Econ., FTC, Washington, DC, 1975–76; Sr Staff Econ., US President's Council Econ. Advisers, Washington, DC, 1976–77; Vis. Prof. Econ., Univ. Adelaide, 1986, 1991–2002; Vis. Prof., Univ. Leeds, 1987–88, Simon Fraser Univ., 1992.

Degrees BS Rensselaer Polytech. Inst., NY, 1967; MA Pennsylvania State Univ., 1968; PhD Univ. Wisconsin, 1972.

Offices and Honours Exec. Comm., Vice-Pres., Pres., SEA, 1984–85, 1988, 1996; Chair, Comm. Econ. Educ., AEA, 1988–93; Henry H. Villard Res. Award, Martin Bower Award, Natl Council Econ. Educ., 1990, 1995; Fulbright Sr Scholar, 1991–92; Rensselaer Alumni Assoc. Fellows Award, 1996; Bd Dirs, NBER, 1997–, Natl Council Econ. Educ., 1997–; Secretary, Secretary-Treasurer, AEA, 1997–99, 2000–; Pres., MEA, 2000–01.

Editorial Duties Ed. Bds, *Rev. Ind. Org.*, 1983–, *Q. Rev. Econ. Fin.*, 1985–, *J. Econ. Educ.*, 1990–, *J. Sports Econ.*, 2001–.

Principal Fields of Interest L0 Industrial Organization: General; A2 Teaching of Economics; I2 Education.

Publications *Books*: 1. *Recent Advances in Economics* (ed. with R. Fels), (Richard D. Irwin, 1974); 2. *Economic Analysis and Antitrust Law* (ed. with T. Calvani), (Little, Brown, 1979, 1988); 3. *The Economics of Crime: An Anthology*

of Recent Work (ed. with R. Andreano), (Schenkman, 1980); 4. *The Economics of Firm Size, Market Structure and Social Performance* (ed.), (FTC, 1980); 5. *Research on Teaching College Economics: Selected Readings* (ed. with R. Fels), (Joint Council Econ. Educ., 1982); 6. *Economic Challenges in Higher Education* (with C. Clotfelter, R. Ehrenberg, M. Getz), (UCP, 1991); 7. *Empirical Studies in Industrial Organization* (ed. with D. Audretsch), (Kluwer, 1992).

Articles: 1. 'In defense of the average concentration ratio', *JPE*, 83, Dec. 1975; 2. 'Economic power and political influence: the impact of industry structure on public policy' (with L.M. Salamon), *Amer. Polit. Sc. Rev.*, 71, Sept. 1977; 3. 'Research on teaching college economics: a survey' (with R. Fels), *JEL*, 16, Sept. 1979; 4. 'The incidence of price changes in the US economy' (with K.M. McElroy, G.H. Sweeney), *REStat*, 64, May 1982; 5. 'The economics curriculum in the US: 1980' (with J.T. Wilkinson), *AER*, 72, May 1982; 6. 'The economic cost of suboptimal manufacturing capacity in the US' (with K.D. Evans, G.H. Sweeney), *J Bus*, 56, Jan. 1983; 7. 'The first Sherman Act case: Jellico Mountain Coal, 1891' (with M. Mahony), *Anti-trust Bull.*, 35, Winter 1990; 8. 'The limited role of market power in generating great fortunes in Great Britain, the United States, and Australia' (with R.C. Blitz, D.K. Round), *J Ind E*, 43, Sept. 1995; 9. 'Should economists be kicked upstairs?', *SEJ*, 63, April 1997; 10. 'The labor market for new PhD economists' (with W. Stock), *JEP*, 13, Fall 1999; 11. 'The economics of sports facilities and their communities' (with A. Zimbalist), *JEP*, 14, Spring 2000; 12. 'So you want to earn a PhD in economics: how long do you think it will take?' (with W. Stock), *JHR*, 36, Spring 2001; 13. 'The economics of regional economics associations', *Q. Rev. Econ. and Fin.*, 42, Spring 2002.

Principal Contributions Early research was on economics of education – empirical studies of returns to an economics PhD, and financial rewards to publishing and teaching. I returned to this line of research in the 1990s, co-authoring a book on the economics of higher education (my section on how colleges and universities react to rising costs), and writing on the diffusion of innovations in higher education, vertical integration by colleges and universities, competition in college textbook retailing, and optimal college class sizes. For 25 years I have conducted empirical studies in industrial organization, beginning with an exploration of how firm size and market structure affect corporate political power to a recent series of studies examining the role of market power in the accumulation of the world's greatest fortunes. Between these I estimated: 'Harberger triangles' caused by monopoly, the determinants of antitrust activity, a production function for basketball, demands for minor-league baseball and coffee, the cost of suboptimal manufacturing capacity, the incidence of monopoly pricing, the effect of market and firm characteristics on corporate philanthropy, and college football broadcast cartels. I surveyed the literatures on how market structure affects costs, and on market entry and exit. On the historical front, I have analyzed the first Sherman Act case and traced the intellectual development of the dominant firm price leadership model. My research on teaching college economics includes studies of self-paced instruction, learning by teaching, gender differences in learning, methodology for evaluating experimental teaching methods, effects of calculus training on learning economics, and the effect of class size on pedagogical methods. I conducted several studies of the university economics curriculum, from the organization of the introductory course to the structure and philosophy of

the undergraduate major, and, most recently, the PhD production process. This interest led to two surveys of the economics education literature.

SIMONSON, Itamar n.e.

SIMS, Christopher Albert

Born 1942, Washington, DC, USA.

Current Post Prof. Econ., Princeton Univ., Princeton, NJ, USA, 1999–.

Past Posts Asst Prof. Econ., Harvard Univ., 1967–70; Res. Fell., NBER, 1970–71; Asst Prof. Econ., Prof. Econ., Univ. Minnesota, 1970–74, 1975–90; Vis. Prof. Econ., Yale Univ., 1974, MIT, 1979–80; Prof. Econ., Yale Univ., 1990–99.

Degrees BA (Maths), PhD Harvard Univ., 1963, 1968.

Offices and Honours Fell., Council Em Soc, 1975, 1979–80; Mem., NAS, 1989; Pres., Em Soc, 1995.

Editorial Duties Co-Ed., *Em*, 1977–81; Amer. Em. Ed., *REStud*, 1973–75.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles; C1 Econometric and Statistical Methods: General.

Publications Articles: 1. 'Discrete approximations in continuous time distributed lags in econometrics', *Em*, 39, May 1971; 2. 'Distributed lag estimation when the parameter space is explicitly infinite dimensional', *Annals Math. Stats*, 42, 1971; 3. 'Money, income and causality', *AER*, 62, Sept. 1972; 4. 'Seasonality in regression', *JASA*, 69, Sept. 1974; 5. 'Exogeneity and causal orderings in macroeconomic models', *New Methods in Business Cycle Research*, *op. cit.*; 6. 'Macroeconomics and reality', *Em*, 48, Jan. 1980; 7. 'Policy analysis with econometric models', *BPEA*, 1, 1982; 8. 'Under-

standing unit rooters', *Em*, 59, Nov. 1991; 9. 'Towards a modern macro economic model useable for policy analysis' (with R. Leeper), *NBER Macroecon. Annual*, 1994; 10. 'A simple model for the study of the determination of the price level and the interaction of monetary and fiscal policy', *ET*, 4, 1994; 11. 'Macroeconomics and methodology', *JEP*, 10, Winter 1996; 12. 'What does monetary policy do?' (with E. Leeper, T. Zha), *BPEA*, 2, 1996; 13. 'Bayesian methods for dynamic multivariate models' (with T. Zha), *IER*, 39, Nov. 1998; 14. 'The role of interest rate policy in the generation and propagation of business cycles: what has changed since the 30's?', *Proceedings 1998 Boston FRB Annual Res. Conf.*, 1999; 15. 'Error bands for impulse responses' (with T. Zha), *Em*, 67, 1999; 16. 'The precarious fiscal foundations of EMU', *DE*, 147, 1999; 17. 'Fiscal consequences for Mexico of adopting the dollar', *JMCB*, 33, 2001; 18. 'Solving linear rational expectations models', *J. Computational Econ.*, 20, 2002; 19. 'The role of models and probabilities in the monetary policy process', *BPEA*, 2, 2002; 20. 'Rational inattention', *JME*, forthcoming.

Principal Contributions I have aimed at making econometric analysis of data more practically useful by freeing it from conventional assumptions, known to be untrue, whose effects must be allowed for by judgemental adjustment of results. Usually I have proceeded in the spirit of clarifying, modifying, and formalising the methods used by the best people actually analysing data. In early papers I wrote on the roles of the assumptions that time is discrete and that an exact finite dimensional 'true' model exists in distributed lag models. My work on the relation of exogeneity to Granger-caused priority was motivated by the observation that regression models with right-hand-side variables taken as exogenous were pervasive in eco-

nomics, and that economists regularly justified the choice of right-hand-side variable by vague appeals to notions of causal priority. It turned out that the notion of causal priority required was Granger's. I have worked at building a multiple time-series methodology as useful as conventional simultaneous equations modeling for macroeconomics, yet with a formal probability model which can be taken seriously. While the components of the methodology are not new, the style – elaborate modeling of the predictive structure of the data preceding a cautious and sometimes informal application of a priori knowledge to interpret the results – is different from much previous econometric work. The methodology is increasingly being applied for forecasting and policy analysis, has provided 'stylised facts' as grist for the mill of 'pure theory' and has increasingly been integrated with formal structural interpretation. Recently I have written on the importance of recognizing the role of the intertemporal government budget constraint in determining 'aggregate demand' – the fiscal theory of the price level. I have also argued that Shannon's notion of channel capacity may provide a useful model for inertia in economic behavior.

SINGLETON, Kenneth J. n.e.

SINN, Hans Werner n.e.

SIRMANS, Clemon Fielding

Born 1949, Douglas, GA, USA.

Current Posts Dir., Center for Real Estate and Urban Econ. Stud. and Prof., Dept Fin., Sch. Bus., Univ. Connecticut, Storrs, CT, USA, 1991–.

Past Posts Asst Prof., Dept Fin., Univ.

Illinois, 1975–78; Assoc. Prof., Prof., Dept Real Estate, Univ. Georgia, 1978–82, 1982–83; Prof. and Louisiana Chair of Real Estate, Dept Fin., Louisiana State Univ. (LSU), 1983–91; Dir., Real Estate Res. Inst., Coll. Bus. Admin., LSU, 1985–91.

Degrees BS Valdosta State Univ., 1971; MA, PhD (Real Estate and Urban Devlp.) Univ. Georgia, 1975, 1976.

Offices and Honours List of Excellent Instrs, Univ. Illinois, 1976, 1977; Excellence in Teaching Award, Univ. Georgia, 1979, 1981; Omicron Delta Kappa Instr. of Year, Univ. Georgia, 1981; Instr. of Year, Coll. Bus. Admin., Univ. Georgia, 1982; Fell., Homer Hoyt Inst., 1986–, Urban Land Inst., 1995–; Outstanding Teaching Award, Coll. Bus. Admin., LSU, 1987, 1988; Finalist, Sch. Bus. Prof. of Year, Univ. Connecticut, 1994; Ackerman Scholar, Univ. Connecticut, 1997–2002; Vis. Prof., Swedish Sch. Econ. and Bus. Admin., 2000, 2001, 2002, City Univ. Hong Kong, 2001, 2002, Univ. Hong Kong, 2000, 2001, 2002; Vis. Disting. Prof., Natl Univ. Singapore, 2001, 2002; George F. Bloom Award, AREUEA, 2002.

Editorial Duties Ed., *Research in Real Estate*, 1981–87, *Real Estate Econ.*, 1983–87, *J. Real Estate Fin. and Econ.*, 1988–, *J. Real Estate Literature*, 1990–2000, *Topics in Real Estate Fin. and Econ*, monograph series, Kluwer Acad. 1990–; Special Issue Ed., *J. Housing Res.*, 1994; Contrib. Ed., *Real Estate Fin.*, 1997–2000.

Principal Fields of Interest R3 Production Analysis and Firm Location; K1 Basic Areas of Law; G3 Corporate Finance and Governance.

Publications *Articles*: 1. ‘Area, time, centrality and the value of urban land’ (with P. Colwell), *Land Econ.*, 54, Nov. 1978; 2. ‘The price adjustment mechanism for rental housing in the US’ (with A. Eubank), *QJE*, 93, Feb. 1979; 3. ‘Assumption financing and selling price of

single-family homes’ (with S. Sirmans, S. Smith), *JFQA*, 18, Sept. 1983; 4. ‘An analysis of gains to acquiring firm’s shareholders: the special case of REITs’ (with P. Allen), *J Fin E*, 18, March 1987; 5. ‘Choosing between fixed and adjustable rate mortgages’ (with J. Shilling, U. Dhillon), *JMCB*, 19, May 1987; 6. ‘The price adjustment process for rental office space’ (with J. Shilling, J. Corgel), *JUE*, 22, July 1987; 7. ‘Hedonic prices and contractual contingencies’ (with J. Shilling, G. Turnbull, J. Benjamin), *JUE*, 32, July 1992; 8. ‘Residential property tax capitalization: discount rate evidence from California’ (with Q. Do), *NTJ*, 47, June 1994; 9. ‘Differentiated contracts, heterogeneous borrowers, and the mortgage choice decision’ (with J. Sa-Aadu), *JMCB*, 27, May 1995; 10. ‘An economic theory of adverse possession’ (with T. Miceli), *Intl Rev. Law and Econ.*, 15, June 1995; 11. ‘Estimating capital asset price indexes’ (with R.C. Hill, J.R. Knight), *REStat*, 78, May 1997; 12. ‘Spatio-temporal modeling of residential sales data’ (with A. Gelfand, J. Knight, S. Ghosh), *JBES*, 16, July 1998; 13. ‘A test of the signaling value of IPO underpricing with REIT IPO–SEO pairs’ (with C. Ghosh, R. Nag), *J. Real Estate Fin. and Econ.*, 20, March 2000; 14. ‘Partition of real estate, or, breaking up is (not) hard to do’ (with T. Miceli), *J. Legal Stud.*, 29, June 2000; 15. ‘A method for spatial-temporal forecasting with an application to real estate prices’ (with K. Pace, R. Barry, O. Gilley), *Intl J. Forecasting*, 16, 2000; 16. ‘Property rights by squatting: land ownership risk and adverse possession statutes’ (with M. Baker, T. Miceli, G. Turnbull), *Land Econ.*, 77, Aug. 2001; 17. ‘The information content of method of payment in mergers: evidence from real estate investment trusts’ (with R. Campbell, C. Ghosh), *Real Estate Econ.*, 29, Fall 2001; 18. ‘Optimal title search’ (with M. Baker, T. Miceli, G.

Turnbull), *J. Legal Stud.*, 31, Jan. 2002; 19. 'Title systems and land values' (with H. Munneke, T. Miceli, G. Turnbull), *J Law E*, 45 Oct. 2002; 20. 'Estimating bargaining power in the market for existing homes' (with J. Harding, S. Rosenthal), *REStat*, forthcoming 85, Feb. 2003.

Principal Contributions My area of research interest is real estate economics, focussing on the spatial pricing process, the securitization of real estate claims, and the economics of real property law. My early spatial work (with Kau, Colwell, Turnbull and others) analyzed various aspects of urban land markets and real estate hedonic pricing models. Recent spatial work (with Gelfand, Pace, Knight and others) models the process formally using spatial statistical tools. Recent work (with Harding, Miceli, Rosenthal, and Yavas) examines the effects of bargaining on real estate prices. My work on securitization examines both mortgage and equity pricing. My early research (with Shilling, Sa-Aadu and others) modeled the mortgage choice decision. Recent work (with Ghosh, Campbell and others) examines real estate equity securitization, particularly governance issues. My work on real property law and economics (with Miceli, Turnbull, and others) models, both theoretically and empirically, the effects of alternative title systems, lease structure, adverse possession, and other issues.

SIVERSON, Randolph M. n.e.

SJOQUIST, David L. n.e.

SKAPERDAS, Stergios n.e.

SKINNER, Jonathan

Born 1955, Boston, MA, USA.

Current Post John French Prof. Econ., Dartmouth Coll., Hanover, NH, USA, 1995–.

Past Posts Asst Prof., Assoc. Prof., Prof. Econ., Univ. Virginia, 1981–95; Vis. Asst Prof., Univ. Washington, 1987; Vis. Assoc. Prof., Stanford Univ., 1989, Harvard Univ., 1992–93.

Degrees BA Univ. Rochester, 1977; PhD UCLA, 1983.

Honour Paul A. Samuelson Award of Excellence, TIAA-CREF, 1996.

Editorial Duties Co-Ed., *JHR*, 1997–2001, *Econ. Letters*, 1998–2002; Ed., *JHR*, 2002–.

Principal Fields of Interest H0 Public Economics: General; I0 Health, Education, and Welfare: General; E2 Consumption, Saving, Production, Employment, and Investment.

Publications Articles: 1. 'The efficiency gains from dynamic tax reform' (with A.J. Auerbach, L. Kotlikoff), *IER*, 24, Feb. 1983, repr. in A.J. Auerbach (ed.), *Worth Series in Outstanding Contributions: Public Finance* (Worth, 2000); 2. 'The resolution of the labor scarcity paradox' (with J. James), *JEH*, 45, Sept. 1985; 3. 'Variable lifespan and the intertemporal elasticity of consumption', *REStat*, 67, Nov. 1985; 4. 'The effect of increased longevity on capital accumulation', *AER*, 75, Dec. 1985; 5. 'Labor supply and marital separation' (with W. Johnson), *AER*, 76, June 1986; 6. 'Accounting for changes in the labor supply of recently divorced women' (with W. Johnson), *JHR*, 23, Fall 1988; 7. 'Risky income, life cycle consumption, and precautionary savings', *JME*, 22, Sept. 1988; 8. 'The welfare cost of uncertain tax policy', *J Pub E*, 37, Nov. 1988; 9. 'The importance of precautionary motives in explaining individual and aggregate saving' (with R.G. Hubbard, S.

Zeldes), *C-RPP*, 40, June 1994; 10. 'The risk and duration of catastrophic medical care expenditures' (with D. Feenberg), *REStat*, 76, Nov. 1994; 11. 'Social insurance and precautionary saving' (with R.G. Hubbard, S. Zeldes), *JPE*, 103, June 1995; 12. 'Assessing the effectiveness of saving incentives' (with R.G. Hubbard), *JEP*, 10, Fall 1996; 13. 'Taxation and economic growth' (with E. Engen), *NTJ*, 49, Dec. 1996; 14. 'Will aging baby boomers bust the federal budget?' (with R. Lee), *JEP*, 13, 1999; 15. 'What accounts for the variation in retirement saving across US households?' (with B.D. Bernheim, S. Weinberg), *AER*, 91, Sept. 2001; 16. 'Geography and the debate over Medicare reform' (with J.E. Wennberg, E.F. Fisher), *Health Affairs*, 21 (web), Feb. 2002; 17. 'The importance of bequests and life cycle saving in capital accumulation: a new view' (with K. Dynan, S. Zeldes), *AER*, 92, May 2002.

Principal Contributions n.e.

SLADE, Margaret E. n.e.

SLEMROD, Joel

Born 1951, Newark, NJ, USA.

Current Posts Paul W. McCracken Collegiate Prof. Bus. Econ. and Public Pol., Univ. Michigan Bus. Sch., Prof. Econ., Univ. Michigan, Ann Arbor, MI, USA, 1989–; Dir., Office of Tax Pol. Res., Univ. Michigan Bus. Sch., 1987–; Res. Assoc., NBER, USA, 1985–.

Past Posts Faculty Res. Fell., NBER, 1978–85; Asst Prof. Econ., Assoc. Prof. Econ., Univ. Minnesota, 1979–85, 1985–87; Cons., Minnesota Tax Study Commission, 1984, Canadian Dept Fin., 1985–86, World Bank, 1987, 1989–92, Merck & Co., 1990, PriceWaterhouse Coopers, 1990–95, 1998–, IRS Coordinated Exami-

nation Program, 1992–, New Zealand Dept Treasury, 1993–96; Sr. Staff Econ., US President's Council Econ. Advisers, 1984–85; Contractor, Office Tax Analysis, US Dept Treasury, 1983–84, 1986–88; Assoc. Prof. Bus. Econ. and Public Pol., Assoc. Prof., Econ., Univ. Michigan Bus. Sch., Univ. Michigan, 1987–89; Res. Dir., Intl Tax Policy Forum, 1992–94; Mem., Brookings Panel on Econ. Activity, 1994–95.

Degrees AB (*scl*) Princeton Univ., 1973; PhD Harvard Univ., 1980.

Offices and Honours Phi Beta Kappa, Princeton Univ., 1973; Wolf-Balleisen Memorial Thesis Prize, Princeton Univ., 1973; NSF Grad. Fellowship, 1973–76; Amer. Doctoral Dissertation Award, Hon. Mention, NTA-Tax Inst., 1980; Natl Fellowship, Hoover Inst., Stanford Univ., 1983–84; James Barr Memorial Award, Outstanding Paper in Public Pol., Assoc. Public Pol. and Mgmt, 1985; Mem., IRS Consultants' Panel for Stats Income, 1987–; Jack D. Sparks Whirlpool Corp. Res. Professorship Bus. Admin., 1992–94; Coordinator, Acad. Cons. Group, Minnesota Tax Compliance Experiment Project, 1993–96; Project Coordinator, OECD Project on Taxation of Foreign-Source Income, 1994–96; Mem., Joint Comm. Taxation Advisory Bd, 1995–; CBO Panel Econ. Advisers, 1996–; Sr Fell., Soc. Fells, Univ. Michigan, 2001–.

Editorial Duties Ed., *NTJ*, 1992–98; Assoc. Ed., *ITPF*, 1992–.

Principal Fields of Interest H2 Taxation, Subsidies, and Revenue; H3 Fiscal Policies and Behavior of Economic Agents.

Publications Books: 1. *Taxation in the Global Economy* (ed. with A. Razin), (UCP/NBER, 1990); 2. *Do Taxes Matter? The Impact of the Tax Reform Act of 1986* (ed.), (MIT Press, 1990); 3. *Why People Pay Taxes: Tax Compliance and Enforcement* (ed.), (Univ. Michigan Press,

1992); 4. *Tax Progressivity and Income Inequality* (ed.), (CUP, 1994); 5. *Tax Policy in the Real World* (ed.), (CUP, 1999); 6. *Taxing Ourselves: A Citizen's Guide to the Great Debate Over Tax Reform* (with J. Bakija), (MIT Press, 2nd edn 2000); 7. *Does Atlas Shrug? The Economic Consequences of Taxing the Rich* (ed.), (HUP and Russell Sage, 2000); 8. *Rethinking Estate and Gift Taxation* (ed. with W.G. Gale, J.R. Hines, Jr), (Brookings Inst. Press, 2001).

Articles: 1. 'The effects of taxation on the selling of corporate stock and realization of capital gains' (with M. Feldstein, S. Yitzhaki), *QJE*, 95, June 1980; 2. 'Do we collect any revenue from taxing capital income?' (with R. Gordon), in L. Summers (ed.), *Tax Policy and the Economy* (MIT Press/NBER, 1988); 3. 'Optimal taxation and optimal tax systems', *JEP*, 4, Winter 1990; 4. 'The compliance cost of the US individual income tax: a second look after tax reform' (with M. Blumenthal), *NTJ*, 45, June 1992; 5. 'Consumer response to the timing of income: evidence from a change in tax withholding' (with M. Shapiro), *AER*, 85, March 1995; 6. 'What do cross-country studies teach about taxation, prosperity and economic growth?', *BPEA*, 2, 1995; 7. 'High-income families and the tax changes of the 1980s: the anatomy of behavioral response', in M. Feldstein, J. Poterba (eds), *Empirical Foundations of Household Taxation* (UCP/NBER, 1996); 8. 'The economic effects of the Tax Reform Act of 1986' (with A. Auerbach), *JEL*, 35, June 1997; 9. 'Taxpayer response to an increased probability of audit: evidence from a controlled experiment in Minnesota' (with M. Blumenthal, C. Christian), *J Pub E*, 80, March 2001; 10. 'A general model of the behavioral response to taxation', *ITPF*, 8, March 2001; 11. 'Tax avoidance, evasion, and administration' (with S. Yitzhaki), in A. Auerbach, M. Feldstein

(eds), *Handbook of Public Economics* (N-H, 2002); 12. 'The optimal elasticity of taxable income' (with W. Kopczuk), *J Pub E*, 84, April 2002.

Principal Contributions My early work concerned aspects of capital income taxation. My dissertation was a computable general equilibrium model of capital income taxation with endogenous portfolio choice. Early empirical work concerned capital gains taxation, including the lock-in effect and the extent of the inflation tax. Much work since then has been motivated by the observation that the standard models of how taxes affect behavior did not adequately capture the wide range of possible responses, such as the retiming of transactions, renaming of transactions or financial structure, avoidance facilitated by professional tax advice, and outright evasion. Another line of study concerns international aspects of taxation. Linking this to my interest in taxpayer avoidance, I have empirically studied the extent of income shifting across jurisdictions, and developed a model of the joint decision of investment location and income shifting, tested using data on US companies' investment in Puerto Rico, a preferred tax location. Empirical studies include estimating the compliance cost of taxation, investigating how tax evasion responds to policy changes and to what extent the recent surge of reported income of the affluent has been a reaction to lowered marginal tax rates. Theoretical modeling has focussed on extending normative models to account for the range of taxpayer response, including optimal income tax structure in the presence of avoidance and avoidance control, and the optimal size of a tax enforcement agency. I have argued that the standard model of optimal taxation must be replaced by a model of optimal 'tax systems', which embraces the administrative and enforcement aspects of taxation. I

have developed a more general model of behavioral responses to taxation that allows simultaneously for real, avoidance, and evasion responses. Considering the optimal enforcement response has led to the development of the idea of an 'optimal' elasticity of taxable income.

SLOAN, Richard Geoffrey

Born 1964, Liverpool, United Kingdom.

Current Post Prof. Accounting and Fin., Univ. Michigan Bus. Sch., Ann Arbor, MI, USA, 1997–.

Past Post Asst Prof. Accounting, Wharton Sch., Univ. Pennsylvania, 1991–97.

Degrees BComm (1st Class Hons) Univ. Western Australia, 1987; MS (Accounting and Fin.), PhD (Accounting and Fin.) Univ. Rochester, 1990, 1992.

Honours Notable Contrib. to Accounting Literature Award, AAA, 2001.

Editorial Duties Ed. Bds, *Accounting Rev.*, 1996–, *Accounting and Fin.*, 1999–, *J. Accounting Res.*, 2000–; Assoc. Ed., *J. Accounting and Econ.*, 1997–; Ed., *Rev. Accounting Stud.*, 1999–.

Principal Fields of Interest G1 General Financial Markets; J3 Wages, Compensation, and Labor Costs; M4 Accounting.

Publications *Articles*: 1. 'Executive incentives and the horizon problem: an empirical investigation' (with P. Dechow), *J. Accounting and Econ.*, 14, 1991; 2. 'Information in prices about future earnings: implications for earnings response coefficients' (with S.P. Kothari), *J. Accounting and Econ.*, 15, 1992; 3. 'Accounting earnings and top executive compensation', *J. Accounting and Econ.*, 16, 1993; 4. 'The effect of restructuring charges on executives' cash compensation' (with P. Dechow, M. Huson), *Accounting Rev.*, 69, 1994; 5.

'Lack of timeliness and noise as explanations for the low contemporaneous return-earnings association' (with D. Collins, S.P. Kothari, J. Shanken), *J. Accounting and Econ.*, 18, 1994; 6. 'Another look at the cross-section of expected stock returns' (with S.P. Kothari, J. Shanken), *J. Fin.*, 50, 1995; 7. 'Annual bonus schemes and the manipulation of earnings' (with R. Holthausen, D. Larcker), *J. Accounting and Econ.*, 19, 1995; 8. 'Business unit innovation and the structure of executive compensation' (with R. Holthausen, D. Larcker), *J. Accounting and Econ.*, 19, 1995; 9. 'Detecting earnings management' (with P. Dechow, A. Sweeney), *Accounting Rev.*, 70, 1995; 10. 'The causes and consequences of earnings management' (with P. Dechow, A. Sweeney), *Contemporary Accounting Res.*, 13, 1996; 11. 'Do stock prices reflect information in accruals and cash flows about future earnings?', *Accounting Rev.*, 71, 1996; 12. 'Economic consequences of accounting for stock-based compensation' (with P. Dechow, A. Sweeney), *J. Accounting Res.*, 34, 1996; 13. 'Returns to contrarian investment strategies: tests of the naive expectations hypotheses' (with P. Dechow), *J. Fin E*, 43, 1997; 14. 'Implications of the integral method of quarterly reporting for the post-earnings-announcement drift' (with S. Rangan), *Accounting Rev.*, 73, 1998; 15. 'An empirical assessment of the residual income valuation model' (with P. Dechow, A. Hutton), *J. Accounting and Econ.*, 26, 1999; 16. 'The relation between affiliated analysts' long-term earnings forecasts and stock price performance following equity offerings' (with P. Dechow, A. Hutton), *Contemporary Accounting Res.*, 17, 2000; 17. 'Short interest, fundamental analysis and market efficiency' (with P. Dechow, A. Hutton, L. Muelbroek), *J. Fin E*, forthcoming.

Principal Contributions Use of accounting information in contracting and

investor decision-making. Efficiency of capital markets with respect to accounting information.

SLOVIC, Paul

Born 1938, Chicago, IL, USA.

Current Posts Pres., Decision Res., Eugene, OR, USA, 1986–; Prof. Psychology, Univ. Oregon, Eugene, OR, USA, 1986–.

Past Posts Res. Assoc., Oregon Res. Inst., Eugene, 1964–76, Decision Res., Eugene, 1976–86; Vis. Prof., Hebrew Univ., Jerusalem, 1973–74, Univ. Padova, Italy, 1997.

Degrees BA (Psychology) Stanford Univ., 1959; MA (Psychology) PhD (Psychology) Univ. Michigan, 1962, 1964.

Offices and Honours Natl Sc. Foundation Grad. Fellowship, 1961–62; Fulbright Scholar, 1973–74; Clifford D. Spangler Award, Alpha Kappa Psi Foundation, 1987; Outstanding Article, Amer. Risk and Insurance Assoc., 1977–87; John Simon Guggenheim Memorial Fellowship, 1986–87; Disting. Contrib. Award, Soc. Risk Analysis, 1991; Disting. Sc. Contrib. Award, Amer. Psychological Assoc., 1993; Outstanding Contrib. to Sc. Award, Oregon Acad. Sc., 1995; Hon. Doctorate, Stockholm Sch. Econ., 1996.

Principal Fields of Interest D0 Microeconomics: General; D8 Information and Uncertainty.

Publications *Books*: 1. *Disaster Insurance Protection: Public Policy Lessons* (with H. Kunreuther, R. Ginsberg, L. Miller, P. Sagi, B. Borkan, N. Katz), (Wiley, 1978); 2. *Acceptable Risk* (with B. Fischhoff, S. Lichtenstein, S. Derby, R. Keeney), (CUP, 1981); 3. *Judgment Under Uncertainty: Heuristics and Biases* (with D. Kahneman, A. Tversky), (CUP, 1982); 4. *One Hundred Centuries of Solitude: Redirecting America's High-level*

Nuclear Waste Policy (with J. Flynn, J. Chalmers, D. Easterling, R. Kasperson, H. Kunreuther, C.K. Mertz, A. Mushkatel, K.D. Pijawka, L. Dotto), (Westview, 1995); 5. *The Perception of Risk* (Earthscan Publications, 2000); 6. *Risk, Media, and Stigma: Understanding Public Challenges to Modern Science and Technology* (with J. Flynn, H. Kunreuther), (Earthscan Publications, 2001); 7. *Smoking: Risk, Perception, and Policy* (Sage, 2001); 8. *The Social Amplification of Risk* (with N. Pidgeon, R. Kasperson), (CUP, forthcoming).

Articles: 1. 'Reversals of preference between bids and choices in gambling decisions' (with S. Lichtenstein), *J. Experimental Psychology*, 89, 1971; 2. 'Psychological study of human judgment: implications for investment decision making', *J. Fin.*, 27, 1972; 3. 'Response-induced reversals of preference in gambling: an extended replication in Las Vegas' (with S. Lichtenstein), *J. Experimental Psychology*, 101, 1973; 4. 'Who accepts Savage's axiom?' (with A. Tversky), *Behav. Sc.*, 19, 1974; 5. 'Preference reversals: a broader perspective' (with S. Lichtenstein), *AER*, 73, 1983; 6. 'Perception of risk', *Sc.*, 236, 1987; 7. 'Contingent weighting in judgment and choice' (with A. Tversky, S. Sattath), *Psychological Rev.*, 95, 1988; 8. 'The determinants of preference reversal' (with A. Tversky, D. Kahneman), *AER*, 80, 1990; 9. 'Perceived risk, trust, and the politics of nuclear waste' (with J.H. Flynn, M. Layman), *Sc.*, 254, 1991; 10. 'The construction of preference', *Amer. Psychologist*, 50, 1995; 11. 'Technological stigma' (with R. Gregory, J. Flynn), *Amer. Scientist*, 83, 1995; 12. 'Rational actors and rational fools: implications of the affect heuristic for behavioral economics' (with M. Finucane, E. Peters, D. MacGregor), *J. Socioecon.*, 31, 2002.

Principal Contributions One of the main themes in my work is the view that people's preferences are often constructed

in the process of elicitation. This idea is derived from studies demonstrating that normatively equivalent methods of elicitation (e.g., choice and pricing) give rise to systematically different responses. These 'preference reversals' violate the principle of *procedure invariance* that is fundamental to all theories of rational choice. They also raise difficult questions about the nature of human values. If different elicitation procedures produce different orderings of options, how can preferences be defined and in what sense do they exist? Research I have conducted with many colleagues describes the development of the idea of preference construction and the numerous information processing strategies and heuristics that have been found to contribute to it: anchoring and adjustment, relying on one prominent attribute, eliminating common elements, problem restructuring, stimulus-response compatibility and, most recently, reliance on affect-laden feelings or emotions. As a result of these mechanisms, decision making is now understood to be a highly contingent form of information processing, sensitive to task complexity, time pressure, response mode, framing, reference points and numerous other contextual factors. The study of constructed preferences has aimed not only to understand decision making but to improve it. For example, some studies have pointed out its implications for judgments and decisions designed to save lives or improve the environment. Others have applied the concept to issues of informed consent. Economists have been interested in its implications for investment decisions and consumer behavior and, more fundamentally, in its challenges to economic theory. In sum, this basic idea appears to be forging a new conception of preference, one that requires a serious restructuring of normative theories and approaches to improving decision making.

SLOVIN, Myron B. n.e.

SMALL, Kenneth A.

Born 1945, Sodus, NY, USA.

Current Posts Prof. Econ., Univ. California, Irvine, CA, USA, 1986–.

Past Posts Asst Prof. Econ., Princeton Univ., 1976–83; Res. Assoc., Brookings Inst., 1978–79; Vis. Prof., Dept Econ., Harvard Univ., 1991–92; Gilbert White Fell., Resources for the Future, Washington, DC, 1999–2000.

Degrees BS (Physics), AB (Maths) Univ. Rochester, 1968, 1968; MA (Physics), PhD Univ. California, Berkeley, 1972, 1976.

Offices and Honours Assoc. Dean Grad. Stud., Social Sc., Univ. California, Irvine, 1986–92; Chair, Dept Econ., Univ. California, Irvine, 1992–95; Disting. Mem. Award, Transportation and Public Utilities Group, AEA, 1999.

Editorial Duties Ed. Bds, *RSUE*, 1987–, *JUE*, 1989–, *Urb Stud*, 1992–, *Transportation*, 1993–, *J Transp EP*, 1995–; North Amer. Co-Ed., *Urb Stud*, 1992–97; Book series Co-Ed., *Transportation Res. Econ. and Pol.*, Kluwer Acad., 1993–; Ed. Bd Founding Mem., *J. Econ. Geography*, 1999–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; L9 Industry Studies: Utilities and Transportation; Q2 Renewable Resources and Conservation: Environmental Management.

Publications *Books*: 1. *Road Work: A New Highway Pricing and Investment Policy* (with C. Winston, C. Evans), (Brookings Inst., 1989); 2. *Urban Transportation Economics*, Vol. 51, *Fundamentals of Pure and Apl. Econ.* series (Harwood Acad., 1992).

Articles: 1. 'Optimal peak-load pricing, investment, and service levels on ur-

ban expressways' (with T.E. Keeler), *JPE*, 85, Feb. 1977; 2. 'Estimating the air pollution costs of transport modes', *J Transp EP*, 11, May 1977; 3. 'Applied welfare economics with discrete choice models' (with H.S. Rosen), *Em*, 49, Jan. 1981; 4. 'The scheduling of consumer activities: work trips', *AER*, 72, June 1982; 5. 'The incidence of congestion tolls on urban highways', *JUE*, 13, Jan. 1983; 6. 'A discrete choice model for ordered alternatives', *Em*, 55, March 1987; 7. 'Optimal highway durability' (with C. Winston), *AER*, 78, June 1988; 8. 'Subcenters in the Los Angeles region' (with G. Giuliano), *RSUE*, 21, July 1991; 9. 'Transportation', Guest Ed., special issue, *RSUE*, 22, March 1992; 10. "'Wasteful" commuting: a resolution' (with S. Song), *JPE*, 100, Aug. 1992; 11. 'Using the revenues from congestion pricing', *Transportation*, 19, 1992; 12. 'The economics of traffic congestion' (with R. Arnott), *Amer. Scientist*, 82, Sept./Oct. 1994; 13. 'Approximate generalized extreme value models of discrete choice', *J Em*, 62, 1994; 14. 'On the costs of air pollution from motor vehicles' (with C. Kazimi), *J Transp EP*, 29, Jan. 1995; 15. 'Urban spatial structure' (with A. Anas, R. Arnott), *JEL*, 36, Sept. 1998; 16. 'Urban transportation' (with J.A. Gómez-Ibáñez), in P. Cheshire, E.S. Mills (eds), *Handbook of Regional and Urban Economics*, Vol. 3: *Applied Urban Economics* (N-H, 1999); 17. 'Economies of scale and self-financing rules with non-competitive factor markets', *J Pub E*, 74, 1999; 18. 'Project evaluation', chap. 5, in J.A. Gómez-Ibáñez, W. Tye, C. Winston (eds), *Transportation Policy and Economics: A Handbook in Honor of John R. Meyer* (Brookings Inst., 1999).

Principal Contributions In transportation economics: analysis of congestion and policies toward it, especially pricing policies; time-of-day choice by travelers

and implications of reliability of travel time; travel demand analysis, including empirical measurement of value of time, of time-of-day choices by commuters, and of effects of reliability; costs and pricing of heavy vehicles on highways. In urban economics: effects of energy prices on urban form; polycentric employment patterns and their consequences; analysis of shrinking cities and metropolitan areas. In discrete-choice econometrics: welfare implications of discrete-choice models; alternate estimation techniques for nested logit models; specification tests; development of a generalized extreme value model for analyzing ordered choices. In environmental economics: estimation of social costs of air pollution; cost-benefit analysis of alternative fuels for motor vehicles. Notable policy applications: advice to the Canadian Royal Commission on National Passenger Transportation, the Directorate for Transport and the Directorate for Economic and Financial Affairs of the European Union, and the World Bank; National Research Council commissions studying congestion pricing, federal highway cost allocation study, and congestion management and air quality improvement programs.

SMITH, Adrian n.e.

SMITH, Bruce D. (1954–2002)

Born 1954, location n.e.

Posts Held Asst Prof., Boston Coll., 1981–82; Econ., FRB Minneapolis, 1982–86; Adjunct Prof., Univ. Minnesota, 1984–85; Vis. Asst Prof., Asst Prof., Carnegie-Mellon Univ., 1985–86, 1986–87; Vis. Asst Prof., Univ. California, Santa Barbara, 1986–87; Assoc. Prof., Univ. Western Ontario, 1987–90; Assoc. Prof., Prof., Cornell Univ., 1990–94, 1994–96;

Fred Hofheinz Regent's Prof., Univ. Texas, Austin, 1996–2002.

Degrees BS Univ. Minnesota, 1977; PhD MIT, 1981.

Offices and Honours Cons. FRB Minneapolis, 1987–96, Fin. Services Res. Group (Fed. Reserve System) 1997–99; Fell., Rochester Center Econ. Res., 1987–2002; Vis. Scholar, FRB, Atlanta, Cleveland, Kansas City, St. Louis, New York, 1994–2002, 1996–2002, 1997–2002, 1999–2002, 1999.

Editorial Duties Ed. Bd, *ET*, 1992–96; Assoc. Ed., *JET*, 1993–2002, *JEG*, 1994–2000, *J. Fin. Intermediation*, 1995–2002, *Macroecon. Dynamics*, 1996–2002; Co-Ed., *ET*, 1997–2002.

Principal Fields of Interest n.e.

Publications *Articles*: 1. 'Limited information, credit rationing, and optimal government lending policy', *AER*, 73, 1983; 2. 'Government expenditures, deficits, and inflation: on the impossibility of a balanced budget', *QJE*, 100, 1985; 3. 'Irrelevance of open market operations in some economies with government currency being dominated in rate of return' (with T. Sargent), *AER*, 77, 1987; 4. 'Legal restrictions, "sunspots", and Peel's Bank Act: the real bills doctrine vs. the quantity theory reconsidered', *JPE*, 96, 1988; 5. 'Financial intermediation and endogenous growth' (with V. Bencivenga), *REStud*, 58, 1991; 6. 'Deficits, inflation, and the banking system in developing countries: the optimal degree of financial repression' (with V. Bencivenga), *OEP*, 44, 1992; 7. 'Adverse selection in the overlapping generations model: the case of pure exchange' (with C. Azariadis), *JET*, 60, 1993; 8. 'A theory of optimal denominations for government liabilities' (with T. Cooley), *ET*, 3, 1993; 9. 'Mischief and monetary history: Friedman and Schwartz thirty years later', *JME*, 34, 1994; 10. 'Sectoral employment and cyclical fluctuations in an adverse selection model',

IER, 36, 1995; 11. 'A theory of mutual formation with moral hazard, with evidence from the history of the insurance industry' (with M. Stutzer), *Rev. Fin. Stud.*, 8, 1995; 12. 'Do open market operations matter? Theory, and evidence from the second bank of the United States' (with R. Highfield, M. O'Hara), *JEDC*, 20, 1996; 13. 'Credit market imperfections and economic development: theory and evidence' (with C.-H. Ma), *JDE*, 48, 1996; 14. 'Financial markets in development, and the development of financial markets' (with J. Greenwood), *JEDC*, 21, 1997; 15. 'Money, banking, and the determination of real and nominal exchange rates' (with C. Betts), *IER*, 38, 1997; 16. 'Capital market imperfections, and capital formation' (with J. Boyd), *JET*, 73, 1997; 17. 'Unemployment, migration, and growth' (with V. Bencivenga), *JPE*, 105, 1997; 18. 'The effects of open market operations in a model of intermediation and growth' (with S. Schreft), *REStud*, 65, 1998; 19. 'The use of debt and equity in optimal financial contracts' (with J. Boyd), *J. Fin. Intermediation*, 8, 1999; 20. 'Deposit insurance and lender of last resort functions' (with C. Sleet), *JMCB*, 32, 2000.

Principal Contributions n.e.

SMITH, Jr, Clifford Weldon

Born 1947, Atlanta, GA, USA.

Current Posts Louise and Henry Epstein Prof. Bus. Admin. and Prof. Fin., William E. Simon Grad. Sch. Bus. Admin., Univ. Rochester, Rochester, NY, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Prof., Clarey Prof. Fin., Faculdade de Economia, Univ. Porto, 1974–80, 1980–86, 1986–88, 1988–98; Fin. Econ., Directorate of Econ. and Pol. Res., 1977; Vis. Assoc. Prof., Securities and Ex-

change Commission, 1980; Vis. Prof., Grad. Sch. Bus., Univ. Chicago, 1991–94, Sch. Law, George Mason Univ., 1997; Disting. Vis. Prof., City Univ. Bus. Sch., London, 1997.

Degrees BA Emory Univ., 1969; PhD Univ. North Carolina, 1975.

Offices and Honours Mem., Omicron Delta Epsilon (Econ. Hons), 1971, Beta Gamma Sigma (Bus. Hons), 1978; Disting. Intl Visitor, British Accounting Assoc., 1991; Bd Advisors, Intl Assoc. Fin. Engineers, 1991–94; Fell., Amer. Assoc. Fin. Engineers, 1992; Secretary, Pres., Risk Theory Soc., 1992–93, 1993–94; Pres., FMA Natl Hon. Soc., 1993–94; Vice-Pres., Intl Econ. and Fin. Soc., 1995–96; Bd Dirs, Southern Fin. Assoc., 1996–98; Vice Pres.–Global Services, FMA Intl, 1999–2001; Disting. Scholar, Southern Fin. Assoc., 2000.

Editorial Duties Assoc. Ed., *JFQA*, 1975–83; 1984–91, *J Fin E*, 1977–82, *J. Accounting and Econ.*, 1981–90, *J. Real Estate Fin. and Econ.*, 1986–96, *Fin. Mgmt*, 1987–99, *J. Fin. Eng.*, 1991–99, *J. Risk and Insurance*, 1991–, *Fin. Practice and Educ.*, 1994–, *J. Derivatives*, 1999–, *J. Fin. Res.*, 1999–, *J. Fin. Services Res.*, 1999–; Advisory Ed., *Chase Fin. Q.*, 1982, *Midland Corp. Fin. J.*, 1983–87, *J Fin E*, 1996–; Ed., *J Fin E*, 1982–96; Ed. Rev. Bd, *J. AREUEA*, 1983–88; Rev. Bd Mem., *Current Issues in Fin.*, 1987–89; Advisory Bds, *J. Apl. Corp. Fin.*, 1988–, *Financier*, 1995–, *Contemporary Fin. Digest*, 1997–, *Arbitrageur*, 1998–; Series Ed., *Adv. Topics in Fin. and Accounting* (McGraw-Hill), 1990–98; Ed. Bd, *Rev. Intl Econ.*, 1997–.

Principal Fields of Interest G2 Financial Institutions and Services; G3 Corporate Finance and Governance; L2 Firm Objectives, Organization, and Behavior.

Publications *Books*: 1. *Managing Financial Risk* (with C.W. Smithson, D.S. Wilford), (Harper & Row, 1990); 2. *Man-*

gerial Economics and Organizational Architecture (with J.A. Brickley, J.L. Zimmerman), (Irwin, McGraw-Hill, 2nd edn 2001); 3. *Designing Organizations to Create Value: From Strategy to Structure* (with J.A. Brickley, J.L. Zimmerman, J.M. Willett), (Irwin, McGraw-Hill, 2003).

Articles: 1. 'Option pricing: a review', *J Fin E*, 3, Jan./March 1976; 2. 'Alternate methods for raising capital: rights versus underwritten offerings', *J Fin E*, 5, Dec. 1977; 3. 'On financial contracting: an analysis of bond covenants' (with J.B. Warner), *J Fin E*, 7, June 1979; 4. 'Contractual provisions, organizational structure, and conflict control in insurance markets' (with D. Mayers), *J Bus*, 54, July 1981; 5. 'The interdependence of individual portfolio decisions and the demand for insurance' (with D. Mayers), *JPE*, 91, April 1983; 6. 'Optimal insurance policy indemnity schedules' (with G. Huberman, D. Mayers), *Bell JE*, 14, Autumn 1983; 7. 'Investment banking and the capital acquisition process', *J Fin E*, 15, Jan./Feb. 1986; 8. 'Ownership structure and voting on antitakeover amendments' (with J.A. Brickley, R.C. Lease), *J Fin E*, 20, Jan./March 1988; 9. 'Ownership structure across lines of property-casualty insurance' (with D. Mayers), *J Law E*, 31, Oct. 1988; 10. 'Incentives associated with changes in consolidated reporting requirements' (with S.L. Mian), *J. Accounting and Econ.*, 13, Oct. 1990; 11. 'Executive compensation in the life insurance industry' (with D. Mayers), *J Bus*, 65, Jan. 1992; 12. 'Accounts receivable management policy: theory and evidence' (with S.L. Mian), *J Fin*, 47, March 1992; 13. 'The investment opportunity set and corporate financing, dividend and compensation policies' (with R.L. Watts), *J Fin E*, 32, Dec. 1992; 14. 'The maturity structure of corporate debt' (with M.J. Barclay), *J Fin*, 50, June 1995; 15. 'Board composition in the insurance industry' (with D.

Mayers, A. Shivdasani), *J Bus*, 70, Jan. 1997; 16. 'Derivatives regulation: implications for central banks' (with L. Hentschel), *JME*, 40, 1997; 17. 'Tax incentives to hedge' (with J. Graham), *J Fin*, 54, 1999.

Principal Contributions My research generally has focused on corporate policy choices such as corporate capital structure, executive compensation policy, corporate risk-management policy, corporate dividend policy and the economics of organizations. I have been especially interested in applying this analysis to studying the insurance industry. The most basic issue in corporate finance is to understand those factors important in optionally structuring the contracts that comprise the liability side of the firm's balance sheet. Yet, there has been little empirical analysis of the cross-sectional structure of corporate leverage, maturity, priority, dividends, hedging and compensation policies. Although much effort had been devoted to developing the theory, empirical support for the models was largely anecdotal. With M.J. Barclay and R.L. Watts, I have examined whether there exist robust empirical relations among corporate policy decisions and particular firm characteristics. We also find associations among the corporate policies themselves. Our evidence suggests that contracting theories are more important than either signaling or tax theories in explaining cross-sectional variation in observed financial, dividend, and compensation policies. With J.A. Brickley and J.L. Zimmerman I have worked on the economics of organizations. We focus on how the assignment of decision rights, the reward and control systems are jointly structured to help achieve the organization's objectives. D. Mayers and I have been interested in using the insurance industry as a laboratory for testing hypotheses from corporate finance and the economics of organizations. We have

examined data on executive compensation, the composition of the board of directors, the use of independent agents versus exclusive agents for the distribution of insurance, the impact of guaranty funds on the industry, and the changes in ownership structure of firms in the insurance industry.

SMITH, Gregor W. n.e.

SMITH, Ronald Patrick

Born 1946, London, UK.

Current Post Prof. Apl. Econ., Dept Econ., Birkbeck Coll., London, UK, 1985–.

Past Posts Fell. and Asst Dir. Stud., Pembroke Coll., 1970–76; Asst Lect. Stats, Cambridge Univ., 1972–76; Guest Scholar, Brookings Inst., Washington, DC, 1975–76; Lect., Reader, Birkbeck Coll., 1976–80, 1980–85; Vis. Prof., London Bus. Sch., 1992, Univ. Colorado, 1997–98.

Degrees BA, PhD Cambridge Univ., 1968, 1974.

Offices and Honours Assoc. Fell., Royal United Services Inst., 1980–; Bd Mem., Centre for Defence Stud., King's Coll., London, 1995–2001.

Editorial Duties Ed Bds, *CJ*, 1976–, *Intl Rev. Apl. Econ.*, 1985–, *JAE*, 1986–91, *Defence and Peace Econ.*, 1993–.

Principal Fields of Interest C5 Econometric Modeling; H5 National Government Expenditures and Related Policies; N4 Government, War, Law, and Regulation.

Publications *Books*: 1. *Consumer Demand for Cars in the USA* (CUP, 1976); 2. *The Political Economy of British Capitalism* (with Aaronovitch *et al.*), (McGraw-Hill, 1981); 3. *The Economics of Militarism* (with D. Smith), (Pluto,

1983); 4. *Energy Demand in Asian Developing Economies* (with M.H. Pesaran, T. Akiyama), (OUP, 1998).

Articles: 1. 'A note on car replacement', *RESstud*, 41, 1974; 2. 'Military expenditure and capitalism', *Camb JE*, 1, March, 1977; 3. 'Military expenditure and investment', *J Comp E*, 4, 1980; 4. 'The demand for military expenditure', *EJ*, 90, 1980; 5. 'Needs costs and bureaucracy' (with J.P. Dunne, P. Pashardes), *EJ*, 94, 1984; 6. 'On error correction models' (with G. Alogoskoufis), *J. Econ. Surveys*, 5, 1991; 7. 'The Phillips curve, the persistence of inflation and the Lucas critique' (with G. Alogoskoufis), *AER*, 81, 1991; 8. 'Estimating long-run relationships from dynamic heterogeneous panels' (with M.H. Pesaran), *J Em*, 68, 1995; 9. 'The arms trade and arms control' (with P. Levine), *EJ*, 105, March 1995; 10. 'Current account solvency and the Felstein-Horioka puzzle' (with J. Coakley, F. Kulasi), *EJ*, 106, May 1996; 11. 'Growth and convergence in a multicountry empirical stochastic Solow model' (with K. Lee, M.H. Pesaran), *JAE*, 12, 1997; 12. 'The arms trade' (with P. Levine), *Econ. Pol.*, 25, Oct. 1997; 13. 'Growth empirics: a panel data approach – a comment' (with K. Lee, M.H. Pesaran), *QJE*, 113, Feb. 1998; 14. 'Structural analysis of cointegrating VARs' (with M.H. Pesaran), *J. Econ. Surveys*, 12, Dec. 1998; 15. 'Pooled mean group estimation of dynamic heterogeneous panels' (with M.H. Pesaran, Y. Shin), *JASA*, 94, 1999; 16. 'Arms export controls and proliferation' (with P. Levine), *J. Conflict Resolution*, 44, Dec. 2000.

Principal Contributions Most of my work has involved the use of econometric methods and various types of economic theory to provide quantitative answers to applied questions. This has involved work in a large number of areas of micro- and macro-economics and in-

ternational relations. For instance, in the area of defence economics, the main questions have been what determines the level of military expenditure, what effects do changes in military expenditure have on the economy, and how does the arms trade operate? The model of the arms trade developed with Paul Levine has become widely used in the literature. Much of the applied work has involved panel data where both the number of units (countries, firms, football teams) and the number of time-periods are large. The work with Pesaran has developed methods for dealing with various issues that arise in such panels.

SMITH, V. Kerry

Born 1945, Jersey City, NJ, USA.

Current Posts Univ. Disting. Prof, Dept Agric. and Res. Econ., North Carolina State Univ., Raleigh, NC, USA, 1999–; Univ. Fell., Resources for the Future, Washington, DC, USA, 1988–.

Past Posts Asst Prof. Stats, Bowling Green State Univ., OH, 1971–72; Res. Assoc., Fell., Sr Fell., Resources for the Future, Washington, DC, 1971–73, 1976–77, 1977–79; Assoc. Prof., Prof. Econ., SUNY, 1973–75, 1975–78; Prof. Econ., Univ. North Carolina, 1979–83; Centennial Prof., Vanderbilt Univ., 1983–87; Univ. Disting. Prof. Econ., North Carolina State Univ., 1987–94; Arts and Sc. Prof. Environmental Econ., Duke Univ., 1994–99.

Degrees BA, PhD Rutgers Univ., 1966, 1970.

Offices and Honours Phi Beta Kappa; Guggenheim Foundation Fell., 1976–77; Vice-Pres., Pres., Assoc. Environmental and Resource Econ., 1979–80, 1984–86; Exec. Comm., Vice-Pres., Pres., SEA, 1987–89; Disting. Service Award, Assoc. Environmental and Resource Econ., 1989;

F.W. Waugh Medal, Fell., AAEA, 1992, 2002.

Editorial Duties Ed. Bds, *Land Econ.*, 1977–, *REStat*, 1990–97, *JEEM*, 1986–96, 1998–; Ed., *Advances Apl. Micro-Econ.*, 1981–90.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; C1 Econometric and Statistical Methods: General; Q2 Renewable Resources and Conservation: Environmental Management.

Publications *Books*: 1. *Monte Carlo Methods: Their Role for Econometrics* (D.C. Heath, 1973); 2. *Technical Change, Relative Prices and Environmental Resource Evaluation* (JHUP, 1974); 3. *The Costs of Congestion: An Econometric Analysis of Wilderness Recreation* (with C.J. Cicchetti), (Ballinger, 1976); 4. *Structure and Properties of a Wilderness Travel Simulator: An Application to the Spanish Peaks Area* (with J.V. Krutilla), (JHUP, 1976); 5. *Scarcity and Growth Reconsidered* (JHUP, 1979); 6. *Explorations in Natural Resource Economics* (ed. with J.V. Krutilla), (JHUP, 1982); 7. *Environmental Policy Under Reagan's Executive Order: The Role of Benefit–Cost Analysis* (ed.), (Univ. North Carolina Press, 1984); 8. *Measuring Water Quality Benefits* (with W.H. Desvousges), (Kluwer-Nijhoff, 1986); 9. *Valuing Natural Assets* (ed. with R.J. Kopp), (Resources for the Future, 1993); 10. *The Smoking Puzzle: Information, Risk Perception and Choice* (with F.A. Sloan, D.H. Taylor, Jr), (HUP, 2003).

Articles: 1. ‘The evaluation of natural resource adequacy: elusive quest or frontier of economic analysis?’, *Land Econ.*, 56, Aug. 1980; 2. ‘The measurement of nonneutral technological change’ (with R.J. Kopp), *IER*, 26, Feb. 1985; 3. ‘An empirical analysis of the economic value of a risk change’ (with W.H. Desvousges), *JPE*, 95, Feb. 1987; 4. ‘A general equilibrium analysis of partial equilibrium wel-

fare measures: the case of climate change’ (with M.F. Kokoski), *AER*, 77, June 1987; 5. ‘Nonuse values in benefit cost analysis’, *SEJ*, 54, July 1987; 6. ‘Can we measure the economic value of environmental amenities?’, *SEJ*, 56, April 1990; 7. ‘Can markets value air quality? A meta-analysis of hedonic property models’ (with J.C. Huang), *JPE*, 103, Feb. 1995; 8. ‘Pricing what is priceless’, in H. Folmer, T. Tietenberg (eds), *International Yearbook of Environmental and Resource Economics* (Edward Elgar, 1997); 9. ‘Longevity expectations and death: can people predict their own demise?’ (with F.A. Sloan, D.H. Taylor, Jr), *AER*, 91, Sept. 2001; 10. ‘Benefit transfer via preference calibration: prudential algebra for policy’ (with G. Van Houtven, S. Pattanayak), *Land Econ.*, 78, Feb. 2002.

Principal Contributions Early work investigated the small sample properties of simultaneous equation estimators using Monte Carlo experiments with economically relevant models. Initial research in resource and environmental economic developed three areas: (1) treatment of changes in relative prices in benefit–cost analyses involving unique natural environments; (2) modelling the demand for and supply of wilderness recreation with alternative levels of congestion; and (3) estimating the role of substitute facilities in modelling the demand for and valuation of outdoor recreational facilities. Later, research efforts considered the evaluation of the adequacy of natural resources including the measurement of natural resource scarcity and evaluation, in general, and the treatment of natural resources in economic models. In the process of evaluating the role of natural resources in economic models, conducted with R.J. Kopp, an evaluation of the authenticity of neoclassical model descriptions of factor input substitution and nonneutral technical change. In the last

ten years, research has focused on the use of revealed and stated preference methods to recover measures of the economic value of environmental resources, including environmental risks. Most recent theoretical research with H. Sieg, H.S. Banzhaf, R. Walsh considers use of locational equilibrium models in developing consistent estimates of general equilibrium welfare measures. This work is part of a larger effort to integrate non-market valuation of environmental resources with general equilibrium models. Additional research considers the role of health, risk aversion and age in valuing reductions in mortality risk, application of structural meta analysis to benefit transfer, and integration of economic and ecological models in estimating value of water quality improvements.

SMITH, Vernon Lomax

Born 1927, Wichita, KS, USA.

Current Post Prof Econ. and Law, George Mason Univ., Arlington, VA, USA, 2001–.

Past Posts Instr. Econ., Univ. Kansas, 1951–52; Econ., Harvard Econ. Res. Project, 1954–55; Asst Prof., Assoc. Prof., Prof., Mgmt Sc. Res. Group, Purdue Univ., 1955–56, 1957–59, 1961–67; Vis. Prof., Stanford Univ., 1961–62; Prof., Brown Univ., 1967–68; Prof., Univ. Massachusetts, 1968–75; Visitor, Cowles Foundation, Yale Univ., 1971; Vis. Prof., Univ. Southern California Tech., 1974–75; Regents' Prof. Econ., Univ. Arizona, Tucson, AZ, USA, 1975–2001.

Degrees BSEE California Inst. Tech., 1949; MA Univ. Kansas, 1952; PhD Harvard Univ., 1955.

Offices and Honours Faculty Res. Fell., Ford Foundation, 1958–59; Fell., Center Adv. Study Behav. Sc., 1972–73; Sherman Fairchild Disting. Scholar, Cali-

fornia Inst. Tech., 1973–74; Best *EI* article, WEA, 1980, 1982; Adjunct Scholar, Cato Inst., 1983; Mem., NAS, 1995; Adam Smith Award, Assoc. Private Enterprise Educ., 1995; Nobel Prize for Econ., 2002.

Editorial Duties Contrib. Ed., *Bus. Scope*, 1957–62; Ed. Bds, *AER*, 1969–72, *Cato J.*, 1983–, *JEBO*, 1985–, *J. Econ. Methodology*, 1995–98, *Games and Econ. Behav.*, 1996–, *Econ. Design*, 1996–.

Principal Fields of Interest D0 Microeconomics: General; D4 Market Structure and Pricing; C9 Design of Experiments.

Publications *Books*: 1. *Economics: An Analytical Approach* (with K. Davidson, J. Wiley), (R.D. Irwin, 1958, 1962); 2. *Investment and Production* (HUP, 1961); 3. *Economics of Natural and Environmental Economics* (Gordon & Breach, 1971); 4. *Research in Experimental Economics*, Vols 1, 2, 3 (JAI Press, 1979, 1982, 1984); 5. *Schools of Economic Thought: Experimental Economics* (ed.), (Edward Elgar, 1990); 6. *Papers in Experimental Economics* (CUP, 1991); 7. *Experiments in Decision, Organization and Exchange* (ed. with R. Day), (Elsevier, 1993); 8. *Bargaining and Market Behavior* (CUP, 2000).

Articles: 1. 'The theory of investment and production', *QJE*, 73, Feb. 1959; 2. 'An experimental study of competitive market behavior', *JPE*, 70, April 1962; 3. 'Economics of production from natural resources', *AER*, 58, June 1968; 4. 'Corporate financial theory under uncertainty', *QJE*, 84, Aug. 1970; 5. 'Economics of the primitive hunter culture with applications to Pleistocene extinction and the rise of agriculture', *JPE*, 83, July–Aug. 1975; 6. 'Microeconomic systems as an experimental science', *AER*, 72, Dec. 1982; 7. 'Experimental methods in the political economy of exchange', *Sc.*, 10, Oct. 1986; 8. 'Using experiments to inform the privatization/deregulation movement in electricity' (with S. Rassenti, B. Wilson), *Cato*

J., 21, Winter 2002; 9. 'Theory, experiment and the FCC spectrum auctions' (with J. Banks, M. Olson, D. Porter, S. Rassenti), *JEBO*, forthcoming; 10. 'Method in experiment', *Experimental Econ.*, forthcoming.

Principal Contributions My research in 1955–65, centred on the integration of investment, capital and production theory. This work was extended to deal with problems of production, investment and pricing decisions over time, and with tax and depreciation policies. The economics of uncertainty, particularly corporate financial theory, occupied the period 1966–72, leading to the unpopular result that the M–M theorem fails when corporate bonds are subject to default risk. My research in natural resource economics (1966–77) emphasised the bionomic and geonomic stockflow and property right failure characteristics of production from natural resources. This work provides an explanation of the agricultural revolution which coincides suspiciously with the late Pleistocene extinction of the favourite animals hunted by humankind. This was the critical period in the creation of modern humankind in the sense that agriculture appears to have forced the development of much more sophisticated property right systems, and their derived exchange systems, than had characterised humankind as a nomadic hunter-gatherer. My first experimental market was conducted in the spring of 1956, leading to article 2 in 1962. The experimental study of market performance under alternative institutions of contract has continued to excite my research interest down to the present time. The importance of this work is in providing a methodology that makes it possible for us, as economists, to demonstrate what it is that we think we know about market allocation. Unfortunately, a great deal of what we think we know, and what we teach, is either not true or

not demonstrated. This should be disturbing only to the insufferably arrogant since humans as a species distinct from other animals have been around for over one million years; exchange and property rights systems of the kind made possible by the agricultural revolution date from 10–15,000 years ago; and we began the serious study of economics only in the last 200 years.

SNYDER, Edward A. n.e.

SNYDER, Jr, James M. n.e.

SOBEL, Joel Kenneth

Born 1954, Detroit, MI, USA.

Current Post Prof. Econ., Univ. California, San Diego, La Jolla, CA, USA, 1978–.

Past Posts Res. Fell., Nuffield Coll., Oxford, 1981–82; Vis. Assoc. Prof. Econ., California Inst. Tech., 1984–85; Vis. Prof. Econ., Univ. Wisconsin-Madison, 1988–89; Fell., Center Adv. Study in Behav. Sc., Stanford, 1999–2000.

Degrees BS (Maths) Univ. Michigan, 1974; MA, PhD (Apl. Maths) Univ. California, Berkeley, 1978, 1978.

Offices and Honours Mem., Math. Sc. Res. Inst., Berkeley, 1985–; Sloan Foundation Fellowship, 1987–89; Fell., Em Soc, 1990–.

Editorial Duties Assoc. Ed., *J Math E*, 1989–94, *JET*, 1993–, *JEL*, 1998–99, *Games and Econ. Behav.*, 2001–; Ed. Bd, *JEL*, 2000–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D0 Microeconomics: General.

Publications *Articles*: 1. 'Distortion of utilities and the bargaining problem', *Em*, 49, 1981; 2. 'Strategic information trans-

mission' (with V.P. Crawford), *Em*, 50, 1982; 3. 'A multistage model of bargaining' (with I. Takahashi), *REStud*, 50, 1983; 4. 'Cyclic pricing by a durable goods monopolist' (with J. Conlisk, E. Gerstner), *QJE*, 99, 1984; 5. 'The timing of sales', *REStud*, 51, 1984; 6. 'A theory of credibility', *REStud*, 52, Oct. 1985; 7. 'Equilibrium selection in signaling games' (with J.S. Banks), *Em*, 55, May 1987; 8. 'Samurai accountant: a theory of auditing and plunder' (with K.C. Border), *REStud*, 54, Oct. 1987; 9. 'Strategic stability and uniqueness in signaling games' (with I.-K. Cho), *JET*, 50, April 1990; 10. 'Durable goods monopoly with entry of new consumers', *Em*, 59, Sept. 1991; 11. 'How to count to one thousand', *EJ*, 102, Jan. 1992; 12. 'Signalling' (with D.M. Kreps), in R. Aumann, S. Hart (eds), *Handbook of Game Theory*, Vol. II (N-H, 1994); 13. 'An evolutionary approach to pre-play communication' (with Y.-G. Kim), *Em*, 63, Sept. 1995; 14. 'Deviations, dynamics and equilibrium refinements' (with M. Rabin), *JET*, 68, Jan. 1996; 15. 'A model of declining standards', *IER*, 41, May 2000; 16. 'On the dynamics of standards', *RandJE*, 32, Winter 2001; 17. 'Can we trust social capital?', *JEL*, 40, March 2002.

Principal Contributions n.e.

SOLON, Gary R.

Born 1954, Washington, DC, USA.

Current Post Prof. Econ., Univ. Michigan, Ann Arbor, MI, USA, 1983–.

Past Posts n.e.

Degrees BA Harvard Univ., 1975; PhD Princeton Univ., 1983.

Principal Fields of Interest J0 Labor and Demographic Economics: General; C1 Econometric and Statistical Methods: General.

Publications Articles: 1. 'The minimum wage and teenage employment: a

reanalysis with attention to serial correlation and seasonality', *JHR*, 20, 1985; 2. 'Work incentive effects of taxing unemployment benefits', *Em*, 53, 1985; 3. 'Estimates of the direct effects of comparable worth policy' (with G. Johnson), *AER*, 76, 1986; 4. 'A longitudinal analysis of sibling correlations in economic status' (with M. Corcoran, R. Gordon, D. Laren), *JHR*, 26, 1991; 5. 'The association between men's economic status and their family and community origins' (with M. Corcoran, R. Gordon, D. Laren), *JHR*, 27, 1992; 6. 'Intergenerational income mobility in the United States', *AER*, 82, 1992; 7. 'Shift work over the business cycle' (with J. Mayshar), *AER*, 83, 1993; 8. 'Measuring the cyclicity of real wages: how important is composition bias?' (with R. Barsky, J. Parker), *QJE*, 109, 1994; 9. 'Wage changes and intrafirm job mobility over the business cycle: two case studies' (with W. Whatley, A.H. Stevens), *ILRR*, 50, 1997; 10. 'Intergenerational mobility in the labor market', *Handbook of Labor Economics* (N-H, 1999); 11. 'Correlations between neighboring children in their subsequent educational attainment' (with M. Page, G. Duncan), *REStat*, 82, 2000; 12. 'The impact of health plan report cards on managed care enrollment' (with D. Scanlon, M. Chernew, C. McLaughlin), *JHE*, 21, 2002; 13. 'Intergenerational income mobility among daughters' (with L. Chadwick), *AER*, 92, 2002; 14. 'Jackknife minimum distance estimation' (with G. Kezdi, J. Hahn), *Econ. Letters*, 76, 2002; 15. 'Cross-country differences in intergenerational earnings mobility', *JEP*, 16, 2002; 16. 'Correlations between brothers and neighboring boys in their adult earnings: the importance of being urban' (with M. Page), *J Lab E*, forthcoming 2003; 17. 'Earnings dynamics and inequality among Canadian men, 1976–1992: evidence from longitudinal income tax records' (with M. Baker), *J Lab E*, forth-

coming 2003; 18. 'Correlations between sisters and neighboring girls in their subsequent income as adults' (with M. Page), *JAE*, forthcoming; 19. 'Influences of nature and nurture on earnings variation: preliminary findings from a study of various sibling types in Sweden' (with A. Bjorklund, M. Jantti), in S. Bowles, H. Gintis, M. Osborne (eds), *Unequal Chances: Family Background and Economic Success* (Russell Sage Foundation, forthcoming); 20. 'A model of intergenerational mobility variation over time and place', in M. Corak (ed.), *Generational Income Mobility in North America and Europe* (CUP, forthcoming).

Principal Contributions Research on effects of family and community origins on economic status, labor markets over the business cycle, determinants of earnings, incentive effects of unemployment insurance, and labor force data issues.

SOWELL, Fallaw B. n.e.

SPADY, Richard Henry

Born 1952, Scranton, PA, USA.

Current Posts Sr Res. Fell., Nuffield Coll., Oxford, UK, 1999–; Adjunct Prof. Econ., Northwestern Univ., Evanston, IL, USA, 1992–.

Past Posts Asst Prof. Econ., Swarthmore Coll., 1978–80; Mem. Tech. Staff, Bell Labs, 1980–83, Bell Communications Res., 1984–91; Roy Harrod Fell. in Econ. Bus. and Public Pol., Nuffield Coll., Oxford, 1992–99.

Degrees BA Haverford Coll., 1973; PhD MIT, 1978.

Principal Field of Interest C1 Econometric and Statistical Methods: General.

Publications *Books*: 1. *Econometric Estimation of Cost Functions for the Regulated Transportation Industries* (Garland,

1979); 2. *Freight Transport Regulation: Equity, Efficiency and Competition in the Rail and Trucking Industries* (with A.F. Friedlaender), (MIT Press, 1981).

Articles: 1. 'The persistence of cost overruns' (with S. Sheffrin), *J. Econ. Issues*, 10, June 1976; 2. 'Hedonic cost functions for the regulated trucking industry' (with A.F. Friedlaender), *Bell JE*, 9, Spring 1978; 3. 'A derived demand function for freight transportation' (with A.F. Friedlaender), *REStat*, 62, Aug. 1980; 4. 'Random reservation prices and bidding behavior in OCS drainage auctions' (with K. Hendricks, R.H. Porter), *J Law E*, 32, Oct. 1989; 5. 'Duopoly with both ruin and entry' (with R.W. Rosenthal), *CJ*, 22, Nov. 1989; 6. 'The logit model of monopolistic competition: brand diversity' (with D. Besanko, M.K. Perry), *J Ind E*, 38, June 1990; 7. 'Asymptotic expansions of the information matrix test statistic' (with A.D. Chesher), *Em*, 59, May 1991; 8. 'Factors affecting the output and quit propensities of production workers' (with R.W. Klein, A.M. Weiss), *REStud*, 58, Oct. 1991; 9. 'Saddlepoint approximations for regression models', *Biometrika*, 78, Dec. 1991; 10. 'An efficient semiparametric estimator for binary response models' (with R.W. Klein), *Em*, 61, March 1993; 11. 'Information theoretic approaches to inference in moment condition models' (with G.W. Imbens, P. Johnson), *Em*, 66, March 1998; 12. 'Confidence intervals in generalized method of moments models' (with G.W. Imbens), *J Em*, 107, March 2002.

Principal Contributions My early work was primarily in applications of econometrics to problems of industrial organization motivated by public policy issues in regulated industries. This developed into an interest in developing and evaluating new econometric methods that would provide a better fit between the assumptions and hypotheses of economic

theory and the data that are available to evaluate them. Some of this later work is devoted to developing efficient semiparametric estimators (as in the paper with Roger Klein on the binary response model), while other work is about assessing the efficacy of inferential methods and diagnostic techniques in such semiparametric contexts. Most recently, I have been working on semiparametric factor analysis as a method for addressing problems in empirical political science (concerning the relation between attitudes and voting behavior) and financial economics (asset pricing).

SPIER, Kathryn Elizabeth

Born 1963, Port Washington, NY, USA.

Current Posts Prof., Kellogg Grad. Sch. Mgmt, Northwestern Univ., Evanston, IL, USA, 2003–; Res. Assoc., NBER, USA, 2002–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Harvard Univ., 1989–93, 1993–94; NBER Faculty Res. Fell., 1990–2002; Vis. Assoc. Prof., Univ. Chicago, 1993–94; Assoc. Prof., Kellogg Grad. Sch. Mgmt, Northwestern Univ., 1993–2003.

Degrees BA Yale Univ., 1985; PhD MIT, 1989.

Offices and Honours Grad. Fellowship, NSF, 1985–88; Grad. Fellowship Law and Econ., Olin Foundation, 1988–89; Olin Fellowship for Jr Faculty, 1992–93; Olin Fellowship, Univ. Chicago, 1993–94; Bd Dirs and Exec. Comm., Amer. Law and Econ. Assoc., 1997–2000; Sidney J. Levy Teaching Award, Northwestern Univ., 2002.

Editorial Duties Assoc. Ed., *RandJE*, 1998–; Ed. Bds, *JLEO*, 1997–, *Intl Rev. Law and Econ.*, 1999–, *BE-Js EAP*, 2001–.

Principal Fields of Interest K0 Law and Economics: General; L2 Firm Objectives, Organization, and Behavior.

Publications Articles: 1. ‘The dynamics of pretrial negotiation’, *REStud*, 59, Jan. 1992; 2. ‘Incomplete contracts and signaling’, *RandJE*, 23, Autumn 1992; 3. ‘Expertise and contingent fees: the role of asymmetric information in attorney compensation’ (with J. Dana), *JLEO*, 9, Oct. 1993; 4. ‘Capital structure as a bargaining tool: the role of leverage in contract renegotiation’ (with E. Perotti), *AER*, 83, Dec. 1993; 5. ‘Designing a private industry: government auctions with endogenous market structure’ (with J. Dana), *J Pub E*, 53, 1994; 6. ‘Settlement bargaining and the design of damage awards’, *JLEO*, 10, April 1994; 7. ‘Pretrial bargaining and the design of fee-shifting rules’, *RandJE*, 25, Summer 1994; 8. ‘On the efficiency of privately stipulated damages for breach of contract: entry barriers, reliance, and renegotiation’ (with M. Whinston), *RandJE*, 26, Summer 1995; 9. ‘Burdens of proof in civil litigation: an economic perspective’ (with B. Hay), *J. Legal Stud.*, 26, June 1997; 10. ‘Capital structure, priority rules, and the settlement of civil claims’ (with A. Sykes), *Intl Rev. Law and Econ.*, 18, 1998; 11. ‘Settlement of litigation’ (with B. Hay), *NPDE*, 1998; 12. ‘Revenue sharing and vertical control in the video rental market’ (with J. Dana), *J Ind E*, 49, Sept. 2001; 13. ‘Settlement with multiple plaintiffs: the role of insolvency’, *JLEO*, 18, Oct. 2002; 14. ‘The use of most-favored-nation clauses in settlement of litigation’, *RandJE*, 34, Spring 2003; 15. ‘Tied to the mast: most-favored-nation clauses in settlement contracts’, *J. Legal Stud.*, 32, 2003.

Principal Contributions A theme that runs throughout my research is that economic agents (individuals, firms and other organizations) frequently resolve their disputes in the shadow of the legal system. Should their negotiations break down, laws, legal institutions and any private contracts that exist between them could

be instrumental in resolving the disagreement. In one strand of research, I have shown that negotiations before trial tend to be 'inefficient' when parties are asymmetrically informed about the outcome at trial. Some cases necessarily go to trial and many others settle on the courthouse steps after lengthy (and costly) delay. My research has also explored how laws and public policies (such as fee shifting statutes and scheduling of damage awards) and private contracts can improve upon pretrial bargaining outcomes. Another strand of research explores the design of private contracts, paying special attention to the fact that private contracts shape the outcome of negotiations, and may be chosen strategically for this purpose. Debt contracts, revenue-sharing contracts, most-favored-nation clauses, damage measures for breach of contract, and settlement contracts have all been analyzed.

SPILLER, Pablo T.

Born 1951, Montevideo, Uruguay.

Current Posts Joe Shoong Prof. Intl Bus. and Prof. Bus. and Public Pol., Haas Sch. Bus., Univ. California, Berkeley, CA, USA, 1995–.

Past Posts Vis. Researcher, Sc. Pol. Res. Unit, Univ. Sussex, Brighton, England, 1975; Researcher, Falk Inst. Econ. Res. in Israel, Jerusalem, Israel, 1975–76; Mem., Falk Innovation Project Group; Ass. Prof. Econ., Univ. Pennsylvania, 1980–84; Vis. Asst Prof., Tel Aviv Univ., 1981; Tinker Postdoctoral Fell., Dept Econ., Univ. Chicago, 1983–84; Vis. Assoc. Prof. Econ., Univ. California, Berkeley, 1985–86, Stanford Univ., 1986–87; Sr Res. Fell., Hoover Inst., Stanford Univ., 1984–87; Assoc. Prof. Econ., Univ. Illinois, 1987–89; William B. McKinley Prof. Econ. and Public Utilities, Prof. Govt and Public Affairs, Univ. Illinois, Urbana-

Champaign, 1987–94, 1990–94; Ameritech Res. Fell., Inst. Govt and Public Affairs, Univ. Illinois, 1988–90; Vis. Prof. Bus. Econ., Center Study Econ. and State, Grad. Sch. Bus., Univ. Chicago, 1989; Vis. Res. Prof., Universitywide Energy Res. Group, Univ. California, Berkeley, 1991–92; Olin Foundation Fell., Law Sch., Univ. California, Berkeley, 1991–92; Vis. Prof. Bus., Vis. Prof. Bus. and Public Pol., Haas Grad. Sch. Bus., Univ. California, Berkeley, 1991–93, 1993–95; Acad. Dir., World Bank Project on 'Regulations, Inst. and Econ. Efficiency', 1992–93; Special Advisor, Bureau Econ., FTC, 2002.

Degrees BA (Econ. and Bus. Admin.) Univ. de la Republica, Montevideo, Uruguay, 1972; BA (*cl*), MA (*cl*) Hebrew Univ., Jerusalem, 1974, 1976; MA, PhD Univ. Chicago, 1977, 1980.

Offices and Honours Dean's Excellence List, Hebrew Univ. Jerusalem, 1973, 1974; Intl Trade Workshop Fellowship, Hebrew Univ. Jerusalem, 1975; Lilly Fellowship, Univ. Chicago, 1976–79; Fellowship, Ohlin-Center for Study of Econ. and State, Univ. Chicago, 1979–80; Young Faculty Fellowship Award, Univ. Pennsylvania, Summer 1981; Ameritech Res. Fellowship, Univ. Illinois, 1988–89, 1989–90; Mem. Org. Comm., 1991 Summer Meetings, Em Soc, Punta del Este, Uruguay; Mem., Nominating Comm., WEA, 1991; Dir., Program for Res. Amer. and Intl Regulatory Issues and Environment, Inst. Govt Public Affairs, Univ. Illinois, 1992–94; Founding Mem., Electric Power Res. Consortium, Univ. California, Berkeley, 1993–; Mem., Intl Advisory Bd, Center Study Econ. and Social Reality, Montevideo, Uruguay, 1993–; Pittsburgh Supercomputer Center, 1994–96; Mem., Org. Comm., 1994 Winter Meetings, N. Amer. Chap., Em Soc; Mem., Steering Comm., Annenberg Center Pol. Res., Univ. Pennsylvania, 1995; Mem., Res.

Determinants Telecomm. Regulation, NSF, 1995–97; Disting. Res. Fell., SNF, Bergen, Norway, 1996–; Bd Advisors, Center Institutional Analysis, Buenos Aires, 1997–; Mem., Commission for Selection of Pres. for ENER GAS (Gas Regulatory Commission), Argentina, 1998; Bd Dirs, Amer. Law and Econ. Assoc., 1998–2001; Acad. Advisory Bd, Univ. CEMA, Buenos Aires, 2000–.

Editorial Duties Co-Ed., *JEMS*, 1991–2002, *JLEO*, 1994–; Assoc. Ed., *J Ind E*, 1993–98, *J. Pol. Reform*, 1994–, *JAE*, 1998–.

Principal Fields of Interest L0 Industrial Organization: General; L4 Antitrust Policy; L5 Regulation and Industrial Policy.

Publications Books: 1. *Strategy, Structure and Antitrust in the Carbonated Soft Drink Industry* (with T. Muris, D. Scheffman), (Quorum Books, 1993); 2. *The Path Towards Rational Regulation in Latin America and the Caribbean: Issues, Concepts and Experience* (with J.L. Guasch), *Directions in Devlp. series*, (World Bank, 1996); 3. *The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation* (ed. with B. Levy), (CUP, 1996); 4. *The Path Towards Rational Regulation in Latin America and the Caribbean: Issues, Concepts and Experience*, (with J.L. Guasch), *Directions in Devlp. series* (World Bank, 2nd edn 1999); 5. *Spilled Water: Institutional Commitment in the Provision of Water Services in Latin America* (ed. with W. Savedoff), (Interamer. Devlp., 1999; trans., Spanish); 6. *Regulación de los Sectores de Infraestructura y Energéticos en México (Infrastructure and Energy Regulation in México)*, (ed with C. Sales), (ITAM/Porrúa Grupo Editorial, 1999); 7. *Institutions, Contracts and Regulation in Argentina* (in Spanish), (with M. Abdala), (Temas, 2000).

Articles: 1. ‘The effects of entry regulation on oligopolistic interaction: the Uruguayan banking sector’ (with E. Favaro), *RandJE*, 84, Summer 1984; 2. ‘Managing supplier switching’ (with J. Demski, D. Sappington), *RandJE*, 87, Spring 1987; 3. ‘A rational choice theory of supreme court statutory decisions with applications to the *State Farm* and *Grove City* cases’ (with R. Gely), *JLEO*, 6, 1990, repr. in C.K. Rowley (ed.), *Public Choice Theory* (Edward Elgar, 1993), and O.E. Williamson, S.E. Masten (eds), *Transaction Cost Economics* (Edward Elgar, 1995); 4. ‘Strategy and transaction costs in the carbonated soft drink industry’ (with T. Muris, D. Scheffman), *JEMS*, 1, Spring 1992, repr. in S. Masten (ed.), *Studies in Contracting and Organization* (CUP, 1996); 5. ‘Congressional control or judicial independence: the determinants of US Supreme Court labor decisions: 1949/1987’ (with R. Gely), *RandJE*, 23, 1992; 6. ‘Fare determination in airlines hub-and-spoke networks’ (with J. Brueckner, N. Dyer), *RandJE*, 23, Autumn 1992; 7. ‘A positive theory of legislative intent’ (with E. Schwartz, S. Urbiztondo), *Law and Contemporary Problems*, 57, 1994; 8. ‘Economies of traffic density in the deregulated airline’ (with J. Brueckner), *J Law E*, 37, 1994; 9. ‘The institutional foundations of regulatory commitment: a comparative analysis of five country studies of telecommunications regulation’ (with B. Levy), *JLEO*, 10, 1994, repr. in O.E. Williamson, S.E. Masten (eds), *Transaction Cost Economics* (Edward Elgar, 1995), and P.T. Pablo, B. Levy (eds), *Institutional Foundations of Regulatory Commitment* (CUP, 1996); 10. ‘The effect of incentive regulation on local exchange companies’ deployment of digital technology’ (with S. Greenstein, S. McMaster), *JEMS*, 4, 1995.

Principal Contributions My work is centered on the analysis of regulation, its

origins, its process and its effects. While my early work focussed mostly on the effects, my recent work has tended to focus more on the origins and process. In undertaking this research I have placed emphasis on combining empirical and theoretical work. I have worked on three main industries: airlines, energy and telecommunications. Since the late 1980s I have been working on the determinants of regulatory commitment from a positive political perspective. Part of that project has involved understanding the role of the courts in the regulatory process. This required looking at the courts from a very different angle than previously done. In particular, while prior legal and political science analyses of judicial decisions were either normative or based on sociological analyses, I started analyzing judicial decision from a positive perspective. In this approach I consider courts as strategic political players with well-defined preferences immersed in a standard division of powers political game. Among other topics, I have applied this approach to the analysis of Supreme Court-labor relations, to the Court's famous reversal following the threat of Roosevelt's Court Packing Plan during the New Deal, to its choice of doctrines, to its review of agency decision making, and to the nature of State Supreme Court decision making. Another part of this major research project has been a comparative analysis of the ways different countries have attempted to solve basic commitment problems in the utility areas. This has led me to analyze the role of political institutions in a comparative perspective, emphasizing the roles of constitutional rules, electoral systems, and norms of bureaucratic and judicial decision making. This comparative research has also motivated me to look more closely at the way the judiciary is organized and its implications for policy outcomes.

SQUIRE, Lyn n.e.

STAFFORD, Frank Peter

Born 1940, Chicago, IL, USA.

Current Posts Prof. Econ., Dept Econ., Univ. Michigan, Ann Arbor, MI, USA, 1974–; Sr Res. Scientist, Inst. Social Res., Univ. Michigan, Ann Arbor, MI, USA, 1994–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. Michigan, 1968–71, 1971–74; Vis. Assoc. Prof. Econ., Grad. Sch. Bus., Stanford Univ., 1973; Special Asst Econ. Affairs, Office of Asst Secretary for Pol., Evaluation and Res., US Dept Labor, Washington, DC, 1975; Vis. Prof. Econ., Tinbergen Inst., Univ. Amsterdam, The Netherlands, 1994.

Degrees BA Northwestern Univ., 1962; MBA, PhD Univ. Chicago, 1964, 1968.

Offices and Honours Chair, Dept Econ., Univ. Michigan, 1980–83; Dir., Panel Study of Income Dynamics (PSID), 1995–; Assoc. Dir., Inst. Social Res., 2000–02; Receipt of 'Nifty Fifty' Award, NSF, 2000 (Award for PSID as one of 50 most significant projects sponsored by US NSF on occasion of agency's 50th anniversary).

Editorial Duties Bd Eds, *AER*, 1976–78; Ed., special issue *JHR*, 2002–03.

Principal Fields of Interest D1 Household Behavior; J0 Labor and Demographic Economics: General; J2 Time Allocation; Work Behavior; Employment Determination and Creation.

Publications *Book*: 1. *Time, Goods and Well-Being* (with F.T. Juster), (Inst. Social Res., Univ. Michigan, 1985).

Articles: 1. 'The propensity of consume separate types of income: a generalized permanent income hypothesis' (with R. Holbrook), *Em*, 39, Jan. 1971; 2. 'Social returns to quantity and quality of schooling' (with G. Johnson), *JHR*, 8, Spring

1973; 3. 'A model of work effort and productive consumption' (with M. Cohen), *JET*, 59, March 1974; 4. 'The earnings and promotion of women faculty' (with G.E. Johnson), *AER*, 64, Dec. 1974; 5. 'Compensation of cooperating factors' (with A. Deardorff), *Em*, 45, July 1976; 6. 'Labor, leisure, and training over the life cycle' (with H. Ryder, P. Stephan), *IER*, 17, Oct. 1976; 7. 'Do union members receive compensating wage differentials?' (with G. Duncan), *AER*, 70, June 1980; 8. 'Forestalling the demise of empirical economics: the role of microdata in labor economic research', in O. Ashenfelter, R. Layard (eds), *Handbook of Labour Economics* (N-H, 1987); 9. 'The allocation of time: empirical findings, behavioral models, and problems of measurement' (with T. Juster), *JEL*, 29, June 1991; 10. 'Childcare subsidies and labor supply in Sweden' (with S. Gustafsson), *JHR*, 27, Winter 1992; 11. 'Time out for childcare and career wages of men and women' (with M. Sundström), *Labour*, 10, Autumn 1996; 12. 'Alternative approaches to occupational exclusion' (with G.E. Johnson), *The Economics of the Family and Gender* (Arne Ryde Foundation, Lund, Sweden, 1998); 13. 'Wealth dynamics of American families, 1984–1994' (with E. Hurst, M.C. Luoh), *BPEA*, I, 1998; 14. 'Technology regimes and the distribution of real wages' (with G. Johnson), in C. Greene, G. Eliasson (eds), *Microfoundations of Economic Growth: A Schumpeterian Perspective* (Univ. Michigan Press, 1998); 15. 'The labor market implications of international trade' (with G.E. Johnson), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3 (N-H, 1999); 16. 'Portfolio choices of parents and their children as young adults: asset accumulation by African American families' (with N. Chiteji), *AER*, 89, May 1999; 17. 'Until death do us part or I get my pension?' (with H. Ono), *Scand*

JE, 103, Winter 2001; 18. 'Event history calendar methods study: experimental design, analytical and operational results' (with R.F. Belli, W.P. Shay), *Public Opinion Q.*, 65, 2001; 19. 'Wealth dynamics in the late 1990s: Sweden and the United States' (with A. Klevmarcken, J. Lupton), *JHR*, 38, Winter 2003.

Principal Contributions The research concerns the application of microeconomic theories of household behavior and markets as the source of predictions to be tested with advanced designs applied to collection of US micro-data. In particular the primary data source is longer-term panels – such as the Consumer Debt and Wealth Panel (1967–70), the American Time Use Panel (1975–82), and the Panel Study of Income Dynamics (PSID), 1968–2003. The theories range from intertemporal human capital and consumption models, to general equilibrium models of wage structures as applied to gender and skill-based wage differences, to simple partial equilibrium models of responses to assets returns, prices and signaling. The main emphasis is on designing and implementing data collections which can be used to reject the maintained hypotheses. The empirical results from the data analysis, in turn, illuminate new directions for further theoretical and empirical development. We have learned the importance of time use data as a source of information on human investment in young children, and, for children age 0–12 as of 1997, have a national time diary panel, 1997–2003, as a major supplement to the PSID. The data from this complex panel are available on-line at <http://www.isr.umich.edu/src/psid/> in a feature known as the PSID Data Center, a relational data archive linking individuals in families over the period 1968–2003.

STAHL, Dale O.

Born 1947, PA, USA.

Current Post Malcolm Forsman Centennial Prof., Dept Econ., Univ. Texas, Austin, TX, USA, 1988–.

Past Post Asst Prof., Dept Econ., Duke Univ., 1981–88.

Degrees BS (Electrical Eng.), MS (Electrical Eng.) MIT, 1968, 1969; PhD Univ. California, Berkeley, 1981.

Editorial Duties Assoc. Ed., *JEBO*, 2001–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; C9 Design of Experiments; L0 Industrial Organization: General.

Publications *Book*: 1. *The Economics of Electronic Commerce* (with S. Choi, A. Whinston), (Macmillan, 1997).

Articles: 1. ‘Monotonic variations of consumer surplus and comparative performance results’, *SEJ*, 51, Oct. 1984; 2. ‘The influence of black markets on a queue-rated centrally planned economy’ (with M. Alexeev), *JET*, 35, April 1985; 3. ‘Bankruptcy in temporary equilibrium forward markets with and without institutional restrictions’, *REStud*, 52, July 1985; 4. ‘Bertrand competition for inputs and Walrasian outcomes’, *AER*, 78, March 1988; 5. ‘Price-setting merchants in a simple trade model’, *J Int E*, 24, May 1988; 6. ‘Oligopolistic pricing with sequential consumer search’, *AER*, 79, Sept. 1989; 7. ‘Entropy control costs and entropic equilibria’, *Intl J. Game Theory*, 19, 1990; 8. ‘The graph of prisoners’ dilemma supergame payoffs as a function of the discount factor’, *Games and Econ. Behav.*, 3, Aug. 1991; 9. ‘Informative price advertising in a sequential search model’ (with J. Robert), *Em*, 61, May 1993; 10. ‘Evolution of smart n players’, *Games and Econ. Behav.*, 5, 1993; 11. ‘Informative advertising and product match’ (with M. Meurer), *IJIO*, 12, 1994; 12. ‘On players’

models of other players – theory and experimental evidence’ (with P. Wilson), *Games and Econ. Behav.*, 10, 1995; 13. ‘Oligopolistic pricing with sequential consumer search and heterogeneous search costs’, *IJIO*, 14, Oct. 1996; 14. ‘Boundedly rational rule learning in a guessing game’, *Games and Econ. Behav.*, 16, 1996; 15. ‘A stochastic equilibrium model of internet pricing’ (with A. Gupta, A. Whinston), *JEDC*, 21, 1997; 16. ‘Rule learning in symmetric normal-form games: theory and evidence’, *Games and Econ. Behav.*, 32, 2000; 17. ‘Variable-frame level- n theory’, *Games and Econ. Behav.*, 32, 2000; 18. ‘Population rule learning in symmetric normal-form games: theory and evidence’, *JEBO*, 45, 2001; 19. ‘Aspiration-based and reciprocity-based rules in learning dynamics for symmetric normal-form games’ (with E. Haruvy), *J. Math. Psychology*, 46, 2002.

Principal Contributions I have published on a wide range of topics including benefit–cost analysis methods, temporary equilibrium theory, information and arbitrage in futures markets, the stability of quantity and price adjustment processes, strategic merchant price setting, consumer search and firm advertising strategies, political effects on tariff strategies, game theory and bargaining theory, bounded rationality and learning theories, and electronic commerce. My recent experimental testing of rule learning has been funded by the NSF. Through the Center for Research in Electronic Commerce, my research on allocating Internet infrastructure resources has been funded by the NSF and the telecommunications industry.

STAIGER, Douglas O. n.e.

STAIGER, Robert W. n.e.

STAMBAUGH, Robert n.e.

STARMER, Christopher Vaughan

Born 1961, Birmingham, UK.

Current Posts Prof. Econ. and Dir., Centre Decision Res. and Experimental Econ. (CeDEX), Univ. Nottingham, Nottingham, UK, 2000–.

Past Posts Res. Assoc., Lect. Econ., Sr Lect., Univ. East Anglia, 1987–89, 1987–95, 1995–2000.

Degrees BA City Birmingham Polytech., 1985; MA, PhD Univ. East Anglia, 1987, 1992.

Editorial Duties Assoc. Ed., *J. Econ. Psychology*, 2001–; Ed. Bds, *J. Econ. Methodology*, 2001–, *BE-Js EAP*, 2002–.

Principal Fields of Interest D8 Information and Uncertainty; C9 Design of Experiments; B4 Economic Methodology.

Publications *Articles*: 1. ‘Preference reversal: information processing or rational non-transitive choice?’ (with G. Loomes, R. Sugden), *EJ*, 99, suppl., 1989; 2. ‘Violations of the independence axiom in common ratio problems: an experimental test of some competing hypotheses’ (with R. Sugden), *Annals OR*, 19, 1989; 3. ‘Probability and juxtaposition effects: an experimental investigation of the common ratio effect’ (with R. Sugden), *JRU*, 2, 1989; 4. ‘Observing violations of transitivity by experimental methods’ (with G. Loomes, R. Sugden), *Em*, 59, March 1991; 5. ‘Does the random-lottery incentive system elicit true preferences?’ (with R. Sugden), *AER*, 81, Sept. 1991; 6. ‘Are preferences monotonic? Testing some implications of regret theory’ (with R. Sugden, G. Loomes), *Ec*, 59, 1992; 7. ‘Testing new theories of choice under uncertainty using the common consequence effect’, *REStud*, 59, 1992; 8. ‘Testing for juxtaposition effects and event-splitting

effects’ (with R. Sugden), *JRU*, 6, 1993; 9. ‘Focal points in pure coordination games: an experimental investigation’ (with J. Mehta, R. Sugden), *Theory and Decision*, 36, 1994; 10. ‘The nature of salience: an experimental investigation of pure coordination games’ (with J. Mehta, R. Sugden), *AER*, 84, 1994; 11. ‘Does part–whole bias exist? An experimental investigation’ (with I. Bateman, A. Munro, B. Rhodes, R. Sugden), *EJ*, conf. vol., 107, 1997; 12. ‘A test of the theory of reference dependent preferences’ (with I. Bateman, A. Munro, B. Rhodes, R. Sugden), *QJE*, 112, 1997; 13. ‘Dynamic choice and the common ratio effect’ (with R. Cubitt, R. Sugden), *EJ*, 108, 1998; 14. ‘On the validity of the random lottery incentive system’ (with R. Cubitt, R. Sugden), *J. Experimental Econ.*, 1, 1998; 15. ‘Cycling with rules of thumb: an experimental test for a new form of non-transitive behaviour’, *Theory and Decision*, 46, 1999; 16. ‘Experiments in economics: should we trust the dismal scientists in white coats?’ *J. Econ. Methodology*, 6, 1999; 17. ‘Developments in non-expected utility theory: the hunt for a descriptive theory of choice under risk’, *JEL*, 38, 2000; 18. ‘Discovered preferences and the independence axiom: testing for common consequence and common ratio effects using single-choice designs’ (with R. Cubitt, R. Sugden), *J. Econ. Methodology*, 8, 2001.

Principal Contributions My main research interests are in individual and strategic decision making, experimental economics and the methodology of economics. Since the mid-1980s I have contributed to the theory of choice under risk through an ongoing programme aimed at developing testing alternatives to expected utility theory. I have also done some experimental work investigating the role of salience in equilibrium selection in coordination games. I have contributed to ex-

perimental methodology through testing standard experimental mechanisms (e.g., the random lottery incentive system) and via the development of new experimental techniques. More recently, I have contributed to the methodology of economics, in particular the methodology of experimental economics.

STARTZ, Richard

Born 1952, White Plains, NY, USA.

Current Post Castor Prof. Econ., Univ. Washington, Seattle, WA, USA, 1999–.

Past Posts Asst Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1978–84; Assoc. Prof., Prof. Econ., Univ. Washington, 1984–91, 1991–99.

Degrees AB Yale Univ., 1974; PhD MIT, 1978.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; C1 Econometric and Statistical Methods: General; J7 Discrimination.

Publications *Books*: 1. *8087/80287/80387 for the IBM PC and Compatibles* (Brady Books, Simon & Schuster, 3rd edn 1988), (originally issued as *8087 Applications and Programming for the IBM PC and Other PCs*, 1983, 1985); 2. *Macroeconomics* (with R. Dornbusch, S. Fischer), (McGraw-Hill, 8th edn 2001).

Articles: 1. 'Implicit interest on demand deposits', *JME*, 5, Oct. 1979; 2. 'Competition and interest rate ceilings in commercial banking', *QJE*, 98, May 1983; 3. 'Private discrimination and social intervention in competitive labor markets' (with S.J. Lundberg), *AER*, 73, June 1983; 4. 'Can money matter?', *JME*, 13, May 1984; 5. 'Prelude to macroeconomics', *AER*, 74, Dec. 1984; 6. 'A Markov model of heteroskedasticity, risk, and learning in the stock market' (with C.M. Turner, C.R. Nelson), *J Fin E*, 25, Nov. 1989; 7. 'Monopolistic competition as a founda-

tion for Keynesian macroeconomic models', *QJE*, 104, Nov. 1989; 8. 'The distribution of the instrumental variables estimator and its *t*-ratio when the instrument is a poor one' (with C.R. Nelson), *J Bus*, Jan. 1990; 9. 'Some further results on the exact small sample properties of the instrumental variable estimator' (with C.R. Nelson), *Em*, 54, July 1990; 10. 'Mean reversion in stock prices? A reappraisal of the empirical evidence' (with M.J. Kim, C.R. Nelson), *REStud*, 58, May 1991, repr. in A. Lo (ed.), *Market Efficiency: Stock Market Behavior in Theory and Practice* (Intl Library Critical Writings in Fin. Econ., Vol. 3), (Edward Elgar, 1997); 11. 'Notes on imperfect competition and new Keynesian economics', in Dixon, Rankin, (eds), *The New Macroeconomics: Imperfect Markets and Policy Effectiveness* (CUP, 1995); 12. 'On the persistence of racial inequality' (with S. Lundberg), *J Lab E*, 16, April 1998; 13. 'Testing for mean reversion in heteroskedastic data based on Gibbs-sampling-augmented randomization' (with C.-J. Kim, C.R. Nelson), *J. Empirical Fin.*, 5, June 1998; 14. 'Maximum likelihood estimation of fractional cointegration with an application to US and Canadian bond rates' (with M. Dueker), *REStat*, 80, Aug. 1998; 15. 'Growth states and shocks', *JEG*, 3, Sept. 1998; 16. 'Valid confidence regions and inference in the presence of weak instruments' (with E. Zivot, C.R. Nelson), *IER*, 39, Nov. 1998; 17. 'Inequality and race: models and policy' (with S. Lundberg), in K. Arrow, S. Bowles, S. Durlauf (eds), *Meritocracy and Economic Inequality* (Princeton Univ. Press, 2000); 18. 'The retirement-consumption puzzle: a marital bargaining approach (with S. Lundberg, S. Stillman), *J Pub E*, forthcoming.

Principal Contributions I have worked on foundations of Keynesian macroeconomics, principally the role of monopolistic competition; on a range of macro-

econometric issues; on the use of the instrumental variable estimator with weak instruments; and on the economics of race.

STAVINS, Robert Norman

Born 1948, Chicago, IL, USA.

Current Post Albert Pratt Prof. Bus. and Govt, John F. Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1988–.

Past Posts Peace Corps Volunteer, Min. Agric. and Natural Resources, Sierra Leone, West Africa, 1969–73; Agric. Representative, Peace Corps Recruitment, 1975–76; Res. Specialist, Dept Agric. Econ., Cornell Univ., 1977–79; Econ., Giannini Foundation Agric. Econ., Univ. California, Berkeley, 1979–81; Cons., Public Interest Econ. Foundation, Inc., Berkeley, CA, 1980–82; Staff Econ., Environmental Defense Fund, Berkeley, CA, 1982–83.

Degrees BA (Philo.) Northwestern Univ., 1969; MS (Agric. Econ.) Cornell Univ., 1979; PhD Harvard Univ., 1988.

Offices and Honours Dir., Project 88 and Project 88/Round II, co-sponsored by US Senators T. Wirth (D-Colorado) and J. Heinz (R-Pennsylvania), 1988–92; Risk Reduction Comm., Sc. Advisory Bd, US EPA, 1989–90; Working Group on Human Interactions with Global Change, NRC, 1989–90; Lect., Acad. Advisor, Environmental Journalism Program, Foundation for Amer. Communications, 1989–99, 1992–98; Univ. Fell., Resources for the Future, 1989–; Univ. Working Group on Environment, Harvard Univ., 1990–92; Affiliated Faculty Mem., Harvard Center Risk Analysis, Harvard Sch. Public Health, 1991–; Energy Modeling Forum Working Group on Energy Conservation (EMF 13), Stanford Univ., 1992–94; Governor's Task Force on Energy and Environmental Pol., 1992–94; Mem., Chair-

man, Environmental Econ. Advisory Comm., Sc. Advisory Bd, US EPA, 1992–97, 1997–; Mem., Exec. Comm. Mem., Harvard Univ. Comm. on Environment (UCE), 1992–, 1999–; Lead Author, Working Group III, Intergovt Panel on Climate Change (IPCC), UN Environment Program and World Meteorological Org., 1993–; Eco-Efficiency Task Force, President's Council on Sustainable Devlp., 1994–95; Advisory Panel on Emissions Trading, 1994–95; External Rev. Panel, Dept Agric. and Resource Econ., Univ. California, Berkeley, 1995; Bd Dirs, Assoc. Environmental and Resource Econ. (AERE), 1996–98; Reducing Risk Project Steering Comm., Sc. Advisory Bd, US EPA, 1996–98; Mem., Chair, Workshop Comm., AERE, 1996–99, 1998; Faculty Chair, Environment and Natural Resources Program, John F. Kennedy Sch. Govt, Harvard Univ., 1997–; Exec. Comm., Sc. Advisory Bd, US EPA, 1997–; Subcomm. on Energy, Clean Air, and Climate Change, Clean Air Act Advisory Comm., US EPA, 1997–; Bd Acad. Advisors, AEI–Brookings Joint Center Regulatory Stud., 1998–; Dir., Environmental Econ. Program, Harvard Univ., 2000–.

Editorial Duties Advisory Bd, *Environmental Law and Pol. Abstracts*, 1996–, *Environmental Econ. Abstracts*, 1996–; Ed. Bds, *Econ. Issues*, 1996–, *Land Econ.*, 2001–03, *BE-Js EAP*, 2001–; Ed. Council, *JEEM*, 1996–; Contrib. Ed., *Environment*, 1997–; Bd Eds, *Resource and Energy Econ.*, 1998–2005.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; Q3 Nonrenewable Resources and Conservation; Q4 Energy.

Publications *Books*: 1. *Economics of the Environment: Selected Readings* (W.W. Norton, 4th edn 2000); 2. *Public Policies for Environmental Protection* (ed. with P.R. Portney), (Resources for the Fu-

ture, 2nd edn 2000); 3. *Environmental Economics and Public Policy: Selected Papers of Robert N. Stavins, 1988–1999* (Edward Elgar, 2001).

Articles: 1. ‘Unintended impacts of public investments on private decisions: the depletion of forested wetlands’ (with A.B. Jaffe), *AER*, 80, 1990; 2. ‘Alternative renewable resource strategies: a simulation of optimal use’, *JEEM*, 19, 1990; 3. ‘Incentive-based environmental regulation: a new era from an old idea?’ (with R.W. Hahn), *Ecology Law Q.*, 18, 1991; 4. ‘Economic incentives for environmental protection: integrating theory and practice’ (with R.W. Hahn), *AER*, 82, 1992; 5. ‘The energy paradox and the diffusion of conservation technology’ (with A.B. Jaffe), *Resource and Energy Econ.*, 16, 1994; 6. ‘Environmental regulation and the competitiveness of US manufacturing: what does the evidence tell us?’ (with A.B. Jaffe, S.R. Peterson, P.R. Portney), *JEL*, 33, 1995; 7. ‘Transaction costs and tradeable permits’, *JEEM*, 29, 1995; 8. ‘Dynamic incentives of environmental regulation: the effects of alternative policy instruments on technology diffusion’ (with A.B. Jaffe), *JEEM*, 29, 1995; 9. ‘Correlated uncertainty and policy instrument choice’, *JEEM*, 30, 1996; 10. ‘Is there a role for benefit–cost analysis in environmental, health, and safety regulation?’ (with K. Arrow, M. Cropper, G. Eads, R. Hahn, L. Lave, R. Noll, P. Portney, M. Russell, R. Schmalensee, K. Smith), *Sc.*, April 12, 1996; 11. ‘The choice of regulatory instruments in environmental policy’ (with N. Keohane, R. Revesz), *Harvard Environmental Law Rev.*, 22, 1998; 12. ‘What can we learn from the grand policy experiment? Lessons from SO₂ allowance trading’, *JEP*, 12, Summer 1998; 13. ‘The induced innovation hypothesis and energy-saving technological change’ (with R.G. Newell, A.B. Jaffe), *QJE*, 114, Aug. 1999; 14. ‘The costs of

carbon sequestration: a revealed-preference approach’, *AER*, 89, Sept. 1999; 15. ‘Climate change and forest sinks: factors affecting the costs of carbon sequestration’ (with R.N. Newell), *JEEM*, 40, 2000; 16. ‘Environmental policy and technological change’ (with A.B. Jaffe, R.N. Newell), *Environment and Resource Econ.*, 22, 2002; 17. ‘Cost heterogeneity and the potential savings from market-based policies’ (with R.N. Newell), *J. Regulatory Econ.*, 23, Jan. 2003.

Principal Contributions My research has focused on diverse areas of environmental economics and policy, including examinations of: policy instrument choice under uncertainty; competitiveness effects of regulation; design and implementation of market-based policy instruments; diffusion of pollution-control technologies; and depletion of forested wetlands. My research has included analyses of: technology innovation; environmental benefit valuation; political economy of policy instrument choice; and econometric estimation of carbon sequestration costs. My research has appeared in leading scholarly and popular periodicals, and several books. I directed Project 88, a bi-partisan effort co-chaired by former Senator Timothy Wirth and the late Senator John Heinz, to develop innovative approaches to environmental and resource problems. I continue to work closely with public officials on matters of national and international environmental policy. I have been a consultant to the National Academy of Sciences, several US Administrations, members of Congress, environmental advocacy groups, the World Bank, the United Nations, the US Agency for International Development, state and national governments, and private foundations and firms. Prior to moving to Harvard, I was a staff economist at the Environmental Defense Fund; and before that, I managed irrigation development in the Middle East, and

spent four years working in agricultural extension in West Africa as a Peace Corps volunteer.

STAYMAN, Douglas M. n.e.

STEIN, Jeremy C.

Born 1960, Chicago, IL, USA.

Current Post Prof. Econ., Harvard Univ., Cambridge, MA, USA, 2000–.

Past Posts Res. Fell., Asst Prof. Fin., Marvin Bower Fell., Harvard Bus. Sch., 1986–87, 1987–90, 1999–2000; Sr Staff Econ., US President's Council Econ. Advisers, 1989–90; Assoc. Prof. Fin., Prof. Fin., J.C. Penney Prof. Mgmt, Sloan Sch. Mgmt, MIT, 1990–93, 1993–94, 1994–2000.

Degrees AB (*scl*) Princeton Univ., 1983; PhD MIT, 1986.

Offices and Honours Phi Beta Kappa, 1983; Halbert White Prize (top student Econ. Dept), Princeton Univ., 1983; Class of 1916 Cup (top scholar-athlete in graduating class), Princeton Univ., 1983; NSF grad. fellowship, 1983–86; Staff Econ., Presidential Task Force on Market Mechanisms (Brady Comm.), Nov. 1987–Jan. 1988; Batterymarch Fellowship, 1991–92; Res. Assoc., NBER, 1992–; Sloan Sch. Excellence in Teaching Award, 1993, 1994, 1995, 1996; Merton Miller Prize, for best article in *J Bus*, 1996; Sloan Sch. Alumni Award for Excellence in Mgmt Educ. (teacher of the year), 1998; Jensen Prize, for best article on Corp. Fin. and Org. in *J Fin E*, 1998; Bd Dirs, *AFA*, 2000–03.

Editorial Duties Assoc. Ed., *QJE*, 1992–, *J Fin*, 1993–2000, *J Fin E*, 2000–; Ed. Bd, *AER*, 1993–96; Advisory Ed., *Econ. Letters*, 1993–2002.

Principal Fields of Interest G0 Financial Economics: General; E5 Monetary

Policy, Central Banking, and the Supply of Money.

Publications Articles: 1. 'Informational externalities and welfare-reducing speculation', *JPE*, 95, Dec. 1987; 2. 'Takeover threats and managerial myopia', *JPE*, 96, Feb. 1988; 3. 'Overreactions in the options market', *J Fin*, 44, Sept. 1989; 4. 'Efficient capital markets, inefficient firms: a model of myopic corporate behavior', *QJE*, 104, Nov. 1989; 5. 'Herd behavior and investment' (with D. Scharfstein), *AER*, 80, June 1990; 6. 'Exchange rates and foreign direct investment: an imperfect capital markets approach' (with K. Froot), *QJE*, 106, Nov. 1991; 7. 'Stock price distributions with stochastic volatility: an analytic approach' (with E. Stein), *Rev. Fin. Stud.*, 4, Dec. 1991; 8. 'Herd on the street: informational inefficiencies in a market with short-term speculation' (with K. Froot, D. Scharfstein), *J Fin*, 47, Sept. 1992; 9. 'Monetary policy and credit conditions: evidence from the composition of external finance' (with A. Kashyap, D. Wilcox), *AER*, 83, March 1993; 10. 'Risk management: coordinating corporate investment and financing policies' (with K. Froot, D. Scharfstein), *J Fin*, 48, Dec. 1993; 11. 'Credit conditions and the cyclical behavior of inventories' (with A. Kashyap, O. Lamont), *QJE*, 109, Aug. 1994; 12. 'Prices and trading volume in the housing market: a model with downpayment effects', *QJE*, 110, May 1995; 13. 'Rational capital budgeting in an irrational world', *J Bus*, 69, Oct. 1996; 14. 'Internal capital markets and the competition for corporate resources', *J Fin*, 52, March 1997; 15. 'An adverse selection model of bank asset and liability management with implications for the transmission of monetary policy', *RandJE*, 29, Autumn 1998; 16. 'A unified theory of under-reaction, momentum trading and overreaction in asset markets' (with H. Hong), *J Fin*, 54, Dec. 1999; 17. 'Bad

news travels slowly: size, analyst coverage and the profitability of momentum strategies' (with H. Hong, T. Lim), *J Fin*, 55, Feb. 2000; 18. 'What do a million observations on banks say about the transmission of monetary policy?' (with A. Kashyap), *AER*, 90, June 2000; 19. 'The dark side of internal capital markets: divisional rent-seeking and inefficient investment' (with D. Scharfstein), *J Fin*, 55, Dec. 2000; 20. 'Banks as liquidity providers: an explanation for the co-existence of lending and deposit-taking' (with A. Kashyap, R. Rajan), *J Fin*, 57, Feb. 2002.

Principal Contributions n.e.

STERN, Nicholas Herbert

Born 1946, London, England.

Current Posts Chief Econ. and Special Counsellor to Pres., EBRD, London, UK, 1993–; Vis. Prof. Econ., LSE, London, UK.

Past Posts Univ. Lect. Ind. Maths, Fell., Tutor Econ., St Catherine's Coll., Oxford, 1970–77; Res. Assoc. Econ., MIT, 1972; Overseas Vis. Fell., Ford Foundation Vis. Prof., Indian Stat. Inst., 1974–75, 1981–82; CNRS Vis., Lab. d'Écon., École Polytech., Paris, 1977; Prof. Econ., Univ. Warwick, Coventry, and Dir., Devlp. Econ. Res. Centre, Univ. Warwick, 1978–85; Vis. Scholar, Fiscal Affairs Dept, IMF, 1983; Sir John Hicks Prof. Econ., LSE, 1986–93.

Degrees BA (Maths) Univ. Cambridge, 1967; DPhil Univ. Oxford, 1972.

Offices and Honours Scholar, William Heron Res. Student Econ., Peterhouse, Cambridge, 1967, 1967–68; Nuffield Student, Nuffield Coll., Oxford, 1968–69; Jr Res. Fell. Econ., Queen's Coll., Oxford, 1969–70; Fell., Em Soc, 1978, 1993; Foreign Hon. Mem., AAAS, 1998–.

Editorial Duties Ed. Bds, *REStud*, 1969–79, *J Pub E*, 1972–98; Joint Man-

aging Ed. (with A.B. Atkinson), *OEP*, 1976–77; Advisory Ed., *Econ. Letters*.

Principal Fields of Interest A1 General Economics; O1 Economic Development; H0 Public Economics: General.

Publications *Books*: 1. *An Appraisal of Tea Production on Smallholdings in Kenya* (OECD, 1972); 2. *Theories of Economic Growth* (ed. with J.A. Mirrlees), (Macmillan, 1973); 3. *Crime, the Police and Criminal Statistics* (with R.A. Carr-Hill), (Acad. Press, 1979); 4. *Palanpur: The Economy of an Indian Village* (with C.J. Bliss), (OUP, 1982).

Articles: 1. 'Fairly good plans' (with J.A. Mirrlees), *JET*, 4, April 1972; 2. 'Optimum development in a dual economy', *REStud*, 39, April 1972; 3. 'The optimal structure of market areas' (with B. Bollobas), *JET*, 4, April 1972; 4. 'An econometric model of the supply and control of recorded offences in England and Wales' (with R.A. Carr-Hill), *J Pub E*, 2, Nov. 1973; 5. 'Pigou, taxation and public goods' (with A.B. Atkinson), *REStud*, 4, Jan. 1974; 6. 'Optimum saving with economies of scale' (with A.K. Dixit, J.A. Mirrlees), *REStud*, 42, July 1975; 7. 'Productivity, wages and nutrition: Part I: The theory' (with C.J. Bliss), *JDE*, 5, Dec. 1978; 8. 'On the switch from direct to indirect taxation' (with A.B. Atkinson, J. Gomulka), *J Pub E*, 14, March 1980; 9. 'Oligopoly and welfare' (with A.K. Dixit), *Europ ER*, 19, 1982; 10. 'Optimum taxation with errors in administration', *J Pub E*, 17, March 1982.

Principal Contributions From the beginning of my research, I have studied public economics and the economics of developing countries. The approach has sometimes been purely theoretical but a substantial element has always been applied. A major theme has been the use of the tools of quantitative analysis to study the consequences of government policy, and the systematic application of criteria

to evaluate those policies. Examples range from the social cost–benefit analysis of a smallholder tea scheme in Kenya to the pure theory of optimum investment and growth policies and the theory of optimum income taxation. Careful policy formation involves understanding the way in which individuals behave and how they interact with markets. Thus development economics requires the study of village economies, and in 1974–75 Christopher Bliss and I studied the economy of the village Palanpur in West Uttar Pradesh in India; our results were published in book 4. Similarly, use of the criminal statistics in discussion of crime and policy should be based on an understanding of how individuals, society and institutions interact to generate the figures, and my book on British crime statistics with Roy Carr-Hill was directed to this end. More recently my research has concentrated on empirical work on public finance in both developing countries (particularly India, Pakistan and Mexico) at the Development Economics Research Centre of the University of Warwick, and the UK at the Taxation, Incentives and Distribution of Income Programme directed together with Professors Atkinson and King at LSE. Since 1994 I have been studying the problems of the transition from the command to the market economy in Eastern Europe and the former Soviet Union in my capacity as Chief Economist of the EBRD.

STEWART, Mark B. n.e.

STIGLITZ, Joseph Eugene

Born 1943, Gary, IN, USA.

Current Post Prof. Columbia Univ., New York, NY, USA, 2001–.

Past Posts Asst Prof. Econ., MIT, 1966–67; Tapp Res. Fell., Gonville and

Caius Coll., Cambridge, 1966–70; Asst Prof., Assoc. Prof., Cowles Foundation, Yale Univ., 1967–70; Prof. Econ., Yale Univ., 1970–74; Sr Res. Fell., Social Sc. Div., Inst. Devlp. Stud., Univ. Coll., Nairobi, 1969–71; Vis. Fell., St. Catherine's Coll., Oxford, 1973–74; Prof. Econ., Stanford Univ., 1974–76, 1988–2001; Drummond Prof. Polit. Econ., All Souls Coll., Oxford Univ., 1976–79; Oskar Morgenstern Disting. Fell. and Vis. Prof., Inst. Adv. Stud. and Maths, 1978–79 and Prof. Econ., Princeton Univ., 1979–88; Mem., Chairman, US President's Council Econ. Advisers, 1993–95, 1995–97; Sr Fell., Hoover Inst.; Res. Assoc., NBER; Sr Fell., Inst. Pol. Reform; Chief Econ. and Sr Vice-Pres., Devlp. Econ., World Bank, Washington, DC, USA, 1997–99.

Degrees BA Amherst Coll., 1964; PhD MIT, 1966; MA Cambridge Univ., 1970; MA Yale Univ., 1970; MA Oxford Univ., 1976.

Offices and Honours Fulbright Fellowship, 1965–66; Guggenheim Fellowship, 1969–70; DHL Amherst Coll., 1974; John Bates Clark Medal, 1979; Mem. Exec. Comm., Vice-Pres., AEA, 1979–93, 1985; Intl Prize, Academia Lincei, Italy, 1988; Sc. Prize, Universal Acad. Press, 1989; PhD (Hon.), Univ. Leuven, 1994; PhD (Hon.) Ben Gurion Univ., 1996; Horst Recktenwald Prize, 1997; Mem., NAS, Amer. Philo. Soc.; Fell., AAAS, Em Soc; Corres. Fell., BA; Nobel Prize for Econ., 2001.

Editorial Duties Founding Ed., *JEP*; Ed. Bds, *WBER*, *AER*; Advisory Ed., *J Pub E*; Assoc. Ed., *JET*, 1968–73; Co-Ed., *J Pub E*, 1980–83; Amer. Ed., *REStud*, 1968–76.

Principal Fields of Interest D8 Information and Uncertainty; O0 Economic Development, Technological Change, and Growth: General; H0 Public Economics: General.

Publications Books: 1. *Collected Scientific Papers of Paul A. Samuelson* (ed.), (MIT Press, 1966–77); 2. *Readings in Modern Theory of Economic Growth* (co-ed.), (MIT Press, 1969); 3. *Lectures in Public Economics* (with A.B. Atkinson), (McGraw-Hill, 1980); 4. *Theory of Commodity Price Stabilization* (with D. Newbery), (OUP, 1981); 5. *Economics of the Public Sector* (W.W. Norton, 1986); 6. *Peasants versus City-dwellers: Taxation and the Burden of Economic Development* (with R. Sah), (Clarendon Press, 1992); 7. *The Economics of Rural Organization: Theory, Practice, and Policy* (ed. with K. Hoff, A. Braverman), (OUP, 1993); 8. *Whither Socialism?* (MIT Press, 1994); 9. *Economics* (W.W. Norton, 2nd edn 1997).

Articles: 1. ‘Increasing risk: I. A definition’ (with M. Rothschild), *JET*, 2, Sept. 1970, repr. in G. Dionne, S. Harrington (eds), *Foundations of Insurance Economics* (Kluwer, 1992); 2. ‘Incentives and risk sharing in sharecropping’, *REStud*, 41, April 1974; 3. ‘Equilibrium in competitive insurance markets: an essay on the economics of imperfect information’ (with M. Rothschild), *QJE*, 90, Nov. 1976; 4. ‘Monopolistic competition and optimal product diversity’ (with A. Dixit), *AER*, 67, June 1977; 5. ‘On the impossibility of informationally efficient markets’ (with S. Grossman), *AER*, 70, June 1980; 6. ‘Credit rationing in markets with imperfect information’ (with A. Weiss), *AER*, 71, June 1981; 7. ‘Equilibrium unemployment as a worker discipline device’ (with C. Shapiro), *AER*, 74, June 1984; 8. ‘Externalities in economics with imperfect information and incomplete markets’ (with B. Greenwald), *QJE*, 101, May 1986; 9. ‘Pareto efficient and optimal taxation and the new welfare economics’, in A. Auerbach, M. Feldstein (eds), *Handbook on Public Economics* (N-H, Elsevier Sc., 1987); 10. ‘Financial market imperfections

and business cycles’ (with B. Greenwald), *QJE*, 108, Feb. 1993.

Principal Contributions One of the major themes of my work has been the economic consequences of incomplete information and uncertainty. I helped develop the concepts of adverse selection and moral hazard and showed that they required major modifications of standard results in economics, including both the welfare properties and characterization of market equilibrium. I also used them to help us understand labor markets, credit markets, corporate finance, and agricultural markets. These studies provide some of the microeconomic foundations of ‘New Keynesian’ macroeconomics, particularly emphasizing the existence of equilibrium unemployment and the role of the financial system in fluctuations. A separate strand of my research has been in public finance, including the theory of taxation, the theory of public expenditures, and, most recently, the role of the state. I have also done research in several other areas, including the distribution of income and wealth, growth and capital theory, natural resources, development and trade, the theory of market structure, welfare economics, and comparative economic systems, including socialist and East Asian economies.

STIMSON, James A.

Born 1943, Marion, IA, USA.

Current Post Raymond Dawson Disting. Prof. Polit. Sc., Univ. North Carolina, Chapel Hill, NC, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., SUNY, Buffalo, 1970–75, 1975–77; Assoc. Prof., Prof., Florida State Univ., 1977–80, 1980–83; Prof., Univ. Houston, 1983–87; Prof., Univ. Iowa, 1987–92; Arleen Carlson Prof., Univ. Minnesota, 1992–97.

Degrees BA (Polit. Sc.) Univ. Minnesota, 1966; PhD (Polit. Sc.) Univ. North Carolina, Chapel Hill, 1970.

Offices and Honours Gladys Kammerer Award, Heinz Eulau Award, Treasurer, Phillip E. Converse Award, Amer. Polit. Sc. Assoc., 1990, 1996, 1999–2001, 2001; Pres., Midwest Polit. Sc. Assoc., 1995–96; Fell., AAAS, 2000.

Editorial Duties Managing Ed., *Polit. Analysis*, 1991–94.

Principal Fields of Interest H0 Public Economics: General; H3 Fiscal Policies and Behavior of Economic Agents; C0 Mathematical and Quantitative Methods: General.

Publications *Books*: 1. *Yeas and Nays: Normal Decision-Making in the US House of Representatives* (with D. Matthews), (Wiley, 1975); 2. *Issue Evolution: Race and the Transformation of American Politics* (with E. Carmines), (Princeton Univ. Press, 1989); 3. *Public Opinion in America: Moods, Cycles, and Swings* (Westview, 1991, 1998); 4. *The Macro Polity* (with R. Erikson, M. MacKuen), (CUP, 2002).

Articles: 1. 'Regression models in space and time: a statistical essay', *Amer. J. Polit. Sc.*, 29, Nov. 1975; 2. 'The two faces of issue voting' (with E. Carmines), *Amer. Polit. Sc. Rev.*, 74, March 1980; 3. 'Issue evolution, population replacement, and normal partisan change' (with E. Carmines), *Amer. Polit. Sc. Rev.*, 75, March 1981; 4. 'The structure and sequence of issue evolution' (with E. Carmines), *Amer. Polit. Sc. Rev.*, 80, Sept. 1986; 5. 'Macropartisanship' (with M. MacKuen, R. Erikson), *Amer. Polit. Sc. Rev.*, 83, Dec. 1989; 6. 'Peasants or bankers: the American electorate and the US economy' (with M. MacKuen, R. Erikson), *Amer. Polit. Sc. Rev.*, 86, Sept. 1992; 7. 'Dynamic representation' (with M. MacKuen, R. Erikson), *Amer. Polit. Sc. Rev.*, 89, June 1995.

Principal Contributions My work does not self-consciously contribute to economics. In political science I am known for the 'issue evolution' theory (with E. Carmines), which models the transformation of party structures as a response to change in the issue agenda of politics. I have developed the concept and measure of 'policy mood', the net left–right preference of the American electorate over time. With M. MacKuen and R. Erikson I have developed a macro-level model of American politics (with mutually endogenous connections to economic policy and economic outcomes). In one component of that larger work of possible interest to economists, the 'Peasants or Bankers' analysis demonstrates that rational expectations assumptions hold for presidential approval in the United States.

STOCK, James H.

Born 1956, Munich, Germany.

Current Post Roy E. Larson Prof. Polit. Econ., John F. Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1998–.

Past Posts Asst Prof., Assoc. Prof., Prof., Polit. Econ., John F. Kennedy Sch. Govt, Harvard Univ., 1983–88, 1988–90, 1990–91; Prof. Econ., Univ. California, Berkeley, 1990–91.

Degrees BS Yale Univ., 1978; MA, PhD Univ. California, Berkeley, 1982, 1983.

Offices and Honours Faculty Res. Fell., Res. Assoc., NBER, 1986–89, 1989–; Sloan Res. Fellowship, 1988–90; Fell., Em Soc, 1992; Natl Fell., Hoover Inst., 1998.

Editorial Duties Chair, Ed. Bd, *REStat*; Past Assoc. Ed., *Em, Em. Theory, JEDC, J. Forecasting*.

Principal Field of Interest E3 Prices, Business Fluctuations, and Cycles.

Publications Book: 1. *Business Cycles, Indicators and Forecasting* (with M.W. Watson), (UCP for NBER, 1993).

Articles: 1. 'Asymptotic properties of least squares estimators of cointegrating vectors', *Em*, 55, Sept. 1987; 2. 'Non-parametric policy analysis', *JASA*, 84, June 1989; 3. 'Semiparametric estimation of index coefficients' (with J. Powell, T. Stoker), *Em*, 57, Nov. 1989; 4. 'Pensions, the option value of work, and retirement' (with D.A. Wise), *Em*, 58, Sept. 1990; 5. 'Inference in linear time series models with some unit roots' (with C. Sims, M. Watson), *Em*, 58, Nov. 1990; 6. 'Stochastic trends and economic fluctuations' (with R. King, C. Plosser, M. Watson), *AER*, 81, 1991; 7. 'A simple estimator of cointegrating vectors in higher-order integrated systems' (with M.W. Watson), *Em*, 61, 1993; 8. 'Efficient tests for an autoregressive unit root' (with G. Elliott, T.J. Rothenberg), *Em*, 64, 1996; 9. 'Instrumental variables regression with weak instruments' (with D. Staiger), *Em*, 65, 1997; 10. 'The NAIRU, unemployment, and monetary policy' (with D. Staiger, M. Watson), *JEP*, 11, Winter 1997.

Principal Contributions n.e.

STOKEY, Nancy L. n.e.

STOLL, Hans R.

Born 1939, Regensburg, Germany.

Current Post Anne Marie and Thomas B. Walker Jr Prof. Fin., Owen Grad. Sch. Mgmt, Vanderbilt Univ., Nashville, TN, USA, 1980–.

Past Posts Instr. Bus. Econ., Grad. Sch. Bus., Univ. Chicago, 1965–66; Asst Prof., Assoc. Prof. Fin., Wharton Sch., Univ. Pennsylvania, 1966–80; Vis. Prof., Bd Governors, Fed. Reserve System, 1968–69; Sr Econ., Inst. Investor Study, Securi-

ties and Exchange Commission, Washington, DC, 1969–70; Vis. Assoc. Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1975–76; Sr Fulbright-Hays Acting Vis. Lect., ESSEC, Paris, 1976–77.

Degrees AB Swarthmore Coll., 1961; MBA, PhD Univ. Chicago, 1963, 1966.

Offices and Honours Pres., Western Fin. Assoc., 1992–93; Public Dir., Futures Ind. Assoc., 1994–96; Earle M. Combs, Jr Award for leadership and contrib. to futures ind., Chicago Bd Trade, 1994; Earl Sutherland Prize for Achievement in Res., 1996; Pres., AFA, 1999.

Editorial Duties Assoc. Ed., *Rev. Futures Markets*, 1984–99, *J Fin E*, 1986–, *J Fin*, 1988–2000, *JFQA*, 1988–, *J. Derivatives*, 1993–, *Rev. Derivatives Res.*, 1996–2000, *Europ. Fin. Rev.*, 1997–, *J. Fin. Intermediation*, 1998–2001; Ed. Bds, *Fin. Mgmt*, 1979–, *J. Fin. Res.*, 1984–; Advisory Ed., *J. Fin. Markets*, 1997–, *Multinatl Fin. J.*, 2002–.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets; G2 Financial Institutions and Services.

Publications Books: 1. *Taxes, Financial Policy and Small Business* (with T.E. Day, R.E. Whaley), (D.C. Heath, 1985); 2. *International Finance and Financial Policy* (ed.), (Quorum, 1990); 3. *Futures and Options* (with R.E. Whaley), (South-Western Publ., 1993).

Articles: 1. 'An empirical study of the forward exchange market under fixed and flexible exchange rate systems', *CJ*, 1, Feb. 1968; 2. 'The relationship between put and call option prices', *J Fin*, 24, Dec. 1969; 3. 'Price impacts of block trading on the NYSE' (with A. Kraus), *J Fin*, 27, June 1972; 4. 'Parallel trading by institutional investors' (with A. Kraus), *JFQA*, 7, Dec. 1972; 5. 'The supply of dealer services in securities markets', *J Fin*, 33, Sept. 1978; 6. The pricing of security dealer services: an empirical study of

NASDAQ stocks', *J Fin*, 33, Sept. 1978; 7. 'Optimal dealer pricing under transactions and return uncertainty' (with T. Ho), *J Fin E*, 9, March 1981; 8. 'Transaction costs and the small firm effect' (with R.E. Whaley), *J Fin E*, 12, June 1983; 9. 'The dynamics of dealer markets under competition' (with T. Ho), *J Fin*, 38, Sept. 1983; 10. 'Spot and futures prices and the law of one price' (with A. Protopapadakis), *J Fin*, 38, Dec. 1983; 11. 'Program trading and expiration day effects' (with R.E. Whaley), *Fin. Analysts J.*, 43, March/April 1987; 12. 'Inferring the components of the bid-ask spread: theory and empirical tests', *J Fin*, 44, March 1989; 13. 'Stock market structure and volatility' (with R.E. Whaley), *Rev. Fin. Stud.*, 3, 1990; 14. 'Dealer versus auction markets: a paired comparison of execution costs on NASDAQ and the NYSE' (with R.D. Huang), *J Fin E*, 41, July 1996; 15. 'The components of the bid-ask spread: a general approach' (with R.D. Huang), *Rev. Fin. Stud.*, 10, Winter 1997; 16. 'Friction', *J Fin*, 55, Aug. 2000.

Principal Contributions Developing and testing the put-call parity relation for option prices, assessing the impact of institutional trading on market prices, modeling and testing the behavior of securities markets dealers, analyzing program trading and the 'triple witching hour', inferring the sources and the components of the bid-ask spread, comparing the functioning of dealer and auction markets.

STORPER, Michael C.

Born 1954, New York, NY, USA.

Current Posts Prof., Sch. Public Pol. and Social Res., UCLA, Los Angeles, CA, USA, 1992–; Prof., Inst. Études Polit., Paris, France ('Sciences Po'), 2003–; Vis. Centennial Prof. Geography, LSE, London, UK, 2001–04.

Past Posts Asst Prof., Assoc. Prof., UCLA, 1982–88, 1988–92; Vis. Prof., Univ. São Paulo, 1986, Univ. Copenhagen, 1993, Univ. Lille, 1994; Fulbright Fell., 1986, 1994; German Marshall Fell., 1988–89.

Degrees BA, MA, PhD (Econ. Geography) Univ. California, Berkeley, 1976, 1979, 1982.

Editorial Duties Ed. Bds, *Environment and Planning A*, 1985–88, *Europ. Urban and Regional Stud.*, 1992–, *L'Espace Géographique*, 1994, *Région et Développement Écon.*, 1994–, *Sviluppo Locale*, 1996–, *Econ. Geography*, 1997–, *Territorio*, 1998–, *Stud. Comparative Intl Devlp.*, 2000–.

Principal Fields of Interest R1 General Regional Economics; F0 International Economics: General; O3 Technological Change.

Publications *Books*: 1. *Production, Work, Territory: The Geographical Anatomy of Industrial Capitalism* (with A.J. Scott), (A&U, 1986); 2. *The Capitalist Imperative: Territory, Technology and Industrial Growth* (with R. Walker), (Blackwell, 1989); 3. *Industrialization, Economic Development and the Regional Question in the Third World* (Pion, 1991); 4. *Pathways to Industrialization and Regional Development* (with A.J. Scott), (Routledge, 1992); 5. *Worlds of Production: The Action Frameworks of the Economy* (with R. Salais), (HUP, 1997); 6. *The Regional World: Territorial Development in a Global Economy* (Guilford, 1997); 7. *Late-comers in the Global Economy* (with L. Tsipouri, S. Thomadakis), (Routledge, 1998).

Articles: 1. 'Capital and industrial location' (with R. Walker), *Progress in Human Geography*, 5, 1981; 2. 'Oligopoly and the product cycle', *Econ. Geography*, 61, 1986; 3. 'Flexible specialization and regional industrial agglomerations' (with S. Christopherson), *Annals of Assoc. Amer.*

Geographers, 77, 1987; 4. 'High technology industry and regional development' (with A.J. Scott), *Intl Social Sc. J.*, 112, 1987; 5. 'The transition to flexible specialization: the division of labour, external economies and the crossing of industrial divides', *Camb JE*, 13, 1989; 6. 'Flexibility, hierarchy and regional development' (with B. Harrison), *Res. Pol.*, 20, 1991; 7. 'The four worlds of contemporary industry' (with R. Salais), *Camb JE*, 16, 1992; 8. 'The limits to globalization: technology districts and international trade', *Econ. Geography*, 68, 1992; 9. 'The resurgence of regional economies, ten years later: the region as nexus of untraded interdependencies', *Europ. Urban and Regional Stud.*, 2, 1995; 10. 'Regional technology coalitions: an essential dimension of national technology policy', *Res. Pol.*, 24, 1995; 11. 'Systems of innovation as collective action', *Ind. Corp. Change*, 5, 1996; 12. 'The economic geography of the internet age' (with E. Leamer), *Jl Bus Stud*, 32, 4Q. 2001; 13. 'Trade and the location of industries in the OECD and the European Union (with Y. Chen, F. De Paolis)', *J. Econ. Geography*, 2, March 2002.

Principal Contributions My research in economic geography focusses on the long-term tension between the geographical concentration of economic activity and the forces that lead it to spread out. This is shaped by technological change, reorganization of firms and industries, political and institutional developments, and fiscal and tax policies. This applies to growth and decline of cities and regional economies, and processes of international integration, trade and development. My first book, with R. Walker, updates the theory of agglomeration taking into account advances in theories of industry and firm organization. Agglomerations or clusters are sources of positive externalities, not only because they minimize

transactions costs, but because of the envelope of organizational possibilities (product variety) which depends on geographical concentration. My empirical research concerns the geographical concentration and spread of the entertainment industry, of high-technology industries, and most recently of the effect of the Internet on geographical concentration. I have analyzed immaterial transactions such as information. In my books *The Regional World* and *Worlds of Production*, the notion that industrial systems are tied together through untraded interdependencies as well as inter-firm (trade) transactions, is explored in detail. Some articles also investigate the geography of knowledge and technological spillovers and how this underlies geographical patterns of technological innovation. Most recently, I have turned my attention to the economic geography of globalization, showing that even in increasing globalization, and new technologies such as the Internet, geographical concentration continues to matter. I have shown that face-to-face contact remains a key form of coordination in the contemporary economy, allowing transacting partners to overcome certain moral hazards and create incentives. Investigation of the ways that increasing trade affects the location of industries, shows that some of the changes in patterns of economic development are different from what standard theories of globalization predict. I also compare the effects of market integration on European economic geography with that of North America.

STRAUSS, John

Born 1951, New York City, NY, USA.

Current Post Prof., Dept Econ., Michigan State Univ., East Lansing, MI, USA, 1992–.

Past Posts Asst Prof., Dept Econ., Univ. Virginia, 1981–83; Asst and Assoc. Prof., Dept Econ., Yale Univ., 1983–89; Sr Econ., Rand Corp., 1989–92.

Degrees BA (Polit. Sc.) Northwestern Univ., 1973; PhD (Econ. and Agric. Econ.) Michigan State Univ., 1981.

Editorial Duties Assoc. Ed., *JDE*, 1990–.

Principal Fields of Interest O1 Economic Development; I1 Health.

Publications *Book*: 1. *Agricultural Household Models: Extensions, Applications and Policy* (with I. Singh, L. Squire), (JHUP, 1986).

Articles: 1. ‘Determinants of food consumption in Sierra Leone: application of a quadratic expenditure system to the consumption–leisure component of a household–firm model’, *JDE*, 11, Dec. 1982; 2. ‘Joint determination of food consumption and production in rural Sierra Leone: estimates of a household–firm model’, *JDE*, 14, Jan.–Feb. 1984; 3. ‘Does better nutrition raise farm productivity?’, *JPE*, 94, April 1986; 4. ‘Agricultural household models: a survey of empirical evidence and policy conclusions’ (with I. Singh, L. Squire), *WBER*, 1, Sept. 1986; 5. ‘Households, communities and preschool child nutrition outcomes: evidence from rural Côte d’Ivoire’, *EDCC*, 38, Jan. 1990; 6. ‘Child survival, height-for-age and households characteristics in Brazil’ (with D. Thomas, M.-H. Henriques), *JDE*, 33, Oct. 1990; 7. ‘How does mother’s education affect child height?’ (with D. Thomas, M.-H. Henriques), *JHR*, Spring 1991; 8. ‘Prices, infrastructure, household characteristics and child height’ (with D. Thomas), *JDE*, 39, Oct. 1992; 9. ‘Gender and life-cycle differentials in the patterns and determinants of adult health’ (with P. Gertler, O. Rahman, K. Fox), *JHR*, Fall 1993; 10. ‘The impact of improved nutrition on labor productivity’, in P. Pinstrup-Andersen (ed.), *The Political Economy of*

Food and Nutrition Policy (JHUP, 1993); 11. ‘Human resources: empirical modeling of household and family decisions’ (with D. Thomas), in T.N. Srinivasan, J. Behrman (eds), *Handbook of Development Economics*, Vol. 3A (N-H, 1995); 12. ‘Wages, schooling and background’ (with D. Thomas), in N. Birdsall, R. Sabot (eds), *Opportunity Foregone: Education in Brazil* (Inter-Amer. Devlp. Bank, 1996); 13. ‘Quality of health care, survival and health outcomes in Ghana’ (with V. Lavy, D. Thomas, P. de Vreyer), *JHE*, 15, 1996; 14. ‘Public policy and anthropometric outcomes in the Côte d’Ivoire’ (with D. Thomas, V. Lavy), *J Pub E*, 61, 1996; 15. ‘Health and wages: evidence for men and women in urban Brazil’ (with D. Thomas), *J Em*, 77, March 1997; 16. ‘Health, nutrition and economic development’ (with D. Thomas), *JEL*, 36, June 1998; 17. ‘Intrahousehold allocations: a review of theories and empirical evidence’ (with G. Mwabu, K. Beegle), *J. African Econ.*, 9, suppl. 1, June 2000; 18. ‘Giving to the poor? Targeting of food aid in rural Ethiopia’ (with T. Jayne, T. Yamano, D. Molla), *WD*, 29, May 2001; 19. ‘Targeting of food aid in rural Ethiopia: chronic need or inertia?’, *JDE*, 68, Aug. 2002.

Principal Contributions Empirical microeconomics of economic development, particularly the study of human resource investments and their economic impacts using household production models.

STULZ, René

Born 1952, Le Locle, Switzerland.

Current Posts Everett D. Reese Chair Banking and Monetary Econ., Prof. Fin., Ohio State Univ., Columbus, OH, USA, 1996–, 1985–; Dir., Dice Center for Res. Fin. Econ., Ohio State Univ., Columbus, OH, USA, 1995–.

Past Posts Asst Prof. Fin. and Econ., Univ. Rochester, 1980–83; Assoc. Prof. Fin., Riklis Chair Bus. and its Environments, Ralph Kurtz Chair Fin., Ohio State Univ., 1983–85, 1988–93, 1993–96; Vis. Assoc. Prof. Fin., MIT, 1985; Vis. Prof. Fin., Univ. Chicago, 1986–87.

Degrees Licence es Sc. Écon., Univ. Neuchatel, 1975; PhD MIT, 1980.

Offices and Honours Pres.-Elect, Pres., Intl Econ. and Fin. Soc., 1993, 1994; Bower Fell., Bus. Sch., Harvard Univ., 1996–97; Docteur (*hc*), Univ. Neuchatel, 1998; Eastern Fin. Assoc. Scholar Award, 1998; Fell., FMA, 2000; Jensen Prize for best article in Corp. Fin., *J Fin E*, 2000; Vice-Pres., Western Fin. Assoc., 2002, AFA, 2002.

Editorial Duties Ed., *J Fin E*, 1982–87, *Corp. Fin. Abstracts*, *Social Sc. Res. Network*, 1998–; Assoc. Ed., *JFQA*, 1983–85, *J Fin E*, 1988–99, *J Fin*, 1988–2000, *J. Intl Fin. and Accounting*, 1988–, *Global Fin. J.*, 1988–, *J. Intl Fin. Markets, Inst. and Money*, 1989–, *J. Fixed Income*, 1991–, *J. Intl Trade and Fin.*, 1992–, *J. Fin. Abstracts*, 1994–98; Co-Ed., *Banking and Fin. Inst. Abstracts*, *Social Sc. Res. Network*, 1998–, *Fin. Markets and Portfolio Mgmt*, 1999–; Advisory Ed., *J Fin E*, 2000–.

Principal Fields of Interest G3 Corporate Finance and Governance; G1 General Financial Markets; F3 International Finance.

Publications Articles: 1. ‘On the effects of barriers to international investment’, *J Fin*, 36, Sept. 1981; 2. ‘A model of international asset pricing’, *J Fin E*, 9, Dec. 1981; 3. ‘Options on the minimum or the maximum of two risky assets: analysis and applications’, *J Fin E*, 10, June 1982; 4. ‘Optimal hedging policies’, *JFQA*, 19, June 1984; 5. ‘An analysis of secured debt’ (with H. Johnson), *J Fin E*, 14, Dec. 1985; 6. ‘The determinants of firms’ hedging policies’ (with C.W. Smith),

JFQA, 20, Dec. 1985, repr. in C. James, C.W. Smith (eds), *Studies in Financial Institutions: Commercial Banks* (McGraw-Hill, 1993), and C.L. Culp, M.H. Miller (eds), *Corporate Hedging in Theory and Practice: Lessons from Metallgesellschaft* (Risk Publications, 1999); 7. ‘The pricing of options with default risk’ (with H. Johnson), *J Fin*, 42, June 1987; 8. ‘An equilibrium model of exchange rate determination and asset pricing with non-traded goods’, *JPE*, 95, Oct. 1987; 9. ‘Managerial control of voting rights: financing policies and the market for corporate control’, *J Fin E*, 20, Jan./March 1988, repr. in M.C. Jensen, C.W. Smith (eds), *The Modern Theory of Corporate Finance* (McGraw-Hill, 2nd edn 1989); 10. ‘Managerial performance, Tobin’s q , and the gains from successful tender offers’ (with L. Lang, R. Walkling), *J Fin E*, 24, Sept. 1989; 11. ‘Managerial discretion and optimal financing policies’, *J Fin E*, 26, 1990, repr. in M.J. Brennan (ed.), *The Theory of Corporate Finance* (Edward Elgar, 1995); 12. ‘Tobin’s q , diversification, and firm performance’ (with L. Lang), *JPE*, 102, 1994; 13. ‘Leverage, investment and firm growth’ (with L. Lang, E. Ofek), *J Fin E*, 40, 1996; 14. ‘Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan’ (with J.-K. Kang), *J Fin E*, 46, 1997; 15. ‘Are internal capital markets efficient?’ (with H.-H. Shin), *QJE*, 108, May 1998; 16. ‘The determinants and implications of corporate cash holdings’ (with T. Opler, L. Pinkowitz, R. Williamson), *J Fin E*, 52, 1999; 17. ‘Do foreign investors destabilize stock markets? The Korean experience in 1997’ (with H. Choe, B.-C. Kho), *J Fin E*, 54, 1999; 18. ‘US banks, crises, and bailouts: from Mexico to LTCM’ (with B.-C. Kho, D. Lee), *AER Papers and Proceedings*, 90, 2000; 19. ‘Divestitures and the liquidity of the market for corporate assets’ (with F. Schlingensman, R.

Walkling), *J Fin E*, 64, 2002; 20. 'A new approach to financial contagion (with K.-H. Bae, A. Karolyi), *Rev. Fin. Stud.*, forthcoming.

Principal Contributions In chronological order: (1) advances in international asset pricing, including treatment of barriers to international investment, generalized asset pricing model with departures from purchasing power parity, and general equilibrium model of exchange rate determination and asset pricing; (2) option pricing formulas for options on the maximum of two risky assets, secured debt, and derivatives with default risks; (3) established foundations for corporate risk management; (4) showed how managerial ownership and firm value are related in a theoretical model where ownership concentration can be used to prevent hostile takeovers; (5) capital structure model showing how capital structure can be used to control managerial discretion; (6) established empirically on a large sample the existence of a diversification discount; (7) established empirically that foreign investors did not destabilize equity markets in emerging market crises; (8) showed that contagion effects of emerging market crises is limited; and (9) the impact of crises on banks is limited to banks with exposure.

SUBRAHMANYAM, Avaniidhar

Born 1962, Chennai, India.

Current Post Prof. Fin., UCLA, Los Angeles, CA, USA, 1994–.

Past Posts Asst Prof. Fin., Assoc. Prof., Columbia Univ., 1990–92, 1992–94.

Degrees BTech (Aeronautical Eng.) Indian Inst. Tech., 1984; MBA Tulane Univ., 1986; DPhil UCLA, 1990.

Honours Amer. Assoc. of Individual Investors Award for best paper on investments, 1997 Western Fin. Assoc. Meet-

ings; Fama–DFA second prize in investments category, *J Fin E*, 1998; Smith–Breedon Prize for best paper, *J Fin*, 1999; Fama–DFA prize for best paper in investments, *J Fin E*, 2000.

Editorial Duties Assoc. Ed., *J Fin*, 1997–2000, *Rev. Fin. Stud.*, 1998–2001, *Intl Q. J. Fin.*, 1999–; Co-Ed., *J. Fin. Markets*, 1998–.

Principal Fields of Interest G1 General Financial Markets; G0 Financial Economics: General; G3 Corporate Finance and Governance.

Publications Articles: 1. 'A theory of trading in stock index futures', *Rev. Fin. Stud.*, 4, 1991; 2. 'Long-lived private information and imperfect competition' (with C. Holden), *J. Fin*, 47, March 1992; 3. 'Security analysis and trading patterns when some investors receive information before others' (with D. Hirshleifer, S. Titman), *J Fin*, 49, Dec. 1994; 4. 'On intraday risk premia' (with M. Spiegel), *J Fin*, 50, March 1995; 5. 'Alternative factor specifications, security characteristics, and the cross-section of expected stock returns' (with M. Brennan, T. Chordia), *J Fin E*, 49, Sept. 1998; 6. 'Investor psychology and security market under- and over-reactions' (with K. Daniel, D. Hirshleifer), *J Fin*, 53, Dec. 1998; 7. 'Commonality in liquidity' (with T. Chordia, R. Roll), *J Fin E*, 56, April 2000; 8. 'Asymmetric information and news disclosure rules' (with M. Spiegel), *J. Fin. Intermediation*, 9, Oct. 2000; 9. 'Market liquidity and trading activity' (with T. Chordia, R. Roll), *J Fin*, 56, April 2001; 10. 'Overconfidence, arbitrage, and equilibrium asset pricing' (with K. Daniel, D. Hirshleifer), *J Fin*, 56, June 2001; 11. 'Feedback from stock prices to cash flows' (with S. Titman), *J Fin*, 56, Dec. 2001; 12. 'News events, information acquisition, and serial correlation' (with C. Holden), *J Bus*, 75, Jan. 2002.

Principal Contributions My theoretical work on market microstructure has

brought risk aversion into models of trading, explored dynamic competition between privately informed traders, and analyzed the dynamics of information acquisition. My empirical work has explored the notion of time-series variation in aggregate market liquidity using a comprehensive data set of more than 1200 stocks over more than 2800 trading days, and has also examined the role of volume in the cross-section of expected stock returns. My research in behavioral finance has shown that it is possible to build rigorous economic models that embody assumptions on investor behavior derived from psychology.

SUGDEN, Robert

Born 1949, Morley, West Yorkshire, UK.

Current Post Prof. Econ., Univ. East Anglia, Norwich, UK, 2003–.

Past Posts Lect. Econ., Univ. York, 1971–78; Reader Econ., Univ. Newcastle upon Tyne, 1978–85; Prof. Econ., Leverhulme Res. Prof., Univ. East Anglia, 1985–98, 1998–2003.

Degrees BA (Hist. and Econ.), DLitt Univ. York, 1970, 1988; MSc Univ. Wales, 1971.

Editorial Duties Ed. Bds, *Theory and Decision*, 1987–, *J. des Économistes et des Études Humaines*, 1990–, *Econ. and Philo.*, 1994–, *Utilitas*, 1996–, *J. Econ. Methodology*, 1996–99, *Experimental Econ.*, 1997–; Advisory Bd, *Rivista Intl Sc. Econ. e Commerciali/Intl Rev. Econ. and Bus.*, 1996–, *J. Econ. Psychology*, 2001–, *Polit., Philo. and Econ.*, 2002–.

Offices and Honours Fell., BA, 1996–.

Principal Fields of Interest D8 Information and Uncertainty; C9 Design of Experiments; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *The Principles*

of Practical Cost–Benefit Analysis (with A. Williams), (OUP, 1978); 2. *The Political Economy of Public Choice* (M. Robertson, 1981); 3. *The Economics of Rights, Co-operation and Welfare* (Blackwell, 1986); 4. *The Theory of Choice: A Critical Guide* (with S.H. Heap, M. Hollis, B. Lyons, A. Weale), (Blackwell, 1992).

Articles: 1. ‘On the economics of philanthropy’, *EJ*, 92, 1982; 2. ‘Regret theory: an alternative theory of rational choice under uncertainty’ (with G. Loomes), *EJ*, 92, 1982; 3. ‘Reciprocity: the supply of public goods through voluntary contributions’, *EJ*, 94, 1984; 4. ‘Free association and the theory of proportional representation’, *Amer. Polit. Sc. Rev.*, 78, 1984; 5. ‘Liberty, preference and choice’, *Econ. and Philo.*, 1, 1985; 6. ‘Disappointment and dynamic consistency in choice under uncertainty’ (with G. Loomes), *REStud*, 53, 1986; 7. ‘The backward induction paradox’ (with P. Pettit), *J. Philo.*, 86, 1989; 8. ‘Observing violations of transitivity by experimental methods’ (with G. Loomes, C. Starmer), *Em*, 59, 1991; 9. ‘Rational choice: a survey of contributions from economics and philosophy’, *EJ*, 101, 1991; 10. ‘An axiomatic foundation for regret theory’, *JET*, 60, 1993; 11. ‘The nature of salience: an experimental investigation of pure coordination games’ (with J. Mehta, C. Starmer), *AER*, 84, 1994; 12. ‘A theory of focal points’, *EJ*, 105, May 1995; 13. ‘A test of the theory of reference-dependent preferences’ (with I. Bateman, A. Munro, B. Rhodes, C. Starmer), *QJE*, 112, 1997; 14. ‘The metric of opportunity’, *Econ. and Philo.*, 14, 1998; 15. ‘Team preferences’, *Econ. and Philo.*, 16, 2000; 16. ‘On money pumps’ (with R. Cubitt), *Games and Econ. Behav.*, 37, 2001.

Principal Contributions My early work was on welfare economics and cost–benefit analysis. I then became in-

terested in social choice theory. Following a contractarian approach, influenced by James Buchanan, I developed a critique of the then conventional way of formulating ideas about liberty and rights within social choice theory, and proposed an alternative ‘game form’ approach which dispensed with the concept of ‘social preference’; and I showed that observed voluntary contributions to public goods and charities cannot be explained by a theory in which individuals maximize altruistic utility functions, and offered an alternative theory in which individuals are motivated by principles of fairness. With Peter Jones, I was one of the first theorists to investigate measures of opportunity – an issue on which I have continued to work. Thinking about social contract theory, I began to see the importance of the problem of multiple equilibria, and of spontaneous conventions as the solution to this problem. I explored these issues in *The Economics of Rights, Co-operation and Welfare* – a very early attempt to apply the methods of evolutionary biology to economics. A major theme in that book was the role of salience, as conceptualized by Thomas Schelling. In more recent work, I have proposed a formal theory of focal points, and a more general theory of ‘team thinking’ in which groups of individuals reason as if acting as components of a single agent. Another broad theme in my work has developed in collaboration with Graham Loomes and Chris Starmer. Loomes and I proposed a new theory of choice under uncertainty, ‘regret theory’, in which preferences need not be transitive. Later work has been concerned with developing this and other behavioural theories of choice, and using experiments to test these theories.

SULLIVAN, Mary W. n.e.

SUMMERS, Lawrence H. n.e.

SUMMERS, Robert

Born 1922, Gary, IN, USA.

Current Post Prof. Econ. Emeritus, Univ. Pennsylvania, Philadelphia, PA, USA, 1960–.

Past Posts Instr., Asst Prof., Yale Univ., 1952–56, 1956–59; Staff Mem., Cowles Foundation Res. Econ., Yale Univ., 1955–59; Res. Econ., Rand Corp., 1959–60.

Degrees BS (Maths) Univ. Chicago. 1943; PhD Stanford Univ., 1956.

Offices and Honours SSRC Fellowship, King’s Coll., Cambridge, 1951–52; Ford Foundation Faculty Fellowship, LSE, 1966–67; Lindback Teaching Award, Univ. Pennsylvania, 1967; Resident Scholar, Rockefeller Study Center, Bellagio, Italy, 1986; Advisory Comm., Econ. Growth and Pol. Program, Canadian Inst. Adv. Res. (CIAR), c. 1995–2001; Exec. Comm., Conf. on Research in Income and Wealth (CRIW), c. 1995–2001; Fell., Em Soc, 1989; Disting. Fell., AEA, 1999, Fell., AAAS, 2001.

Editorial Duties Ed. Bd, *R/W*, c. 1983.

Principal Fields of Interest C8 Data Collection and Data Estimation Methodology; Computer Programs; C5 Econometric Modeling; O1 Economic Development.

Publications *Books*: 1. *Strategies for R&D: Studies in the Microeconomics of Development* (with T. Marschak, T.K. Glennan, Jr), (S-V, 1967); 2. *The Wharton Index of Capacity Utilization* (with L.R. Klein), (Econ. Res. Unit, Univ. Pennsylvania, 1967); 3. *A System of International Comparisons of Gross Product and Purchasing Power* (with A. Heston, Z. Kenessey, I.B. Kravis), (JHUP, 1975); 4.

International Comparisons of Real Product and Purchasing Power (with A. Heston, I.B. Kravis), (JHUP, 1978); 5. *World Product and Income: International Comparisons of Real Gross Product* (with A. Heston, I.B. Kravis), (JHUP, 1982).

Articles: 1. 'A capital intensive approach to the small sample properties of various simultaneous equation estimators', *Em*, 83, Jan. 1965, repr. in J.M. Dowling, F.R. Glahe (eds), *Econometric Theory* (Colorado Assoc. Univ. Press, 1970); 2. 'A peek at the tradeoff relationship between expected return and risk', *QJE*, 82, Aug. 1967; 3. 'Further results in the measurement of capacity', *Proceedings, Bus. Econ. Stats Section, ASA*, 1968; 4. 'International price comparisons with incomplete data', *RIW*, 19, March 1973; 5. 'Real GDP per capita for more than one hundred countries' (with A. Heston, I.B. Kravis), *EJ*, 88, June 1978; 6. 'Services in the international economy', in R. Inman (ed.), *Managing the Service Economy: Prospects and Problems* (CUP, 1985); 7. 'The Penn World Table (Mark 5): an expanded set of international comparisons, 1950–88' (with A. Heston), *QJE*, 106, May 1991; 8. 'What can be learned from successive ICP benchmark estimates?' (with A. Heston), in A. Szirmai, D. Pilat (eds), *Explaining Economic Growth; Essays in Honor of Angus Maddison* (N-H, 1993); 9. 'The differential productivity hypothesis and purchasing power parities: some new evidence' (with A. Heston, D.A. Nuxoll), *Rev. Intl Econ.*, Balassa–Samuelson issue, 2, Oct. 1994; 10. 'The world distribution of well-being dissected' (with A. Heston), *NBER Stud. in Income and Wealth*, Vol. 5 (UCP, Conf. Res. and Wealth, 1999).

Principal Contributions My early interest in applied econometrics led to two applications of Monte Carlo methods: first, an empirical dissertation investigation of the *lifetime* distribution of income in the

United States and second, a distribution-sampling examination of the small-sample properties of various simultaneous-equation estimators. Then I worked on a number of empirical micro-economic topics – research and development, capacity utilization, the trade-off between risk and return, probabilistic transitivity of preferences, and baseball production functions(!) – before beginning a 30-year preoccupation with output and price comparisons of most of the countries of the world. The System of National Accounts (SNA) provides for most countries current- and constant-price time-series estimates of GDP and its components. These data make possible intertemporal comparisons for individual countries, but do not provide a basis for comparisons across countries. Beginning in the late 1960s, the United Nations International Comparison Project (UNICP) conducted benchmark pricing studies covering many different countries that yielded a new data base. I was one of the three principal investigators of the UNICP, primarily developing a methodology for making valid output and price comparisons across countries. The most tangible product of the early UNICP now is the widely used Penn World Table, currently in its seventh update/revision, a compendium of country time series covering not only the various national accounts time series denominated in a common currency but also estimates of a number of other macro variables such as capital stocks. I have been working with the ICP data to explain why exchange rates differ from purchasing power parities and to revise a variety of misconceptions that flow from sole reliance on the SNA (e.g., investment rates relative to GDP do indeed rise with GDP). Recently, I have been concerned with estimating the world distribution of material well-being taking account of both intercountry and intracountry inequality, public as well

as private consumption, and country demographics.

SUNSTEIN, Cass Robert

Born 1954, Salem, MA, USA.

Current Post Karl N. Llewellyn Disting. Service Prof., Univ. Chicago, IL, USA, 1993–.

Past Posts Attorney-Advisor, US Dept Justice, 1980–81; Asst Prof. Law, Prof., Karl N. Llewellyn Prof., Univ. Chicago Law Sch., 1981–84, 1984–88, 1988–93.

Degrees BA, JD Harvard Univ., 1975, 1978.

Honours Goldsmith Book Prize, John F. Kennedy Sch. Govt, 1993; Best book on freedom of speech, The Free Press, 1993; Henderson Prize, Harvard Law Sch., 2002.

Principal Fields of Interest K0 Law and Economics: General; D0 Microeconomics: General; Q0 Agricultural and Natural Resource Economics: General.

Publications *Books*: 1. *After the Rights Revolution* (HUP, 1990); 2. *Democracy and the Problem of Free Speech* (Free Press, 1993); 3. *The Partial Constitution* (HUP, 1993); 4. *Free Markets and Social Justice* (OUP, 1997); 5. *Behavioral Law and Economics* (ed.), (CUP, 2000); 6. *Republic.com* (Princeton Univ. Press, 2001); 7. *Designing Democracy: What Constitutions Do* (OUP, 2001); 8. *Risk and Reason* (CUP, 2002); 9. *Punitive Damages: How Juries Decide* (with R. Hastie, J. Payne, D. Schkade, W.K. Viscusi), (UCP, 2002); 10. *The Cost-Benefit State* (Amer. Bar Assoc., 2002); 11. *Risk and Reason* (CUP, 2002).

Principal Contributions I have contributed to the theory of regulation, to the understanding of cost-benefit analysis in law, to the theory of preference formation, and to the emerging field of behavioral law and economics. Much of my

work deals with the endogeneity of preferences – to the possibility that preferences are shaped by social processes, including law. I have also explored the implications, for law, of bounded rationality, in part by showing how people, in law, use heuristics that lead to predictable errors, and also how their values confound some of the predictions of standard economics. Some of my work in behavioral economics deals with the effects of social interactions and in particular with conformity and cascade effects.

SUSHKA, Marie E. n.e.

SUZUMURA, Kotaro

Born 1944, Tokoname City, Aichi Prefecture, Japan.

Current Post Prof. Public Econ., Inst. Econ. Res., Hitotsubashi Univ., Kunitachi, Tokyo, Japan, 1984–.

Past Posts Lect., Dept Econ., Hitotsubashi Univ., 1971–73; Assoc. Prof., Inst. Econ. Res., Kyoto Univ., 1973–82; Lect., Dept Econ., LSE, 1974–76; Vis. Assoc. Prof., Dept Econ., Stanford Univ., 1979–80; Assoc. Prof., Inst. Econ. Res., Hitotsubashi Univ., 1982–84; Vis. Fell., Faculty Econ. and Commerce and Res. Sch. Social Sc., ANU, 1986, Dept Econ., Univ. Pennsylvania, 1987, All Souls Coll., Oxford Univ., 1988; Vis. Prof., Dept Econ. and Contemporary Japan Centre, Univ. Essex, 1990–91, Dept Econ., UBC, 1994; Fulbright Sr Fell., Dept Econ., Harvard Univ., 1993; Nissan Vis. Fell., St. Antony's Coll., Oxford Univ., 1996; Vis. Fell. Commoner, Trinity Coll., Cambridge Univ., 2001.

Degrees BA, Doctor, Hitotsubashi Univ., 1966, 1980.

Offices and Honours Nikkei Prize in Econ., 1984, 1988; Fell., Em Soc, 1990–;

Dir.-General, Tokyo Centre Econ. Res., 1990–92; Council Mem., Soc. Social Choice and Welfare, 1992–93, 1995–, Em Soc, 1995–2000; Chair, Far East Standing Comm., Em Soc, 1995–2000; Chair, Sub-Comm. Unfair Trade Pol. and Measures, WTO Comm., Ind. Structure Council Japan, 1996–2000; Exec. Comm. Mem., Intl Econ. Assoc., 1999–; Pres., Japanese Econ. Assoc., 1999–2000, Soc. Social Choice and Welfare, 2000–01; Mem., Sc. Council Japan, 2000–03.

Editorial Duties Ed., *Econ. Stud. Q.*, 1984–87, *Social Choice and Welfare*, 1984–, *Hitotsubashi J. Econ.*, 1989–93, *J. Japanese and Intl Econ.*, 1992–95; Book Rev. Ed., *J. Japanese and Intl Econ.*, 1986–91; Assoc. Ed., *J Ind E*, 1986–95, *Econ. Design*, 1994–96, *Econ. and Philo.*, 1995–; Bd Eds, *ER*, 1990–; Ed.-in-Chief, *Econ. Rev.*, 1994–98, *Japanese Econ. Rev.*, 1995–98.

Principal Fields of Interest D6 Welfare Economics; D7 Analysis of Collective Decision-Making; D0 Microeconomics: General.

Publications *Books*: 1. *Rational Choice, Collective Decisions and Social Welfare* (CUP, 1983); 2. *The Economic Theory of Industrial Policy* (with M. Itoh, K. Kiyono, M. Okuno-Fujiwara), (Acad. Press, 1991); 3. *Competition, Commitment, and Welfare* (OUP, 1995); 4. *Social Choice Reexamined*, 2 vols (ed. with K.J. Arrow, A.K. Sen), (Macmillan, 1996/1997); 5. *Handbook of Social Choice and Welfare*, 2 vols (ed. with K.J. Arrow, A.K. Sen), (Elsevier, 2002/04).

Articles: 1. ‘Rational choice and revealed preference’, *REStud*, 43, Feb. 1976; 2. ‘Impossibility theorems without collective rationality’ (with D.H. Blair, G. Bordes, J.S. Kelly), *JET*, 13, Dec. 1976; 3. ‘Houthakker’s axiom in the theory of rational choice’, *JET*, 14, April 1977; 4. ‘On the consistency of libertarian claims’, *REStud*, 45, June 1978; 5. ‘Liberal para-

dox and the voluntary exchange of rights-exercising’, *JET*, 22, June 1980; 6. ‘On Pareto-efficiency and the no envy concept of equity’, *JET*, 25, Dec. 1981; 7. ‘Entry barriers and economic welfare’ (with K. Kiyono), *REStud*, 54, Jan. 1987; 8. ‘Strategic information revelation’ (with M. Okuno-Fujiwara, A. Postlewaite), *REStud*, 57, Jan. 1990; 9. ‘Individual rights revisited’ (with W. Gaertner, P.K. Pattanaik), *Em*, 59, May 1992; 10. ‘Cooperative and noncooperative R&D in oligopoly with spillovers’, *AER*, 82, Dec. 1992; 11. ‘Individual rights and social evaluation: a conceptual framework’ (with P.K. Pattanaik), *OEP*, 48, April 1996; 12. ‘Consequences, opportunities, and procedures’, *Social Choice and Welfare*, 16, Jan. 1999; 13. ‘Paretian welfare judgements and Bergsonian social choice’, *EJ*, 109, April 1999; 14. ‘Welfare economics beyond welfarist consequentialism’, *Japanese Econ. Rev.*, 51, March 2000; 15. ‘Characterizations of consequentialism and non-consequentialism’ (with Y. Xu), *JET*, 101, Dec. 2001.

Principal Contributions My work is mostly related to welfare economics and social choice theory. Even my other work in theoretical industrial organization, industrial policy, competition policy and development policy is derived from my work in welfare economics and social choice theory, which are focused on four crucial issues. The first is the characterization of rational choice as purposive action. It was Robbins who first crystallized this notion, which Samuelson elaborated into revealed preference theory. Capitalizing on the work by Samuelson, Houthakker, Arrow, Richter, Hansson, and Sen, I have contributed to the axiomatic characterizations of rational choice as purposive action. The second is the logical conflict between equity and efficiency. Generalizing an early work by Kolm, Foley, and Varian, which may be traced back to Hicks and

Tinbergen, I have contributed to building a bridge between the theory of fairness and the theory of social choice, thereby enriching both theories and clarifying their logical relationships. The third is the welfare effect of competition. Contrary to the classical belief in competition as an efficient mechanism for allocating resources, I have proved what came to be known as excess entry theorem – that the free-entry number of firms in the Cournot market is socially excessive *vis-à-vis* the first-best number of firms as well as the second-best number of firms. This and related work motivated me to dig deeper into the relationship between welfare and competition. The fourth is the intrinsic, rather than instrumental, value of opportunities for choice and procedures for choice. The inquiry along this line leads us beyond consequentialism, which has remained almost unchallenged in the literature. I have obtained an axiomatic characterization of consequentialism and non-consequentialism, and some clarifications of the effects of going beyond consequentialism on such standard results as Arrow's impossibility theorem.

SVENSSON, Lars Erik Oskar

Born 1947, Örnköldsvik, Sweden.

Current Post Prof. Econ., Princeton Univ., Princeton, NJ, USA, 2001–.

Past Posts Res. Fell., Sr Res. Fell., Prof. Intl Econ., Inst. Intl Econ. Stud., Stockholm Univ., 1975–84, 1984–2001; Vis. Prof. or Vis. Scholar, Columbia Univ., Harvard Univ., IMF, MIT, NBER, NYU, Princeton Univ., Rochester Univ., Tel Aviv Univ., Univ. California, Berkeley, Univ. California, Santa Barbara.

Degrees MSc (Apl. Maths) Royal Inst. Tech., 1971; BA, PhD, Docent Stockholm Univ., 1973, 1976, 1978.

Offices and Honours Erik Lindahl

Award, 1980; Res. Fell., CEPR, London, 1986–; Res. Assoc., NBER, Cambridge, MA, 1987–; Assoc. Mem., Secretary, Mem., Chair, Prize Comm., Alfred Nobel Memorial Prize in Econ. Sc., 1986, 1988–92, 1993–2002, 1999–2001; Mem., Royal Swedish Acad. Sc., 1989–; Fell., Em Soc, 1990–; Advisor, Sveriges Riksbank (Bank of Sweden), 1990–; Torsten and Ragnar Söderberg Foundation Prize for Outstanding Res. Intl Econ., 1991; Mem., Acad. Europae, 1992–; Alfred Marshall Lecture, Eighth Annual Congress, Europ. Econ. Assoc., Helsinki, 1993; Council Mem., Europ. Econ. Assoc., 1997–2000; Foreign Mem., Finnish Acad. Sc. and Letters, 1998–; Hon. Mem., Latin Amer. and Caribbean Econ. Assoc. (LACEA), 1999–; Foreign Hon. Mem., AAAS, 2000–.

Editorial Duties Assoc. Ed., *Scand JE*, 1984–94, *J Int E*, 1985–90, 1995–98, *IER*, 1985–99, *Macroecon. Dynamics*, 1997–99.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; F4 Macroeconomic Aspects of International Trade and Finance; E4 Money and Interest Rates.

Publications *Book*: 1. *Inflation Targets* (ed. with L. Leiderman), (Tel Aviv Univ., CEPR, 1995).

Articles: 1. 'Money and asset prices in a cash-in-advance economy', *JPE*, 93, 1985, repr. in K.D. Hoover (ed.), *The Economic Legacy of Robert Lucas, Jr.* (Edward Elgar, 1999); 2. 'Sticky goods prices, flexible asset prices, monopolistic competition and monetary policy', *REStud*, 53, 1986, repr. in J.-P. Bénassy (ed.), *Macroeconomics and Imperfect Competition* (Edward Elgar, 1995); 3. 'Time consistency of fiscal and monetary policy' (with M. Persson, T. Persson), *Em*, 55, 1987, repr. in K.D. Hoover (ed.), *The Economic Legacy of Robert Lucas, Jr.* (Edward Elgar, 1999); 4. 'Trade in risky assets', *AER*, 78, 1988; 5. 'Social con-

tracts as assets: a possible solution to the time-consistency problem' (with L.J. Kotlikoff, T. Persson), *AER*, 78, 1988; 6. 'Stochastic devaluation risk and the empirical fit of target zone models' (with G. Bertola), *REStud*, 60, 1993; 7. 'Why exchange rate bands? Monetary independence in spite of fixed exchange rates', *JME*, 33, 1994; 8. 'Optimal inflation targets, "conservative" central banks, and linear inflation contracts', *AER*, 87, 1997; 9. 'Inflation forecast targeting: implementing and monitoring inflation targets', *Europ ER*, 41, 1997; 10. 'New techniques to extract market expectations from financial instruments' (with P. Söderlind), *JME*, 40, 1997; 11. 'Policy rules for inflation targeting' (with G. Rudebusch), in J.B. Taylor (ed.), *Monetary Policy Rules* (UCP, 1999); 12. 'Price level targeting vs. inflation targeting: a free lunch', *JMCB*, 31, 1999; 13. 'Inflation targeting as a monetary policy rule', *JME*, 43, 1999; 14. 'Monetary policy issues for the Eurosystem', *C-RPP*, 1999; 15. 'Open-economy inflation targeting', *J Int E*, 50, 2000; 16. 'Transparency and credibility: monetary policy with unobservable goals' (with J. Faust), *IER*, 42, 2001; 17. 'The zero bound in an open-economy: a foolproof way of escaping from a liquidity trap', *Monetary and Econ. Stud. (Bank of*

Japan), 19, 2001; 18. 'Eurosystem monetary targeting: lessons from US data' (with W.G. Rudebusch), *Europ ER*, 46, 2002; 19. 'Inflation targeting: should it be modeled as an instrument rule or a targeting rule?', *Europ ER*, 46, 2002.

Principal Contributions I have contributed to theoretical and, to some extent, empirical research in several areas of economics, including monetary policy, monetary and exchange rate economics, international macroeconomics, international finance, international trade and intertemporal general equilibrium theory. Most recently, research on monetary policy rules (inflation targeting); previously on extracting information for monetary policy purposes from financial markets; the operation and credibility of fixed exchange rate regimes (exchange rate target zones); discretion and commitment in monetary and fiscal policy; exchange rate determination; asset prices in monetary economics (cash-in-advance economies); international trade in assets; intertemporal trade and current-account determination (the intertemporal approach to current-account determination); international trade and factor mobility, and intertemporal resource allocation (intertemporal allocation under endogenous price uncertainty).

T

TABELLINI, Guido

Born 1956, Turin, Italy.

Current Posts Prof. Econ., Bocconi Univ., Milan, Italy, 1994–; Dir., Innocenzo Gasparini Inst. Econ. Res., Bocconi Univ., 1995–.

Past Posts Asst Prof., Stanford Univ., 1985–86; Asst Prof., Assoc. Prof., UCLA, 1986–90, 1990; Postdoctoral Fell., Carnegie-Mellon Univ., 1987–88; Vis. Scholar, Intl Fin. Div., Bd Governors, Fed. Reserve System, 1988; Prof. Econ. Devlp., Univ. Cagliari, Italy, 1990–91; Vis. Scholar, Res. Dept, IMF, 1991; Prof. Econ., Univ. Brescia, Italy, 1991–94.

Degrees Laurea in Econ., Univ. Torino, 1980; PhD UCLA, 1984.

Offices and Honours Faculty Res. Fell., NBER, Cambridge, 1987–92; Res. Fell., CEPR, London, 1987–; Sc. Comm., Centre Monetary and Fin. Econ., Bocconi Univ., 1990; Mem. Council, Europ. Econ. Assoc., 1992–97; Mem., Tech. Comm. on Public Spending, Min. of Treasury, Italy, 1994–97; Mem. Sc. Council, Kiel Inst. World Econ. Stud., 1998–.

Editorial Duties Panel Mem., *Econ. Pol. – A Europ. Forum*, 1989–92; Assoc. Ed., *Europ ER*, 1991–; Sc. Comm., Il Mulino publishing house.

Principal Fields of Interests E0 Macroeconomics and Monetary Economics: General; F0 International Economics: General; H0 Public Economics: General.

Publications *Books*: 1. *Macroeconomic Policy, Credibility and Politics* (with T. Persson), (Harwood, 1990); 2. *Monetary and Fiscal Policy. Vol. I: Credibility, Vol. II: Politics* (ed. with T. Persson), (MIT Press, 1995); 3. *Flexible Integration: Towards a More Effective and Democratic Europe* (with M. Dewatripont, F. Giavazzi, J. von Hagen, I. Harden, T. Persson, G.

Roland, H. Rosenthal, A. Sapir), (CEPR Report on Monitoring Europ. Integration, 1995); 4. *Le Nuove Frontiere della Politica Economica* (ed. with F. Giavazzi, A. Penati), Vols I, II, III (edizioni de Li Sole 24 Ore, 1995, 1996, 1997).

Articles: 1. ‘Discretionary trade policy and excessive protection’ (with R. Staiger), *AER*, 77, Dec. 1987; 2. ‘Voting on the budget deficit’ (with A. Alesina), *AER*, 80, March 1990; 3. ‘A positive theory of fiscal deficits and government debt’ (with A. Alesina), *RESstud*, 57, July 1990; 4. ‘The politics of intergenerational redistribution’, *JPE*, 99, April 1991, repr. in F. van Winden, H. Verbon (eds), *The Political Economy of Government Debt* (N-H, 1992); 5. ‘Political and monetary institutions and public financial policies in the industrialized countries’ (with D. Masciandaro, V. Grilli), *Econ. Pol.*, 13, Fall 1991; 6. ‘Designing institutions for monetary stability’ (with T. Persson), *C-RPP*, 39, Fall 1993; 7. ‘Is inequality harmful for growth?’ (with T. Persson), *AER*, 84, 1994; 8. ‘Federal fiscal constitutions: risk sharing and moral hazard’ (with T. Persson), *Em*, 64, 1996; 9. ‘Federal fiscal constitutions: risk sharing and redistribution’ (with T. Persson), *JPE*, 104, 1996; 10. ‘Separation of powers and political accountability’ (with T. Persson, G. Roland), *QJE*, 112, 1997.

Principal Contributions My research has focussed on the theory and practice of economic policy. Throughout my research, policymakers are viewed as optimizing decisionmakers, who respond to incentives and constraints. The goal of the theory is to formulate positive hypotheses about the behavior of policymakers that in principle can be tested against empirical evidence, and to provide normative suggestions for institutional reform. In my first contributions, I studied the credibility of monetary policy and of trade policy. In trade policy, lack of cred-

ibility results in excessive protection. In monetary policy it leads to excessive inflation. In both cases, lack of credibility is a consequence of a flexible and sequential decisionmaking process. With regard to monetary policy, I have asked how to gain credibility, through reputational effects or by appropriate institution design. Particular attention has been devoted to the design of the optimal targeting rules for an independent central bank. Later on, my attention shifted to the analysis of political institutions, and in particular of their effects on fiscal policy choices in an intertemporal context. Two questions in particular have directed my research. What features of political institutions lead to the accumulation of large public debt? What lends credibility to the promise to repay public debt or social security obligations? This research has also touched issues concerning public debt management policies. A third related line of research focussed on the link between economic growth and redistributive policies. Larger inequality can lead to slower growth, if it enhances political incentives to tax and redistribute. More recently, I have been studying federative structures and in particular the design of redistributive policies within a federation. Regional risk sharing or redistribution can distort the incentives of local policymakers, and this in turn leads to positive implications for policy choices and normative suggestions for institution design.

TAMURA, Robert

Born 1959, Oak Ridge, TN, USA.

Current Post Assoc. Prof. Econ., John E. Walker Dept Econ., Clemson Univ., Clemson, SC, USA, 1996–.

Past Post Asst Prof. Econ., Univ. Iowa, 1988–96.

Degrees BA Coll. William and Mary,

1981; MA, PhD Univ. Chicago, 1983, 1988.

Offices and Honours John Stauffer Natl Fell. Public Pol., Hoover Inst., Stanford Univ., 1993–94.

Principal Fields of Interest O0 Economic Development, Technological Change, and Growth; D9 Intertemporal Choice and Growth; J1 Demographic Economics.

Publications *Articles*: 1. 'Human capital, fertility, and economic growth' (with G. Becker, K.M. Murphy), *JPE*, 98, Oct. 1990; 2. 'Income convergence in an endogenous growth model', *JPE*, 99, June 1991; 3. 'Efficient equilibrium convergence: heterogeneity and growth', *JET*, 58, Dec. 1992; 4. 'Fertility, human capital and the wealth of families', *ET*, 4, May 1994; 5. 'Regional economies and market integration', *JEDC*, 20, May 1996; 6. 'From decay to growth: a demographic transition to economic growth', *JEDC*, 20, June/July 1996; 7. 'Growth, fertility and human capital: a survey', *Spanish Econ. Rev.*, 2, Dec. 2000; 8. 'Teachers, growth, and convergence', *JPE*, 109, Oct. 2001; 9. 'Translators: market makers in merging markets', *JEDC*, 25, Nov. 2001; 10. 'Human capital and the switch from agriculture to industry', *JEDC*, 27, Dec. 2002.

Principal Contributions I investigate the determinants of long-run economic growth. I focus on human capital accumulation and its induced endogenous technological change. Much of this research is centered on parental choice of the quality and quantity of children. I examine the determinants of the demographic transition and industrial revolution. I also investigate the diffusion of economic growth.

TANNER, Martin Abba

Born 1957, Highland Park, IL, USA.

Current Post Prof., Dept Stats, Northwestern Univ., Evanston, IL, USA, 1994–.

Past Posts Lect., Dept Stats, Univ. Chicago, 1981–82; Asst Prof., Maths Res. Center, Asst Prof., Assoc. Prof., Depts Stats and Human Oncology, Univ. Wisconsin, Madison, 1982–83, 1982–87, 1987–90; Vis. Assoc. Prof., Dept Apl. Maths, Weizmann Inst. Sc., Rehovot, Israel, 1988; Prof., Chair, Depts Biostats and Stats, Univ. Rochester, 1990–94; Vis. Prof., Dept Stats, ANU, 1995.

Degrees BS, MS, PhD Univ. Chicago, 1978, 1981, 1982.

Offices and Honours Fell., RSS, 1983, ASA, 1994; Mortimer Spiegelman Award, 1993; Continuing Educ. Excellence Award, ASA, 1996;

Editorial Duties Assoc. Ed., *JASA*, 1988–99; Ed., *JASA Theory and Methods*, 1999–02, Chapman & Hall/CRC Press Texts in Stat. Sc., 2002–; Rev., *Chicago Manual of Style*, 15th edn 2001–02.

Principal Fields of Interest C1 Econometric and Statistical Methods: General; C4 Econometric and Statistical Methods: Special Topics.

Publications *Books*: 1. *Tools for Statistical Inference: Methods for the Exploration of Posterior Distributions and Likelihood Functions* (S-V, 3rd edn 1996); 2. *Statistics in the 21st century* (ed. with A.E. Raftery, M.T. Wells), (Chapman & Hall, 2001).

Articles: 1. ‘The estimation of the hazard function from randomly censored data by the kernel method’ (with W.H. Wong), *Annals of Stats*, 11, 1983; 2. ‘The calculation of posterior distributions by data augmentation’ (with W.H. Wong), *JASA*, 82, 1987, repr. in *The International Library of Critical Writings in Econometrics* series (Edward Elgar, 1994); 3. ‘A Monte Carlo implementation of the EM algorithm

and the poor man’s data augmentation algorithms’ (with G.C.G. Wei), *JASA*, 85, 1990; 4. ‘Facilitating the Gibbs Sampler: the Gibbs Stopper and the Griddy Gibbs Sampler’ (with C. Ritter), *JASA*, 87, 1992; 5. ‘Maximization of the marginal likelihood of grouped survival data’ (with D. Sinha, W.J. Hall), *Biometrika*, 81, 1994; 6. ‘Approximate conditional inference in exponential families via the Gibbs Sampler’ (with J.E. Kolassa), *JASA*, 89, 1994; 7. ‘Bayesian inference in mixtures-of-experts and hierarchical mixtures-of-experts models’ (with F. Peng, R.A. Jacobs), *JASA*, 91, 1996; 8. ‘A Bayesian approach to model selection in hierarchical mixtures-of-experts architectures’ (with F. Peng, R.A. Jacobs), *Neural Networks*, 10, 1997; 9. ‘Data augmentation’, in S. Kotz, (ed.), *Encyclopedia of Statistical Sciences* (Wiley, 1997); 10. ‘Approximate Monte Carlo conditional inference in exponential families’ (with J.E. Kolassa), *Biometrics*, 55, 1999; 11. ‘On the approximation rate of hierarchical mixtures-of-experts for generalized linear models’ (with W. Jiang), *Neural Computation*, 11, 1999; 12. ‘Binomial-beta hierarchical models for ecological inference’ (with G. King, O. Rosen), *Sociological Methods and Res.*, 28, special issue on ‘Bayesian methods in the social sc.’, 1999; 13. ‘Hierarchical mixtures-of-experts for exponential family regression models: approximation and maximum likelihood estimation’ (with W. Jiang), *Annals of Stats*, 27, 1999; 14. ‘An analytical study of several MCMC estimators of the marginal likelihood’ (with Z. Yu), *J. Computational and Graphical Stats*, 8, 1999; 15. ‘Mixtures of marginal models’ (with W. Jiang, O. Rosen), *Biometrika*, 87, 2000; 16. ‘On the asymptotic normality of hierarchical mixtures-of-experts for generalized linear models’ (with W. Jiang), *IEEE Transactions on Info. Theory*, 46, 2000; 17. ‘Mixtures of time series models’ (with G. Huerta, W.

Jiang), *J. Computational and Graphical Stats*, 10, 2001; 18. 'Bayesian and frequentist inference for ecological inference: the $r \times c$ case' (with G. King, W. Jiang, O. Rosen), *Statistica Neerlandica*, 55, special issue on 'The analysis of repeated cross-sectional surveys', 2001.

Principal Contributions My research interests include Markov chain Monte Carlo methods for Bayesian and frequentist inference, nonparametric estimation of the hazard function for right-censored and interval-censored data, applications of multiple imputation to censored regression data, and models and measures of interrater agreement/disagreement. My recent work considers the use of Bayesian inference in mixtures-of-experts and hierarchical mixtures-of-experts neural network architectures with applications to speech recognition, breast cancer diagnosis, financial exchange rate data, and global meteorological information.

TAUCHEN, George n.e.

TAYLOR, J. Edward

Born 1957, Redlands, CA, USA.

Current Post Prof. Agric. and Resource Econ., Univ. California, Davis, CA, USA, 1987–.

Past Posts Vis. Scholar, Migration and Devlp. Program, Pop. Stud. Center, Harvard Univ., 1984–85; Vis. Res. Econ., Univ. California, Berkeley, 1985; Res. Assoc., Urban Inst., Washington, DC, 1985–87.

Degrees BS Univ. California, Riverside, 1979; MS (Agric. and Resource Econ.), PhD (Agric. and Resource Econ.) Univ. California, Berkeley, 1982, 1984.

Offices and Honours *Scl*, first in class, 1979; Phi Beta Kappa, 1979; Outstanding PhD Thesis Award, AA, 1985; Outstand-

ing Teacher/Lect. Award, Dept Agric. Econ., Univ. California, Davis, 1990; Commission on South–North Migration, Intl Union for Sc. Study of Pop. (IUSSP), 1992–97; US Commission on Immigration Reform, Binational Study, 1995–97; Co-Dir., Program for Study of Econ. Change and Sustainability in Rural Mexico, El Colegio de Mexico, Mexico City, 1996–; Dir., Center on Rural Econ. of Americas and the Pacific Rim (REAP), Univ. California, Davis, 2000– (<http://www.reap.ucdavis.edu>); Chair, Advisory Comm., Inst. Mexico and US (UC Mexus), Univ. California, 2001–02.

Editorial Duties Co-Ed., *Rural Migration News* on-line q., 1998–.

Principal Fields of Interest O1 Economic Development; J0 Labor and Demographic Economics: General; Q2 Renewable Resources and Conservation: Environmental Management.

Publications *Books*: 1. *Village Economies: The Design, Estimation and Use of Villagewide Economic Models* (with I. Adelman), (CUP, 1996); 2. *Poverty Amid Prosperity: Immigration and the Changing Face of Rural California* (with P.L. Martin, M. Fix), (Urban Inst., 1997); 3. *Worlds in Motion: Understanding International Migration at the End of the Millennium* (with D.S. Massey, J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino), (OUP, 1998).

Articles: 1. 'Remittances and inequality' (with O. Stark, S. Yitzhaki), *EJ*, 96, Sept. 1986; 2. 'Undocumented Mexico–US migration and the returns to households in rural Mexico', *AJAE*, 69, Aug. 1987; 3. 'Migration, remittances in inequality: a sensitivity analysis using the extended Gini Index' (with O. Stark, S. Yitzhaki), *JDE*, 28, May 1988; 4. 'Relative deprivation and international migration' (with O. Stark), *Demography*, 26, Feb. 1989; 5. 'Migration incentives, migration types: the role of relative depriva-

tion' (with O. Stark), *EJ*, 101, Sept. 1991; 6. 'Remittances and inequality reconsidered: direct, indirect and intertemporal effects', *J. Pol. Modeling*, 14, April 1992; 7. 'Earnings and mobility of legal and illegal immigrant workers in agriculture', *AJAE*, 74, Nov. 1992; 8. 'Technology adoption and biological diversity in Andean potato agriculture' (with S. Brush, M. Bellon), *JDE*, 39, Nov. 1992; 9. "'Folk" soil taxonomy and the partial adoption of new seed varieties' (with M.R. Bellon), *EDCC*, 41, July 1993; 10. 'Income growth and nutrient intake in a prosperous rural area of Northern China' (with X. Ye), *EDCC*, 43, July 1995; 11. 'Agroclimatic shock, income inequality, and poverty: evidence from Burkina Faso' (with T. Reardon), *WD*, 24, May 1996; 12. 'Migration, remittances, and agricultural productivity in China' (with S. Rozelle, A. de Brauw), *AER*, 89, May 1999; 13. 'The returns from schooling in a diversified rural economy' (with A. Yúnez-Naude), *AJAE*, 82, May 2000; 14. 'Human capital: migration and rural population change' (with P.L. Martin), in *Handbook of Agricultural Economics*, Vol. I (Elsevier, 2001); 15. 'Agricultural household models: genesis, evolution and extensions' (with I. Adelman), *Rev. Econ. Household*, 1, forthcoming; 16. 'Migration models', in P. Demeny, G. McNicoll (eds), *Encyclopedia of Population* (Macmillan, forthcoming); 17. 'The economics of "eco-tourism": a Galapagos Island economy-wide perspective' (with A. Yúnez-Naude, G. Dyer, S. Ardila), *EDCC*, forthcoming.

Principal Contributions My research involves extending household and general-equilibrium modelling to address critical development economics questions related to population, migration and labour markets; poverty and income inequality; technology adoption; and the environment. I have developed analytical tools and field-

work methods to test for and estimate direct and indirect micro influences of migration, market integration, and policy changes on production, incomes, and environmental variables in imperfect-market environments. My early work was among the first to empirically test propositions of the new economics of labour migration. Later studies, using agricultural-household models and field data from Mexico, Turkey and Peru, challenged assertions that agricultural modernization jeopardizes *in-situ* conservation of crop genetic resources and offered new explanations for partial adoption of seed varieties in 'cradle' areas of crop diversity. The book *Village Economies: The Design, Estimation and Use of Villagewide Economic Models* expands the micro focus of household models, presenting and implementing a methodology to examine how market linkages transmit the impacts of policy and market changes through local economies in ways missed by both agricultural household and aggregate computable general equilibrium models. I have used these 'micro economywide' methods to explore the influences of policy reforms on small economies and the impacts of tourism in sensitive ecological areas, including the Galapagos Islands. I have contributed to the literature on market integration and globalization by adding an intra-national perspective to the traditional trade focus on nations and nation groups.

TAYLOR, Mark Peter

Born 1958, Birmingham, England.

Current Posts Prof. Macroecon., Univ. Warwick, Warwick, UK, 1999–; Res. Fell., CEPR, London, UK, 1987–.

Past Posts Foreign Exchange Dealer, Citibank, London, 1980–82; Lect., Univ. Newcastle upon Tyne, 1984–85; Chief Intl Econ., Schroders Investment Mgmt, 1985–

86; Res. Econ., Cons. Econ., Bank of England, 1986–87, 1987–90; Robert Fleming Prof. Fin. and Investment, Univ. Dundee, 1987–88; Morgan Grenfell Prof. Fin. Markets, City Univ. Bus. Sch., London, 1988–90; Vis. Prof. Intl Fin., Leonard N. Stern Grad. Sch. Bus., NYU, 1990; Sr Econ., Cons. Econ., IMF, Washington, DC, 1990–94, 2000–02; Cons. Econ., World Bank, 1994–2000; Prof. Fin. Econ., Univ. Liverpool, 1994–97; Fell. Econ., Univ. Coll., Oxford and Dept Econ., Oxford Univ., 1997–99; Sr Econ. Pol. Adviser on Trade and Ind., British Labour Party Shadow Cabinet, House of Commons, UK, 1994–97.

Degrees BA (PPE), MA St. John's Coll., Univ. Oxford, 1980, 1984; MSc, PhD Birkbeck Coll., Univ. London, 1982, 1984; MA (English Literature) Univ. Liverpool, 2001.

Offices and Honours Casberd Exhibitioner, Univ. Oxford, 1978–80; Fell., Royal Soc. for Encouragement of Arts, Manufactures and Commerce, 1995–; Council Mem., RES, 2002–.

Editorial Duties Managing Ed., *Intl J. Fin. Econ.*, 1994–, *Apl. Fin. Econ.*, 1995–.

Principal Fields of Interest F3 International Finance; G0 Financial Economics: General; E0 Macroeconomics and Monetary Economics: General.

Publications *Books*: 1. *The Balance of Payments: New Perspectives on Open Economy Macroeconomics* (Edward Elgar, 1990); 2. *Money and Financial Markets* (Blackwell, 1991); 3. *Applied Econometric Techniques* (with S. Hall, K. Cuthbertson), (Simon & Schuster, Univ. Michigan Press, 1992); 4. *Policy Issues in the Operation of Currency Unions* (with P. Masson), (CUP, 1993); 5. *Modern Perspectives on the Gold Standard* (with T. Bayoumi, B. Eichengreen), (CUP, 1996); 6. *New Developments in Exchange Rate Economics*, Vols I, II (with L. Sarno),

(Edward Elgar, 2002); 7. *The Economics of Exchange Rates* (with L. Sarno), (CUP, 2002).

Articles: 1. 'Long-run purchasing power parity in the 1920s' (with P. McMahon), *Europ ER*, 32, 1988; 2. 'Covered interest arbitrage and market turbulence', *EJ*, 99, 1989; 3. 'The hyperinflation model of money demand revisited', *JMCB*, 23, 1991; 4. 'The use of technical analysis in the foreign exchange market' (with H. Allen), *JIMF*, 11, 1992; 5. 'Modelling the yield curve', *EJ*, 102, 1992; 6. 'Modelling the demand for UK broad money, 1871–1913', *REStat*, 75, 1993; 7. 'The economics of exchange rates', *JEL*, 33, 1995; 8. 'Real exchange rate behavior: the recent float from the perspective of the past two centuries' (with J. Lothian), *JPE*, 104, 1996; 9. 'The term structure of forward exchange premiums and the forecastability of spot exchange rates: correcting the errors' (with R. Clarida), *REStat*, 79, 1997; 10. 'The behavior of real exchange rates during the post Bretton Woods period', *J Int E*, 46, 1998; 11. 'Official intervention in the foreign exchange market: is it effective and, if so, how does it work?' (with L. Sarno), *JEL*, 39, 2001; 12. 'Nonlinear mean reversion in real exchange rates: towards a solution to the purchasing power parity puzzles', *IER*, 42, 2001; 13. 'Why is it so difficult to beat the random walk forecast of exchange rates?' (with L. Kilian), *J Int E*, forthcoming 2003.

Principal Contributions A central research theme has been the analysis of foreign exchange markets, including econometric work on market efficiency and modelling risk premia and the long-run behaviour of real and nominal exchange rates. This programme, together with a research project directed for the Bank of England on the use of chartist or technical analysis, contributed to the view that, while exchange rates are guided by eco-

conomic fundamentals in the long run, their short-run behaviour is influenced by the interaction of heterogeneous market agents whose behaviour – such as herd behaviour and noise trading – may be outside of the traditional paradigms. Drawing on practical experience as a foreign exchange dealer, I pioneered the use of high-frequency, high-quality data to analyse riskless international arbitrage opportunities such as covered interest rate parity. Numerous contributions to the issue of long-run real exchange rate equilibrium, including non-linear econometric studies of real and nominal exchange rates. Also other contributions to research on financial markets more generally, including analyses of financial market volatility and share price behaviour, risk and efficiency in commodities markets and the determinants of the term structure of interest rates. Numerous contributions in applied macroeconomics, including work on aggregate consumption, investment and asset demand. Various contributions in international monetary policy, including analyses of international capital mobility, currency unions and the European Monetary System. At the IMF I was also involved in applied policy work on the reform of Central and East European economies, including negotiating IMF programmes with the authorities and contributing research on the sequencing of reforms and potential growth paths.

TEECE, David John

Born 1948, Blenheim, New Zealand.

Current Posts Prof., Univ. California, Berkeley, CA, USA, 1982–; Dir., Inst. Mgmt, Innovation and Org., Univ. California, Berkeley, 1983–.

Past Posts Asst Prof. Bus. Econ., Assoc. Prof. Bus. Econ., Stanford Univ., 1975–78, 1978–82.

Degrees BA, MComm (Hons) Univ. Canterbury, 1970, 1971; MA, PhD Univ. Pennsylvania, 1973, 1975.

Honours Clarendon Lectures, Oxford Univ., 1998; Hon. Dr, St Petersburg State Univ., 2002; Viipuri Prize in Strategic (Tech.) Mgmt, 2002.

Editorial Duties Co-Ed., *Ind. and Corp. Change* (OUP), 1991–.

Principal Fields of Interest L0 Industrial Organization: General; O3 Technological Change; L4 Antitrust Policy.

Publications *Books*: 1. *Economic Performance and the Theory of the Firm: The Selected Papers of David Teece*, Vol. 1 (Edward Elgar, 1998); 2. *Strategy, Technology and Public Policy: The Selected Papers of David Teece*, Vol. 2 (Edward Elgar, 1998); 3. *Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions* (OUP, 2000); 4. *Managing Industrial Knowledge* (ed. with I. Nonaka), (Sage Publications, 2001); 5. *Essays in Technology Management and Policy* (World Sc. Publ., forthcoming 2003).

Articles: 1. ‘Organizational structure and economic performance: a test of the multidivisional hypothesis’ (with H. Armour), *Bell JE*, 9, Spring 1978; 2. ‘Vertical integration and technological innovation’ (with H. Armour), *REStat*, 62, Aug. 1980; 3. ‘Economics of scope and the scope of the enterprise’, *JEBO*, 1, 1980; 4. ‘Towards an economic theory of the multiproduct firm’, *JEBO*, 3, 1982; 5. ‘Multinational enterprise, internal governance, and industrial organization’, *AER*, 75, May 1985; 6. ‘Transaction cost economics and the multinational enterprise: an assessment’, *JEBO*, 7, 1986; 7. ‘Profiting from technological innovation: implications for integration, collaboration, licensing and public policy’, *Res. Pol.*, 15, 1986; 8. ‘Vertical integration and risk reduction’ (with C. Helfat), *JLEO*, 3, Spring 1987; 9. ‘Understanding corporate coherence: theory

and evidence' (with R. Rumelt, G. Dosi, S. Winter), *JEBO*, 23, 1994; 10. 'When is virtual virtuous? Organizing for innovation' (with H.W. Chesbrough), *Harvard Bus. Rev.*, Jan.–Feb. 1996; 11. 'Firm organization, industrial structure, and technological innovation', *JEBO*, 31, 1996; 12. 'Dynamic capabilities and strategic management' (with G. Pisano, A. Shuen), *Strategic Mgmt J.*, 18, 1997; 13. 'Managing intellectual capital: licensing and cross-licensing in electronics' (with P.C. Grindley), *California Mgmt Rev.*, 40, Spring 1998; 14. 'Capturing value from knowledge assets: the new economy, markets for know-how, and intangible assets', *California Mgmt Rev.*, 40, Spring 1998; 15. 'The meaning of monopoly: antitrust analysis in high-technology industries' (with M. Coleman), *Antitrust Bull.*, 43, Fall–Winter 1998.

Principal Contributions My early work focused on questions of internal organization, firm boundaries, and in particular lateral scope (diversification) appealing to explanations based on imperfect markets for know-how. Subsequent work has looked at the basis of the competitive advantage of firms. I was early to show systematic statistically significant relationships between organizational structure and performance (profits in one case, R&D activity in another). I was early to use transaction cost economics and related ideas to extend the Coase–Williamson paradigm on firm boundaries to diversification issues. Subsequent work on corporate strategy has shown how the asset structure of firms, and the ownership of complementary assets, in particular, affect the allocation of the returns to innovation in the economic system. In addition to introducing the notion of complementary assets into economics and strategy, I also introduced the concept of the appropriability regime. Rents from innovation get steered to one firm or an-

other not only according to assets owned and controlled, but also according to appropriability conditions, defined to include not just intellectual property, but also the nature of the knowledge itself, and in particular the ease or otherwise with which it can be replicated. More recent work has extended these themes to focus on the entrepreneurial functions of firms: how they orchestrate the assets needed to shape markets and market outcomes. My work on the 'dynamic capabilities of the firm' has endeavored to provide some intellectual foundations to the concept of 'competence and capability'. In bringing together strategy research and economics in this fashion, I have endeavored to create a new and more robust theory of the firm that can guide economic and managerial thinking alike. I have also focused on a number of critical areas in law and economics, and intellectual property damages.

TERÄSVIRTA, Timo Lauri

Born 1941, Helsinki, Finland.

Current Posts Prof. Em., Stockholm Sch. Econ., Stockholm, Sweden, 1994–; Disting. Sr Fell., Swedish Sch. Econ. and Bus. Admin., Helsinki, Finland, 2001–.

Past Posts Researcher, Econ. Res. Inst., Posts and Telegraphs, Helsinki, 1963–68; Asst Lect., Prof. Stats, Univ. Helsinki, 1964–67, 1976–80; Acting Prof. Stats, Univ. Jyväskylä, Finland, 1970–72; Sr Res. Fell., Acad. Finland, Helsinki, 1972–76; Res. Fell., Res. Inst. of Finnish Econ., 1980–89, Central Bank of Norway, 1992–93, 2000; Vis. Prof., Univ. California, San Diego, 1989–91, 1998, 2002, Univ. Gothenburg, Sweden, 1991, Copenhagen Bus. Sch., 1993–94.

Degrees MPolSc (Stats), LicPolSc (Em.), DPolSc (Em.) Univ. Helsinki, 1964, 1968, 1970.

Offices and Honours Mem., Intl Stat. Inst., 1978–, Societas Scientiarum Fennica, Helsinki, 1978–, Royal Acad. Sc., Stockholm, 2001–; E.J. Nyström's Prize, 1993; *J Em* Fell., 2000; *JAE* Disting. Author, 2000.

Editorial Duties Assoc. Ed., *Scandinavian J. Stats*, 1974–88, *Scand JE*, 1980–93, *Intl J. Forecasting*, 1992–2000, *Stud. in Nonlinear Dynamics and Em.*, 1995–, *Macroecon. Dynamics*, 1996–2002; Ed. Bd, *Empirical Econ.*, 1997–; Advisory Ed., *Apl. Fin. Econ.*, 1998–.

Principal Fields of Interest C5 Econometric Modeling; C2 Econometric Methods: Single Equation Models.

Publications *Books*: 1. *Stepwise Regression and Economic Forecasting*, (Kansantaloudellinen Yhdistys, 1970); 2. *Modelling Nonlinear Economic Relationships* (with C.W.J. Granger), (OUP, 1993).

Articles: 1. 'The invertibility of sums of discrete MA and ARMA processes', *Scandinavian J. Stats*, 4, 1977; 2. 'Model selection criteria and model selection tests in regression models' (with I. Mellin), *Scandinavian J. Stats*, 13, 1986; 3. 'Formation of firms' production decisions in Finnish manufacturing industries' (with M. Rahiala), *JAE*, 3, April 1988; 4. 'Testing linearity against smooth transition autoregressive models' (with R. Luukkonen, P. Saikkonen), *Biometrika*, 75, Sept. 1988; 5. 'Characterizing nonlinearities in business cycles using smooth transition autoregressive models' (with H.M. Anderson), *JAE*, 7, suppl., Dec. 1992, repr. in M.H. Pesaran, S.M. Potter (eds), *Nonlinear Dynamics, Chaos and Econometrics* (John Wiley, 1993); 6. 'Specification, estimation, and evaluation of smooth transition autoregressive models', *JASA*, 89, March 1994, repr. in P. Newbold, S.J. Leybourne (eds), *Recent Developments in Time Series* (Edward Elgar, 2003); 7. 'Testing the constancy of regression parameters against continuous structural change' (with C.-F.

Lin), *J Em*, 62, June 1994; 8. 'Testing the adequacy of smooth transition autoregressive models' (with Ø. Eitrheim), *J Em*, 74, Sept. 1996, repr. in P. Newbold, S.J. Leybourne (eds), *Recent Developments in Time Series* (Edward Elgar, 2003); 9. 'Testing parameter constancy and super exogeneity in econometric equations' (with E.S. Jansen), *OBES*, 58, Nov. 1996, repr. in A. Banerjee, D.F. Hendry (eds), *The Econometrics of Economic Policy* (Blackwell, 1997); 10. 'Modeling economic relationships with smooth transition regressions', in A. Ullah, D.E.A. Giles (eds), *Handbook of Applied Economic Statistics* (Marcel Dekker, 1998); 11. 'Stylized facts of daily return series and the hidden Markov model' (with T. Rydén, S. Åsbrink), *JAE*, 13, May–June 1998; 12. 'Modeling the demand for M3 in the unified Germany' (with J. Wolters, H. Lütkepohl), *REStat*, 80, Aug. 1998; 13. 'Properties of moments of a family of GARCH processes' (with C. He), *J Em*, 92, Sept. 1999; 14. 'Fourth moment structure of the GARCH (p, q) process' (with C. He), *ET*, 15, Dec. 1999; 15. 'Modeling asymmetries and moving equilibria in unemployment rates' (with J. Skalin), *Macroecon. Dynamics*, 6, April 2002; 16. 'Evaluating GARCH models' (with S. Lundbergh), *J Em*, 110, Oct. 2002; 17. 'Time-varying smooth transition autoregressive models' (with S. Lundbergh, D. van Dijk), *JBES*, 21, Jan. 2003; 18. 'The effects of institutional and technological change and business cycle fluctuations on seasonal patterns in quarterly industrial production series' (with B. Strikholm, D. van Dijk), *Em. J.*, forthcoming.

Principal Contributions My early research focused on economic forecasting, in particular on updating forecasts after new information becomes available, and the analysis of economic time series in general. A large part of my more recent

research deals with nonlinear econometric models and modelling. This includes developing coherent model-building strategies for certain well-defined families of nonlinear models, applications of such models to macroeconomic and financial time series, and forecasting with nonlinear models. Recently, I have also become interested in models that are used for characterising and forecasting volatility and have done some work in that area.

TESAR, Linda L. n.e.

THAKOR, Anjan V.

Born 1951, Broach, India.

Current Post Edward J. Frey Prof. Banking and Fin., Univ. Michigan Bus. Sch., Ann Arbor, MI, USA, 1996–.

Past Posts Asst Prof. Fin., Assoc. Prof., Prof., Indiana Univ., 1979–83, 1983–87, 1987–96.

Degrees BS (Mechanical Eng.), MS Univ. Baroda, 1972, 1972; MBA Indian Inst. Mgmt, 1974; PhD Northwestern Univ., 1979.

Offices and Honours Nobel Prize in Econ. Nominating Comm., 1993–; Nominated as Outstanding Teacher in Doctoral Program (Fin.), Univ. Michigan Bus. Sch., 1999, 2000, 2001; Chair, Fin. Area, Univ. Michigan Bus. Sch., 2000–.

Editorial Duties Managing Ed., *J. Fin. Intermediation*, 1996–.

Principal Fields of Interest G3 Corporate Finance and Governance; G2 Financial Institutions and Services; D8 Information and Uncertainty.

Publications *Books*: 1. *Contemporary Financial Intermediation* (with S. Greenbaum), (Dryden Press, 1995); 2. *The Value Sphere: Secrets of Creating and Retaining Shareholder Wealth* (with J. Boquist, T. Milbourn), (VIA Press, 2000);

3. *Becoming a Better Value Creator: How to Improve Your Company's Bottom Line ... and Your Own* (Jossey-Bass, 2000); 4. *Designing Financial Systems in Transition Economies: Strategies for Reform in Central and Eastern Europe* (ed. with A. Meyendorff), (MIT Press, forthcoming).

Articles: 1. 'A barter theory of bank regulation and credit allocation' (with J. Beltz), *JMCB*, 26, Aug. 1994; 2. 'Moral hazard and secured lending in an infinitely repeated credit market game' (with A. Boot), *IER*, 35, Nov. 1994; 3. 'Capital requirements, loan renegotiation, and the borrower's choice of financing source' (with P. Wilson), *J Bank Fin*, 19, 1995; 4. 'Capital requirements, monetary policy and aggregate bank lending: theory and empirical evidence', *J Fin*, 51, March 1996; 5. 'The design of financial systems: an overview', *J Bank Fin*, 20, June 1996; 6. 'Financial system architecture' (with A. Boot), *Rev. Fin. Stud.*, 10, Fall 1997; 7. 'Bank loan commitments: data, theory, and tests' (with R. Shockley), *JMCB*, 29, Nov. 1997; 8. 'Banking scope and financial innovation' (with A. Boot), *Rev. Fin. Stud.*, 10, Winter 1997; 9. 'The economics of bank regulation' (with S. Bhattacharya, A. Boot), *JMCB*, 30, Nov. 1998; 10. 'Bank efficiency and financial system evolution: an analysis of complementarity problems in emerging markets', *Res. in Econ.*, 52, 1998; 11. 'Corporate control through board dismissals and takeovers' (with D. Hirshleifer), *JEMS*, 7, Winter 1998; 12. 'Megamergers and expanded scope: theories of bank size and activity diversity' (with A. Boot, T. Milbourn), *J Bank Fin*, 23, 1999; 13. 'Can relationship banking survive competition?' (with A. Boot), *J Fin*, 55, April 2000; 14. 'Managerial career concerns and investments in information' (with T. Milbourn, R. Shockley), *RandJE*, 32, 2001; 15. 'The many faces of information disclosure' (with A. Boot), *Rev. Fin. Stud.*, 14, 2001;

16. 'Why do firms smooth earnings?' (with A. Goel), *J Bus*, Jan. 2003.

Principal Contributions My principal contributions are in information economics, corporate finance and financial intermediation. In information economics, my research has contributed to principal-agent theory, signaling, contract design and reputation. In corporate finance, my publications have contributed to an improved understanding of dividend policy, stock repurchases, capital structure, capital budgeting, and security design. In financial intermediation, my research has contributed to issues such as why financial intermediaries exist, how they should be regulated, why they ration credit, and how their contractual relationships with borrowers should be structured.

THALER, Richard H. n.e.

THISSE, Jacques-François

Born 1946, Liège, Belgium.

Current Posts Prof. Econ., Univ. Catholique Louvain, Louvain-la-Neuve, Belgium, 1996–; Prof. Econ., ENPC, Paris, France, 2001–.

Past Posts Asst Prof., Assoc. Prof., Catholic Univ. Louvain, 1975–83, 1983–91; Vis. Prof., Univ. Pennsylvania, 1985, INSEAD, 1987, Virginia Polytech. Inst., 1990; Prof., Sorbonne Univ., 1991–96.

Degrees BS (Maths), BS (Econ.), PhD Univ. Liège, 1968, 1972, 1975.

Offices and Honours E. Kempe Prize in memory of T. Palander, Umeå (Sweden), 1986; Bd Dirs, EEA, 1986–89; Mem. World Council, RSA, 1986–90; Fell., Indiana Univ. Inst. Adv. Study, 1988, 1992, CEPR, 1992–, Em Soc, 1992–; Programme Chairman, Europ. Meeting, Em Soc, 1992; Dir., Centre d'Enseignement et de Recherche en Analyse Socio-

Économique, ENPC, 1992–96; Chaire Francqui in Social Sc., 1999–2000; Pres., CORE, 2000–.

Editorial Duties Assoc. Ed., *RSUE*, 1980–, *J Reg S*, 1987–2001, *IJIO*, 1988–92, *J Ind E*, 1989–99, *JEMS*, 1992–, *Japanese Econ. Rev.*, 1995–.

Principal Fields of Interest D4 Market Structure and Pricing; D6 Welfare Economics; R1 General Regional Economics.

Publications Books: 1. *Discrete Choice Theory of Product Differentiation* (with S. Anderson, A. de Palma), (MIT Press, 1992); 2. *Economics of Agglomeration. Cities, Industrial Location and Regional Growth* (with M. Fujita), (CUP, 2002).

Articles: 1. 'Strategy of the firm and market structure: an application of optimal control theory' (with A. Jacquemin), in K. Cowling (ed.), *Market Structure and Corporate Behavior* (Gray-Mills Publ., 1972); 2. 'Price competition, quality, and income disparities' (with J. Gabszewicz), *JET*, 20, 1979; 3. 'On Hotelling's "stability in competition"' (with C. d'Aspremont, J. Gabszewicz), *Em*, 47, 1979; 4. 'Entry (and exit) in a differential industry' (with J. Gabszewicz), *JET*, 22, 1980; 5. 'Outcomes of voting and planning: Condorcet, Weber and Rawls locations' (with P. Hansen), *J Pub E*, 16, 1981; 6. 'The principle of minimum differentiation holds under sufficient heterogeneity' (with A. de Palma, V. Ginsburgh, Y. Papageorgiou), *Em*, 53, 1985; 7. 'An economic theory of public facilities in space' (with H. Cremer, A.-M. de Kerchove), *Math. Social Sc.*, 9, 1985; 8. 'Agglomeration as spatial interdependence between firms and households' (with Y. Papageorgiou), *JET*, 37, 1985; 9. 'On the strategic choice of spatial price policy' (with X. Vives), *AER*, 78, 1988; 10. 'Demand for differentiated products, discrete choice models, and the characteristics approach' (with S. Anderson, A. de Palma), *REStud*, 56,

1989; 11. 'On the optimal structure of local governments' (with O. Hochman, D. Pines), *AER*, 85, 1995; 12. 'Product variety and welfare under soft and tough pricing regimes' (with G. Norman), *EJ*, 106, 1996; 13. 'Boundedly rational Nash equilibrium: a probabilistic choice approach' (with C.H. Chen, J.F. Friedman), *Games and Econ. Behav.*, 18, 1997; 14. 'Competition in multi-characteristics spaces: Hotelling was almost right' (with A. Irmen), *JET*, 78, 1998; 15. 'Why is central Paris rich and downtown Detroit poor? An amenity-based theory' (with J.K. Brueckner, Y. Zenou), *Europ ER*, 43, 1999; 16. 'Wage competition with heterogeneous workers and firms' (with J. Hamilton, Y. Zenou), *J Lab E*, 18, 2000; 17. 'On strategic community development' (with V. Henderson), *J Pub E*, 109, 2001; 18. 'Agglomeration and trade revisited' (with G. Ottaviano, T. Tabuchi), *IER*, 43, 2002.

Principal Contributions Most of my work is related to location theory and its applications to various economic fields in which the heterogeneity of agents matters. This includes industrial organisation, urban economics, local public finance, voting, and labour economics. I have developed with J. Gabszewicz the oligopolistic model of vertical product differentiation and established that the corresponding market structure typically involves a small number of firms, even though entry costs are arbitrarily low. With C. d'Aspremont and Gabszewicz, I have shown that the principle of minimum differentiation attributed to Hotelling is invalid; it must be replaced by the principle of differentiation, which states that firms that compete in prices always have an incentive to sell differentiated products to relax competition. However, maximum differentiation is not required. I have written (with P. Hansen) one of the first papers in political economy by comparing voting and planning procedures for

locating a public facility. My first book, co-authored with S. Anderson and A. de Palma, shows how the various models of product differentiation may be integrated within the framework of discrete choice theory, and provides theoretical foundations for the different modelling strategies used in this domain. Since then, I have worked in the economics of agglomeration. With M. Fujita, I have written another book that provides an integrated overview of the field as well as new models of agglomeration and of regional growth. In this book and in several papers, I show, in partial and general equilibrium models, how product differentiation and low transport costs are likely to trigger the clustering of economic activities at different spatial scales (cities and regional imbalance). Unexpectedly, such agglomerations are often efficient. I have also made contributions to the theory of the firm, as well as to game theory using discrete choice theory to capture the idea of bounded rationality.

THOMAS, Duncan

Born 1958, Harare, Zimbabwe.

Current Post Prof. Econ., UCLA, Los Angeles, CA, USA, 1994–.

Past Posts Asst Prof., Assoc. Prof. Econ., Yale Univ., 1986–94; Sr Econ., Rand (Joint appointment with UCLA), 1994–2000.

Degrees BSc (1st Class Hons) Bristol Univ., 1981; PhD Princeton Univ., 1986.

Offices and Honours Fulbright Award, 1981, 1982; Alfred P. Sloan Fellowship, 1985; Co-Dir., Indonesia Family Life Survey, 1996–99; Dir., Center for Health and Devlp, UCLA, 2002–; Dir., California Center Pop. Res., UCLA, 2003–.

Editorial Duties Ed. Bd, *Res. Econ.*, 2001–; Assoc. Ed., *Econ. and Human Biology*, 2002–.

Principal Fields of Interest I0 Health, Education, and Welfare: General; J1 Demographic Economics; D1 Household Behavior.

Publications Articles: 1. 'The influence of household composition on household expenditure patterns: theory and Spanish evidence' (with A. Deaton, J. Ruiz-Castillo), *JPE*, 97, Feb. 1989; 2. 'Intra-household resource allocation: an inferential approach', *JHR*, 25, Fall 1990; 3. 'How does mother's education affect child height?' (with J. Strauss, M.H. Henriques), *JHR*, 26, Spring 1991; 4. 'Prices, infrastructure, household characteristics and child height' (with J. Strauss), *JDE*, 39, Oct. 1992; 5. 'The demographic transition in Southern Africa: another look at the evidence from Botswana and Zimbabwe' (with I. Muvandi), *Demography*, 31, May 1994; 6. 'Like father, like son or like mother, like daughter: parental education and child health', *JHR*, 29, Fall 1994; 7. 'Does Head Start make a difference?' (with J. Currie), *AER*, 85, June 1995; 8. 'Medical care for children: public insurance, private insurance and racial differences in utilization' (with J. Currie), *JHR*, 30, Winter 1995; 9. 'Human resources: empirical models of household decisions' (with J. Strauss), in J.R. Behrman, T.N. Srinivasan (eds), *Handbook of Development Economics*, Vol. IIIA (N-H, 1995); 10. 'Health and wages of men and women in urban Brazil' (with J. Strauss), *J Em*, 77, March 1997; 11. 'Health, nutrition and economic development' (with J. Strauss), *JEL*, 36, June 1998; 12. 'On the road: marriage and mobility in Malaysia' (with J.P. Smith), *JHR*, 33, Winter 1998; 13. 'Women's health and pregnancy outcomes: does access to services make a difference?' (with E. Frankenberg), *Demography*, 38, May 2001; 14. 'Bargaining power within couples and reproductive health care use in Indonesia' (with K. Beegle, E. Frankenberg), *Stud. in Family*

Planning, 32, June 2001; 15. 'Lost but not forgotten: attrition and follow-up in the Indonesia Family Life Survey' (with E. Frankenberg, J.P. Smith), *JHR*, 36, Summer 2001; 16. 'Wages, employment and economic shocks: evidence from Indonesia' (with J.P. Smith, K. Beegle, E. Frankenberg, G. Teruel), *J. Pop. Econ.*, 15, 2002; 17. 'Health, nutrition and economic prosperity: a microeconomic perspective' (with E. Frankenberg), *Bull. WHO*, 80, 2002; 18. 'The longer-term effects of Head Start' (with E. Garces, J. Currie), *AER*, 92, Sept. 2002; 19. 'Economic shocks, wealth and welfare' (with E. Frankenberg, J.P. Smith), *JHR*, forthcoming 2003; 20. 'Remembrances of things past: test-retest reliability of retrospective migration histories' (with J.P. Smith), *JRSS-A*, 166, 2003.

Principal Contributions My research has sought to provide insights into household and family behavior in low-income settings with a focus on investments in the next generation. One line of inquiry has delved inside the black box of the household and contrasted different models of household behavior and asked, for example, whether resources in the hands of women have a different effect on child and family well-being relative to resources in the hands of a man. The evidence suggests that women tend to invest more in human capital, particularly that of their children. Human capital has taken center stage in much of my work. I have used survey data to evaluate public programs such as Head Start in the United States as well as public health interventions, investments in infrastructure and price policies in developing countries. These studies have examined both the short- and longer-term effects of these programs on nutrition, health, education and labor market outcomes of the population. Research has demonstrated there is a strong positive correlation between health and socio-eco-

conomic status. I have attempted to disentangle the causal effect of health on labor outcomes from the effect of income on health. This has involved econometric modeling with survey data as well as conducting an ongoing randomized nutrition intervention in Indonesia in an effort to pin down causal pathways. In recent years, several dramatic financial shocks have reverberated around the world. Using data from the Indonesia Family Life Survey which I collected with Elizabeth Frankenberg and others, we have documented the multiplicity of ways that households and families responded to the financial crisis in the late 1990s in order to mitigate its deleterious effects. I have invested substantially in both the evaluation and improvement of the quality of public use longitudinal socioeconomic and health survey data that are collected in developing countries.

THOMPSON, Craig J.

Born 1962, Knoxville, TN, USA.

Current Post Gilbert and Helen Churchill Assoc. Prof. Marketing, Sch. Bus., Univ. Wisconsin-Madison, Madison, WI, USA, 1997–.

Past Posts Asst Prof., Univ. Wisconsin-Madison, 1991–97.

Degrees BA (Marketing/Psychology), MBA (Marketing), PhD (Marketing and Consumer Psychology) Univ. Tennessee, 1984, 1986, 1991.

Offices and Honours Nomination, Best *J. Public Pol. and Marketing* article, 1993–95, 1995–97; Program Comm. Mem., Annual Assoc. Consumer Res. Conf., 1993, 1995, 1997, 1998, 1999, 2002; Track Chair, Postpositivist Res. Track, Amer. Marketing Assoc. Summer Educator's Conf., 1995; Invited Faculty Fell., Annual Doctoral Consortium, Amer. Marketing Assoc., 1996; Hon. mention, Ferber

Award, *J. Consumer Res.*, 1996; Nomination, Best *J. Advertising* article, 1997; Outstanding Bus. Prof., *Bus. Week's* 1999 Bus. Sch. Rankings; Program Comm. Mem., Bi-Annual Assoc. Consumer Res. Conf., 1999; Outstanding rev., *J. Consumer Res.*, 2001; Co-Chair, Doctoral Symposium, Amer. Consumer Res., 2001; Conf. Co-Chair, Assoc. Consumer Res. Gender, Marketing, Consumer Res. Conf., 2004.

Editorial Duties Ed. Bd, *Consumption Markets and Culture*, 1994–2000, *J. Public Pol. and Marketing*, 1995–, *J. Consumer Res.*, 1995–; Ed. Advisory Bd, *Consumption, Markets and Culture*, 2000–; Assoc. Ed., *J. Consumer Res.*, 2002–05.

Principal Fields of Interest M1 Business Administration; M3 Marketing and Advertising.

Publications Articles: 1. 'Putting consumer experience back into consumer research: the philosophy and method of existential-phenomenology' (with W.B. Locander, H.R. Pollio), *J. Consumer Res.*, 16, Sept. 1989; 2. 'The lived meaning of free-choice: an existential-phenomenological description of the everyday consumer experiences of contemporary married women' (with W.B. Locander, H.R. Pollio), *J. Consumer Res.*, 17, Dec. 1990; 3. 'Modern truth and postmodern incredulity: a deconstruction of the meta-narrative of scientific truth in marketing research', *Intl J. Res. Marketing*, 10, Aug. 1993; 4. 'The spoken and the unspoken: a hermeneutic approach to understanding the cultural viewpoints that underlie expressed consumer meanings' (with H.R. Pollio, W.B. Locander), *J. Consumer Res.*, 21, Dec. 1994; 5. 'Understanding the socialized body: a poststructuralist analysis of consumers' self-conceptions, body images, and self-care practices' (with E. Hirschman), *J. Consumer Res.*, 22, Sept. 1995; 6. 'A contextualist approach to the conceptualization and study of marketing

ethics', *J. Public Pol. and Marketing*, 14, Fall 1995; 7. 'Caring consumers: gendered consumption meanings and the juggling lifestyle', *J. Consumer Res.*, 22, March 1996; 8. 'Why media matter: towards a richer understanding of consumers' relationships with advertising and mass media' (with E.C. Hirschman), *J. Advertising*, 26, Spring 1997; 9. 'Speaking of fashion: consumers' uses of fashion discourses and the appropriation of countervailing cultural meanings' (with D. Haytko), *J. Consumer Res.*, 24, June 1997; 10. 'Interpreting consumers: a hermeneutical framework for deriving marketing insights from the texts of consumers' consumption stories', *J. Marketing Res.*, 34, Nov. 1997; 11. 'Narrative analysis of a marketing relationship: the consumer's perspective' (with B. Stern, E. Arnould), *Psychology and Marketing*, 15, May 1998; 12. 'Writing the differences: poststructural pluralism, retextualization, and the construction of reflexive ethnographic narratives in consumer research' (with B. Stern, E. Arnould), *Consumption, Markets, and Culture*, 2, Sept. 1998; 13. 'Living the texts of everyday life: a hermeneutic perspective on the relationships between narrative and life-world structures', in B.B. Stein (ed.), *Representing Consumers: Voices, Views, and Visions* (Routledge, 1998); 14. 'An existential analysis of the body as a consumption project' (with E. Hirschman), *Consumption, Markets, and Culture*, 2, 1999; 15. 'Trying to be cosmopolitan' (with S.K. Tambyah), *J. Consumer Res.*, 26, Dec. 1999; 16. 'A new puritanism', in J. Green, J. Rogers (eds), *Do Americans Shop Too Much?* (Beacon Press, 2000); 17. 'Postmodern consumer goals made easy', in S. Ratneshwar, D.G. Mick, C. Huffman (eds), *The Why of Consumption* (Routledge, 2000); 18. 'Consumer value systems in the age of postmodern fragmentation: the case of the natural health microculture' (with M.

Troester), *J. Consumer Res.*, 28, March 2002; 19. 'A re-inquiry on re-inquiries: a postmodern proposal for a critical reflexive approach', *J. Consumer Res.*, 29, June 2002; 20. 'Natural health's narratives of healing and the ideological production of consumer resistance', *Sociological Q.*, forthcoming.

Principal Contributions My research analyzes the ways in which individuals use the cultural meanings associated with products, services, and brands to pursue their identity goals, to forge rewarding social affiliations, and to negotiate socio-cultural contradictions, particularly those manifest in gender roles. I have reconceptualized consumer culture as a complex ideological circuit formed by individuals' creative acts of self-definition through consumption and reciprocally, the market monitoring activities and technologies by which marketers adapt their ideological appeals to a heterogeneous and dynamic marketplace.

THOMSON, William

Born 1949, France.

Current Post Prof., Dept Econ., Univ. Rochester, Rochester, NY, USA, 1985–.

Past Posts Asst Prof., Assoc. Prof., Dept Econ., Univ. Minnesota, 1976–80; Vis. Lect., Dept Econ., Harvard Univ., 1980–83, Nagoya City Univ., 1982; Vis. Prof., Hebrew Univ., Jerusalem, 1982–83, Univ. Rennes, 1986, DELTA, Paris, France, 1993, Univ. Cergy-Pontoise, 1997, Univ. Caen, 1997, 1998, 1999, 2000, Harvard Univ., 1999; Vis. Fell., Inst. Adv. Stud., Princeton Univ., 1983; Assoc. Prof., Dept Econ., Univ. Rochester, 1983–85; Dir. d'Études, Univ. Aix-Marseille and École Hautes Études Sc. Sociales, 1984.

Degrees Diplôme d'Ingenieur l'École Polytech., Paris, 1973; PhD Stanford, 1976.

Offices and Honours German Bernacer Lecture, Alicante, 1989; Fell., Em Soc, 1990–; Koc Prize for best article in *Rev. Econ. Design*, 2000; Condorcet Lecture, Vth Intl Meeting, Soc. Social Choice and Welfare, 2000; Univ. Award for Excellence in Grad. Teaching, Univ. Rochester, 2001.

Editorial Duties Bd Eds, *Social Choice and Welfare*, 1983–, *Econ. Letters*, 1985–, *Games and Econ. Behav.*, 1988–, *Intl J. Game Theory*, 1992–, *Math. Social Sc.*, 1994–, *Theory and Decision Library: series C: Game Theory, Math. Programming and OR*, 1994–, *ET*, 2000–; Assoc. Ed, *Rev. Econ. Design*, 1993–.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D6 Welfare Economics.

Publications *Books*: 1. *Axiomatic Theory of Bargaining with a Variable Population* (with T. Lensberg), (CUP, 1989); 2. *The Legacy of Lionel McKenzie* (ed. with R. Becker, M. Boldrin, R. Jones), (Acad. Press, 1993); 3. *A Guide for the Young Economist* (MIT Press, 2001; trans., Chinese, Shanghai Univ. Fin. and Econ. Press, 2002); 4. *Bargaining Theory: The Axiomatic Approach* (Acad. Press, forthcoming); 5. *The Theory of Fair Allocation* (Princeton Univ. Press, forthcoming); 6. *Consistent Allocation Rules* (forthcoming); 7. *How To Divide When There Is Not Enough; from the Talmud to Modern Game Theory* (forthcoming).

Articles: 1. 'Problems of fair division and the egalitarian principle', *JET*, 31, 1983; 2. 'A study of choice correspondences in economies with a variable number of agents', *JET*, 46, 1988; 3. 'Can everyone benefit from growth? Two difficulties' (with H. Moulin), *J Math E*, 17, 1988; 4. 'Bargaining problems with uncertain disagreement points' (with Y. Chun), *Em*, 58, 1990; 5. 'No-envy and consistency in economies with indivisible goods' (with K. Tadenuma), *Em*, 59, 1991; 6. 'On the

fair division of a heterogeneous commodity' (with M. Berliant, K. Dunz), *J Math E*, 21, 1992; 7. 'Consistent allocation rules in atomless economies' (with L. Zhou), *Em*, 61, 1993; 8. 'Population-monotonic solutions to the problem of fair division when preferences are single-peaked', *ET*, 5, 1995; 9. 'Games of fair division' (with K. Tadenuma), *Games and Econ. Behav.*, 9, 1995; 10. 'Monotonic extensions on economic domains', *Rev. Econ. Design*, 4, 1999; 11. 'Economies with public goods: an elementary geometric exposition', *J. Public Econ. Theory*, 1, 1999; 12. 'On the axiomatic method and its recent applications to game theory and resource allocation', *Social Choice Welfare*, 18, 2001; 13. "'Divide and permute" and the implementation of solutions to the problem of fair division', *Games and Econ. Behav.*, forthcoming.

Principal Contributions Most of my work deals with the axiomatic derivation of choice rules, both in game theory and in the theory of resource allocation. Properties of rules are formulated, such as strategy-proofness or other notions of implementability, consistency, monotonicity; and the search is for rules satisfying the maximal number of these properties together. The goal is to trace the boundary between combinations of properties that are compatible and combinations that are not, and when compatible, to give as complete as possible a description of the rule, or the class of rules, satisfying them all.

THRALL, Robert M. n.e.

THRIFT, Nigel John

Born 1949, Bath, Somerset, UK.

Current Post Prof., Sch. Geographical Sc., Univ. Bristol, Bristol, UK, 1990–.

Past Posts Res. Officer, Martin Centre

for Architectural and Urban Stud., Univ. Cambridge, 1975–76; Res. Fell., Dept Geography, Univ. Leeds, 1976–78; Res. Fell., Sr Res. Fell., Dept Human Geography, ANU, 1979–81, 1981–83; Lect., Reader, Dept Geography, Saint David's Univ. Coll., Lampeter, Wales, 1984–86, 1986–87; Lect., Reader, Dept Geography, Univ. Bristol, 1987–88, 1988–90.

Degrees BA (Geography, Hons) Univ. Wales, 1971; PhD (Geography), DSc (Geography) Bristol Univ., 1979, 1992.

Offices and Honours Royal Geographical Soc. Heath Award for contrib. to human geography in developing world, 1988; Newbiggin Prize, Royal Scottish Geographical Soc., 1998; Medal, Univ. Helsinki, 1999; Academician, Acad. Learned Socs for Social Sc., 2000; Founding Chartered Geographer, Royal Geographical Soc., 2002.

Editorial Duties Managing Ed., *Environment and Planning A*, 1979; Founder and Mem. Ed. Bd, *Environment and Planning D: Soc. and Space*, 1982.

Principal Fields of Interest B5 Current Heterodox Approaches; F3 International Finance; N9 Regional and Urban History.

Publications *Books*: 1. *Money, Power and Space* (ed. with S. Corbridge, R.L. Martin), (Oxford, 1994; trans., Portuguese, 1997); 2. *Globalisation, Institutions and Regional Development in Europe* (ed. with A. Amin), (OUP, 1994); 3. *Spatial Formations, Theory, Culture and Society series* (Sage, 1996); 4. *Money/Space. Geographies of Monetary Transformation, Intl Library of Sociology series* (with A. Leyshon), (Routledge, 1997); 5. *Shopping, Place and Identity* (with D. Miller, P. Jackson, B. Holbrook, M. Rowlands), (Routledge, 1998).

Articles: 1. 'The organisation of production and the production of organisation' (with P. Dicken), *Transactions, Inst. British Geographers*, 17, 1992; 2. 'Neo-

Marshallian nodes in global networks' (with A. Amin), *Intl J. Urban and Regional Res.*, 16, 1992; 3. 'Institutional issues for the European regions: from markets and plans to socioeconomic and powers of association' (with A. Amin), *Econ. and Soc.*, 24, 1995; 4. 'Geographies of financial exclusion' (with A. Leyshon), *Transactions, Inst. British Geographers*, NS20, 1995; 5. 'New urban eras and old technological fears: reconfiguring the goodwill of electronic things', *Urb Stud*, 33, 1996; 6. 'The rise of soft capitalism', *Cultural Values*, 1, 1997; 7. 'Reading financial services: consumers, texts and financial literacy' (with A. Leyshon, J. Pratt), *Environment and Planning D, Soc. and Space*, 16, 1998; 8. 'Lists come alive: electronic systems of knowledge and the rise of credit-scoring in retail banking' (with A. Leyshon), *Econ. and Soc.*, 28, 1999; 9. 'The place of complexity', *Theory, Culture and Soc.*, 16, 1999; 10. 'Performing cultures in the new economy', *Annals Assoc. Amer. Geographers*, 90, 2000; 11. 'Chasing capitalism', *New Polit. Econ.*, 6, 2001; 12. 'It's the romance, not the finance, that makes the business worth pursuing: disclosing a new market culture', *Econ. and Soc.*, 30, 2001.

Principal Contributions Most of my work has related to four fields. One has been general economic methodology. Here I have been concerned to demonstrate the importance of so-called 'cultural economy', in which the economy is seen as an amalgam of different networks whose mundane mechanics are as important as their extraordinary outcomes. Another field has been international finance. Here I have been concerned to demonstrate how financial markets rely on tightly knitted social networks, able to transport privileged information around the world. Most of my work has been concerned with ethnography of various financial markets within the City of London, but, more re-

cently, I have become interested in the role of the media as a determinant of bubbles. A third field has been managerial knowledge. Here I have been interested in the rise of the new economy as a function of the rise of what I call the cultural circuit of capitalism, business schools, managerial consultants, managerial gurus and the media. Finally, I am interested, as an economic geographer, in the urban and regional consequences of all of the above, in particular, I have considered the means by which urban and regional policy could become a serious determinant of economic advantage.

TIAN, Guoqiang

Born 1956, Gong An County, Hubei, China.

Current Posts Prof. Econ., Lewis Faculty Fell., Texas A&M Univ., College Station, TX, USA, 1995–, 1996–; Res. Fell., Private Enterprise Res. Center, Texas A&M Univ., 1995–; Special-Term Prof., Tsinghua Univ., Beijing, China, 2002–.

Past Posts Lect., Huazhong Univ. Sc. and Tech., Dept Maths, Wuhan, China, 1980–82; Asst Prof. Econ., Assoc. Prof. Econ., Texas A&M Univ., 1987–91, 1991–95.

Degrees MA (Maths) Huazhong Univ. Sc. and Tech., 1982; PhD Univ. Minnesota, 1987.

Offices and Honours Alfred P. Sloan Doctoral Dissertation Fellowship, 1986; Pres., Chinese Econ. Soc., USA, 1991–92, Chinese Profs Social Sc. in US, 1995–97; Fell., Chinese Econ. Soc., 1992; Chair, Fell. Council, Chinese Econ. Soc., 1992–95; Hon. mem., Chinese Econ. Soc., 1993; Natl Chinese Book Award, 1994; Lectureship Award, Tamkang Univ., Taiwan, 1996; Advisor, Intl Tech. and Econ. Inst., Devlp. Res. Center of State Council, Beijing, China, 2000–; Zhu Ke Zhen Lec-

tureship Award, Zhejiang Univ., China, 2001; Best Paper Award, *China Econ. Q.*, 2002.

Editorial Duties Assoc. Ed., *China Econ. Rev.*, 1991–, *Modern China Stud.*, 1992, *Amer. Rev. China Stud.*, 1999, *China Econ. Q.*, 2001–; Chief-Ed. in Charge, *Popular Economics Books for Institutional Transition in China* series, 1993; Co-Ed., *Annals of Econ. and Fin.*, 2000–.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; D5 General Equilibrium and Disequilibrium; P2 Socialist Systems and Transitional Economies.

Publications *Books*: 1. *Market Economics for the Masses* (with F. Zhang), (Shanghai People's Publ. House, Hong Kong's Intelligent Book, 1993); 2. *Incentive-Compatibility, Informational Efficiency, and Economic Mechanism Design* (Peking Univ. Press, 2000); 3. *Characterizations of Fixed Point Theorems, Optimization, and General Equilibria* (Peking Univ. Press, 2000).

Articles: 1. 'Implementation of the Lindahl correspondence by a single-valued, feasible and continuous mechanism', *REStud*, 56, Oct. 1989; 2. 'Completely feasible and continuous implementation of the Lindahl correspondence with a message space of minimal dimension', *JET*, 51, Aug. 1990; 3. 'Implementation of Lindahl allocations with nontotal-nontransitive preferences', *J Pub E*, 46, Feb. 1991; 4. 'A general-equilibrium intertemporal model of an open economy' (with J.S. Chipman), *ET*, 2, 1992; 5. 'Necessary and sufficient conditions for maximization of a class of preference relations', *REStud*, 60, Oct. 1993; 6. 'Characterizations of the existence of equilibria in games with discontinuous and nonquasi-concave payoffs' (with M. Baye, J. Zhou), *REStud*, 60, Oct. 1993; 7. 'An implementable and informationally efficient state-ownership system with variable returns'

(with Q. Li), *JET*, 64, Oct. 1994; 8. 'Ratio-Lindahl and ratio equilibria with many goods' (with Q. Li), *Games and Econ. Behav.*, 7, Nov. 1994; 9. 'Implementation of linear cost share equilibrium allocations', *JET*, 64, Dec. 1994; 10. 'Nash implementation of the Lindahl correspondence with decreasing returns to scale technology' (with Q. Li, S. Nakamura), *IER*, 36, Feb. 1995; 11. 'Transfer continuities, generalizations of the Weierstrass Theorem and maximum theorem – a full characterization' (with J. Zhou), *J Math E*, 24, March 1995; 12. 'Continuous and feasible implementation of rational expectation Lindahl allocations', *Games and Econ. Behav.*, 16, Sept. 1996; 13. 'Virtual implementation in incomplete information environments with general sets of alternatives and types', *J Math E*, 28, Oct. 1997; 14. 'Double implementation in economies with production technologies unknown to the designer', *ET*, 13, 1999; 15. 'Implementation of balanced linear cost share equilibrium solution in Nash and strong Nash equilibria', *J Pub E*, 76, May 2000; 16. 'Incentive mechanism design for production economies with both private and public ownership', *Games and Econ. Behav.*, 33, Nov. 2000; 17. 'A theory of ownership arrangements and smooth transition to a free market economy', *J. Inst. and Theoretical Econ.*, 157, Sept. 2001.

Principal Contributions Most of my research has been in the areas of economic mechanism design theory, general equilibrium theory, and economics of transitions. I have provided various well-behaved mechanisms that implement some well-known social choice rules. I have also fully characterized Bayesian implementation in certain types of economic environments. I gave some characterization results on the existence of equilibria of economic games by weakening conditions imposed in the existing

literature. I studied the non-neoclassical individuals' choice problem by providing necessary and sufficient conditions for the existence of maximal elements of a function, weak or strict preferences. I also generalized some key mathematical theorems that are closely related to mathematical economics, such as the Knaster–Kuratowski–Mazurkiewicz lemma, the maximum theorem, fixed points theorems, and minimax inequalities, by relaxing continuity, convexity, and/or compactness conditions. I studied the issue of smooth transition to a free market economy. I have developed a theoretical model that determines the optimal ownership arrangement in an imperfect market and government institutional environment, especially in transitional economies. In addition, I have made contributions in monetary economics, international trade, dynamic economics, and econometrics.

TICKELL, Adam Thomas

Born 1964, London, England.

Current Post Prof. Econ. Geography, Univ. Bristol, Bristol, England, 2000–.

Past Posts Lect., Univ. Leeds, 1992–95; Lect., Univ. Manchester, 1995–98; Prof., Univ. Southampton, 1998–2000.

Degrees BA (Geography, 1st Class), PhD (Geography) Univ. Manchester, 1987, 1992.

Offices and Honours Secretary, Econ. Geography Res. Group, 1992–96; ESRC Res. Fell., 1995–98; Prizewinner, *Environment and Planning A*, 1995; Council Mem., Royal Geographical Soc., 2002–06.

Editorial Duties Rev. Ed., *J. Econ. Geography*, 2001–; Ed., *Transactions, Inst. British Geographers*, 2002–07.

Principal Fields of Interest N2 Financial Markets and Institutions; G2 Finan-

cial Institutions and Services; P1 Capitalist Systems.

Publications Articles: 1. 'Accumulation, regulation and the geographies of post-Fordism: missing links in regulation theory' (with J.A. Peck), *Progress in Human Geography*, 16, 1992; 2. 'Local modes of social regulation? Regulation theory, Thatcherism and regional development' (with J.A. Peck), *Geoforum*, 23, 1992; 3. 'Money order: the discursive constitution of Bretton Woods and the making and breaking of regulatory space' (with A. Leyshon), *Environment and Planning A*, 26, 1994; 4. 'Banking on Britain', *Regional Stud.*, 28, 1994; 5. 'Social regulation after Fordism: regulation theory, neoliberalism and the global local nexus' (with J.A. Peck), *Econ. and Soc.*, 24, 1995; 6. 'Business goes local' (with J.A. Peck), *Transactions, Inst. British Geographers*, 19, 1995; 7. 'Making a melodrama out of a crisis', *Soc. and Space*, 14, 1996; 8. 'Manchester plays games: exploring the local politics of globalisation' (with A. Cochrane, J.A. Peck), *Urb Stud*, 33, 1996; 9. 'Restructuring the financial system into the twenty-first century', *Capital and Class*, 62, 1997; 10. 'Putting Japanese investment in Europe in its place' (with P. Dicken, H. Yeung), *Area*, 29, 1997; 11. 'A tax on success? Privatization, employment and the windfall tax', *Area*, 30, 1998; 12. 'Creative finance and the local state', *Polit. Geography*, 17, 1998; 13. 'Unstable futures: creating risk in international finance', *Geoforum*, 31, 2000; 14. 'Global rhetorics, national politics: pursuing bank mergers in Canada', *Antipode*, 32, 2000; 15. 'Labour market policy as flexible welfare' (with G. Haughton, J.A. Peck, M. Jones, A. While), *Regional Stud.*, 34, 2000; 16. 'Prosperity and inequality', *Antipode*, 33, 2001; 17. 'Emergent frameworks in global finance' (with G.L. Clark, D. Mansfield), *Econ. Geography*, 77, 2001; 18. 'Neoliberalizing space' (with J.A.

Peck), *Antipode*, 34, 2002; 19. 'German employee-sponsored pensions and inward investment management' (with G.L. Clark, D. Mansfield), *Transactions, Inst. British Geographers*, 27, 2002.

Principal Contributions My research has explored the transformations in the political economy of the contemporary state and the spatial manifestations of these. There have been three major strands to my work. First, I have focused on the politics of financial regulation, both in response to shocks to national systems and at the international scale. This is currently developing a concern with the cultural specificities and influences on the politics of supervision. Second, I have explored the governance of the space economy, primarily in the United Kingdom and am currently, for example, developing research on the ways that devolution is being pursued as a means for economic modernisation in England. Third, I am interested in the larger-scale changes to the macro-political environment, such as the emergence of an apparent hegemonic power of neoliberal thinking.

TIMME, Stephen G. n.e.

TIMMERMANN, Allan G.

Born 1964, Skovlund, Denmark.

Current Post Prof. Econ., Univ. California, San Diego, CA, USA, 2001–.

Past Posts Lect., Birkbeck Coll., Univ. London, 1991–94; Asst Prof., Assoc. Prof., Univ. California, San Diego, 1994–98, 1999–2001; Prof. Fin., LSE, 1998–99.

Degrees MSc LSE, 1988; Cand. Polit. Univ. Copenhagen, 1991; PhD Univ. Cambridge, 1992.

Offices and Honours Carlsberg Studentship, Churchill Coll., 1988–91; Tress Prize for Outstanding Res., Birkbeck

Coll., 1993; Hellmann Faculty Fellowship, Univ. California, San Diego, 1997–98.

Editorial Duties Dept Ed., *J. Forecasting*, 2000–; Ed. Bd, *J. Asset Mgmt*, 2000–; Assoc. Ed., *JBES*, 2001–, *JEDC*, 2001–.

Principal Fields of Interest G1 General Financial Markets; C1 Econometric and Statistical Methods: General; C2 Econometric Methods: Single Equation Models.

Publications *Articles*: 1. ‘A simple non-parametric test of predictive performance’ (with H. Pesaran), *JBES*, 10, 1992; 2. ‘How learning in financial markets generates excess volatility and predictability in stock prices’, *QJE*, 108, 1993; 3. ‘Why do dividend yields forecast stock returns?’, *Econ. Letters*, 46, 1994; 4. ‘Present value models with feedback: solutions, stability, bubbles, and some empirical evidence’, *JEDC*, 18, 1994; 5. ‘Can agents learn to form rational expectations? Some results on convergence and stability of learning in the UK stock market’, *EJ*, 104, 1994; 6. ‘An assessment of the economic value of nonlinear foreign exchange rate forecasts’ (with S. Satchell), *J. Forecasting*, 14, 1995; 7. ‘Cointegration tests of present value models with a time-varying discount factor’, *JAE*, 10, 1995; 8. ‘Predictability of stock returns: robustness and economic significance’ (with M.H. Pesaran), *J Fin*, 50, 1995; 9. ‘Variation in expected stock returns. Evidence on the pricing of equities from a cross-section of UK companies’ (with D. Miles), *Ec*, 63, 1996; 10. ‘Excess volatility and predictability of stock returns in autoregressive dividend models with learning’, *REStud*, 63, 1996; 11. ‘The hazards of mutual fund underperformance: a Cox regression analysis’ (with A. Lunde, D. Blake), *J. Empirical Fin.*, 6, 1999; 12. ‘Risk sharing and transition costs in the reform of pension systems in Europe’ (with D. Miles), *Econ. Pol.: A Europ. Forum*, 1999; 13. ‘Asset allocation dynamics and pension

fund performance’ (with D. Blake, B. Lehmann), *J Bus*, 72, 1999; 14. ‘Data-snooping, technical trading rules and the bootstrap’ (with R. Sullivan, H. White), *J Fin*, 54, 1999; 15. ‘A recursive modelling approach to predicting UK stock returns’ (with M.H. Pesaran), *EJ*, 110, 2000; 16. ‘Moments of Markov switching models’, *J Em*, 96, 2000; 17. ‘Firm size and cyclical variations in stock returns’ (with G. Perez-Quiros), *J Fin*, 55, 2000; 18. ‘Dangers of data mining: the case of calendar effects in stock returns’ (with R. Sullivan, H. White), *J Em*, 105, 2001; 19. ‘Business cycle asymmetries in stock returns: evidence from higher order moments and conditional densities’ (with G. Perez-Quiros), *J Em*, 103, 2001; 20. ‘Structural breaks, incomplete information, and stock prices’, *JBES*, 19, 2001.

Principal Contributions A large part of my research agenda develops methods to understand asset prices and investor behaviour under incomplete information. Many of my papers are concerned with explicitly modelling how investors form expectations of future payoffs when the parameters of the dividend process, as well as its functional form, are unknown. Taking off from the standard assumption of rational expectations, these papers consider the effect on asset prices of introducing adaptive or Bayesian learning. More recently I have been working on solving asset prices in the presence of structural breaks or regime switches in the dividend process. I have also conducted research on the predictability of stock returns. My work with Hashem Pesaran considers whether stock returns are predictable even after accounting for model specification uncertainty and possible shifts in the underlying forecasting equation. This work also develops econometric methods for sign predictability. In work with Ryan Sullivan and Halbert White, I consider the effect of ‘data min-

ing' on assessing statistical significance of returns. Finally, in work with Gabriel Perez-Quiros, I have tested the predictions of recent imperfect capital market theories with regard to cyclical asymmetries in the stock returns of small and large firms.

TIROLE, Jean n.e.

TITMAN, Sheridan Dean

Born 1954, Denver, CO, USA.

Current Post McCallister Prof. Fin. Services, Univ. Texas, Austin, TX, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., Prof., UCLA, 1980–92; Special Asst to Asst Secretary, US Dept Treasury, 1988–1989; Prof., Hong Kong Univ. Sc. Tech., 1992–94; Chaired Prof., Boston Coll., 1994–97.

Degrees BS Univ. Colorado, 1975; MS, PhD Carnegie-Mellon Univ., 1978, 1981.

Offices and Honours Bd Dirs, AFA, Western Fin. Assoc., FMA, APFA.

Editorial Duties Assoc. Ed., *Real Estate Econ.*, 1986–, *J. Real Estate Fin. and Econ.*, 1987–, *Rev. Fin. Stud.*, 1987–90, *J Fin*, 1990–2000, *J. Housing Econ.*, 1991–, *JFQA*, 1991–95, *Pacific Basin Fin. J.*, 1991–, *Rev. Fin. and Quant. Analysis*, 1994–, *J. Fin. Res.*, 1996–; Ed., *Rev. Fin. Stud.*, 1996–98; Founding Ed., *Intl Rev. Fin.*, 1999–.

Principal Fields of Interest G0 Financial Economics: General; G3 Corporate Finance and Governance.

Publications *Book*: 1. *Financial Markets and Corporate Strategy* (with M. Grinblatt), (Irwin-McGraw-Hill, 1998, 2002).

Articles: 1. 'The effect of capital structure on a firm's liquidation decision', *J Fin E*, 13, March 1984; 2. 'Urban land

prices under uncertainty', *AER*, 75, June 1985; 3. 'Information quality and the valuation of new issues' (with B. Trueman), *J. Accounting and Econ.*, 8, June 1986; 4. 'The determinants of capital structure' (with R. Wessels), *J Fin*, 43, March 1988; 5. 'Valuing commercial mortgages: an empirical investigation of the contingent claims approach to pricing risky debt' (with W. Torous), *J Fin*, 44, June 1989; 6. 'Mutual fund performance: an analysis of quarterly portfolio holdings' (with M. Grinblatt), *J Bus*, 62, July 1989; 7. 'Portfolio performance evaluation: old issues and new insights' (with M. Grinblatt), *Rev. Fin. Stud.*, 2, Fall 1989; 8. 'Share tendering strategies and the success of hostile takeover bids' (with D. Hirshleifer), *JPE*, 98, April 1990; 9. 'Financial policy and a firm's reputation for product quality' (with V. Maksimovic), *Rev. Fin. Stud.*, 4, Spring 1991; 10. 'Interest rate swaps and corporate financing choices', *J Fin*, 47, Sept. 1992; 11. 'Performance measurement without benchmarks: an examination of mutual fund returns' (with M. Grinblatt), *J Bus*, 66, Jan. 1993; 12. 'Returns to buying winners and selling losers: implications for stock market efficiency' (with N. Jegadeesh), *J Fin*, 48, March 1993; 13. 'Financial distress and corporate performance' (with T. Opler), *J Fin*, 49, July 1994; 14. 'Momentum investment strategies, portfolio performance and herding: a study of mutual fund behavior' (with M. Grinblatt, R. Wermers), *AER*, 85, 1995; 15. 'Evidence on the characteristics of cross sectional variation in stock returns' (with K. Daniel), *J Fin*, 52, March 1997; 16. 'Measuring mutual fund performance with characteristic based benchmarks' (with K. Daniel, M. Grinblatt, R. Wermers), *J Fin*, 52, March 1997; 17. 'The going public decision and the development of financial markets' (with A. Subrahmanyam), *J Fin*, 54, June 1999; 18. 'Debt and corporate performance: evi-

dence from unsuccessful takeovers' (with A. Safieddine), *J Fin*, 54, April 1999; 19. 'The debt–equity choice' (with A. Hovakimian, T. Opler), *JFQA*, 36, March 2001.

Principal Contributions My major research contributions include the following: I was the first to develop and test models of capital structure that integrate issues relating to product markets and labor markets into the firm's capital structure choice; I was among the first to describe how insights from the option pricing literature can be used to value real investments; and I have made a number of contributions that relate to the evaluation of managed portfolios and portfolio strategies.

TODA, Hiro Y. n.e.

TOPEL, Robert H. n.e.

TOWNSEND, Robert Morris

Born 1948, Cambridge, MA, USA.

Current Post Charles E. Merriam Disting. Service Prof. Econ., Univ. Chicago, Chicago, IL, USA, 1998–.

Past Posts Res. Fell., FRB, Minneapolis, 1974–75; Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., Grad. Sch. Ind. Admin., Carnegie-Mellon Univ., 1975–78, 1978–80, 1980–85; Vis. Scholar, Res. Dept, FRB, Minneapolis, 1978, 1979; Vis. Prof. Econ., Prof. Econ., Charles E. Merriam Prof., Univ. Chicago, 1984–85, 1985–94, 1994–98; STICERD Vis. Prof., LSE, 1995, 1996; Disting. Vis. Prof., CEMFI, Madrid, 1997; Vis. Prof. Econ., MIT, 2001.

Degrees BA (*mcl*) Duke Univ., 1970; PhD Univ. Minnesota, 1975.

Offices and Honours Sophomore and Junior Hons, Phi Beta Kappa, Duke Univ.;

NSF Traineeship, 1970–72; Panel Mem., NSF, Econ., 1989–91; Dir. Admissions, Econ. Dept, Univ. Chicago, 1992–2000; Frisch Medal, Em Soc, 1998; Dir. Grad. Program, Econ. Dept, Univ. Chicago, 2000–01; Mem., AAAS; Woodrow Wilson Fell.; Fell., Em Soc; Exec. Bd, Asst Dir., Pop. Res. Center, Natl Opinion Res. Center; Cons., FRB, Chicago, Comptroller of Currency, Inter-Amer. Devlp. Bank, World Bank.

Editorial Duties Ed., *JPE*, 1987–89.

Principal Fields of Interest G0 Financial Economics: General; O0 Economic Development, Technological Change, and Growth: General.

Publications *Books*: 1. *Financial Structure and Economic Organization: Key Elements and Patterns in Theory and History* (Blackwell, 1990); 2. *The Medieval Village Economy: A Study of the Pareto Mapping in General Equilibrium Models* (Princeton Univ. Press, 1993).

Articles: 1. 'The eventual failure of price fixing schemes', *JET*, 14, Feb. 1977; 2. 'Market anticipations, rational expectations, and Bayesian analysis', *IER*, 19, June 1978; 3. 'Intermediation with costly bilateral exchange', *REStud*, 45, Oct. 1978; 4. 'Optimal contracts and competitive markets with costly state verification', *JET*, 21, Oct. 1979; 5. 'Models of money with spatially separated agents', in J. Kareken, N. Wallace (eds), *Models of Monetary Economies* (FRB, Minneapolis, 1980); 6. 'Resource allocation under asymmetric information' (with M. Harris), *Em*, 49, Jan. 1981; 7. 'Optimal multiperiod contracts and the gain from enduring relationships under private information', *JPE*, 90, Dec. 1982; 8. 'Forecasting the forecasts of others', *JPE*, 91, Aug. 1983; 9. 'Financial structure and economic activity', *AER*, 73, Dec. 1983; 10. 'Pareto optima and competitive equilibria with adverse selection and moral hazard' (with E.C. Prescott), *Em*, 52, Jan. 1984; 11.

'General competitive analysis in an economy with private information' (with E.C. Prescott), *IER*, 25, Feb. 1984; 12. 'Economic organization with limited communication', *AER*, 77, Dec. 1987; 13. 'Circulating private debt: an example with a coordination problem' (with N. Wallace), in E.C. Prescott, N. Wallace (eds), *Contractual Arrangements for Intertemporal Trade* (Univ. Minnesota Press, 1987); 14. 'Currency and credit in a private information economy', *JPE*, 97, Dec. 1989; 15. 'Computing multiperiod information constrained optima' (with C. Phelan), *REStud*, 58, Oct. 1991; 16. 'Risk and insurance in village India', *Em*, 62, May 1994; 17. 'Financial systems in northern Thai villages', *QJE*, 110, Nov. 1995; 18. 'Liquidity constraints and incentive contracts' (with A. Lehnert, E. Ligon), *Macroecon. Dynamics*, 3, 1999.

Principal Contributions My contributions in theory include work on incentives and the invention with Milton Harris of what is now known as the revelation principle, work on financial contracts and the emergence of debt finance as in costly state verification, work on risk contingencies in optimal multiperiod contracts and dominance over the permanent income consumption model, and work on computational methods for models with private information with C. Phelan and others. Other general equilibrium contributions include with Edward C. Prescott a way to decentralize economies with private information so that standard existence and welfare theorems apply. I invented the 'turnpike' model of money with spatially separated agents and have worked on financial structure and economic growth. Work on rational expectations with heterogeneous beliefs is captured in forecasting the forecasts of others. Econometrics contributions include the study of risk and insurance in developing countries. My 'village India' work was awarded the

Frisch Medal in 1998. Recent efforts include the design and implementation of large but specialized socio-economic surveys to allow an assessment of the efficiency of financial systems.

TRAJTENBERG, Manuel n.e.

TREFLER, Daniel n.e.

TREJO, Stephen Jay

Born 1959, Long Beach, CA, USA.

Current Post Assoc. Prof. Econ., Univ. Texas, Austin, TX, USA, 1999–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. California, Santa Barbara, 1987–99.

Degrees BA Univ. California, Santa Barbara, 1981; MA, PhD Univ. Chicago, 1983, 1988.

Principal Fields of Interest J0 Labor and Demographic Economics: General; J3 Wages, Compensation, and Labor Costs; J7 Discrimination.

Publications *Book*: 1. *Falling Behind or Moving Up? The Intergenerational Progress of Mexican Americans* (with J. Grogger), (Public Pol. Inst. California, 2002).

Articles: 1. 'Immigrant participation in the welfare system' (with G. Borjas), *ILRR*, 44, Jan. 1991; 2. 'The effects of overtime pay regulation on worker compensation', *AER*, 81, Sept. 1991; 3. 'Public sector unions and municipal employment', *ILRR*, 45, Oct. 1991; 4. 'Assimilation and the earnings of young internal migrants' (with G. Borjas, S. Bronars), *REStat*, 74, Feb. 1992; 5. 'Self-selection and internal migration in the United States' (with G. Borjas, S. Bronars), *JUE*, 32, Sept. 1992; 6. 'National origin and immigrant welfare reciprocity' (with G. Borjas), *J Pub E*, 50,

March 1993; 7. 'Overtime pay, overtime hours, and labor unions', *J Lab E*, 11, April 1993; 8. 'The labor market skills of recent male immigrants: evidence from the current population survey' (with E. Funkhouser), *ILRR*, 48, July 1995; 9. 'Why do Mexican Americans earn low wages?', *JPE*, 105, Dec. 1997; 10. 'The demand for hours of labor: direct evidence from California' (with D. Hamermesh), *REStat*, 82, Feb. 2000; 11. 'Immigration policy and the skills of immigrants to Australia, Canada, and the United States' (with H. Ntecol, D. Cobb-Clark), *JHR*, 38, forthcoming Winter 2003; 12. 'Does the statutory overtime premium discourage long workweeks?', *ILRR*, 56, forthcoming 2003; 13. 'Intergenerational progress of Mexican-origin workers in the US labor market', *JHR*, 38, forthcoming 2003.

Principal Contributions I am a labor economist, and my research has examined the response of labor market participants to the incentives created by market opportunities, government policies, and the institutional environment. Specific research topics include the economic effects of overtime pay regulation; the impact of labor unions on compensation, employment, and work schedules; immigrant labor market outcomes and welfare reciprocity; and the relative economic status of Mexican Americans. My work on overtime pay regulation shows that statutory overtime premia are at least partly undone by compensating adjustments in straight-time hourly wages, but these wage adjustments may not be large enough to neutralize entirely the impact of overtime laws on hours of work. My research on US-born Mexican Americans shows that they earn relatively low wages primarily because they possess less human capital (particularly education) than other workers, not because they receive smaller labor market rewards for their skills. Thus, the fundamental economic problem confront-

ing Mexican Americans is insufficient schooling. I also find that intergenerational progress for Mexican Americans stalls after the second generation, with only modest improvement in educational attainment and no wage growth observed between the second and third generations (i.e., between the US-born children and grandchildren of Mexican immigrants).

TRIVEDI, Pravin K. n.e.

TSAY, Ruey S. n.e.

TSIDDON, Daniel n.e.

TURNBULL, Stuart M. n.e.

TURNOVSKY, Stephen John

Born 1941, Wellington, New Zealand.

Current Post Prof. Econ., Castor Prof. Econ., Univ. Washington, Seattle, WA, USA, 1988–, 1993–.

Past Posts Jr Lect., Victoria Univ., Wellington, 1963; Asst Prof., Univ. Pennsylvania, 1968–71; Assoc. Prof., Univ. Toronto, 1971–72; Prof. Econ., ANU, 1972–82; Vis. Prof., Sch. Bus. Admin., Univ. California, Berkeley, 1975, Univ. Paris-Dauphine, 1979, Univ. Minnesota, 1979, Univ. Paris-I, 1994, Univ. California, Berkeley, 2000; Vis. Res. Assoc., CEPREMAP, Paris, 1979; Vis. Fell., Nuffield Coll., Oxford, 1979; IBE (Investors in Bus. Educ.) Prof. Econ., Univ. Illinois, Urbana-Champaign, IL, 1982–88; Res. Assoc., NBER, Cambridge, MA, USA, 1982–93; Fell., CESifo Network, 2001–.

Degrees BA, MA (Maths) Victoria Univ., Wellington, 1962, 1963; PhD Harvard Univ., 1968.

Offices and Honours Fell., Acad. Social Sc., Australia, 1976–, Em Soc, 1981–; Pres., Soc. Econ. Dynamics and Control, 1982–84, Intl Econ. Fin. Soc., 1995; Co-Chair, Program Comm., 8th World Congress Em Soc, Seattle, WA, 2000.

Editorial Duties Ed. Bds, *IER*, 1972–93, *Australian Econ. Rev.*, 1973–74, *JMCB*, 1977–, *JEDC*, 1979–81, *J Pub E*, 1982–87, *J. Econ. Surveys*, 1986–94, *Rev. Intl Econ.*, 1991–, *Rev. Quant. Fin. Accounting*, 1993–98, *J Int E*, 1995–98, *Asia-Pacific Econ. Rev.*, 1995–; *Econ. Bull.*, 2000–, *J. Public Econ. Theory*, 2000–, *Macroecon. Dynamics*, 2001–; Joint Ed., *ER*, 1973–77; Ed., *JEDC*, 1981–87, 1995–2001; Advisory Bd, *JEDC*, 1987–95, 2001–.

Principal Fields of Interest E1 General Aggregative Models; E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook; F4 Macroeconomic Aspects of International Trade and Finance.

Publications *Books*: 1. *Applications of Control Theory to Economic Analysis* (ed. with J.D. Pitchford), (N-H, 1977); 2. *Macroeconomic Analysis and Stabilization Policy* (CUP, 1977; trans., Japanese, 1980); 3. *International Macroeconomic Stabilization Policy* (Blackwell, 1990); 4. *Methods of Macroeconomic Dynamics* (MIT Press, 1995, 2nd edn 2000; trans., Chinese, 2002); 5. *International Macroeconomic Dynamics* (MIT Press, 1997; trans., Chinese, 2002), 6. *Growth and Inequality: Issues and Policy Implications* (ed. with T. Eicher), (MIT Press, 2003).

Articles: 1. ‘Some empirical evidence on the formation of price expectations’, *JASA*, 65, Dec. 1970; 2. ‘Technological and price uncertainty in a Ricardian model of international trade’, *REStud*, 41, April 1974; 3. ‘Consumers’ surplus, price instability and price stabilization’ (with H. Shalit, A. Schmitz), *Em*, 48, Jan. 1980; 4. ‘The analysis of macroeconomic policies

in perfect foresight equilibrium’ (with W.A. Brock), *IER*, 22, Feb. 1981; 5. ‘The determination of spot and futures prices with storable commodities’, *Em*, 51, Sept. 1983; 6. ‘The exchange market, speculation, and exchange market intervention’ (with J. Eaton), *QJE*, 99, Feb. 1984; 7. ‘Dynamic strategic monetary policies and coordination in independent economies’ (with T. Basar, V. d’Orey), *AER*, 78, June 1988; 8. ‘Macroeconomic policies, growth, and welfare in a stochastic economy’, *IER*, 34, Nov. 1993; 9. ‘Adjustment costs and investment in a stochastic endogenous growth model’ (with A. Benavie, E. Grinols), *JME*, 38, Aug. 1996; 10. ‘Capital income taxation and risk-taking in a small open economy’ (with P.K. Asea), *J Pub E*, 68, April 1998; 11. ‘Nonscale models of economic growth’ (with T. Eicher), *EJ*, 109, July 1999; 12. ‘Fiscal policy, elastic labor supply, and endogenous growth’, *JME*, 45, Feb. 2000; 13. ‘Government policy in a stochastic growth model with elastic labor supply’, *J. Public Econ. Theory*, 2, Oct. 2000, 14. ‘Knife-edge conditions and the macrodynamics of small open economies’, *Macroecon. Dynamics*, 6, April 2002.

Principal Contributions I have worked extensively in macroeconomic theory, particularly in the formulation and analysis of consistently specified dynamic systems. Much of the emphasis of my earlier work in this area was on inflation, inflationary expectations, and their interaction with other macroeconomic variables. In the past I have worked extensively with linear rational expectations models, focusing both on methodological issues and on policy questions. Since around 1980 almost all of my macroeconomic analysis has employed models based on the intertemporal optimization of representative agents. My earlier work along these lines was deterministic and led to stationary equilibria in which real quantities are constant or grow

at constant rates. My more recent work has focused on growth models, both endogenous growth models, in which the steady-state growth rate is responsive to instruments of macroeconomic policies, and 'non-scale' models, where this is generally not the case. I have developed both deterministic and stochastic models, the latter employing the methods of continuous-time stochastic calculus. Recently, I have increasingly employed numerical simulation methods. My interests in macroeconomics cover both domestic and international aspects. With respect to the latter, my work has centred around the dynamic behaviour of exchange rates, as well as the analysis of economies subject to stochastic disturbances of various kinds. My more recent international models are based on intertemporal optimization and include models of deterministic and stochastic endogenous growth. I have a continuing interest in issues pertaining to macroeconomic stabilization policy. This extends from traditional dynamic optimal feedback policy to more current interests in optimal exchange market intervention, and more generally, optimal stabilization of stochastic growing economies. In the past I have also worked extensively on problems of price stabilization. The last work I did in this area analysed the effectiveness of futures markets as a means of stabilizing the spot price.

TUROK, Ivan Nicholas

Born 1956, Cape Town, South Africa.

Current Posts Prof. Urban Econ. Devlp., Univ. Glasgow, Glasgow, UK, 1996–; Res. Dir., Dept Urban Stud., Univ. Glasgow, 1996–.

Past Posts Lect., Sr Lect., Prof. Urban and Regional Planning, Univ. Strathclyde, 1987–96.

Degrees BSc (Geography) Univ. Bris-

tol, 1979; MSc (Town Planning) Univ. Wales, 1981; PhD Reading Univ., 1987.

Editorial Duties Ed. Bds, *J. Property Res.*, 1994–, *Local Econ.*, 1995–2001.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; J6 Mobility, Unemployment, and Vacancies; O0 Economic Development, Technological Change, and Growth: General.

Publications *Books*: 1. *Development Planning and Local Economic Growth* (Pergamon, 1989); 2. *Targeting Urban Employment Initiatives* (with U. Wannop), (HMSO, 1990); 3. *The Coherence of EU Regional Policy* (with J. Bachtler), (Jessica Kingsley, 1997); 4. *The Jobs Gap in Britain's Cities: Employment Loss and Labour Market Consequences* (with N. Edge), (Policy Press, 1999); 5. *Edinburgh and Glasgow: Contrasts in Competitiveness and Cohesion* (with N. Bailey, I. Docherty), (Univ. Glasgow, 1999); 6. *Inclusive Cities: Building Local Capacity for Development* (Europ. Commission, 2000); 7. *Twin Track Cities: Linking Prosperity and Cohesion in Glasgow and Edinburgh* (Univ. Glasgow Press, 2003).

Articles: 1. 'Evaluation and understanding in local economic policy', *Urb Stud*, 26, 1989; 2. 'Policy evaluation as science: a critical assessment', *Apl. Econ.*, 23, 1991; 3. 'New firms and local economic development', *Regional Stud.*, 25, 1991; 4. 'Property-led urban regeneration: panacea or placebo?', *Environment and Planning A*, 24, 1992; 5. 'Inward investment and local linkages: how deeply embedded is Silicon Glen?', *Regional Stud.*, 27, 1993; 6. 'The growth of an indigenous electronics industry: Scottish printed circuit boards', *Environment and Planning A*, 25, 1993; 7. 'Evaluating European support for business development: evidence from the structural funds in Scotland', *Entrepreneurship and Regional Devlp.*, 9, 1997; 8. 'The new deal: jeopardised by

the geography of unemployment?' (with D. Webster), *Local Econ.*, 12, 1998; 9. 'Competition and area selection in Scotland's new urban policy' (with N. Hopkins), *Urb Stud.*, 35, 1998; 10. 'Urban labour markets: the causes and consequences of change', *Urb Stud.*, 36, 1999; 11. 'Adjustment to job loss in Britain's major cities' (with N. Bailey), *Regional Stud.*, 34, 2000; 12. 'Developing expertise in small and medium-sized enterprises: an evaluation of consultancy support' (with M. Raco), *Environment and Planning C: Govt and Pol.*, 18, 2000; 13. 'Growing global: foreign direct investment and the internationalisation of local suppliers in Scotland' (with P. Raines, R. Brown), *Europ. Planning Stud.*, 9, 2001.

Principal Contributions Most of my work has related to urban and regional development and policy. I have assessed the contribution of new firms, small firms and inward investment to regional economic development. I have also examined the role of property and labour in urban regeneration. More recently I have explored the nature of local labour market adjustment to urban economic decline and restructuring, including the effects on unemployment, migration and commuting. I have also worked on the determinants of urban competitiveness, including agglomeration economies and industrial clusters.

TYBOUT, James R. n.e.

U

UDELL, Gregory F.

Born 1946, Evanston, IL, USA.

Current Post Bank One Chair Banking and Fin., Kelley Sch. Bus., Indiana Univ., Bloomington, IN, USA, 1998–.

Past Posts Commercial Loan Officer, Natl Boulevard Bank, 1974–78; Vice Pres., Marina Bank (The LaSalle Group), 1978–79; Prof. Fin., Stern Sch. Bus., NYU, 1983–98; Vis. Econ. and Cons., Bd Governors, Fed. Reserve System, Washington, DC, 1988, 1989, 1991, 1992.

Degrees BA DePauw Univ., 1968; MA Northern Illinois Univ., 1973; MBA (Fin.), PhD (Fin.) Indiana Univ., 1982, 1983.

Offices and Honours Bank and Fin. Analysts Assoc. Fell., NYU, 1993–94, 1998–89; Chair, MBA Curriculum Comm., Stern Sch. Bus., NYU, 1993–96; Dir., William R. Berkley Center for Entrepreneurial Stud., Stern Sch. Bus., NYU, 1996–98; Sr Faculty Res. Excellence Award, Indiana Univ., 1998–99; Teaching Excellence Award, Indiana Univ., 1998–99; Keynote Speaker, Australasian Fin. and Banking Conf., 2001; Vice Pres., Global Services, FMA, 2001–; Chair, Promotion and Tenure Comm., Kelley Sch. Bus., Indiana Univ., 2002–.

Editorial Duties Assoc. Ed., *J Bank Fin*, 1997–, *J. Fin. Services Res.*, 2000–, *Small Bus. Econ.*, 2000–, *JMCB*, 2001–, *J. Entrepreneurial Fin. and Bus. Ventures*, 2001–, *Bus. Horizons*, 2001–.

Principal Fields of Interest G2 Financial Institutions and Services; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications Articles: 1. ‘Pricing returned check charges under asymmetric information’, *JMCB*, 18, Nov. 1986; 2.

‘Competition, risk neutrality and loan commitments’ (with A.W.A. Boot, A.V. Thakor), *J Bank Fin*, 11, Sept. 1987; 3. ‘Loan quality, commercial loan review and loan officer contracting’, *J Bank Fin*, 13, Dec. 1989; 4. ‘Collateral, loan quality, and bank risk’ (with A.N. Berger), *JME*, 25, Jan. 1990; 5. ‘Secured lending and default risk: equilibrium analysis, policy implications and empirical results’ (with A.W.A. Boot, A.V. Thakor), *EJ*, 101, May 1991; 6. ‘Credible commitments, contract enforcement problems and banks: intermediation as credibility assurance’ (with A.W.A. Boot, A.V. Thakor), *J Bank Fin*, 15, June 1991; 7. ‘Deposit insurance reform: what are the issues and what needs to be fixed?’ (with M. Berlin, A. Saunders), *J Bank Fin*, 15, Sept. 1991, repr. in M.J.B. Hall (ed.), *The Regulation and Supervision of Banks* (Edward Elgar, 2000); 8. ‘The pricing of retail deposits: concentration and information’ (with L. Allen, A. Saunders), *J. Fin. Intermediation*, 1, Dec. 1991; 9. ‘Some evidence on the empirical significance of credit rationing’ (with A.N. Berger), *JPE*, 100, Oct. 1992; 10. ‘Securitization, risk, and the liquidity problem in banking’ (with A.N. Berger), in M. Klausner, L.J. White (eds), *Structural Change in Banking* (Bus. One Irwin, 1993); 11. ‘The economics of private placements: a new look’ (with M. Carey, J. Rea, S. Prowse), *Fin. Markets, Inst. and Instruments*, 2, Aug. 1993; 12. ‘Did risk-based capital allocate bank credit and cause a “credit crunch” in the US?’ (with A.N. Berger), *JMCB*, 26, Aug. 1994, repr. in M.J.B. Hall (ed.), *The Regulation and Supervision of Banks* (Edward Elgar, 2000); 13. ‘Bank off-balance sheet financial innovations’ (with J. Jagtiani, A. Saunders), *J Bank Fin*, 19, April 1995, repr. in M.J.B. Hall (ed.), *The Regulation and Supervision of Banks* (Edward Elgar, 2000); 14. ‘Relationship lending and lines of credit in small firm finance’ (with A.N.

Berger), *J Bus*, 68, July 1995; 15. 'The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle' (with A.N. Berger), *J Bank Fin*, 22 Aug. 1998; 16. 'The effects of bank mergers and acquisitions on small business lending' (with A.N. Berger, A. Saunders, J. Scalise), *J Fin E*, 50, Oct. 1998; 17. 'The globalization of financial institutions: evidence from cross border banking performance' (with A.N. Berger, R. DeYoung, H. Genay), *Brookings-Wharton Papers Fin. Services*, 3, 2000; 18. 'The ability of banks to lend to informationally opaque small businesses' (with A.N. Berger, L.F. Klapper), *J Bank Fin*, 25, Dec. 2001; 19. 'Small business credit availability and relationship lending: the importance of bank organizational structure' (with A.N. Berger), *EJ*, 112, 2002; 20. 'The value of private sector credit information sharing: the US case' (with J. Kallberg), *J Bank Fin*, forthcoming.

Principal Contributions My primary research focus is on credit availability and the functioning of financial markets. A number of my research papers explore the distinction between public and private financial markets and the extent to which this is driven by borrower informational opacity. This strand of my research also examines how the contract structure that we observe in private markets can be used to minimize credit rationing and other contracting costs associated with the informational wedge between borrowers and lenders. Specifically, my theoretical and empirical research suggests that contract terms such as collateral, forward commitments, maturity and covenants are not used with indifference in the financial markets. Moreover, the use of some of these terms varies significantly based on borrower size. My work was also one of the first to empirically identify the nature of re-

lationship lending, and its importance to smaller businesses. A second strand of my research examines how financial intermediaries such as commercial banks and insurance companies might be uniquely organized to deliver credit to informationally opaque borrowers. An implication of my work in this area is that a financial institution's organizational structure (e.g., size and ownership) may be fundamentally linked to the type of products offered by the institution. My work also suggests that factors affecting organizational structure, such as the global consolidation of the financial services industry, may have a significant impact on credit availability, particularly to bank-dependent borrowers. A third strand of my research examines how central bank policymaking may affect bank behaviour in the credit markets. This work explores how changes in monetary policy and prudential supervision affect the behaviour of financial intermediaries in the private debt markets, particularly the commercial bank loan and private placement markets.

UHLIG, Harald

Born 1961, Bonn, Germany.

Current Post Prof., Sch. Bus. Admin. and Econ., Humboldt Univ., Berlin, Germany, 2000–.

Past Posts Asst Prof., Dept Econ., Princeton Univ., 1990–94; Res. Prof. Macroecon., CentER, Tilburg Univ., The Netherlands, 1994–2000.

Degrees Mathematik Diplom, Technische Univ. Berlin, 1985; PhD Univ. Minnesota, 1990.

Offices and Honours Alfred P. Sloan Doctoral Dissertation Fellowship, Alfred P. Sloan Foundation, 1989–90; Dissertation Support Award, NBER, 1989–90; Participant, *REStud* Tour of 7 recent PhDs

in econ. to present their paper in London, Barcelona and Tel Aviv, 1990.

Editorial Duties Assoc. Ed., *JEDC*, 1995–98, *REStud*, 1996–98, *Macroecon. Dynamics*, 1997–, *Computational Econ.*, 1998–, *ET*, 2000–, *BE-J. Macroecon.*, 2000–, *J. Fin. Em*, 2001–; Co-Ed., *Europ ER*, 1997–2001; Asst Ed., *REStud*, 1998–.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; G1 General Financial Markets; C0 Mathematical and Quantitative Methods: General.

Publications Articles: 1. ‘Reasonable extreme bounds analysis’ (with C.W.J. Granger), *J Em*, 44, 1990; 2. ‘Solving nonlinear stochastic growth models: a comparison of alternative solution methods’ (with J.B. Taylor), *JBES*, 8, 1990; 3. ‘Understanding unit rooters: a helicopter tour’ (with C.A. Sims), *Em*, 59, 1991; 4. ‘The timing of information in a general equilibrium framework’ (with J. Berk), *JET*, 59, 1993; 5. ‘The impact of large portfolio insurers on asset prices’ (with G. Donaldson), *J Fin*, 48, 1993; 6. ‘What macroeconomists should know about unit roots: a Bayesian perspective’ (presented Yale–NSF Conf. ‘Bayes Methods and Unit Roots’), *Em. Theory*, 10, 1994; 7. ‘On singular Wishart and singular multivariate beta distributions’, *Annals of Stats*, 22, 1994; 8. ‘A law of large numbers for a large economy’, *ET*, 8, 1996; 9. ‘Increasing the capital income tax may lead to faster growth’ (with N. Yanagawa), *Europ ER*, 40, 1996; 10. ‘Bayesian vector autoregressions with stochastic volatility’, *Em*, 65, Jan. 1997; 11. ‘The ECB: safe at any speed? Monitoring the European Central Bank 1’, CEPR Report (with D. Begg, P. de Grauwe, F. Giavazzi, C. Wyplosz), 1998; 12. ‘Rules of thumb versus dynamic programming’ (with M. Lettau), *AER*, 89, March 1999; 13. ‘Fickle investors: an impediment to growth?’ (with A. Scott), *Europ ER*, 43, 1999; 14. ‘A toolkit for

analysing nonlinear dynamic stochastic models easily’, in R. Marimon, A. Scott (eds), *Computational Methods for the Study of Dynamic Economies* (OUP, 1999); 15. ‘An analysis of the stability pact’ (with R. Beetsma), *EJ*, 109, Oct. 1999; 16. ‘What is the real story for interest rate volatility?’ (with A. Hornstein), *German Econ. Rev.*, 1, Feb. 2000; 17. ‘Tax policy and aggregate demand management under catching up with the Joneses’ (with L. Ljungqvist), *AER*, 90, June 2000; 18. ‘Should we be afraid of Friedman’s rule?’, *J. Japanese and Intl Econ.*, 14, 2000; 19. ‘Defining a macroeconomic framework for the Euro area. Monitoring the European Central Bank 3’, CEPR Report (with A.F. Alesina, O.J. Blanchard, J. Gali, F. Giavazzi), March 2001; 20. ‘On adjusting the HP-filter for the frequency of observations’ (with M. Ravn), *REStat*, 84, May 2002.

Principal Contributions My research concerns the quantitative features of macroeconomic, dynamic processes. I am particularly interested in the role of financial markets and monetary policy for these issues. I have investigated several theoretical macroeconomic models, focussing in particular on aspects of policy in growth or business cycle models, see, e.g., my papers with Yanagawa (1996), Scott (1999) or Ljungqvist (2000). I have contributed to the econometric analysis of macroeconomic time series, in particular from a Bayesian perspective, see, e.g., my paper with Sims (1991), or my paper on Bayesian vector autoregressions with stochastic volatility (1997). I have contributed by investigating numerical solution methods, see my paper with Taylor (1990), or my ‘toolkit’ chapter (1999). I have branched out into foundations of decision-making theory, investigating in particular rules of thumb, see, e.g., my paper with Lettau (1999). Finally, I have been interested in issues of European monetary

policy, and have written about it not only for a scientific audience, see my paper with Beetsma (1999), but also for the edu-

cated public, see the Monitoring the European Central Bank reports 1 and 3, 1998 and 2001.

V

VAN DEN BERG, Gerard J. n.e.

VAN DER PLOEG, Frederick n.e.

VAN DOORSLAER, Eddy K.A.

Born 1958, Willebroek, Belgium.

Current Post Prof. Health Econ., Erasmus Univ., Rotterdam, The Netherlands, 1997–.

Past Posts Lect. Health Econ., Sr Lect. Health Econ., Univ. Maastricht, 1983–88, 1988–90; Sr Lect. Health Econ., Erasmus Univ., Rotterdam, 1988–90; Vis. Prof. Health Econ., Univ. Antwerp, 1992–96, UBC, 1996–97.

Degrees MA Univ. Antwerp, 1980; MA (Health Econ.) Univ. York, 1982; PhD Univ. Maastricht, 1987.

Offices and Honours Doctoral Fellowship, Intercollegiate for Doctoral Stud. Mgmt Sc., Brussels, 1981–83; Pres., Belgian–Dutch Assoc. Health Econ., 1998–2002; Mem., Working Group Distributional Issues in Health Care, Netherlands Health Services Res. Council, 1997–.

Editorial Duties Assoc. Ed., *JHE*, 1997–; Ed. Bd, *J. Health Service Res. Pol.*, 1998–.

Principal Fields of Interest I1 Health; D3 Distribution; D1 Household Behavior.

Publications *Book*: 1. *Health, Knowledge and the Demand for Medical Care: An Econometric Analysis* (Van Gorcum, Maastricht & Wolfeboro, 1987).

Articles: 1. ‘Disaggregation of the demand for hospital care’ (with R.C.J.A. Van Vliet), *Apl. Econ.*, 20, 1988; 2. ‘Equity in the finance and delivery of health care: some tentative cross-country comparisons’ (with A. Wagstaff, P. Paci), *OREP*, 5, 1989; 3. ‘On the measurement of horizontal in-

equity in the delivery of health care’ (with A. Wagstaff, P. Paci), *JHE*, 10, 1991; 4. ‘Equity in the delivery of health care: some cross-country comparisons’ (with A. Wagstaff *et al.*), *JHE*, 11, 1992; 5. ‘Measurement of health inequalities in the presence of multiple-category morbidity indicators’ (with A. Wagstaff), *Health Econ.*, 3, 1994; 6. ‘Cost-effectiveness analysis of vaccination against hepatitis A in travellers’ (with G. Tormans, P. Van Damme), *J. Medical Virology*, 44, 1994; 7. ‘Statistical analysis of cost outcomes in clinical trials’ (with M. Van Molken, R. van Vliet), *Health Econ.*, 3, 1994; 8. ‘Methodological issues in patient utility measurement in clinical trials’ (with M. Rutten-van Molken, C. Bakker, S.J. van der Linden), *Medical Care*, 33, 1995; 9. ‘Socioeconomic inequalities in health: some international comparisons’ (with A. Wagstaff *et al.*), *JHE*, 16, 1997; 10. ‘Progressivity, horizontal equity and reranking in health care finance: a decomposition analysis for the Netherlands’ (with A. Wagstaff), *JHE*, 16, 1997; 11. ‘Socioeconomic inequalities in health: measurement, computation and statistical inference’ (with N. Kakwani, A. Wagstaff), *J Em*, 77, 1997; 12. ‘Redistributive effect, progressivity and differential tax treatment: personal income taxes in twelve countries’ (with A. Wagstaff, H. van der Burg, S. Calonge *et al.*), *J Pub E*, 72, 1999; 13. ‘The redistributive effect of health care financing in 12 OECD countries’ (with A. Wagstaff, H. van der Burg, T. Christiansen *et al.*), *JHE*, 18, 1999; 14. ‘Equity in the delivery of health care in Europe and the US’ (with A. Wagstaff, H. van der Burg, T. Christiansen *et al.*), *JHE*, 19, 2000; 15. ‘Equity in health care finance and delivery’ (with A. Wagstaff), in A.J. Culyer, J.P. Newhouse (eds), *Handbook of Health Economics* (N-H, 2000); 16. ‘Income inequality and health: what does the literature tell us?’ (with A. Wagstaff), *Annual*

Rev. Public Health, 21, 2000; 17. 'What makes the personal income tax progressive? A comparative analysis of fifteen OECD countries' (with A. Wagstaff), *ITPF*, 8, 2001; 18. 'Inequalities in self-reported health: validation of a new approach to measurement', *JHE*, 22, 2003; 19. 'On decomposing the causes of health sector inequalities, with an application to malnutrition inequalities in Vietnam' (with A. Wagstaff, N. Watanabe), *J Em*, 112, 2003.

Principal Contributions My economic research in the health field has included: theoretical and empirical work on the demand for and production of health; methodological and empirical work on economic evaluation in health care; conceptual, methodological and empirical work on the definition and measurement of equity and distributive justice in health care; conceptual and empirical work on the measurement of health, and health care systems and reforms thereof. Much of my empirical work has been comparative in nature and based on international collaboration in the EU and OECD area. Recently I have also started working on health issues in the developing world.

VAN HUYCK, John B. n.e.

VAN OURS, Jan C. n.e.

VAN REENEN, John

Born 1965, Carlisle, UK.

Current Posts Prof. Econ., Univ. Coll. London, UK, 1999–; Partner, Lexecon Ltd, London, UK, 2001–.

Past Posts Res. Fell., IFS, 1992–99; Vis. Prof., Univ. California, Berkeley, 1998.

Degrees MA Univ. Cambridge, 1988;

MSc LSE, 1989; PhD Univ. Coll. London, 1992.

Offices and Honours Joshua King Prize, 1988; Prize in Automation, 1989.

Editorial Duties Assoc. Ed., *J Ind E*, 1996–; Ed. Bds, *REStud*, 1997–, *Europ ER*, 1999–, *J Ind E*, 1999–, *Econ. Pol.*, 2000–.

Principal Fields of Interest J3 Wages, Compensation, and Labor Costs; L1 Market Structure, Firm Strategy, and Market Performance; O3 Technological Change.

Publications *Articles*: 1. 'Profit margins and the business cycle: evidence from UK manufacturing firms' (with S. Machin), *J Ind E*, 41, 1993; 2. 'The profitability of innovating firms' (with S. Machin, P. Geroski), *RandJE*, 24, 1993; 3. 'Enterprise restructuring in the transition; an analytical survey of the case study evidence from Central and Eastern Europe' (with W. Carlin, T. Wolfe), *Econ. Transition*, 3, 1995; 4. 'Dynamic count data models of technological innovation' (with R. Blundell, R. Griffith), *EJ*, 105, 1995; 5. 'The creation and capture of economic rents: wages and innovation in a panel of UK companies', *QJE*, 111, Feb. 1996; 6. 'Job creation, technological innovation and adjustment costs' (with C. Meghir, A. Ryan), *Annales d'Économie et de Stat.*, 41, March 1996; 7. 'Why has Britain had slower R&D growth?', *Res. Pol.*, 26, 1997; 8. 'Technical change and earnings in British establishments' (with L. Chennells), *Em*, 64, 1997; 9. 'Employment and technological innovation: evidence from UK manufacturing firms', *J Lab E*, 15, April 1997; 10. 'Establishment level earnings, technology and the growth of inequality: evidence from Britain' (with L. Chennells), *Econ. Innovation and New Tech.*, 5, 1998; 11. 'R&D and union bargaining: evidence from British companies and establishments' (with N. Menezes-Filho, D. Ulph), *ILLR*, 52, 1998; 12. 'Pharmaceutical regulation in the UK: where

do we go from here?’ (with N. Bloom), *Fiscal Stud.*, 19, 1998; 13. ‘Technology and changes in the skill structure: evidence from seven OECD countries’ (with S. Machin), *QJE*, 109, Nov. 1998; 14. ‘Market share, market value and innovation: evidence from British manufacturing firms’ (with R. Blundell, R. Griffith), *REStud.*, 66, July 1999; 15. ‘Getting the unemployed back to work: the role of wage subsidies’ (with B. Bell, R. Blundell), IFS Working Paper 99/07, *ITPF*, 6, 1999; 16. ‘Another nail in the coffin? Or can the trade based explanation of changing skill structures be resurrected?’ (with T. Desjonquieres, S. Machin), *Scand JE*, 101, 1999; 17. ‘Export market performance of OECD countries: an empirical examination of the role of cost competitiveness in an OECD panel of industries’ (with A. Glyn, W. Carlin), *EJ*, 110, 2001; 18. ‘Skills and organisational change: evidence from British and French establishments in the 1980s and 1990s’ (with E. Caroli), *QJE*, 114, 2001; 19. ‘Do R&D tax credits work?’ (with N. Bloom, R. Griffith), *JPE*, 85, 2002; 20. ‘Patents, productivity and market value in a panel of British firms’ (with N. Bloom), *EJ*, forthcoming.

Principal Contributions My work has focused on the relationship between technological change and the labour market, an area that was a preoccupation of the classical economists but was neglected until recent years. In my early work I showed how technological innovations have large positive impacts on the profitability, employment and market valuation of firms and how, when labour is strong, these rents from innovation are shared with employees. More recently, I have examined how the benefits of technology are spread unevenly between different individuals. In particular, the prevalence of skilled biased technical change across industries, nations and time periods tends

to reduce the demand for people with less human capital and has created pressures to greater inequality. The unskilled have also tended to suffer from the growth of organizational changes associated with decentralization of decision making and layering of hierarchies. I have applied and developed panel data techniques for microeconomic information, especially when using direct measures of innovation (R&D, patents, etc.). Union rent sharing is often believed to stunt the incentive to invest in innovation. I have been able to find no systematic evidence that trade unions have retarded R&D in the UK. I have also worked extensively on policy issues. Several of my papers examine how countries and firms could stimulate greater productivity and innovation. In particular, I have analysed the design and impact of the tax system on research and development, showing that well-designed R&D tax credits can stimulate more R&D and productivity growth. In other papers I have evaluated major UK labour market policies, such as wage subsidies for the young unemployed (the ‘New Deal’). My research areas are currently in examining the industrial structure of high-tech industries, in particular pharmaceuticals and computer networks.

VAN ZOMEREN, Bert C. n.e.

VARIAN, Hal R.

Born 1947, Wooster, OH, USA.

Current Posts Dean, Sch. Info. Mgmt and Systems, Prof., Hass Sch. Bus. and Dept Econ., Univ. California, Berkeley, CA, USA, 1995–.

Past Posts Asst Prof., MIT, 1973–77; Prof. Econ. and Fin., Univ. Michigan, 1977–95.

Degrees BS MIT, 1969; MA (Maths),

PhD Univ. California, Berkeley, 1973, 1973.

Offices and Honours Fell., NSF, 1970–73, Em Soc, 1983, AAAS, 1995; Guggenheim Foundation Fell., 1979–80; Erskine Fell., Univ. Canterbury; John von Neumann Fell., Hungarian Sch. Econ., 1996.

Editorial Duties Co-Ed., *AER*, 1987–90; Assoc. Ed., *AER*, 1990–95; Ed. Bds, *JEP*, 1992–96, *JEL*, 1998–.

Principal Fields of Interest A1 General Economics; L0 Industrial Organization: General; H0 Public Economics: General.

Publications *Books*: 1. *Microeconomic Analysis* (W.W. Norton, 1978, 1984, 1992; trans., Spanish, Bosch, 1981, German, Oldenbourg, 1981, Japanese, 1985); 2. *Intermediate Microeconomics* (W.W. Norton, 1987, 6th edn 2002); 3. *Information Rules: A Strategic Guide to the Network Economy* (Harvard Bus. Sch. Press, 1998).

Articles: 1. 'Equity, envy and efficiency', *JET*, 9, Sept. 1974; 2. 'A model of sales', *AER*, 70, Sept. 1980; 3. 'Nonparametric tests of consumer behavior', *REStud*, 50, Jan. 1982; 4. 'The nonparametric approach to demand analysis', *Em*, 50, July 1982; 5. 'The nonparametric approach to production analysis', *Em*, 52, May 1984; 6. 'Price discrimination and social welfare', *AER*, 75, 1985; 7. 'Sequential provision of public goods', *J Pub E*, 53, 1994; 8. 'A solution to the problem of externalities when agents are well-informed', *AER*, Dec. 1994; 9. 'Pricing congestible network resources' (with J. Mackie-Mason), *IEEE J. Selected Areas in Communications*, 13, Sept. 1995; 10. 'The information economy', *Sc. Amer.*, Sept. 1995.

Principal Contributions My first work investigated axiomatic notions of distributive justice and their consequences. This work was followed by a brief excursion

into disequilibrium macroeconomics. My work in industrial organization has to do with various aspects of price discrimination, while my work in public finance has been primarily concerned with public goods and externalities. I have also done some work in financial economics about the effect of differences of opinion on asset prices. The largest component of my work has to do with nonparametric approaches to econometric analysis. These techniques, based on the ideas of revealed preference theory, allow an econometrician to test data for consistency with optimizing models without making any assumptions about functional form. If the data are consistent with the optimizing model, one can go on to test various restrictions, forecast behavior, or do cost-benefit calculations. Currently I am working on the economics of information technology. This area brings together a number of my interests in industrial organization, public finance, economic theory and computation. I am concerned with how information and infrastructure should be priced and managed, and the implications of economic and business models for information industries.

VÉGH, Carlos A. n.e.

VENABLES, Anthony James

Born 1953, Newport, UK.

Current Post Prof. Intl Econ., LSE, London, UK, 1992–.

Past Posts Asst Res. Officer, Inst. Econ. Stats, Oxford, 1976–78; Lect. Econ., Univ. Essex, 1978–79, Univ. Sussex, 1979–88; Vis. Asst Prof. Econ., UBC, 1982–83; Eric Roll Prof. Econ. Pol., Univ. Southampton, 1988–92, Res. Manager, Devlp. Econ., World Bank, 1998–99.

Degrees BA Cambridge, 1974; BPhil,

DPhil Oxford, 1976, 1984.

Offices and Honours Res. Fell., CEPR, London, 1984–; Co-Dir., Intl Trade Programme, CEPR, 1994–; Council Mem., RES, 1995–.

Editorial Duties Assoc. Ed., *J Int E*, 1988–94, *Europ ER*, 1989–90; Ed., *Europ ER*, 1991–.

Principal Fields of Interest F0 International Economics: General; F1 Trade; L0 Industrial Organization: General.

Publications *Book*: 1. *The Spatial Economy; Cities, Regions and International Trade* (with M. Fujita, P. Krugman), (MIT Press, 1999).

Articles: 1. ‘The macro-economic implications of a resource discovery in an open economy’ (with R.K. Eastwood), *EJ*, 12, 1982; 2. ‘Trade and trade policy with imperfect competition; the case of identical products and free entry’, *J Int E*, 19, 1985; 3. ‘Trade and trade policy with differentiated products; a Chamberlinian–Ricardian model’, *EJ*, 97, 1987; 4. ‘Trade policy with increasing returns and imperfect competition; contradictory results from competing assumptions’ (with J. Markusen), *J Int E*, 24, 1988; 5. ‘Completing the internal market in the European community: some industry simulations’ (with A. Smith), *Europ ER*, 32, 1988; 6. ‘International capacity choice and national market games’, *J Int E*, 29, 1990; 7. ‘Economic integration and the location of firms’, *AER Papers and Proceedings*, 55, 1995; 8. ‘Globalization and the inequality of nations’ (with P. Krugman), *QJE*, 110, 1995; 9. ‘International trade, factor mobility and trade costs’ (with V.D. Norman), *EJ*, 105, 1995; 10. ‘Regional economic integration’ (with R. Baldwin), in G. Grossman, K. Rogoff (eds), *Handbook of International Economics*, Vol. III (Macmillan, 1996); 11. ‘Multinational firms and the new trade theory’ (with J. Markusen), *J Int E*, 46, 1998; 12. ‘Foreign direct investment as a catalyst for

industrial development’ (with J. Markusen), *Europ ER*, 43, 1999; 13. ‘Fragmentation and multinational production’, *Europ ER*, 43, 1999; 14. ‘Agglomeration and economic development: import substitution versus trade liberalisation’ (with D. Puga), *EJ*, 109, 1999; 15. ‘The international division of industries: clustering and comparative advantage in a multi-industry model’, *Scand JE*, 101, 1999; 16. ‘The theory of endowment, intra-industry and multinational trade’ (with J. Markusen), *J Int E*, 52, 2000; 17. ‘Geography and development’ (with J.V. Henderson, Z. Shalizi), *J. Econ. Geography*, 1, 2001; 18. ‘Infrastructure, geographical disadvantage, transport costs and trade’ (with N. Limao), *WBER*, 15, 2001.

Principal Contributions Contributions to the theory of international trade, foreign direct investment and trade policy in imperfectly competitive markets. Analysis of the effects of economic integration. Analysis of agglomeration forces and the location of economic activity.

VERMAELEN, Theo Jozef

Born 1953, Aarschot, Belgium.

Current Post Schrodgers Prof. Fin., INSEAD, Fontainebleau, France, 1987–.

Past Posts Asst Prof. Fin., UBC, 1979–81; Assoc. Prof. Fin., Catholic Univ. Leuven, 1982–87; Vis. Prof., London Bus. Sch., 1989, Univ. Chicago, 1998, 2001, UCLA, 2000.

Degrees Commercial Engineer, Catholic Univ. Leuven, 1975; MBA, PhD (Fin.) Univ. Chicago, 1976, 1980.

Honours Prize, Flemish Econ. Assoc., 1983; Amer. Inst. Investors Award, 1992; Best of Best Papers Award, FMA meeting, 1996; Europ. Case, Fin. Case of Year Award, Europ. Case Clearing House, 1998.

Editorial Duties Co-Ed., *J. Empirical Fin.*, 1995–; Assoc. Ed., *Fin. Mgmt*, 1995–

2000, *J. Corp. Fin.*, 1996–2000, *Europ. Fin. Rev.*, 1996–.

Principal Fields of Interest G0 Financial Economics: General; G3 Corporate Finance and Governance.

Publications *Articles*: 1. ‘Common stock repurchases and market signaling’, *J Fin E*, 6, June 1980; 2. ‘Stock prices and financial analysts recommendations’ (with J. Bjerring, J. Lakonishok), *J Fin*, 38, March 1983; 3. ‘Tax reform and ex-dividend day behavior’ (with J. Lakonishok), *J Fin*, 38, Sept. 1983; 4. ‘Tax-induced trading around ex-dividend days’ (with J. Lakonishok), *J Fin E*, 16, June 1986; 5. ‘Internal regulation: the effect of government ownership on the value of the firm’ (with C. Eckel), *J Law E*, 2, Oct. 1986; 6. ‘The effect of personal taxes on common stock returns: the case of a Belgian tax reform’ (with L. Vanthienen), *J Bank Fin*, 11, March 1987; 7. ‘Anomalous price behaviour around repurchase tender offers’ (with J. Lakonishok), *J Fin*, 45, June 1990; 8. ‘Taxes, regulation and the market for corporate control’ (with C. Van Hulle, P. De Wouters), *J Bank Fin*, 15, March 1991; 9. ‘Repurchase tender offers, signalling and managerial incentives’, *JFQA*, 29, June 1994; 10. ‘Market under-reaction to open market share repurchases’ (with D. Ikenberry, J. Lakonishok), *J Fin E*, 39, June 1995; 11. ‘Insider trading restrictions and the stock market: the case of the Amsterdam stock exchange’ (with R. Kabir), *Europ ER*, 40, Feb. 1996; 12. ‘Large shareholdings and corporate control: an analysis of stake purchases in French holding companies’ (with B. Leleux, S. Banerjee), *Europ. Fin. Mgmt*, 3, July 1997; 13. ‘The option to repurchase stock’ (with D. Ikenberry), *Fin. Mgmt*, 25, Sept. 1997; 14. ‘Glamour, value and the post-acquisition performance of acquiring firms’ (with R. Rau), *J Fin E*, 49, Sept. 1998; 15. ‘Stock repurchases in Canada: performance and strategic trad-

ing’ (with D. Ikenberry, J. Lakonishok), *J Fin*, 56, Oct. 2001; 16. ‘Taxes, regulation and share repurchases in the UK’ (with R. Rau), *J Bus*, 75, Oct. 2001; 17. ‘Post-IPO capital expenditures and market feedback’ (with J. Van Bommel), *J Bank Fin*, 26, Oct. 2002.

Principal Contributions My research has focused on better understanding the short-term and long-term consequences of various corporate financial decisions such as share repurchases, mergers and IPOs.

VERRECCHIA, Robert E. n.e.

VICKERS, John Stuart

Born 1958, Eastbourne, England.

Current Post Chairman, OFT, London, UK, 2000–; Drummond Prof. Polit. Econ., Oxford Univ., UK, 1991– (on leave, 1998–).

Past Posts Fell., All Souls Coll., Oxford, 1979–84, 1991–, Nuffield Coll., Oxford, 1984–90; Chief Econ. and Monetary Pol. Comm. Mem., Bank of England, 1998–2000.

Degrees BA (PPE), MPhil, DPhil Oxford Univ., 1979, 1983, 1985.

Offices and Honours Fell., BA, 1998, Em Soc, 1998; Hon. Dr, Univ. East Anglia, 2001.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; L0 Industrial Organization: General; L4 Antitrust Policy.

Publications *Books*: 1. *Privatization: An Economic Analysis* (with G. Yarrow), (MIT Press, 1988); 2. *Regulatory Reform – Economic Analysis and British Experience* (with M. Armstrong, S. Cowan), (MIT Press, 1994).

Articles: 1. ‘Delegation and the theory of the firm’, *EJ*, 95, 1985; 2. ‘Perfect equilibrium in a model of a race’ (with C.

Harris), *REStud*, 52, 1985; 3. 'The evolution of market structure when there is a sequence of innovations', *J Ind E*, 35, 1986; 4. 'Signalling in a model of monetary policy with incomplete information', *OEP*, 38, 1986; 5. 'Racing with uncertainty' (with C. Harris), *REStud*, 54, 1987; 6. 'Vertical separation' (with G. Bonanno), *J Ind E*, 36, 1988; 7. 'Economic perspectives on privatization' (with G. Yarrow), *JEP*, 5, 1991; 8. 'The British electricity experiment' (with G. Yarrow), *Econ. Pol.*, 12, 1991; 9. 'Welfare effects of price discrimination by a regulated monopolist' (with M. Armstrong), *RandJE*, 22, 1991; 10. 'A model of the evolution of duopoly: does the asymmetry between firms tend to increase or decrease?' (with C. Budd, C. Harris), *REStud*, 60, 1993; 11. 'Concepts of competition', *OEP*, 47, 1995; 12. 'Competition and regulation in vertically related markets', *REStud*, 62, 1995; 13. 'Non-linear pricing and price cap regulation' (with M. Armstrong, S. Cowan), *J Pub E*, 58, 1995; 14. 'The access pricing problem: a synthesis' (with C. Doyle, M. Armstrong), *J Ind E*, 44, 1996; 15. 'Performance comparisons and dynamic incentives' (with M. Meyer), *JPE*, 105, 1997; 16. 'Multiproduct price regulation under asymmetric information' (with M. Armstrong), *J Ind E*, 48, 2000; 17. 'Competition, imitation and growth with step-by-step innovation' (with P. Aghion, C. Harris, P. Howitt), *REStud*, 68, 2001; 18. 'Competitive price discrimination' (with M. Armstrong), *RandJE*, 32, 2001.

Principal Contributions My work has mostly concerned competition, regulation and privatization. With Christopher Harris I developed models of dynamic rivalry and used them to explore relationships between competition, innovation and growth. George Yarrow and I provided a critical evaluation of the UK privatization programme as it unfolded in the 1980s. We focused on the utility industries and

stressed the importance of competition and regulation. Mark Armstrong and I examined subsequent regulatory reform in the UK (with Simon Cowan) and developed theoretical models of regulation. For example, we analysed price discrimination by regulated firms and the question of access price regulation. We have also analysed competitive price discrimination using the concept of competition to supply utility. In 1998 I became chief economist at the Bank of England and a member of the Monetary Policy Committee that sets UK interest rates. Then, in 2000, I became head of the Office of Fair Trading, which has responsibilities for competition and consumer law in the UK. This has given me a direct practical perspective on the economics of monetary policy and competition policy.

VILLANUEVA, Delano n.e.

VISCUSI, W. Kip

Born 1949, Trenton, NJ, USA.

Current Posts John F. Cogan Jr Prof. Law and Econ. and Dir., Program on Empirical Legal Stud., Harvard Law Sch., Cambridge, MA, USA, 1996–; Res. Assoc., NBER, USA, 1978–.

Past Posts Instr. Public Pol., Kennedy Sch., Harvard Univ., 1973–76; Asst Prof., Assoc. Prof. Econ., Northwestern Univ., 1976–78, 1979–81; Dep. Dir., Council Wage and Price Stability, Exec. Office US President, 1979–81; Res. Assoc., Natl Commission Employment Pol., 1981; Prof. Bus. Admin., Duke Univ., 1981–85; Olin Visit. Prof., Univ. Chicago, 1985–86; Prof. Econ., Northwestern Univ., 1985–88; George G. Allen Prof. Econ., Duke Univ., 1988–96; Olin Visit. Prof. Law and Econ., Harvard Law Sch., 1995.

Degrees BA, MPP, MA, PhD Harvard Univ., 1971, 1973, 1974, 1976.

Office and Honours *scl*, Phi Beta Kappa; Allyn A. Young Prize, David A. Wells Prize, Harvard Univ., 1971, 1976; NSF Fell., 1972–75; Article of Year, WEA, 1988; Kulp Book of Year, Amer. Risk and Insurance Assoc., 1992, 1993, 1994, 2000; RES Prize, 1997; Mehr Award, Amer. Risk and Insurance Assoc., 1999.

Editorial Duties Asst Ed., *Public Pol.*, 1974–76; Contrib. Ed., *Regulation*, 1986–; Founding Ed., *JRU*, 1987–, *Risk and Uncertainty* series, Kluwer, 1990–; Assoc. Ed., *Intl Rev. Law and Econ.*, 1987–99, *J. Regulatory Econ.*, 1988–92, *Geneva Papers on Risk and Insurance Theory*, 1990–, *J. Risk and Insurance*, 1992–, *REStat*, 1992–; Ed. Council, *JEEM*, 1992–96; Ed. Bd, *AER*, 1994–2000; Advisory Bd, *Mgmt and Decision Econ.*, 1996–, *Contemporary Econ. Pol.*, 2000–.

Principal Fields of Interest D8 Information and Uncertainty; L5 Regulation and Industrial Policy; K0 Law and Economics: General.

Publications *Books*: 1. *Employment Hazards: An Investigation of Market Performance* (HUP, 1979); 2. *Risk by Choice: Regulating Health and Safety in the Workplace* (HUP, 1983); 3. *Learning about Risk: Consumer and Worker Responses to Hazard Information* (with W.A. Magat), (HUP, 1987); 4. *Reforming Products Liability* (HUP, 1991); 5. *Economics of Regulation and Antitrust* (with J. Vernon, J.E. Harrington, Jr), (D.C. Heath, 1992, MIT Press, 1995, 2000); 6. *Fatal Tradeoffs: Public and Private Responsibilities for Risk* (OUP, 1992); 7. *Smoking: Making the Risky Decision* (OUP, 1992); 8. *Rational Risk Policy* (Clarendon/OUP, 1998); 9. *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policy* (with J. Hamilton), (MIT Press, 1999); 10. *Smoke-Filled Rooms: A Postmortem on the Tobacco Deal* (UCP, 2002).

Articles: 1. ‘Wealth effects and earnings premiums for job hazards’, *REStat*, 60, Aug. 1978; 2. ‘Adaptive responses to chemical labeling: are workers Bayesian decision makers?’ (with C. O’Connor), *AER*, 74, Dec. 1984; 3. ‘Consumer behavior and the safety effects of product safety regulation’, *J Law E*, 28, Oct. 1985; 4. ‘Prospective reference theory: toward an explanation of the paradoxes’, *JRU*, 2, Sept. 1989, repr. in J. Hey (ed.), *The Economics of Uncertainty* (Edward Elgar, 1995); 5. ‘Utility functions that depend on health status: estimates and economic implications’ (with W. Evans), *AER*, 80, June 1990; 6. ‘Do smokers underestimate risks?’, *JPE*, 98, Dec. 1990; 7. ‘The value of risks to life and health’, *JEL*, 31, Dec. 1993, repr. in T.R. Ireland, J.O. Ward (eds), *The New Hedonic Primer for Economists and Attorneys* (Lawyers and Judges, 1995), repr. in part, in K.G. Dau-Schmidt, T.S. Ulen (eds), *Law and Economics Anthology* (Anderson, 1998); 8. ‘Mortality effects of regulatory costs and policy evaluation criteria’, *RandJE*, 25, Spring 1994; 9. ‘Alarmist decisions with divergent risk information’, *EJ*, 107, Nov. 1997; 10. ‘Cigarette smokers as job risk takers’ (with J. Hersch), *REStat*, 83, May 2001.

Principal Contributions My research has focused on developing analysis of health and safety risks as a field of economic inquiry. My work on market forces included estimates of the value of a statistical life based on wage–risk tradeoffs in the labour market, product market, and housing market, which are in the range of \$3–8 million. This research has also documented the reasonable rates of discount people employ in valuing fatality risks, the role of quantity adjustments in the value of life, the effect of health status on the marginal utility of income, and the role of individual wealth in affecting attitudes toward risk. My research with Joni Hersch found substantial heterogeneity in

risk-taking behaviour. Cigarette smokers have low values of health risks, and those who use seatbelts have higher values of health risks. Inadequacies in risk perception may impede efficient outcomes. My research on safety caps documented the 'lulling effect', whereby people are lulled into a false sense of security by the presence of these safety devices. An opposite problem is that of alarmist responses to divergent risk estimates when experts disagree about the risk. Much of my recent work has focused on the public's perception of smoking risks and product risks arising from corporate decisions. Risk communication efforts that provide new and accurate information in a convincing manner can serve a constructive role. Government intervention ideally could ameliorate these market failures, but the initial wave of regulation was often ineffective. My research with James T. Hamilton showed that basing hazardous waste clean-up decisions on efficiency criteria promoted equity as well as efficiency. Regulatory interventions have often embodied forms of irrationality exhibited by people more generally, such as alarmist reactions to ambiguous risks. US jury behaviour exhibits similar anomalies as well as a general inability to foster risk-cost balancing.

VISHNY, Robert W. n.e.

VISWANATHAN, S. n.e.

VIVES, Xavier

Born 1955, Barcelona, Spain.

Current Posts Prof. Econ. and Fin., and the Portuguese Council Chaired Prof. Europ. Stud., INSEAD, Fontainebleau, France, 2001–.

Past Posts Asst Prof., Univ. Pennsylvania, 1983–87; Vis. Asst Prof., Univ. California, Berkeley, 1984; Sr Res., Fundación Estudios Economía Aplicada, Madrid, 1988–89; Vice-Dir., Inst. Anàlisi Econòmica, 1990–91; Vis. Prof., Harvard Univ., 1997–98; King Juan Carlos I of Spain Chair Spanish Culture and Civilization, NYU, 1999; Dir., Inst. Anàlisi Económico, Consejo Superior de Investigaciones Científicas, Barcelona, 1991–2001.

Degrees Licenciado Univ. Autònoma Barcelona, 1978; MA, PhD Univ. California, Berkeley, 1982, 1983.

Offices and Honours King Juan Carlos I Prize Res. in Social Sc., 1988; Mem. Council, Europ. Econ. Assoc., 1991–95; Fell., Em Soc, 1992; Soc. Catalana d'Economia Res. Prize, 1996; Programme Dir., Apl. Microecon./Ind. Org., CEPR, 1991–97; Narcís Monturiol Medal of Generalitat de Catalunya, 2002.

Editorial Duties Ed. Bds, *Econ. Ind.*, 1987–, *Investigaciones Econ.*, 1988–91, *Rev. Española de Economía*, 1989–94, *J Ind E*, 1992–; Assoc. Ed., *IJIO*, 1988–92, *Recherche Econ. de Louvain*, 1991–, *J Ind E*, 1991–92, *Europ ER*, 1991–96, *J. Japanese Intl Econ.*, 1993–95, *RandJE*, 1995–2002, *J. Fin. Markets*, 1997–; Co-Ed., *JEMS*, 1992–; Ed., *IJIO*, 1993–97, *Europ ER*, 1998–2002.

Principal Fields of Interest L0 Industrial Organization: General; D8 Information and Uncertainty; G0 Financial Economics: General.

Publications *Books*: 1. *Capital Markets and Financial Intermediation* (co-ed.), (CUP, 1993); 2. *Crecimiento y convergencia regional en España y Europa*, Vols I, II (co-ed.), (Inst. Anàlisi Econòmica, 1994); 3. *Oligopoly Pricing: Old Ideas and New Tools* (MIT Press, 1999); 4. *Corporate Governance: Theoretical and Empirical Perspectives* (ed.), (CUP, 2000).

Articles: 1. 'Duopoly information equilibrium: Cournot and Bertrand', *JET*, 34, Oct. 1984, repr. in A. Daughety (ed.), *Cournot Oligopoly: Characterization and Applications* (CUP, 1988); 2. 'Price and quantity competition in a differentiated duopoly' (with N. Singh), *RandJE*, 15, 1984; 3. 'Small income effects: a Marshallian theory of consumer surplus and downward sloping demand', *REStud*, 54, Jan. 1987; 4. 'Bank runs as an equilibrium phenomenon' (with A. Postlewaite), *JPE*, 95, June 1987; 5. 'On the strategic choice of price policy in spatial competition' (with J.F. Thisse), *AER*, 78, March 1988, repr. in M.L. Greenhut, G. Norman (eds), *The Economics of Location*, Vol. II (Edward Elgar, 1995); 6. 'Aggregation of information in large Cournot markets', *Em*, 56, July 1988; 7. 'Nash equilibrium with strategic complementarities', *J Math E*, 19, 1990; 8. 'How fast do rational agents learn?', *REStud*, 60, April 1993; 9. 'Implementation in economies with a continuum of agents' (with A. Mas-Colell), *REStud*, 60, July 1993; 10. 'Short-term investment and the informational efficiency of the market', *Rev. Fin. Stud.*, 8, Spring 1995; 11. 'The speed of information revelation in a financial market mechanism', *JET*, 67, 1995; 12. 'Learning and convergence to a full-information equilibrium are not equivalent' (with B. Jun), *REStud*, 63, 1996; 13. 'Learning from others: a welfare analysis', *Games and Econ. Behav.*, 20, 1997; 14. 'Imperfect competition, risk taking, and regulation in banking' (with C. Matutes), *Europ ER*, 44, 2000; 15. 'Strategic behavior and price discovery' (with L.A. Medrano), *RandJE*, 32, 2001; 16. 'Dollarization, bail outs, and the stability of the banking system' (with D. Gale), *QJE*, 117, 2002.

Principal Contributions Work has concentrated in oligopoly theory and industrial organization, information econom-

ics, and financial economics. An early theme of research was the study of the determinants of price in oligopoly and the characterization of Cournot and Bertrand competition. In this framework, a positive and normative analysis of information sharing among firms was developed. The understanding of strategic competition was advanced with analysis of entry deterrence, spatial price policies, and the choice of technological flexibility under uncertainty. Two main contributions are the provision of a foundation for partial equilibrium analysis (consumer surplus and downward-sloping demand) based on small income effects and the pioneer application of the theory of supermodular games to economics and to oligopoly theory and industrial organization in particular. Recent work studies the properties of market mechanisms as aggregators of the dispersed information of agents in the economy both from static and dynamic perspectives. In a static setting it is shown that large Cournot markets do not need to aggregate information. In a dynamic setting a slow learning result is obtained when learning is from others and optimal learning is characterized by taking into account the information externalities present. Learning models are applied to understand the effect of the microstructure of financial markets (finding along the way a closed-form solution for a dynamic rational expectations trading model in which risk averse traders have a long horizon and receive private signals), strategic behavior, and the horizons of traders on the role of prices as transmitters of information. Finally, industrial organization tools and the theory of financial intermediation are used to study competition and regulation in banking as well as financial crises.

VOGELSANG, Timothy J. n.e.

VON HAGEN, Jürgen

Born 1955, Iserlohn, North-Rhine Westfalia, Germany.

Current Posts Prof. Econ. and Dir., Center of Europ. Integration Stud., Univ. Bonn, Bonn, Germany, 1996–.

Past Posts Res. Asst, Univ. Bonn, 1991–87; Asst Prof. Bus. Econ., Assoc. Prof. Bus. Econ., Indiana Univ., 1987–90, 1991–92; Prof. Econ., Univ. Mannheim, 1992–96.

Degrees Diploma, PhD Univ. Bonn, 1981, 1985.

Offices and Honours Res. Fell., CEPR, London, 1992; Gossen Prize, German Econ. Assoc., 1997; Council, German Econ. Assoc., 1998, Europ. Econ. Assoc., 1999; Comm. Écon. de la Nation, Paris, 1999; Mem., Academia Leopoldina, 2001; Fell., World Econ. Forum, 2001, 2002; Acad. Advisory Council, German Min. of Econ., 2002.

Editorial Duties Co-Ed., *Perspektiven der Wirtschaftspolitik*, 1998–, *Europ ER*, 2002–.

Principal Fields of Interest E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook; E5 Monetary Policy, Central Banking, and the Supply of Money; F4 Macroeconomic Aspects of International Trade and Finance.

Publications Books: 1. *The European Monetary System and European Monetary Union* (with M. Fratianni), (Westview Press, 1992); 2. *Flexible Integration: Towards a More Effective and Democratic Europe* (with M. Dewatripont, I. Harden, T. Persson, F. Giavazzi, H. Rosenthal, A. Sapir, G. Tabellini), (Monitoring Europ. Integration 6, CEPR, 1995); 3. *Getting the End-Game Right* (with D. Begg, F. Giavazzi, C. Wyplosz), (Monitoring Europ. Integration 7, CEPR, 1997); 4. *Fiscal Institutions and Fiscal Performance* (with J. Poterba), (NBER and UCP, 1999);

5. *Obst/Hintner Geld-, Bank- und Börsenwesen* (ed. with J.H. von Stein), (Schäffer Poeschel, 2000).

Articles: 1. 'Relative commodity prices and co-integration', *JBES*, 7, 1989; 2. 'The European Monetary System ten years after' (with M. Fratianni), in A.H. Meltzer, C. Plosser (eds), *Unit Roots, Investment Measures and Other Essays, C-RPP*, 32, Spring 1990; 3. 'German dominance in the EMS – the empirical evidence' (with M. Fratianni), *Open Econ. Rev.*, 1, 1990; 4. 'German dominance in the EMS: evidence from interest rates' (with M. Fratianni), *JIMF*, 9, 1990; 5. 'Conditional relative price variance and its determinants: open economy evidence from Germany' (with M.J.M. Neumann), *IER*, 32, 1991; 6. 'A note on the empirical effectiveness of formal fiscal restraints', *J Pub E*, 44, 1991, repr. in C.K. Rowley, W.F. Shugart, R.T. Tollison (eds), *The Economics of Budget Deficits, The International Library of Critical Writings in Economics* series (Edward Elgar, 2002); 7. 'Policy delegation and fixed exchange rates', *IER*, 33, 1992; 8. 'Fiscal arrangements in a monetary union – some evidence from the US', in D. Fair, C. de Boissieu (eds), *Fiscal Policy, Taxes, and the Financial System in an Increasingly Integrated Europe* (Kluwer, 1992); 9. 'Real exchange rates within and between currency areas – how far away is EMU?' (with M.J.M. Neumann), *REStat*, 76, June 1994; 10. 'Central bank constitutions for federal monetary unions' (with R. Süppel), *Europ ER*, 38, 1994; 11. 'Inflation and monetary targeting in Germany', in L. Leiderman, L. Svensson (eds), *Inflation Targets* (CEPR, 1995); 12. 'Budget processes and commitment to fiscal discipline' (with I. Harden), *Europ ER*, 39, 1995; 13. 'Federalism, fiscal restraints and European Monetary Union' (with B. Eichengreen), *AER*, 86, May 1996; 14. 'Electoral institutions and the budget process' (with M.

Hallerberg), in K. Fukasaku, R. Hausmann (eds), *Democracy, Decentralization, and Deficits in Latin America* (OECD Devlp. Center, 1998); 15. 'Monetary targeting in Germany', *JME*, 43, 1999.

Principal Contributions My principal contributions are in the analysis of the role of policy regimes and institutions in shaping economic policies and outcomes, using methods of game theory and empirical research. My empirical work on Germany's role in the European Monetary Sys-

tem has stimulated a reassessment of the distribution of powers in European exchange rate policies. My work on the political economy of monetary arrangements and monetary unions has stimulated the debate on and the design of monetary union in Europe. My work on the budget process has contributed to the emergence of a new literature on the comparative analysis of fiscal institutions as well as to the public debate over fiscal arrangements in the European Monetary Union.

W

WADHWANI, Sushil n.e.

WAGNER, Joachim n.e.

WAGSTAFF, Robert Adam Stephen

Born 1959, Northampton, UK.

Current Posts Lead Econ., Devlp. Res. Group and Human Devlp. Network, World Bank, Washington, DC, USA, 1998–; Prof. Econ., Univ. Sussex, Brighton, UK, 1998–.

Past Posts Res. Asst, Swedish Inst. Health Econ., Lund, 1984, Health Econ. Res. Unit, Aberdeen Univ., 1985; Res. Fell., Centre for Health Econ., Univ. York, 1985–86; Lect. Econ., Reader Econ., Univ. Sussex, 1985–95, 1995–98.

Degrees BA (1st Class Hons) Univ. Wales, 1980; DPhil Univ. York, 1985.

Offices and Honours Tassie Medallion Award, 1980; Mem., ESRC Health Variations Programme Comm., 1997; Mem., Sc. Comm., Second Intl Health Econ. Assoc. Conf., 1999.

Editorial Duties Assoc. Ed., *JHE*, 1989–.

Principal Fields of Interest I1 Health; D3 Distribution; D1 Household Behavior.

Publications *Book*: 1. *Equity in the Finance and Delivery of Health Care: An International Perspective* (ed. with E. van Doorslaer, F. Rutten), (OUP, 1993).

Articles: 1. ‘The demand for health: some new empirical evidence’, *JHE*, 5, 1986; 2. ‘Government prevention policy and the relevance of social cost estimates’, *British J. Addiction*, 82, 1987; 3. ‘Econometric studies in health economics: a survey of the British literature’, *JHE*, 8, 1989; 4. ‘Uncertainty and the demand for medical care’ (with V. Dardanoni), *JHE*, 9, 1990; 5. ‘QALYs and the equity–

efficiency trade-off’, *JHE*, 10, May 1991; 6. ‘QALYs versus HYE’s’ (with A.J. Culyer), *JHE*, 12, 1993; 7. ‘Equity and equality in health and health care’ (with A.J. Culyer), *JHE*, 12, 1993; 8. ‘Measuring union power in British manufacturing: a latent variable approach’ (with P. Paci, P. Holl), *OBES*, 55, 1993; 9. ‘The demand for health: an empirical reformulation of the Grossman model’, *Health Econ.*, 2, 1993; 10. ‘Hospital costs in Catalonia: a stochastic frontier analysis’ (with G.L. Casanovas), *Apl. Econ. Letters*, 3, 1996; 11. ‘Socioeconomic inequalities in health: measurement, computation and statistical inference’ (with N. Kakwani, E. van Doorslaer), *J Em*, 77, 1997; 12. ‘Redistributive effect, progressivity and differential tax treatment: personal income taxes in twelve countries’ (with E. van Doorslaer, H. van der Burg, S. Calonge *et al.*), *J Pub E*, 72, 1999; 13. ‘Equity in health care finance and delivery’ (with E. van Doorslaer), in A.J. Culyer, J.P. Newhouse (eds), *Handbook of Health Economics* (N-H, 2000); 14. ‘Measuring and testing for inequity in the delivery of health care’ (with E. van Doorslaer), *JHR*, 25, 2000; 15. ‘Socioeconomic inequalities in child mortality: comparisons across nine developing countries’, *Bull. WHO*, 78, 2000; 16. ‘Economics, health and development: some ethical dilemmas facing the World Bank and the international community’, *J. Medical Ethics*, 27, 2001; 17. ‘What makes the personal income tax progressive? A comparative analysis of fifteen OECD countries’ (with E. van Doorslaer), *ITPF*, 8, 2001; 18. ‘Inequality aversion, health inequalities, and health achievement’, *JHE*, 21, 2002; 19. ‘On decomposing the causes of health sector inequalities, with an application to malnutrition inequalities in Vietnam’ (with E. van Doorslaer, N. Watanabe), *J Em*, 112, 2002.

Principal Contributions My research in the health field has included: theoretic-

cal and empirical work on the demand for and production of health; empirical work on costs and efficiency in health care provision; conceptual, methodological and empirical work on equity and distributive justice in health care; conceptual and empirical work on the measurement of health; welfare economics and its application in health and illicit drugs markets; and health care systems and reforms thereof. Much of my empirical work has been comparative in nature and based on international collaboration. Outside health, my work has been mostly on taxation and income redistribution, and on the application of latent variable methods in labour economics. Recently I have been focusing on health issues in the developing world, and on linking research to policymaking and development assistance. Much of this has involved working with and writing for non-economists.

WAITE, Linda

Born 1947, Ann Arbor, MI, USA.

Current Posts Lucy Flower Prof. Urban Sociology, Univ. Chicago, Chicago, IL, USA, 2000–; Dir., Center on Aging, NORC/Univ. Chicago, IL, USA, 1994–; Co-Dir., Center on Parents, Children, and Work, an Alfred P. Sloan Working Families Center, NORC/Univ. Chicago, 1997–.

Past Posts Co-Dir., RAND Center for Aging Stud., 1989–91; Dir., RAND Pop. Res. Center, 1990–91.

Degrees BA Michigan State Univ., 1969; MA (Sociology), PhD (Sociology) Univ. Michigan, 1970, 1976.

Offices and Honours Mem., Sociological Res. Assoc., 1973; Duncan Award (with F. Goldscheider), Amer. Sociological Assoc., for *New Families, No Families? The Transformation of the American Home*, 1993; Pres., PAA, 1995; Council, Amer. Sociological Assoc., 1996–99; Out-

standing Book Award (with M. Gallagher), Coalition for Marriage, Family and Couples Educ., for *The Case for Marriage: Why Married People are Healthier, Happier, and Better Off Financially*, 2000; Impact Award, Coalition for Marriage, Family and Couples Educ., 2001.

Principal Fields of Interest I1 Health; I2 Education; I3 Welfare and Poverty.

Publications *Books*: 1. *New Families, No Families? The Transformation of the American Home* (with F.K. Goldscheider), (Univ. California Press, 1991); 2. *The Case for Marriage: Why Married People are Happier, Healthier, and Better off Financially* (with M. Gallagher), (Doubleday, 2000).

Articles: 1. 'Intended childbearing and labor force participation of young women: insights from non-recursive models' (with R.M. Stolzenberg), *Amer. Sociological Rev.*, 41, 1976; 2. 'Young women's transition to marriage' (with G.D. Spitze), *Demography*, 18, 1981; 3. 'Local labor markets, children, and labor force participation of wives' (with R.M. Stolzenberg), *Demography*, 21, 1984; 4. 'Changes in the employment activities of new parents' (with G.W. Haggstrom, D.E. Kanouse), *Amer. Sociological Rev.*, 50, 1985; 5. 'Sex differences in entry into marriage' (with F.K. Goldscheider), *Amer. J. Sociology*, 92, 1986; 6. 'The effects of parenthood on the career orientation and job characteristics of young adults' (with G.W. Haggstrom, D.E. Kanouse), *Social Forces*, 65, 1986; 7. 'Job stability of young women in traditional and non-traditional occupations: evidence from the military and civilian sectors' (with S.E. Berryman), *Amer. J. Sociology*, 92, 1986; 8. 'Child-care for preschoolers: differences by child's age' (with A. Leibowitz, C. Witsberger), *Demography*, 25, 1988; 9. 'Child-care and children's illness' (with A. Johansen, A. Leibowitz), *Amer. J. Public Health*, 78, 1988; 10. 'Children and marital disruption

tion' (with L.A. Lillard), *Amer. J. Sociology*, 96, 1991; 11. 'Women's employment during pregnancy and after the first birth: occupational characteristics and work commitment' (with S. Desai), *Amer. Sociological Rev.*, 56, 1991; 12. 'Employment of new mothers and child care choice' (with A. Leibowitz, J.A. Klerman), *JHR*, 27, 1992; 13. 'A joint model of marital childbearing and marital disruption' (with L.A. Lillard), *Demography*, 30, 1993; 14. 'Til death do us part: marital disruption and mortality' (with L.A. Lillard), *Amer. J. Sociology*, 100, 1995; 15. 'Pre-marital cohabitation and subsequent marital dissolution: a matter of self-selection?' (with L.A. Lillard, M.J. Brian), *Demography*, 32, 1995; 16. 'At risk on the cusp of old age: living arrangements and functional status among Black, White, and Hispanic adults' (with M.E. Hughes), *J. Gerontology: Social Sc.*, 54B, 3, 1999; 17. 'Interrelated family-building behaviors: cohabitation, marriage, and non-marital conception' (with M. Brian, L.A. Lillard), *Demography*, 36, 1999; 18. 'Health in household context: living arrangements and health in late middle age' (with M.E. Hughes), *J. Health and Social Behav.*, 43, 2002.

Principal Contributions n.e.

WAKKER, Peter P. n.e.

WALDMAN, Michael

Born 1955, Paterson, NJ, USA.

Current Post Charles H. Dyson Prof. Mgmt and Prof. Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., Ithaca, NY, USA, 1997–.

Past Posts Post-Doctoral Fell., Asst Prof., Assoc. Prof., Prof., Dept Econ., UCLA, 1982–83, 1983–89, 1989–91, 1991–93; Vis. Prof. Econ., Yale Sch. Org.

and Mgmt, Yale Univ., 1989–90, Grad. Sch. Bus., Univ. Chicago, 1999; Prof. Econ., Johnson Grad. Sch. Mgmt, Cornell Univ., 1991–97; John M. Olin Vis. Prof., Grad. Sch. Bus. and George J. Stigler Center for Study of Econ. and State, Univ. Chicago, 1997–98.

Degrees BS MIT, 1977; PhD Univ. Pennsylvania, 1982.

Editorial Duties Co-Ed., *JEP*, 2000–; Assoc. Ed., *QJE*, 2000–.

Principal Fields of Interest D0 Microeconomics: General; L0 Industrial Organization: General; M5 Personnel Economics.

Publications Articles: 1. 'Worker allocation, hierarchies, and the wage distribution', *REStud*, 51, Jan. 1984; 2. 'The effects of increased copyright protection: an analytic approach' (with I.E. Novos), *JPE*, 92, April 1984; 3. 'Job assignments, signalling, and efficiency', *RandJE*, 15, Summer 1984; 4. 'Rational expectations and the limits of rationality: an analysis of heterogeneity' (with J. Haltiwanger), *AER*, 75, June 1985; 5. 'Noncooperative entry deterrence, uncertainty, and the free rider problem', *REStud*, 54, April 1987; 6. 'Limited rationality and strategic complements: the implications for macroeconomics' (with J. Haltiwanger), *QJE*, 104, Aug. 1989; 7. 'The rotten-kid theorem meets the Samaritan's dilemma' (with N. Bruce), *QJE*, 105, Feb. 1990; 8. 'Up-or-out contracts: a signaling perspective', *J Lab E*, 8, April 1990; 9. 'The macroeconomic effects of false announcements' (with S. Oh), *QJE*, 105, Nov. 1990; 10. 'Transfers in kind: why they can be efficient and non-paternalistic' (with N. Bruce), *AER*, 81, Dec. 1991; 11. 'A new perspective on planned obsolescence', *QJE*, 108, Feb. 1993; 12. 'Systematic errors and the theory of natural selection', *AER*, 84, June 1994; 13. 'Planned obsolescence and the R&D decision', *RandJE*, 27, Autumn 1996; 14. 'Durable goods

pricing when quality matters', *J Bus*, 69, Oct. 1996; 15. 'Eliminating the market for secondhand goods: an alternative explanation for leasing', *J Law E*, 40, April 1997; 16. 'Careers in organizations: theory and evidence' (with R. Gibbons), in O. Ashenfelter, D. Card (eds), *Handbook of Labor Economics*, Vol. 3 (Elsevier Sc., 1999); 17. 'A theory of wage and promotion dynamics inside firms' (with R. Gibbons), *QJE*, 114, Nov. 1999; 18. 'The strategic use of tying to preserve and create market power in evolving industries' (with D. Carlton), *RandJE*, 33, Summer 2002; 19. 'Leasing, lemons, and buy-backs' (with J. Johnson), *RandJE*, 34, Summer 2003; 20. 'Durable goods theory for real world markets', *JEP*, 17, Winter 2003.

Principal Contributions In my research I try to bring innovative perspectives to well-known research questions. As a result, my research contributions span a variety of topics. One topic in which I have made several contributions is personnel economics. A paper from my dissertation was the first to explore the signaling role of promotions, while I later employed the same approach in analyzing up-or-out contracts. Another paper from my dissertation explored the phenomenon of high-ability workers being assigned to higher levels of job ladders. Recently, Bob Gibbons and I showed that combining job assignment, human-capital acquisition, and learning explains several empirical findings concerning wage and promotion dynamics. A second topic in which I have made several contributions is durable-goods theory. I was the first to explore planned obsolescence from the perspective of time inconsistency and new product introductions. I was also the first to clearly identify the links between durable-goods production and product-line pricing. A recent paper co-authored with Justin Johnson explores new-car leasing as a response to adverse selection in the

secondhand market. Other contributions include the following. A paper co-authored with Ian Novos was the first to formally analyze optimal copyright protection. John Haltiwanger and I wrote some of the early papers exploring models characterized by both sophisticated and naive agents. A paper co-authored with Neil Bruce was the first to show transfers in kind can be efficient because they avoid the Samaritan's dilemma. A paper co-authored with Seonghwan Oh was the first to empirically document the role of expectational shocks in macroeconomic fluctuations. A solo-authored paper was one of the first to explore the role natural selection can play in 'irrational' behavior. Recently, Dennis Carlton and I explored the role tying can play in preserving and extending market power.

WALKER, James M.

Born 1950, Greenville, AL, USA.

Current Post Prof. Econ., and Res. Faculty, Co-Assoc. Dir., Workshop in Polit. Theory and Pol. Analysis, Indiana Univ., Bloomington, IN, USA, 1992–.

Past Posts Teaching Asst, Auburn Univ., 1973–74; Instr., Tuskegee Inst., 1974–75; Res. and Teaching Asst, Texas A&M Univ., 1975–78; Asst Prof., Univ. Arizona, 1978–84; Asst Prof., Assoc. Prof., Indiana Univ., 1984–87, 1987–91.

Degrees BS (Maths), MSc Auburn Univ., 1973, 1975; PhD Texas A&M Univ., 1978.

Honours Student Choice Award, Student Alumni Council, Indiana Univ., 1990; Faculty Colloquium on Excellence in Teaching Award, Indiana Univ., 1993; Best Article Award (with V. Smith), for 'Monetary rewards and decision costs in experimental economics', *EI*, 1993.

Editorial Duties Ed. Bd, *Experimental Econ.*, 2000–.

Principal Fields of Interest D0 Microeconomics: General; C9 Design of Experiments.

Publications *Book*: 1. *Rules, Games, and Common Pool Resources* (with E. Ostrom, R. Gardner), (Univ. Michigan Press, 1994).

Articles: 1. 'Residential demand for electricity: further empirical evidence', *Resources and Energy*, 2, Dec. 1979; 2. 'Divergent evidence on free riding: an experimental examination of possible explanations' (with R.M. Isaac, S. Thomas), *Public Choice*, 43, 1984; 3. 'Theory and behavior of multiple unit discriminative auctions' (with J. Cox, V. Smith), *J Fin*, 39, Sept. 1984; 4. 'Information and conspiracy in sealed bid auctions' (with R.M. Isaac), *JEBQ*, 6, 1985; 5. 'Group size hypotheses of public goods provision: the voluntary contribution mechanism' (with R.M. Isaac), *QJE*, 103, Feb. 1988; 6. 'Theory and individual behavior in first price auctions' (with J. Cox, V. Smith), *JRU*, 1, March 1988; 7. 'Communication and free riding behavior: the voluntary contribution mechanism' (with R.M. Isaac), *EI*, 26, Oct. 1988; 8. 'Covenants with and without the sword: self-governance is possible' (with R. Gardner, E. Ostrom), *Amer. Polit. Sc. Rev.*, 86, June 1992; 9. 'Rent dissipation and probabilistic destruction of common-pool resource environments: experimental evidence' (with R. Gardner), *EJ*, 102, Sept. 1992; 10. 'Theory and misbehavior in first price auctions: comment' (with J. Cox, V. Smith), *AER*, 82, Dec. 1992; 11. 'Rewards, experience and decision costs in first price auctions' (with V. Smith), *EI*, 31, April 1993; 12. 'Monetary rewards and decision costs in experimental economics' (with V. Smith), *EI*, 31, April 1993; 13. 'Group size and the voluntary provision of public goods: experimental evidence utilizing large groups' (with R.M. Isaac, A. Williams), *JPE*, 54, 1994; 14. 'Ano-

nymity and the voluntary provision of public goods' (with S. Laury, A. Williams), *JEBQ*, 27, 1995; 15. 'Governing a groundwater commons: a strategic and laboratory analysis of western water law' (with R. Gardner, M. Moore), *EI*, 35, April 1997; 16. 'Voting on allocation rules in a commons without face-to-face communication: theoretical issues and experimental results' (with R. Gardner, A. Herr, E. Ostrom), *EJ*, 110, Jan. 2000; 17. 'Collective action with incomplete commitment; experimental evidence' (with P. Schmitt, K. Swope), *SEJ*, 66, 4, April 2000; 18. 'Playing safe in coordination games: the role of risk dominance, payoff dominance, social history, and reputation' (with D. Schmidt, R. Shupp, E. Ostrom), *Games and Econ. Behav.*, forthcoming 2003.

Principal Contributions My research falls broadly into the area of applied microeconomics, with an emphasis on applying experimental methods to the role of institutions in affecting individual and market behavior. This research is oriented toward two distinct areas: (1) market institutions, and (2) collective action arenas. My interest in market institutions focusses on how markets aggregate information, disseminate that information, and increase welfare through exchange among individuals. My interest in collective action problems has followed two paths. With colleagues, I have conducted an extended investigation on resource allocation processes related to the voluntary contribution mechanism for the provision of public goods. In 1987, I began an extensive research agenda into the investigation of individual and group behavior in economic environments classified as 'common-pool' resources. This collaborative research is oriented toward a systematic investigation into the theoretical and institutional foundations of common-pool environments coupled with empirical analyses employing field and experi-

mental data. A principle focus of this research is the role of self-governing institutions as mechanisms for facilitating efficient resource use.

WALKER, James R. n.e.

WALKLING, Ralph

Born 1949, Baltimore, MD, USA.

Current Post Dean's Res. Prof. Fin., Fisher Coll. Bus., Ohio State Univ., Columbus, OH, USA, 2000–.

Past Posts Asst Prof. Fin., Coll. Mgmt, Georgia Inst Tech., 1980–85; Vis. Asst Prof. Fin., Grad. Sch. Bus. Admin., Univ. Washington, 1984–85; Asst. Prof., Assoc. Prof., Prof., Fisher Coll., Ohio State Univ., 1985–88, 1988–93, 1993–2000.

Degrees BS (Bus. Admin., *cl*) Towson State Univ., 1975; MBA (Bus. and Mgmt) Coll. Bus. and Mgmt, Univ. Maryland, 1976; PhD (Bus. and Mgmt) Univ. Maryland, 1980.

Offices and Honours Richard D. Irwin Dissertation Fellowship, 1978–79; Nominated, Winner, Pace Setter's Award for Excellence in Grad. Teaching, 1986, 1987 and 1989, 1988 and 1993; Outstanding Prof. Teaching Required Courses, Grad. Evening and Weekend MBAs, 1988; Dean's Res. Award, 1988–89; Outstanding Professor Teaching an Elective, Grad. MBAs, 1992; Winner of Alan N. Nash Disting. Doctoral Grad. Award for Career Accomplishments in Res., Univ. Maryland, 1993; Keynote Speaker, 1st Intl Conf. on Banking and Fin., Univ. Malaysia, 2000; Vice-Pres.-Elect Program, FMA, 2002–03; Res. Assoc., Corp. Governance Res. Study Group.

Editorial Duties Assoc. Ed., *JFQA*, *J. Corp. Fin.*, *Fin. Rev.*; Ed. Bd, *Intl J. Fin. and Accounting*.

Principal Fields of Interest G3 Cor-

porate Finance and Governance; G2 Financial Institutions and Services.

Publications Articles: 1. 'Are there commission cost side effects from portfolio management decisions?' (with R.O. Edmister), *Fin. Analysts J.*, July–Aug., 1983; 2. 'Agency theory, managerial welfare and takeover bid resistance' (with M.S. Long), *RandJE*, 5, Spring 1984; 3. 'Determinants of tender offer premiums' (with R.O. Edmister), *Fin. Analysts J.*, Jan.–Feb. 1985; 4. 'Trends in institutional commission costs following deregulation' (with R.O. Edmister), *J. Bus. Fin. and Accounting*, Winter 1985; 5. 'Predicting tender offer success: a logistic analysis', *JFQA*, 20, Dec. 1985; 6. 'An application of arbitrage pricing theory to futures markets' (with J.V. Jordan, M.C. Ehrhardt), *J. Futures Markets*, 7, 1987; 7. 'Dispersion of expectations and trading volume' (with E.E. Comiskey, M. Weeks), *J. Bus. Fin. and Accounting*, 14, Summer 1987; 8. 'Target abnormal returns associated with acquisition announcements: payment, acquisition form, and managerial resistance' (with Y.-S. Huang), *J Fin E*, 19, Dec. 1987; 9. 'Poison pill securities: stockholder wealth, profitability, and ownership structure' (with P.H. Malatesta), *J Fin E*, 20, Jan./March 1988; 10. 'Short term trading around ex-dividend days: additional evidence' (with J. Karpoff), *J Fin E*, 21, Sept. 1988; 11. 'Managerial performance, Tobin's q and the gains from successful tender offers' (with R. Stulz, L. Lang), *J Fin E*, Sept. 1989; 12. 'The distribution of target ownership and the division of gains in successful takeovers' (with R. Stulz, M.H. Song), *J Fin*, 45, July 1990; 13. 'Dividend capture in NASDAQ stocks' (with J. Karpoff), *J Fin E*, Nov./Dec. 1990; 14. 'A test of the free cash flow hypothesis: the case of bidder returns' (with R. Stulz, L. Lang), *J Fin E*, Oct. 1991; 15. 'The impact of managerial ownership on acquisition attempts and target shareholder wealth' (with M.H.

Song), *JFQA*, 28, Dec. 1993; 16. 'Executive careers and compensation surrounding takeover bids' (with A. Agrawal), *J Fin*, 49, July 1994; 17. 'The impact of industry classifications on financial research' (with K.M. Kahle), *JFQA*, 31, Sept. 1996; 18. 'Corporate governance and shareholder initiatives: empirical evidence' (with J. Karpoff, P. Malatesta), *J Fin E*, Nov. 1996; 19. 'Abnormal returns to rivals of acquisition targets: a test of the acquisition probability hypothesis' (with M.H. Song), *J Fin E*, 55, Feb. 2000; 20. 'Divestitures and the liquidity of the market for corporate assets' (with F.P. Schlingemann, R. Stulz), *J Fin E*, 64, April 2002.

Principal Contributions My work is in the area of financial economics, particularly the areas of corporate governance, mergers and acquisitions and agency theory. My work with Mike Long in the *Rand Journal of Economics* is one of the first empirical tests of agency theory, demonstrating the degree to which managerial resistance in acquisitions is related to executive, rather than shareholder utility. Related research examines the impact of poison pills, the determinants of acquisition success and other strategic issues related to acquisitions. Separate lines of inquiry include: ex-dividend day returns, futures prices, trading volume and the dispersion of analyst forecasts, methodological issues and commission costs.

WALSH, Carl Eugene

Born 1949, Los Angeles, CA, USA.

Current Posts Prof. Econ. Univ. California, Santa Cruz, CA, USA, 1987–; Vis. Scholar, FRB, San Francisco, CA, USA, 1987–.

Past Posts Lect., Univ. Auckland, 1976–78; Asst Prof. Econ., Princeton Univ., 1979–85; Sr Econ., FRB, San Francisco, 1985–87.

Degrees BA, PhD Univ. California, Berkeley, 1971, 1976.

Editorial Duties Bd Eds, *AER*, 1994–2000; Assoc. Ed., *J. Econ. and Bus.*, 1998–, *JMCB*, 2001–; Ed. Bd, *J. Macroecon.*, 1998–.

Principal Field of Interest E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Books*: 1. *Monetary Theory and Policy* (MIT Press, 1998, 2003); 2. *Economics* (with J.E. Stiglitz), (Norton, 3rd edn 2002).

Articles: 1. 'Asset substitutability and monetary policy: an alternative characterization', *JME*, 9, Jan. 1982; 2. 'Asset prices, asset stocks, and rational expectations', *JME*, 11, May 1983; 3. 'Interest rate volatility and monetary policy', *JMCB*, 16, May 1984; 4. 'Monetary policy regimes, expected inflation, and the response of interest rates to money announcements' (with V.V. Roley), *QJE*, 100, 1985; 5. 'In defense of base drift', *AER*, 76, Sept. 1986; 6. 'Common trends, the government's budget constraint, and revenue smoothing' (with B. Trehan), *JEDC*, 12, 1988; 7. 'Seigniorage and tax smoothing in the United States: 1914–1986' (with B. Trehan), *JME*, 25, Jan. 1990; 8. 'Testing intertemporal budget constraints: theory and applications to US federal budget and current account deficits' (with B. Trehan), *JMCB*, 23, May 1991; 9. 'Empirical evidence on the insulation properties of fixed and flexible exchange rates: the Japanese experience' (with M. Hutchison), *J Int E*, 32, 1992; 10. 'Optimal contracts for central bankers', *AER*, 85, March 1995; 11. 'Is New Zealand's Reserve Bank Act of 1989 an optimal central bank contract?', *JMCB*, 27, Nov. 1995; 12. 'Central Bank independence, economic behavior and optimal term lengths' (with C.J. Waller), *AER*, 86, Dec. 1996; 13. 'The output–inflation tradeoff and Central Bank reform: evi-

dence from New Zealand' (with M.M. Hutchison), *EJ*, 108, May 1998; 14. 'Announcements, inflation targeting and Central Bank incentives', *Em*, 66, 1999; 15. 'Market discipline and monetary policy', *OEP*, 52, 2000; 16. 'When should central bankers be fired?', *Econ. Governance*, 3, 2002; 17. 'Speed limit policies: the output gap and optimal monetary policy', *AER*, 93, March 2003; 18. 'Accountability, transparency, and inflation targeting', *JMCB*, 35, May 2003.

Principal Contributions My work focuses on central banking policies, particularly on the structure of delegation implicit in the design of central banks. By adopting a principal-agent approach, I have demonstrated how the incentive structure of the central bank must be structured to ensure optimal policy outcomes in a discretionary environment.

WANG, Jiang

Born 1959, Zhenjiang, China.

Current Posts Nanyang Tech. Univ. Prof. Fin., Sloan Sch. Mgmt, MIT, Cambridge, MA, USA, 1999–; Res. Assoc., NBER, Cambridge, MA, USA, 1997–; Dir., China Center Fin. Res., Tsinghua Univ., Beijing, China, 2002–.

Past Posts Asst Prof., Assoc. Prof., Prof., Sloan Sch. Mgmt, MIT, 1990–94, 1994–98, 1998–99; Res. Fell., NBER, 1994–97.

Degrees BS (Physics) Nanjing Univ., 1981; PhD (Physics), PhD (Fin.) Univ. Pennsylvania, 1985, 1990.

Offices and Honours Werner Heusch Memorial Prize, Univ. Pennsylvania, 1982; Trefftz Award, Western Fin. Assoc., 1990; Batterymarch Fellowship, 1995; Leo Melamed Prize, Univ. Chicago, 1997.

Editorial Duties Assoc. Ed., *Rev. Fin. Stud.*, 1994–98, *J. Fin. Markets*, 1997, *OR*, 2000–; Ed., *Quant. Fin.*, 2000 –.

Principal Fields of Interest G0 Financial Economics: General; G1 General Financial Markets.

Publications Articles: 1. 'A model of intertemporal asset prices under asymmetric information', *REStud*, 60, 1993; 2. 'Trading volume and serial correlation in stock returns' (with J. Campbell, S. Grossman), *QJE*, 108, 1993; 3. 'A model of competitive stock trading volume', *JPE*, 102, 1994; 4. 'Implementing option pricing formulas when asset returns are predictable' (with A. Lo), *J Fin*, 50, 1995; 5. 'Differential information and dynamic behavior of stock trading volume' (with H. He), *Rev. Fin. Stud.*, 8, 1995; 6. 'The term structure of interest rates in a pure exchange economy with heterogeneous investors', *J Fin E*, 41, 1996; 7. 'A model of trading volume with tax-induced heterogeneous valuation and transaction costs' (with R. Michaely, J.-L. Vila), *J. Fin. Intermediation*, 5, 1996; 8. 'Market structure, security prices and informational efficiency' (with J. Huang), *Macroecon. Dynamics*, 1, 1997; 9. 'Trading volume: definitions, data analysis, and implications of portfolio theory' (with A. Lo), *Rev. Fin. Stud.*, 13, 2000; 10. 'Trading and returns under periodic market closures' (with H. Hong), *J Fin*, 55, 2000; 11. 'Foundations of technical analysis: computational algorithms, statistical inference, and empirical implementation' (with A. Lo, H. Mamaysky), *J Fin*, 55, 2000.

Principal Contributions My work focusses on the behavior of financial markets. I have studied how transactions among investors with different trading motives determine asset prices. My recent work analyzes the behavior of trading volume in financial markets and its relation with the underlying risk structure of assets and their prices. I have also made contributions to the pricing of financial derivatives and fixed-income securities.

WANG, Ping

Born 1957, Taipei, Taiwan, ROC.

Current Posts Chair and Prof. Econ., Vanderbilt Univ., Nashville, TN, USA, 2002–.

Past Posts Asst Prof., Assoc. Prof., Pennsylvania State Univ., 1987–94, 1994–98; Sr Econ., FRB, Dallas, 1992–93; Vis. Scholar, Academia Sinica, Taipei, Taiwan, 1993–2002, CentER, Tilburg Univ., 1996; Vis. Asst Prof., Purdue Univ., 1994; Vis. Assoc. Prof., Univ. Rochester, 1995, Univ. Washington, 1996; Prof. Econ., Vanderbilt Univ., 1999–2002.

Degrees BS (Ocean Transportation) Natl Chao Tung Univ., 1979; MA Natl Chengchi Univ., 1981; MA, PhD Univ. Rochester, 1986, 1987.

Offices and Honours Best Econ. Masters Thesis Prize, Chinese Econ. Assoc., 1981; Res. Award, Center Econ. Res., Univ. Rochester, 1986; Vice Pres., Pres., Chinese Econ. Assoc. in North Amer., 1991–92, 2001; Exec. Bd, 21st Century Foundation, 1995–, Amer. Assoc. Chinese Stud., 1996–; Teaching Award, Pennsylvania State Univ., 1997; Devlp. and Planning Vice Pres., East Asian Inst., 1998–; Res. Assoc., NBER, 2001–; Sr Fell., Vanderbilt Inst. Public Pol. Stud., 2001–.

Editorial Duties Advisory Bd, *Pacific Econ. Rev.*, 1997–; Ed. Bd, *J. Macroecon.*, 1998–, *Taipei Econ. Rev.*, 1998–; Assoc. Ed., *Econ. Bull.*, 2000–.

Principal Fields of Interest D9 Intertemporal Choice and Growth; E0 Macroeconomics and Monetary Economics: General; I0 Health, Education, and Welfare: General.

Publications Articles: 1. 'Alternative approaches to money and growth' (with C. Yip), *JMCB*, 24, Aug. 1992; 2. 'International business cycles' (with S. Ahmed, B. Ickes, S. Yoo), *AER*, 83, June 1993; 3. 'Money, competitive efficiency and intergenerational transactions', *JME*, 32, Nov.

1993; 4. 'Sources of fluctuations in relative prices: evidence from high inflation countries' (with J. Rogers), *REStat*, 70, Nov. 1993; 5. 'Fertility choice and economic growth: theory and evidence' (with C. Yip, C. Scotese), *REStat*, 71, May 1994; 6. 'Human capital and endogenous growth: evidence from Taiwan' (with E. Tallman), *JME*, 34, Aug. 1994; 7. 'Learning, matching, and growth' (with D. Laing, T. Palivos), *REStud*, 62, Jan. 1995; 8. 'R&D in a model of search and growth' (with D. Laing, T. Palivos), *AER*, 85, May 1995; 9. 'Money demand and relative prices during episodes of hyperinflation' (with E. Tallman), *JME*, 36, Nov. 1995; 10. 'A general two-sector model of endogenous growth with human and physical capital: balanced growth and transitional dynamics' (with E. Bond, C. Yip), *JET*, 68, Jan. 1996; 11. 'Spatial agglomeration and endogenous growth' (with T. Palivos), *RSUE*, 26, Dec. 1996; 12. 'On the existence of balanced growth equilibrium' (with T. Palivos, J. Zhang), *IER*, 38, Feb. 1997; 13. 'Social welfare and income inequality in a system of cities' (with H. Abdel-Rahman), *JUE*, 41, May 1997; 14. 'Costly intermediation, the big push and the big crash' (with Z. Benci, M. Wynne), *JDE*, 59, Aug. 1999; 15. 'Are alcoholics in bad jobs?' (with D. Kenkel), in F. Chaloupka, M. Grossman, W. Bickel, H. Saffer (eds), *The Economic Analysis of Substance Use and Abuse* (NBER, UCP, 1999); 16. 'Spatial mismatching in search equilibrium' (with E. Coulson, D. Laing), *J Lab E*, 19, Oct. 2001; 17. 'Rational addiction, occupational choice and human capital accumulation' (with D. Kenkel), in M. Grossman, C. Hsieh (eds), *The Economic Analysis of Substance Use and Abuse: The Experience of Developed Countries and Lessons for Developing Countries* (Edward Elgar, 2001); 18. 'Production externality and urban configuration' (with M. Berliant, S. Peng), *JET*,

104, June 2002; 19. 'Endogenous pricing and product diffusion with goods market frictions' (with D. Laing, T. Palivos), *ET*, 19, June 2002; 20. 'Technology adoption, growth and matching' (with B. Chen, C. Mo), *JEDC*, 26, Sept. 2002.

Principal Contributions My primary interest has been in dynamic general equilibrium theory with applications to economic growth, macro and monetary economics, as well as health, education and welfare issues. The main contributions of my work have been to emphasize three important aspects of economic theory and practice. First, I have highlighted microeconomic foundations for macroeconomics beyond methodological arguments. Based on such theories, I have explored: (i) their empirical implementations towards understanding the sources of short-run fluctuations and the determinants of long-run growth, (ii) their applications to family, fertility, health, human capital investment and retirement decisions over individuals' life spans, (iii) their usefulness for studying economic incentives of criminal and corruptive behaviors as well as social/economic interactions, and (iv) their usefulness for quantitative assessment of policy effectiveness. Second, I have developed methods that enable a more complete characterization of equilibrium dynamics and economic transition. Such methods have then been used for studies of (i) inflationary dynamics and welfare costs of inflation in transition, (ii) the dynamic processes of technology adoption, industrial transformation, labor shifts, and economic takeoffs, and (iii) the evolution of economic integration and globalization in various stages of economic development. Third, I have illustrated the roles of market frictions played in macroeconomic issues. In particular, I have considered: (i) labor market frictions in endogenous growth setups to examine the interactions between un-

employment and growth as well as the evolution of individuals' wage profiles and wage disparities, (ii) goods market frictions in endogenous technology adoption framework to analyze product diffusion and price dispersion, and (iii) credit market imperfections in dynamic general equilibrium to study educational and occupational choices and their consequences on allocative efficiency and equity.

WARNER, Jerold B. n.e.

WASSERMAN, Larry n.e.

WATKINS, Susan Cotts n.e.

WATSON, Mark W. n.e.

WATTS, Michael Wayne

Born 1950, Medicine Lodge, KS, USA.

Current Posts Prof. Econ. and Dir., Center Econ. Educ., Courtesy Appointment Prof. Sch. Educ., Purdue Univ., West Lafayette, IN, USA, 1981–.

Past Posts Asst Prof. Econ. and Dir., Center Econ. Educ., Indiana Univ.–Purdue Univ., Indianapolis, 1978–81.

Degrees BA, MA, PhD Louisiana State Univ., 1972, 1974, 1978.

Offices and Honours Mem., Omicron Delta Epsilon, 1973; Pres., Natl Assoc. Econ. Educators (NAEE), 1986–87; Outstanding Teacher Award, Krannert Grad. Student Assoc., Purdue Univ., 1991, 1992; Henry H. Villard Res. Award, 1992; 1st recipient, Intl Award, Natl Council Econ. Educ. (NCEE) and NAEE, 1992, 2001; Pres., Soc. Econ. Educators, 1995–96; Special Award for Vision, NCEE Bd and Staff, 1996; Fell., Purdue Univ. Teaching

Acad., 2001; First Vice-Pres., MEA, 2002–03.

Editorial Duties Advisory Bd, *Intl J. Social Educ.*, 1985–; Assoc. Ed., *J. Econ. Educ.*, 1988–; Advisory Comm., *Children's Social and Econ. Educ.: An Intl J.*, 1994–; Ed. Bd, *ERN Educator: Courses, Cases and Teaching* (electronic), 2003–.

Principal Fields of Interest A2 Teaching of Economics; J0 Labor and Demographic Economics: General; Z1 Cultural Economics.

Publications *Books*: 1. *What Is a Market Economy?* (US Info. Ag., 1992; trans. and publ. in over 40 languages); 2. *Voluntary Content Standards for K-12 Economic Education* (with J. Siegfried *et al.*), (NCEE, 1997); 3. *Teaching Economics to Undergraduates: Alternatives to Chalk and Talk* (ed. with W. Becker), (Edward Elgar, 1999); 4. *Reforming Economics and Economics Teaching in the Transition Economies: From Marx to Markets in the Classroom* (ed. with W. Walstad), (Edward Elgar, 2002); 5. *The Literary Book of Economics: Economic Concepts, Issues, and Themes in Literature and Drama* (ed.), (ISI Publ., 2003).

Articles: 1. 'The non-rational domain and the limits of economic analysis: comment', *SEJ*, 47, April 1981; excerpts repr. in R. McKenzie, *The Limits of Economic Science: Essays on Methodology* (Kluwer-Nijhoff, 1983); 2. 'School district inputs and biased estimation of educational production functions', *J. Econ. Educ.*, 16, Summer 1985; 3. 'Student gender and school district differences affecting the stock and flow of economic knowledge', *REStat*, 69, Aug. 1987; 4. 'The principles courses revisited' (with G. Lynch), *AER*, 79, May 1989; 5. 'Economics in literature and drama' (with R.F. Smith), *J. Econ. Educ.*, 20, Summer 1989; 6. 'How instructors make a difference: panel data estimates from principles of economics courses' (with W. Bosshardt), *REStat*, 73,

May 1991; 7. 'Teaching methods in undergraduate economics' (with W. Becker), *EI*, 33, Oct. 1995; 8. 'Chalk and talk: a national survey on teaching undergraduate economics' (with W. Becker), *AER*, 86, May 1996; 9. 'An appraisal of economics content in the history, civics, social studies, and geography national standards' (with S. Buckles), *AER*, 87, May 1997; 10. 'How departments of economics evaluate teaching' (with W. Becker), *AER*, 89, May 1999; 11. 'New research programs in economic education: five new initiatives' (with M. Salemi, J. Siegfried, K. Sosin, W. Walstad), *AER*, 92, May 2001; 12. 'Teaching economics at the start of the 21st century: still chalk and talk' (with W. Becker) *AER*, 91, May 2001; 13. 'Reforming undergraduate instruction in Russia, Belarus, and Ukraine' (with A. Kovzik), *J. Econ. Educ.*, 32, Winter 2001; 14. 'Comparing student and instructor evaluations of teaching' (with W. Bosshardt), *J. Econ. Educ.*, 32, Winter 2001; 15. 'How economists use literature and drama', *J. Econ. Educ.*, 33, Fall 2002.

Principal Contributions Quantitative studies of effective teaching in economics from elementary through graduate levels, including early applications of qualitative response and panel data models in the general framework of educational production functions. Special emphasis on instructor effects and the relative importance of instructor vs. student characteristics. Survey articles on what economics is taught in undergraduate and pre-university economics, and teaching methods in those classes. Articles on the evaluation of university economics teaching, including student and instructor self-evaluations. Essays and survey articles promoting the use of diverse and active-learning teaching methods in economics. Using classic literature and drama in economics, especially undergraduate teaching; and studies of how economists have

used literature and drama and how literary critics have treated economic ideas and issues. Designing and conducting training programs on reforming the content and teaching of economics at undergraduate and secondary levels in Central and Eastern Europe and the former Soviet Union, and documenting that work in a co-edited volume and journal articles. Developing instructional materials on teaching economics at the secondary and undergraduate levels. Member of national committees to develop and write scope and sequence guidelines, and later voluntary national standards, for economics in elementary and secondary US schools. Studies of what economics is taught in other social studies disciplines. Promoting the development of international economic education associations, and cooperation across those groups. Monographs for the general public on the US economy and market economies, one published by the US government in over 40 languages, another in a leading electronic encyclopedia. Studies of Tudor economic thought.

WATTS, Ross Leslie

Born 1942, Hamilton, NSW, Australia.

Current Post William H. Meckling Prof. Bus. Admin., William E. Simon Grad. Sch. Bus. Admin., Univ. Rochester, Rochester, NY, USA, 1998–.

Past Posts Instr., Grad. Sch. Bus., Univ. Chicago, 1969–70; Asst Prof., Assoc. Prof., Prof., Rochester Telephone Corp. Prof., Simon Sch., Univ. Rochester, 1971–78, 1978–84, 1984–86, 1986–98; Prof. Commerce, Univ. Newcastle, Australia, 1974–75.

Degrees BCom (1st Class Hons) Univ. Newcastle, Australia, 1966; MBA, PhD Univ. Chicago, 1968, 1971.

Offices and Honours First in Australia, Final Exam, Inst. Chartered Accountants

in Australia, 1963; Ford Foundation Dissertation Fell., 1967–68; Notable Contrib. to Literature Awards, Amer. Inst. Certified Public Accountants, 1978, 1979; Excellence in Grad. Teaching Award, Univ. Rochester, 1996; Outstanding Educ. Award, Amer. Accounting Assoc., 2000.

Editorial Duties Assoc. Ed., *J. Accounting Res.*, 1972–78, *J. Fin E*, 1974–89, *Australian J. Mgmt*, 1976–81; Founding Co-Ed., *J. Accounting and Econ.*, 1978–; Dir., Accounting Res. Network, Social Sc. Res. Network, 1995–; Cons. Ed., *Asia-Pacific J. Accounting and Econ.*, 1999–.

Principal Fields of Interest M4 Accounting; G0 Financial Economics: General; L2 Firm Objectives, Organization, and Behavior.

Publications *Book*: 1. *Positive Accounting Theory* (with J. Zimmerman), (Prentice-Hall, 1986).

Articles: 1. ‘Using time series models to assess the significance of accounting changes’ (with N. Dopuch), *J. Accounting Res.*, 10, Spring 1972; 2. ‘Some time series properties of accounting income’ (with R. Ball), *J. Fin*, 27, June 1972; 3. ‘The information content of dividends’, *J. Bus*, 46, April 1973; 4. ‘Corporate financial statements, a product of the market and political processes’, *Australian J. Mgmt*, 2, April 1977; 5. ‘The time series of annual accounting earnings’ (with R. Leftwich), *J. Accounting Res.*, 15, Autumn 1977; 6. ‘Towards a positive theory of the determinants of accounting standards’ (with J. Zimmerman), *Accounting Rev.*, 53, Jan. 1978; 7. ‘Systematic “abnormal” returns after quarterly earnings announcements’, *J. Fin E*, 6, June/Sept. 1978; 8. ‘The demand for and supply of accounting theories, the market for excuses’ (with J. Zimmerman), *Accounting Rev.*, 54, April 1979; 9. ‘On the irrelevance of replacement cost disclosures for security prices’ (with J. Zimmerman), *J. Account-*

ing and Econ., 2, Aug. 1980; 10. 'Voluntary corporate disclosure: the case of interim reporting' (with R. Leftwich, J. Zimmerman), *J. Accounting Res.*, 19, suppl., 1981; 11. 'Incentive and tax effects of executive compensation plans' (with C. Smith), *Australian J. Mgmt*, 7, Dec. 1982; 12. 'Agency problems, auditing and the theory of the firm: some evidence' (with J. Zimmerman), *J Law E*, 26, Oct. 1983; 13. 'Stock prices and top management changes' (with J. Warner, K. Wruck), *J Fin E*, 20, Jan./March 1988; 14. 'Positive accounting theory: a ten year perspective' (with J. Zimmerman), *Accounting Rev.*, 65, Jan. 1990; 15. 'The investment opportunity set and corporate financing, dividend and compensation policies' (with C. Smith), *J Fin E*, 32, Dec. 1992; 16. 'Lawsuits against auditors' (with T. Lys), *J Accounting Res.*, 32, suppl., 1994; 17. 'A market-based evaluation of discretionary accrual models' (with W. Guay, S.P. Kothari), *J. Accounting Res.*, 35, suppl., 1996; 18. 'The relation between earnings and cash flows' (with P. Dechow, S.P. Kothari), *J. Accounting and Econ.*, 25, May 1998; 19. 'The relevance of value-relevance literature for financial accounting standard-setting' (with R. Holthausen), *J. Accounting and Econ.*, 31, Sept. 2001.

Principal Contributions Much of my work uses economics to explain accounting and financial phenomena. In accounting my 1977 *Australian J. Mgmt* paper relates the development of accounting practice to firm contracting and economic regulation. The 1978 *Accounting Res.* paper (with J. Zimmerman) uses economic incentives to explain managers' positions on accounting standards. The 1979 paper with Zimmerman explains existing accounting theory using economic self-interest. The history of US and UK auditing is explained in the 1983 *J Law E* paper with Jerold Zimmerman using theories of

the firm, capital markets, regulation and taxes. The book with Zimmerman expanded and developed these economic perspectives on accounting. In the 1990 *Accounting Res.* paper, Zimmerman and I summarize the literature's development in the 10 years following our 1978 and 1979 papers. The 2001 paper with Robert Holthausen emphasizes the importance of economic theory to the use of empirical results in setting accounting standards. I have also worked on explaining litigation against auditors using economic incentives. In finance, my 1982 and 1992 papers with Clifford Smith investigate the relation between firms' financial and compensation policies and their underlying investment opportunity sets. The latter paper tested alternative hypotheses about those policies. My thesis (published in 1973) is an early contribution to the dividend information content literature. The 1978 paper with Jerry Warner and Karen Wruck empirically investigates the relation between top management turnover and firm performance. I have also contributed to the earnings time-series literature in accounting and finance. The *J Fin* paper with Ray Ball documents and explains earnings time-series behavior. The 1998 paper with Patricia Dechow and S.P. Kothari investigates explanations for earnings behavior in more depth. Finally, I have also contributed to the stock price/accounting earnings relation literature.

WEBB, Steven B. n.e.

WEBER, Guglielmo

Born 1958, Florence, Italy.

Current Post Prof. Em., Univ. Padua, Italy, 1994–.

Past Posts Res. Asst, LSE, 1983–86; Res. Officer, Temp. Lect., Lect., Univ.

Coll. London, 1986–87, 1987–88, 1988–93; Assoc. Prof., Econ. Dept, Univ. Venice, 1993–94.

Degrees Laurea, Siena Univ., 1982; MSc (Em and Math. Econ.), PhD LSE, 1983, 1988.

Honour RES Prize for best *EJ* article, 1988–89 (with O.P. Attanasio).

Editorial Duties Ed Bds, *Fiscal Stud.*, 1992, *JAE*, 1995–97; Co-Ed., ‘Panels and Pseudo-Panels’, special issue *J Em*, 59, 1993 (with C. Carraro, F. Peracchi); Assoc. Ed., Ed., *Ricerche Economiche*, 1994–95, 1996–2001.

Principal Fields of Interest D1 Household Behavior; E2 Consumption, Saving, Production, Employment, and Investment; G1 General Financial Markets.

Publications *Articles*: 1. ‘Consumption, leisure and earnings-related liquidity constraints: a note’ (with R. Alessie, B. Melenberg), *Econ. Letters*, 27, 1988; 2. ‘A microeconomic expenditure-based measure of Britain’s black economy’ (with C.A. Pissarides), *J Pub E*, 39, 1989; 3. ‘Intertemporal substitution, risk aversion and the Euler equation for consumption’ (with O.P. Attanasio), *EJ*, suppl., 99, 1989; 4. ‘What do we learn on consumer demand patterns from micro data?’ (with R. Blundell, P. Pashardes), *AER*, 83, 1993; 5. ‘Earnings-related borrowing restrictions: empirical evidence from a pseudo panel for the UK’, *Annales d’Économie et de Stat.*, 29, 1993; 6. ‘Consumption growth, the interest rate and aggregation’ (with O.P. Attanasio), *REStud*, 60, 1993; 7. ‘The UK consumption boom of the late eighties’ (with O.P. Attanasio), *EJ*, 104, 1994; 8. ‘On the aggregation of Euler equations for consumption in simple OLG models’ (with O.P. Attanasio), *Ec*, 62, 1995; 9. ‘Is consumption growth consistent with intertemporal optimization? Evidence from the consumer expenditure survey’ (with O.P. Attanasio), *JPE*, 103, 1995; 10. ‘Intertemporal non-separability or li-

quidity constraints? A disaggregate analysis on US panel data’ (with C. Meghir), *Em*, 64, 1996; 11. ‘Has consumer behaviour changed? Booms and busts in aggregate consumption’, *Swedish Econ. Pol. Rev.*, 3, 1996; 12. ‘Intertemporal consumption, durables and liquidity constraints: a cohort analysis’ (with R. Alessie, M. Devereux), *Europ ER*, 41, 1997; 13. ‘Humps and bumps in lifetime consumption’ (with O.P. Attanasio, J. Banks, C. Meghir), *JBES*, 17, 1999; 14. ‘The Italian recession of 1993: aggregate implications of microeconomic evidence’ (with R. Miniaci), *REStat*, 81, 1999.

Principal Contributions n.e.

WEBER, Martin n.e.

WEIL, David N. n.e.

WEIL, Philippe n.e.

WEILER, J.H.H. n.e.

WEINGAST, Barry Robert

Born 1952, Los Angeles, CA, USA.

Current Posts Ward C. Krebs Family Prof. Polit. Sc., and Sr Fell., Hoover Inst., Stanford Univ., Stanford, CA, USA, 1997–.

Past Posts Asst Prof., Dept Econ., and Res. Assoc., Assoc. Prof. Econ. and Polit. Econ., Sch. Bus., and Res. Assoc., Prof. Econ. and Polit. Econ., Sch. Bus., and Res. Assoc., Center Study of Amer. Bus., Washington Univ., St. Louis, 1977–83, 1983–86, 1986–88; Sr Res. Fell., Sr Fell., Hoover Inst., Stanford Univ., 1987–90, 1990–; Prof., Dept Polit. Sc., Stanford Univ., 1992–97.

Degrees AB (Maths) Univ. California, Santa Cruz, 1973; PhD California Inst. Tech., 1978.

Offices and Honours Duncan Black Prize (with K. Shepsle) for best paper of year in *Public Choice*, 1981; James L. Barr Memorial Award for best paper of year in *Public Econ.*, 1981; Heinz Eulau Award (with K. Shepsle) for best paper of year in *Amer. Polit. Sc. Rev.*, 1987; Fell., Center Adv. Stud. in Behav. Sc., Stanford, 1993–94, AAAS, 1996–; Mary Parker Follett Prize for the best paper in polit. and hist. (with C. Stewart), 1994, 1998; Franklin L. Burdette Pi Sigma Alpha Award (with K. Schultz) for best paper presented at 1994 Amer. Polit. Sc. Assoc. Meeting; Chair, Dept Polit. Sc., Stanford Univ., 1996–2001; Sage Award (with A. Diaz, B. Magaloni) for best paper in area of comparative polit. presented at annual meetings of Amer. Polit. Sc. Assoc., 2000.

Principal Fields of Interest D7 Analysis of Collective Decision-Making; K0 Law and Economics: Economics.

Publications *Book*: 1. *Analytic Narratives* (with R. Bates, A. Greif, M. Levi, J.-L. Rosenthal), (Princeton Univ. Press, 1998).

Articles: 1. 'A rational choice perspective on congressional norms', *Amer. J. Polit. Sc.*, 24, 1979; 2. 'Structure-induced equilibrium and legislative choice' (with K.A. Shepsle), *Public Choice*, 37, 1981; 3. 'The political economy of benefits and costs: a neoclassical approach to distributive politics' (with K.A. Shepsle, C. Johnsen), *JPE*, 89, Aug. 1981; 4. 'Bureaucratic discretion or congressional control: regulatory policymaking by the FTC' (with M.J. Moran), *JPE*, 91, Oct. 1983; 5. 'Political solutions to market problems' (with K.A. Shepsle), *Amer. Polit. Sc. Rev.*, 78, June 1984; 6. 'The institutional foundations of committee power' (with K.A. Shepsle), *Amer. Polit. Sc. Rev.*, 81, March 1987; 7. 'Administrative procedures as in-

struments of political control' (with M.D. McCubbins, R.G. Noll), *JLEO*, 3, Fall 1987; 8. 'The industrial organization of Congress; or why legislatures, like firms, are not organized as market' (with W.J. Marshall), *JPE*, 96, Feb. 1988; 9. 'Structure and process, politics and policy: administrative arrangements and the political control of agencies' (with M.D. McCubbins, R. Noll), *Virginia Law Rev.*, 75, March 1989; 10. 'Regulation and the theory of legislative choice: the Interstate Commerce Act of 1887' (with T.W. Gilligan, W.J. Marshall), *J Law E*, 32, April 1989; 11. 'Constitutions and commitment: the evolution of institutions governing public choice in 17th century England' (with D.C. North), *JEH*, 49, Dec. 1989; 12. 'The role of institutions in the revival of trade: the medieval law merchant, private judges, and the champagne fairs' (with P.R. Milgrom, D.C. North), *Econ. and Polit.*, 2, March 1990; 13. 'Legislative intent: the use of positive political theory in statutory interpretation', *Law and Contemporary Problems*, 57, 1994; 14. 'Commitment, coordination, and enforcement: the case of the Merchant Guilds' (with A. Greif, P. Milgrom), *JPE*, 102, 1994; 15. 'The economic role of political institutions: market-preserving federalism and economic development', *JLEO*, 11, Spring 1995; 16. 'Federalism, Chinese style: the political basis for economic success in China' (with G. Montinola, Y. Qian), *World Polit.*, 48, Oct. 1995; 17. 'The political foundations of democracy and the rule of law', *Amer. Polit. Sc. Rev.*, 91, June 1997; 18. 'Political stability and civil war: institutions, commitment, and American democracy', in R. Bates, A. Greif, M. Levi, J.-L. Rosenthal, B.R. Weingast (eds), *Analytic Narratives* (Princeton Univ. Press, 1998); 19. 'Rationality of fear: political opportunism and ethnic conflict' (with R. de Figueiredo), in J. Snyder, B. Walter (eds),

Military Intervention in Civil Wars (Columbia Univ. Press, 1999).

Principal Contributions My work focusses on the interaction of politics and economics, including the political foundations for markets and, generally, the application of rational choice methods for studying political phenomenon. First, my earliest work studied the politics of regulatory policymaking in the United States, showing the decisive role of Congress in shaping policy decisions by major regulatory agencies. Second, a major strand of research applies the new economics of organizations to study how political institutions help create credible commitments, including the institutions supporting cooperation in legislatures ('The industrial organization of Congress'), constitutions, democracy ('Political foundations of democracy and the rule of law'), and federalism. This work emphasizes how institutions provide the basis for cooperation in the absence of external or third party enforcement mechanisms. For example, 'Constitutions and commitment' (with D. North) shows how political institutions create government commitment to honor property rights and markets, and thus the foundations for economic growth. A third strand (mostly in collaboration with McNollgast) studies the political economy of legal issues, including statutory interpretation, administration law, and constitutional issues. This work shows how Congress uses structure and process to influence bureaucratic policy choices. Fourth, a series of papers (many with K. Shepsle) focus on understanding how structure and process of Congress affected congressional choice, including common pool problems in budgetting and issues of the sources of the power of congressional committees. Fifth, several papers study the political foundations of federalism, including the notion of 'market-preserving federalism' that helps explain how some

federal systems promote economic growth. This work also reveals the implicit political assumptions in the type of federalism studied by economists. Most recent work focusses on the construction of self-enforcing democracy and its failure, with applications to twentieth-century Spain, nineteenth-century United States, seventeenth-century England, and modern Chile.

WEISBACH, Michael S. n.e.

WEISBROD, Burton A.

Born 1931, Chicago, IL, USA.

Current Post John Evans Prof. Econ. and Faculty Fell., Inst. Policy Res., Northwestern Univ., Evanston, IL, USA, 1990–.

Past Posts Lect., Northwestern Univ., 1954–55; Instr., Carleton Coll., 1955–57; Instr., Asst Prof., Assoc. Prof., Washington Univ., 1957–58, 1958–62, 1962–64; Vis. Prof., Princeton Univ., 1962–63, SUNY, Binghamton, 1972, Brandeis Univ., 1982–83; Sr Staff Mem., US President's Council Econ. Advisers, 1963–64; Assoc. Prof., Univ. Wisconsin, 1964–66; Sr Fulbright Lect., Univ. Autonoma de Madrid, 1970; Vis. Scholar, Brotman Fell., Kennedy Sch. Govt, Harvard Univ., 1982–83; Prof. Econ., Dir., Center Health Econ. and Law, NIMH Training Program Health and Mental Health Econ., Univ. Wisconsin, 1964–90; Dir., Center Urban Affairs and Pol. Res., Northwestern Univ., 1990–95.

Degrees BA (Mgmt) Univ. Illinois, 1951; MA, PhD Northwestern Univ., 1952, 1958.

Offices and Honours Guggenheim Foundation Fell., 1969–70; Ford Foundation Faculty Fell., 1971–72; Mem., Exec. Comm., NBER, Conf. Res. on Income and Wealth, 1975–77; Mem., Exec. Comm.,

AEA, 1975–77; Mem., Governing Council, NAS Inst. Medicine, 1976, 1983–85; Fell., Educ. Fin. and Productivity Center, Univ. Chicago, 1978–79; Sr Res. Fell., Brookdale Inst., Jerusalem, 1978–79; Pres., MEA, 1980–81; Sr Cons., Center Social Pol. Stud., Jerusalem, 1982–; Chair, Comm. Polit. Discrimination, 1988–93; Fell., Mem. Governing Council, AAAS, 1989, 1998; Carl Taube Award for outstanding contrib. to field of Mental Health Services Res., Amer. Public Health Assoc., 1993; Mem., Scholars Advisory Council, Center Philanthropy, Indiana Univ., 1993–; Arnulf Pins Memorial Lecture, Hebrew Univ., Jerusalem, 1996; Teaching Excellence Award, Inter-Fraternity Council and Pan-Hellenic Council, Northwestern Univ., 1997; Lifetime Res. Achievement Award, Assoc. Res. on Nonprofit Org. and Voluntary Action, 1997; Phi Beta Kappa Vis. Scholar, Iowa State Univ., Oberlin Coll., Howard Univ., Lafayette Univ., Univ. Connecticut, North Carolina State Univ., Univ. Binghamton, Furman Univ., 1998–99; Council Mem., Natl Res. Resources Center (NIH), 1999–2003; Chair, Comm. on Philanthropy and Nonprofit Sector, SSRC, 2001–; Panel on Measurement of Non-Market Output, NRC, NAS, 2002–.

Editorial Duties Ed. Bds, *JHR*, 1966–81, *J Pub E*, 1971–88, *Intl J. Social Econ.*, 1972–, *Public Fin. Rev.*, 1972–, *Mgmt and Decision Econ.*, 1980–83, *QREB*, 1980–, *Nonprofit and Voluntary Sector Q.*, 1990–, *Voluntas*, 1990–, *J. Clinical Outcomes Mgmt*, 1994–.

Principal Fields of Interest L3 Nonprofit Organizations and Public Enterprise; I0 Health, Education, and Welfare: General; D6 Welfare Economics.

Publications *Books*: 1. *The Economics of Poverty* (Univ. Pennsylvania Press, 1961); 2. *External Benefits of Public Education* (Princeton Univ., Ind. Relations Sector, 1964); 3. *Benefits, Cost and Fi-*

nance of Public Higher Education (with W.L. Hansen), (Markham, 1969); 4. *The Daily Economist* (ed. with H.G. Johnson), (Prentice-Hall, 1974); 5. *Disease and Economic Development: The Case of Parasitic Diseases in St. Lucia, West Indies* (with R. Andreano *et al.*), (Univ. Wisconsin Press, 1974); 6. *The Voluntary Nonprofit Sector: An Economic Analysis* (D.C. Heath, 1978); 7. *Public Interest Law: An Economic and Institutional Analysis* (with J.F. Handler, N.K. Komesar), (Univ. California Press, 1978); 8. *Economics and Medical Research* (AEI for Public Pol. Res., 1983); 9. *The Nonprofit Economy* (HUP, 1988); 10. *To Profit or Not to Profit: The Commercial Transformation of the Nonprofit Sector* (ed. and contrib.), (CUP, 1998).

Articles: 1. 'Collective consumption properties of individual consumption goods', *QJE*, 78, Aug. 1964; 2. 'An income-net worth approach to measuring economic welfare', *AER*, 58, Dec. 1968; 3. 'Benefits and costs of medical research: the case of poliomyelitis', *JPE*, 79, May/June 1971; 4. 'Toward a theory of the voluntary nonprofit sector in a three-sector economy', in E. Phelps (ed.), *Altruism, Morality and Economic Theory* (Russell Sage, 1975); 5. 'Nonprofit and proprietary sector behavior: wage differentials among lawyers', *J Law E*, 1, July 1983; 6. 'Demand for collective goods in private nonprofit markets: can fundraising expenditures overcome free-rider behavior?' (with N. Dominguez), *J Pub E*, 30, June 1986; 7. 'Volunteer labor supply' (with P. Menchik), *J Pub E*, 32, 1987; 8. 'The health care quadrilemma: an essay on technological change, insurance, quality of care, and cost containment', *JEL*, 29, June 1991; 9. 'Institutional form and organization behavior', in W.W. Powell, E. Clemens (eds), *Private Action and the Public Good* (YUP, 1998); 10. 'Inferring differences in the behavior of for-profit,

governmental, and nonprofit organizations from managerial rewards: evidence from the hospital industry' (with J.P. Ballou), *J Pub E*, forthcoming 2003.

Principal Contributions Applied welfare economics, with particular reference to the ability of governmental and private nonprofit organizations to overcome private market failures, has been the overarching focus of my research. Major areas studied include: the military draft, the economics of education, the supply of volunteer labor, public interest law, the economics of health – including benefit–cost analyses of the polio vaccine and other new drugs – and the role and behavior of mixed industries, such as nursing homes, broadcasting, hospitals and jails, in which multiple institutional forms, including public, private, and nonprofit organizations, coexist. Throughout, I have sought to identify the efficiency and equity consequences of these alternative organizational forms. In recent years my research on economic behavior in mixed industries has focussed on differential provision of public goods, their financing in nonprofit organizations, comparative managerial incentives, and problems of measuring 'performance'. The justification for public and private subsidies to nonprofits, and relatedly, the evidence that nonprofits perform differently from, and 'better' than, other forms of organizations, continue to be high on my research agenda because of the relevance for public policy.

WEISS, Lawrence Alan

Born 1957, Montreal Canada.

Current Post Vis. Prof., Sloan Sch., MIT, Cambridge, MA, USA, 2000–; Prof., Univ. Lausanne, Lausanne, Switzerland, 2002–.

Past Posts Assoc. Prof., INSEAD, 1993–2001.

Degrees BComm, MBA McGill Univ., 1976, 1982; DBA Harvard Univ., 1989.

Editorial Duties Assoc. Ed., *J Bank Fin*, 2001–.

Principal Fields of Interest G3 Corporate Finance and Governance; G0 Financial Economics: General; K0 Law and Economics.

Publications Book: 1. *Corporate Bankruptcy: Economic and Legal Perspectives* (with J.S. Bhandari), (CUP, 1996).

Articles: 1. 'Bankruptcy resolution: direct costs and violation of priority of claims', *J Fin E*, 27, Oct. 1990; 2. 'The bankruptcy code and violation of absolute priority', *J. Apl. Corp. Fin.*, 4, Summer 1991; 3. 'Bankruptcy resolution: direct costs and violation of priority of claims', *J. Legal Econ.*, July 1992; 4. 'The untenable case for Chapter 11: a review of the evidence' (with J.S. Bhandari), *Amer. Bankruptcy Law J.*, 67, Spring 1993; 5. 'The increasing bankruptcy filing rate: an historical analysis' (with J.S. Bhandari), *Amer. Bankruptcy Law J.*, 67, Winter 1993; 6. 'Information problems, conflicts of interest and asset stripping: Chapter 11's failure in the case of Eastern Airlines' (with K.H. Wruck), *J Fin E*, 48, April 1998; 7. 'The importance of deviations from the absolute priority rule in Chapter 11 bankruptcy proceedings' (with A.C. Eberhart), *Fin. Mgmt*, 27, Winter 1998; 8. 'An analysis of statewide variation in bankruptcy rates in the United States' (with J.S. Bhandari, R. Robins), *Bankruptcy Devlps Law J.*, 17, 2001.

Principal Contributions Costs of bankruptcy, priority of claims in bankruptcy.

WEITZMAN, Martin L.

Born 1942, New York City, NY, USA.

Current Post Prof. Econ., Harvard Univ., Cambridge, MA, USA, 1989–.

Past Posts Asst Prof., Assoc. Prof. Econ., Yale Univ., 1967–70, 1970–72; Assoc. Prof. Econ., Prof. Econ., MIT, 1972–74, 1974–89.

Degrees BA (Maths and Physics) Swarthmore Coll., PA, 1963; MS (Stats and OR) Stanford Univ., 1964; PhD MIT, 1967.

Offices and Honours Phi Beta Kappa; Sigma Xi; NSF Fell., 1963–65; Woodrow Wilson Fell., 1963–64; Ford Foundation Dissertation Fell., 1966; Guggenheim Foundation Fell., 1970–71; Fell., Em Soc, 1976.

Editorial Duties Assoc. Ed., *J Comp E, Econ. Letters*.

Principal Field of Interest Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *The Share Economy* (HUP, 1984); 2. *Income, Wealth and the Maximum Principle* (HUP, 2002).

Articles: 1. ‘Prices vs. quantities’, *REStud*, 41, Oct. 1974; 2. ‘Free access vs. private ownership as alternative systems for managing common property’, *JET*, 17, 1974; 3. ‘On the welfare significance of national product in a dynamic economy’, *QJE*, 90, Feb. 1976; 4. ‘Profit sharing as macroeconomic policy’, *AER*, 75, 1985; 5. ‘The Noah’s Ark problem’, *Em*, 66, 1998.

Principal Contributions Environmental economics, including green accounting, alternative market-like mechanisms of regulation and control, biodiversity, long-term discounting.

WELCH, Finis R.

Born 1938, Olney, TX, USA.

Current Posts Prof. Econ., Texas A&M Univ., College Station, TX, USA, 1991–; Pres., Welch Consulting., College Station, TX, USA, 1976–; Chairman, Unicon Res. Corp., Santa Monica, CA, USA, 1980–;

Chairman, Stata Corp., College Station, TX, USA, 1990–.

Past Posts Asst Prof. Econ., Univ. Chicago, 1964–66; Assoc. Prof. Econ., Southern Methodist Univ., 1966–69; Res. Assoc., NBER, 1969–73; Exec. Officer, PhD Program Econ., City Univ. NY, 1971–73; Dir., Labor and Pop. Stud. Program, Rand Corp., 1973–78; Pres., Unicon Res. Corp., Santa Monica, CA, 1978–84; Prof. Econ., UCLA, 1978–91.

Degrees BS Univ. Houston, 1961; PhD Univ. Chicago, 1965.

Offices and Honours Fell., Em Soc, 1980; Mem., Natl Acad. Educ., 1980, AAAS, 1990–, Natl Acad. Social Insurance, 1990–; Mem., Conf. Income and Wealth, NBER, 1984; Vice-Pres., AEA, 2002; Pres.-Elect, Soc. Labor Econ., 2003–04.

Editorial Duties Ed. Bds, *AER*, 1974–77, *AJAE*, 1974–77, *Econ. Educ. Rev.*, 1979–, *J. Labor Res.*, 1980–, *JEL*, 1980–84, *J Lab E*, 1982–, *Educ. Researcher*, 1987–, *Electronic J. Labor Abstracts*, 1996–, *Rev. Econ. Household*, 2000–; Assoc. Ed. Labor, *EI*, 1996–.

Principal Field of Interest J4 Particular Labor Markets.

Publications *Articles*: 1. ‘Education in production’, *JPE*, 78, Jan. 1970; 2. ‘Education and racial discrimination’, in O. Ashenfelter, A. Rees (eds), *Discrimination in Labor Markets* (Princeton Univ. Press, 1974); 3. ‘Do sex preferences really matter?’ (with Y. Ben-Porath), *QJE*, 90, May 1976; 4. ‘Employment quotas for minorities’, *JPE*, 84, Aug. 1976; 5. ‘Black–white male wage ratios, 1960–1970’ (with J. Smith), *AER*, 67, June 1977; 6. ‘Effects of cohort size on earnings’, *JPE*, 87, Oct. 1979; 7. ‘Earnings of Hispanic men: the role of English language proficiency’ (with W. McManus, W. Gould), *J Lab E*, 1, April 1983; 8. ‘Affirmative action in labor markets’ (with J. Smith), *J Lab E*, 2, April 1984; 9. ‘The

employment of black men', *J Lab E*, 8, Jan. 1990; 10. 'The structure of wages' (with K. Murphy), *QJE*, 107, Feb. 1992; 11. 'Trends in labor-force behavior of older Americans' (with F. Peracchi), *Social Security Bull.*, 58, Winter 1995; 12. 'Wages and participation', *J Lab E*, 15, Jan. 1997; 13. 'In defense of inequality', *AER*, 89, May 1999; 14. 'Inequality, incentives, and opportunity' (with D. Deere), *Social Philo. and Pol.*, 19, Winter 2002, repr. in E.F. Paul, F.D. Miller, Jr, J. Paul (eds), *Should Differences in Income and Wealth Matter?* (CUP, 2002).

Principal Contributions My work concentrates on determinants of labour earnings and is intensely empirical. Early work on returns to schooling was followed by a prolonged series on group differences in earnings. Several compare blacks and whites and one contrasts Hispanics and Anglos. Much of the work is descriptive, characterising patterns and the evolution of group differences through time. The behavioural work, in the context of competitive markets, concentrates on determinants of major swings in earnings patterns. Income differences by age, schooling level, and race are examined for responses to changes in labour force composition and protective legislation. Analysis of effects of cohort size on age-learning profiles traces early results and future implications for the baby boom cohorts. Effects of rising education levels are contrasted with growth in labour productivity and cyclical swings in tracing changes in patterns of income differences by schooling. I have also worked on implications of modern and discriminatory legislation, together with its enforcement apparatus, and the comparison of evolving patterns of income and employment differences between those protected and those not protected by the legislation. For the last several years my work has concentrated on documenting, and searching

for explanations of the extraordinary growth in earnings inequality that has been experienced in the US since the early 1970s.

WELCH, Ivo (Icicio Alexander)

Born 1963, Schweinfurt, Germany.

Current Post Prof. Fin. and Econ., Yale Univ., New Haven, CT, USA, 2000–.

Past Posts Asst Prof., Assoc. Prof., Prof., UCLA, 1989–2000; Res. Assoc., NBER, 2000–.

Degrees BA (Computer Sc.) Columbia Univ., 1985; MBA, PhD Univ. Chicago, 1988, 1991.

Editorial Duties Assoc. Ed., *J Fin*, 1997–2000, *Rev. Fin. Stud.*, 1997–2000, *JFQA*, 1997–.

Principal Fields of Interest G0 Financial Economics: General; D0 Microeconomics: General; L0 Industrial Organization: General.

Publications Articles: 1. 'Seasoned offerings, imitation costs, and the underpricing of initial public offerings', *J Fin*, 44, June 1989; 2. 'Sequential sales, learning, and cascades', *J Fin*, 47, June 1992; 3. 'A theory of fads, fashion, custom, and cultural change as informational cascades' (with S. Bikhchandani, D. Hirshleifer), *JPE*, 100, Oct. 1992; 4. 'IPO signaling and subsequent equity offerings: an empirical investigation' (with N. Jegadeesh, M. Weinstein), *J Fin E*, 34, Oct. 1993; 5. 'Culture, information and screening discrimination' (with B. Cornell), *JPE*, 104, June 1996; 6. 'Why is bank debt senior? A theory of priority based on influence costs', *Rev. Fin. Stud.*, 10, Winter 1997; 7. 'Learning from the behavior of others: conformity, fads, and informational cascades' (with S. Bikhchandani, D. Hirshleifer), *JEP*, 12, Summer 1998; 8. 'Earnings management and the post-issue underperformance in seasoned equity of-

ferings' (with S.-H. Teoh, T.J. Wong), *J Fin E*, 50, Oct. 1998; 9. 'Earnings management and the long-run market performance of initial public offerings' (with S.-H. Teoh, T.J. Wong), *J Fin*, 53, Dec. 1998; 10. 'The effect of socially activist investment policies on the financial markets: evidence from the South African boycott' (with S.-H. Teoh, P. Wazzan), *J Bus*, 72, Jan. 1999; 11. 'A theory of legal presumptions' (with A. Bernardo, E. Talley), *JLEO*, 16, April 2000; 12. 'Views of financial economists on the equity premium and other issues', *J Bus*, 73, Oct. 2000; 13. 'A theory of dividends, based on tax clienteles' (with F. Allen, A. Bernardo), *J Fin*, 55, Dec. 2000; 14. 'On the evolution of overconfidence and entrepreneurs' (with A. Bernardo), *JEMS*, 10, Fall 2001; 15. 'A review of IPO activity, pricing and allocations' (with J. Ritter), *J Fin*, 57, July 2002; 16. 'An economic approach to the psychology of change: amnesia inertia and impulsiveness' (with D. Hirshleifer), *JEMS*, 11, Fall 2002, .

Principal Contributions I have been interested in a wide range of phenomena, both theoretically and empirically. The common thread is that they are all built on micro foundations and applied in nature. My research has introduced 'informational cascades', a theory of rational herding, that is based on discrete choices. Cascades can cause idiosyncratic and fragile conformity, and have been widely applied, even beyond economics. A second focus of my interest has been corporate financing activity.

WENDT, Alexander n.e.

WERNERFELT, Birger

Born 1951, Copenhagen, Denmark.

Current Posts J.C. Penney Prof. and

Chair of PhD Program, Sloan Sch. Mgmt, MIT, Cambridge, MA, USA, 1989–.

Past Posts Res. Fell., Univ. Copenhagen, 1978–81; Asst Prof., Univ. Michigan, 1981–85; Assoc. Prof., Northwestern Univ., 1985–89.

Degrees BA (Philo.), MA Univ. Copenhagen, 1974, 1974; DBA (Bus.) Harvard Univ., 1977.

Offices and Honours Wiley Prize/Strategic Mgmt Soc., 1994; Mem., Intl Acad. Mgmt, 2001.

Editorial Duties Assoc Ed., *Mgmt Sc.*, 1987–94, 1997–2000; Area Ed., *Marketing Sc.*, 1995–97; Advisory Ed., *Quant. Marketing and Econ.*, 2002.

Principal Fields of Interest L0 Industrial Organization: General; D0 Microeconomics: General; M2 Business Economics.

Publications Articles: 1. 'Consumers with differing reaction speeds, scale advantages, and industry structure', *Europ ER*, 24, March 1984; 2. 'A resource-based view of the firm', *Strategy Mgmt. J.*, 5, April–June 1984; 3. 'To brand or not to brand? A theoretical and empirical question' (with D. Sappington), *J Bus*, 58, July 1985; 4. 'Product line rivalry: note', *AER*, 76, Sept. 1986; 5. 'Uniqueness of Nash equilibrium for linear-convex stochastic differential games', *J. Optimization Theory and Apl.*, 53, April 1987; 6. 'Tobin's q and the importance of focus in firm performance' (with C. Montgomery), *AER*, 78, March 1988; 7. 'General equilibrium with real time search in labor and product markets', *JPE*, 96, Aug. 1988; 8. 'Umbrella branding as a signal of new product quality: an example of signalling by posting a bond', *RandJE*, 19, Autumn 1988; 9. 'On the existence of a Nash equilibrium point in n -person nonzero sum stochastic differential games', *Optimal Control Apl. and Methods*, 9, Oct.–Dec. 1988; 10. 'Diversification, Ricardian rents, and Tobin's q ' (with C. Montgomery),

RandJE, 19, Winter 1988; 11. 'Credible delegation by oligopolists: an example from distribution channel management' (with A. Coughlan), *Mgmt Sc.*, 35, Feb. 1989; 12. 'Risk reduction and umbrella branding' (with C. Montgomery), *J Bus*, 65, Jan. 1991; 13. 'Brand loyalty and market equilibrium', *Marketing Sc.*, 10, Summer 1991; 14. 'Selling formats for search goods', *Marketing Sc.*, 13, Summer 1994; 15. 'A rational reconstruction of the compromise effect', *J. Consumer Res.*, 21, March 1995; 16. 'On the nature and scope of the firm: an adjustment-cost theory', *J Bus*, 70, Oct. 1997; 17. 'Why should the boss own the assets?', *JEMS*, 11, Fall 2002.

Principal Contributions Most of my work has been concerned with the scope of the firm. My piece on the 'resource-based view' of the firm provides a general, but still quite operational, way of thinking about which markets a firm should compete in, and how it should compete in each of them. Cynthia Montgomery and I provided empirical evidence for several implications of the 'resource-based view', while David Sappington and I looked more narrowly at umbrella branding. For the past 15 years, I have been pushing the view that the employment relationship (the firm) is an implicit contract in which the employee has agreed to follow orders without renegotiating pay at each turn. The central argument is that this economizes on adjustment costs, mainly in the form of inefficiencies associated with bargaining. If adjustments are less frequent, or can be specified *ex ante*, explicit contracts can be used (*J Bus*, 1997). The theory is independent of assets and thus needs to be reconciled with the fact that bosses own most physical assets used by employees. To this end I have argued that the player controlling how an asset is used should also be the residual claimant – since he or she otherwise will abuse it (*JEMS*, 2002).

WEST, Kenneth D.

Born 1953, Urbana, IL, USA.

Current Posts Ragnar Frisch Prof. Econ., Univ. Wisconsin, Madison, WI, USA, 1998–; Res. Assoc., NBER, Cambridge, MA, USA, 1993–.

Past Posts Systems Analyst, Data Appliance Corp., 1973–74; Systems Engineer, Data General Corp., 1974–79; Asst Prof. Econ. and Public Affairs, Princeton Univ., 1983–88; Natl Fell., Hoover Inst., 1985–86; Vis. Scholar, Fed. Reserve Bd of Governors, 1988, 1989, 1990, 1992, 1993, 1996, FRB, Kansas City, 1998, 1999, Bank of Brazil 2000, FRB, St. Louis, 2001, Europ. Central Bank, 2002; Assoc. Prof. Econ., Prof. Econ., Dept Chair, Univ. Wisconsin, 1988–90, 1990–, 1999–2001; Dir., Social Systems Res. Inst., Univ. Wisconsin, 1991–94; Vis. Prof., Inst. Adv. Stud., Vienna, 1992.

Degrees BA (Econ. and Maths) Wesleyan Univ., 1973; PhD MIT, 1983.

Offices and Honours John M. Stauffer Natl Fellowship in Public Pol., Hoover Inst., 1985; Alfred P. Sloan Res. Fell., 1989; H.I. Romnes Faculty Fell., MidCareer Faculty Fellowship, Wisconsin Alumni Res. Foundation, Univ. Houses Professorship, Univ. Wisconsin, 1991, 1995, 1998; Fell., Em Soc, 1993; Abe Fellowship, 1996; Houlton–Norman Sr Fell., Bank of England, 2002; Co-Organizer, Intl Seminar on Macroecon., 2002–.

Editorial Duties Assoc. Ed., *Em*, 1990–93; Ed. Bds, *AER*, 1990–93, 1997–2000, *JMCB*, 1993–2001, *Contemporary Econ. Pol.*, 2000–; Acting Co-Ed., Co-Ed., *AER*, 1993–96; Advisory Ed., *Macroecon. Dynamics*, 1997–; Guest Co-Ed., Symposium on Empirical Macroecon. and Forecasting, *IER*, 1998, *REStat*, 1999, *J Em*, 2001; Advisory Bd, *FRB New York Econ. Pol. Rev.*, 1998–; Co-Ed., *JMCB*, 2001–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; E2

Consumption, Saving, Production, Employment, and Investment; C1 Econometric and Statistical Methods: General.

Publications Articles: 1. 'A variance bounds test of the linear quadratic inventory model', *JPE*, 94, April 1986; 2. 'A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix' (with W.K. Newey), *Em*, 55, May 1987; 3. 'A standard monetary model and the variability of the Deutschmark-dollar exchange rate', *J Int E*, 23, Aug. 1987; 4. 'A specification test for speculative bubbles', *QJE*, 102, Aug. 1987; 5. 'Dividend innovations and stock price volatility', *Em*, 56, Jan. 1988; 6. 'The insensitivity of consumption to news about income', *JME*, 21, Jan. 1988; 7. 'On the interpretation of near random walk behavior in GNP', *AER*, 78, March 1988; 8. 'Bubbles, fads and stock price volatility tests: a partial evaluation', *J Fin*, 43, July 1988; 9. 'Asymptotic normality, when regressors have a unit root', *Em*, 56, Nov. 1988; 10. 'The sources of fluctuations in aggregate inventories and GNP', *QJE*, 105, Nov. 1990; 11. 'A utility based comparison of some models of exchange rate volatility' (with H.J. Edison, D. Cho), *J Int E*, 35, Aug. 1993; 12. 'Automatic lag selection in covariance matrix estimation' (with W.K. Newey), *REStud*, 61, Oct. 1994; 13. 'The predictive ability of several models of exchange rate volatility' (with D. Cho), *J Em*, 69, Oct. 1995; 14. 'A comparison of alternative instrumental variables estimators of a dynamic linear model' (with D.W. Wilcox), *JBES*, 14, July 1996; 15. 'Asymptotic inference about predictive ability', *Em*, 64, Sept. 1996; 16. 'Business fixed investment and the recent business cycle in Japan' (with N. Kiyotaki), in B. Bernanke, J. Rotemberg (eds), *NBER Macroecon. Annual*, 1996 (MIT Press, 1996); 17. 'Regression based tests of predictive ability' (with M.W. McCracken), *IER*, 39, Nov. 1998; 18. 'In-

ventories' (with V.A. Ramey), in J. Taylor, M. Woodford (eds), *Handbook of Macroeconomics*, Vol. I (Elsevier Sc., 1999); 19. 'Encompassing tests when no model is encompassing', *J Em*, 105, Nov. 2001; 20. 'Interest rates and exchange rates in the Korean, Philippine and Thai exchange rate crises' (with D. Cho), in M. Dooley, J. Frankel (eds), *Currency Crises* (UCP, 2002).

Principal Contributions My work to date falls in two broad classes: (1) empirical macroeconomics, defined broadly to include monetary, financial and international economics, and (2) theoretical and applied time-series econometrics. First, in empirical work, I aim to develop a model that formalizes a simple idea or rationalizes a robust empirical regularity; evaluate correspondence between data and model; and consider in detail alternative interpretations of results. Results include: (a) Established as a robust fact that the variability of production tends to exceed that of sales at both two-digit and national levels, in the US and in other countries. (b) Used co-movements of inventories and output to decompose fluctuations in output into demand and cost-driven components. The two components are of roughly equal importance in the US. (c) Concluded that US stock price volatility cannot be explained by small sample bias due to unit roots, and that only a small part of the movement in stock prices is well explained by movements in discount factors as conventionally modeled or in dividends. (d) In Japan, a small estimated elasticity of investment with respect to the tax-adjusted cost of capital arguably results because changes in the cost of capital are strongly mean reverting; changes that are perceived to be permanent might well encourage large changes in investment. Second, my theoretical econometric research has been stimulated by issues raised in my empirical work. Results in-

clude techniques for: (a) Inference in regression models when (i) the disturbances depart in unknown ways from textbook conditions, or (ii) the data have unit roots but also have strong drift. Both are common occurrences in time-series work. (b) Inference about the moments of out-of-sample predictions and prediction errors, taking into account possible dependence of predictions on estimated regression parameters. (c) Instrumental variables estimation of time-series models using many instruments.

WHALEY, Robert E. n.e.

WHEATON, William C. n.e.

WHEELER, David Russell

Born 1946, Ronceverte, WV, USA.

Current Post Lead Econ., Devlp. Res. Group, World Bank, Washington, DC, USA, 1990–.

Past Posts Vis. Asst Prof., Faculty Econ. Sc., Univ. Congo, 1974–75, Dept Urban Stud. and Planning, MIT, 1978–79; Assoc. Prof. Econ., Boston Univ., 1976–90; Dir., Devlp. Stud. Project, Jakarta, Indonesia, 1987–89.

Degrees BA (Public and Intl Affairs) Princeton Univ., 1968; PhD MIT, 1974.

Honours Metcalf Prize for Excellence in Teaching, Boston Univ., 1977; UN Univ. Award for Environmental Innovation, 1996.

Principal Fields of Interest J1 Demographic Economics; O0 Economic Development, Technological Change, and Growth: General; Q2 Renewable Resources and Conservation; Environmental Management.

Publications *Books*: 1. *Human Resource Policies, Economic Growth, and*

Demographic Change in Developing Countries (OUP, 1983); 2. *Automation and World Competition: New Technologies, Industrial Location, and Trade* (with A. Mody), (Macmillan, 1990); 3. *Greening Industry: New Roles for Communities, Markets and Governments* (OUP, 2000).

Articles: 1. 'Basic needs fulfillment and economic growth: a simultaneous model', *JDE*, 7, 4, 1980; 2. 'Sources of stagnation in sub-Saharan Africa', *WD*, 12, Jan. 1984; 3. 'Towards a vanishing middle: competition in the world garment industry' (with A. Mody), *WD*, 15, Oct./Nov. 1987; 4. 'The toxic intensity of industrial production: global patterns, trends, and trade policy' (with R. Lucas, H. Hettige), *AER*, 82, May 1992; 5. 'International investment location decisions: the case of US firms' (with A. Mody), *J Int E*, 3, Aug. 1992; 6. 'Trade policy and industrial pollution in Latin America: where are the pollution havens?' (with N. Birdsall), *J. Environment and Devlp.*, 2, Dec. 1993; 7. 'Determinants of pollution abatement in developing countries: evidence from South and Southeast Asia' (with M. Huq, H. Hettige, S. Pargal), *WD*, 24, Dec. 1996; 8. 'Informal regulation of industrial pollution in developing countries: evidence from Indonesia' (with S. Pargal), *JPE*, 104, Dec. 1996; 9. 'Formal and informal regulation of industrial pollution: evidence from Indonesia and the US' (with H. Hettige, S. Pargal, M. Singh), *WBER*, 11, Sept. 1997; 10. 'In search of pollution havens? Dirty industry in the world economy, 1960–1995' (with M. Mani), *J. Environment and Devlp.*, 7, Sept. 1998; 11. 'What improves environmental compliance? Evidence from Mexican industry' (with S. Dasgupta, H. Hettige), *JEEM*, 39, Jan. 2000; 12. 'Industrial pollution in economic development: the environmental Kuznets curve revisited' (with M. Mani, H. Hettige), *JDE*, 62, Aug. 2000; 13. 'Water pollution abatement by Chinese indus-

try: cost estimates and policy implications' (with S. Dasgupta, M. Huq, C. Zhang), *Apl. Econ.*, 33, 2001; 14. 'Environmental regulation and development: a cross-country empirical analysis' (with A. Mody, S. Dasgupta, S. Roy), *Oxford Devlp. Stud.*, 29, June 2001; 15. 'Racing to the bottom? Foreign investment and air pollution in developing countries', *J. Environment and Devlp.*, 11, Sept. 2001; 16. 'Confronting the environmental Kuznets curve' (with S. Dasgupta, B. Laplante, H. Wang), *JEP*, 16, Winter 2002; 17. 'Agricultural trade, development and toxic risk' (with S. Dasgupta, Y. Jin, C. Meisner), *WD*, 30, Aug. 2002.

Principal Contributions My work has focussed on empirical studies that help clarify the relationships linking technical change, economic growth, demographic change, and environmental quality. My early publications helped establish the value of econometric modeling as a tool for demographic forecasting. My first book incorporated human resource variables into a simultaneous model of growth and demographic change, and used the econometric results to produce long-run demographic forecasts for several developing countries. The predicted population growth rates were much lower than standard (non-econometric) UN forecasts, but subsequent comparisons have shown the econometric approach to be significantly more accurate. In subsequent work with A. Mody, I studied the determinants of multinational investment, automation and the evolution of comparative advantage. The results suggested that macro- and micro-level scale economies were as important as relative factor costs, institutional differences and political risks in determining outcomes. Most recently, I have worked with a team of researchers at the World Bank to investigate the relationships linking trade, industry structure, regulation and environmental quality in

developing countries. This work has yielded a number of insights, including the relative unimportance of international 'pollution haven' effects; the significant impact of 'informal regulation' (i.e., community pressure) on polluters in developing countries where formal regulation is weak or absent; the importance of firm and plant characteristics in determining environmental performance, regardless of regulatory strictness; and the power of public environmental information as a complement to formal regulation. These insights have been incorporated into several experiments with environmental regulatory reform, undertaken in collaborative projects by the World Bank and developing-country environmental agencies. The results of these experiments are summarized in my most recent book.

WHINSTON, Michael Dennis

Born 1959, New York City, NY, USA.

Current Post Robert and Emily King Prof. Bus. Insts, Dept Econ., Northwestern Univ., Evanston, IL, USA, 1998–.

Past Posts Asst Prof. Econ., Frederick S. Danziger Assoc. Prof. Econ., Prof. Econ., Harvard Univ., 1984–88, 1988–91, 1991–98.

Degrees BS, MBA Wharton Sch., Pennsylvania Univ., 1980, 1984; PhD MIT, 1984.

Offices and Honours Alfred P. Sloan Res. Fell., 1990–92; Fell., Center Adv. Stud. Behav. Sc., 1993–94, Em Soc, 1993.

Editorial Duties Co-Ed., *RandJE*, 1991–97.

Principal Fields of Interest D0 Microeconomics: General; L0 Industrial Organization: General; L4 Antitrust Policy.

Publications *Book*: 1. *Microeconomic Theory* (with A. Mas-Colell, J. Green), (OUP, 1995).

Articles: 1. 'Common marketing agency

as a device for facilitating collusion' (with B.D. Bernheim), *RandJE*, 16, Summer 1985; 2. 'Menu auctions, resource allocation, and economic influence' (with B.D. Bernheim), *QJE*, 101, Feb. 1986; 3. 'Free entry and social inefficiency' (with N.G. Mankiw), *RandJE*, 17, Spring 1986; 4. 'Common agency' (with B.D. Bernheim), *Em*, 54, July 1986; 5. 'Coalition-proof Nash equilibria I: concepts' (with B.D. Bernheim, B. Peleg), *JET*, 42, June 1987; 6. 'Exit with multiplant firms', *RandJE*, 19, Winter 1988; 7. 'Multiproduct monopoly, commodity bundling, and correlation of values' (with R.P. McAfee, J. McMillan), *QJE*, 104, May 1989; 8. 'Multimarket contact and collusive behavior' (with B.D. Bernheim), *RandJE*, 21, Spring 1990; 9. 'Tying, foreclosure, and exclusion', *AER*, 80, Sept. 1990; 10. 'Patent expiration, entry, and competition in the US pharmaceutical industry: an exploratory analysis' (with R. Caves, M. Hurwitz), *BPEA: Microecon.*, 1991; 11. 'Incomplete contracts, vertical integration, and supply assurance' (with P. Bolton), *REStud*, 60, Jan. 1993; 12. 'Entry and competitive structure in deregulated airline markets: an event study analysis of People Express' (with S. Collins), *RandJE*, 23, Winter 1993; 13. 'On the efficiency of privately stipulated damages for breach of contract: entry barriers, reliance, and renegotiation' (with K. Spier), *RandJE*, 26, Summer 1995; 14. 'Exclusive dealing' (with B.D. Bernheim), *JPE*, 106, Feb. 1998; 15. 'Incomplete contracts and strategic ambiguity' (with B.D. Bernheim), *AER*, 88, Sept. 1998; 16. 'Exclusive contracts and protection of investments' (with I. Segal), *RandJE*, 31, Winter 2000; 17. 'Exclusivity and tying in *US v. Microsoft*: what we know and don't know', *JEP*, 15, Spring 2001; 18. 'Assessing the property rights and transaction-cost theories of firm scope', *AER Papers and Proceedings*, 91, May 2001; 19. 'The Mirrlees approach to

mechanism design with renegotiation (with applications to hold-up and risk-sharing)' (with I. Segal), *Em*, 70, Jan. 2002.

Principal Contributions My work has contributed to understanding in the fields of industrial organization, antitrust (particularly vertical practices, such as tying and exclusive dealing), contract theory, and game theory. In addition, I am co-author of *Microeconomic Theory*, one of the leading graduate textbooks on microeconomic theory.

WHITE, Alan n.e.

WHITE, Halbert L. n.e.

WHITED, Toni M. n.e.

WHITEMAN, Charles Hamilton

Born 1954, Atlantic, IA, USA.

Current Post Pioneer Hi-Bred Prof. Fin. Econ., Univ. Iowa, Iowa City, IA, USA, 1995–.

Past Posts Asst Prof., Assoc. Prof., Univ. Iowa, 1981–86, 1986–92; Vis. Asst Prof., Univ. Virginia, 1984; Vis. Assoc. Prof., Dept Econ. and Fuqua Sch. Bus., Duke Univ., 1987; Vis. Scholar, Inst. Empirical Macroecon., FRB, Minneapolis, 1993.

Degrees BA (Hons) Univ. Kansas, 1975; PhD Univ. Minnesota, 1981.

Offices and Honours Professional Excellence in Training of Econ. Award by PhD students in Econ., Univ. Iowa, 1986, 2002; MBA Prof. of Year Award, Univ. Iowa, 1986; Dir., Inst. Econ. Res., Univ. Iowa, and Chair, Iowa Econ. Forecasting Council (by appointment of Governor), 1990–97; HON Inds Excellence in Teach-

ing Award, Univ. Iowa, 1991; Faculty Scholar Award, Univ. Iowa, 1994–97; Chair, Dept Econ., Univ. Iowa, 1997–2000.

Editorial Duties Assoc. Ed., *J Em*, 1992–98, *Macroecon. Dynamics*, 1996–99, *JAE*, 1997–, *IER*, 1999–, *Em*, 2000–.

Principal Fields of Interest E3 Prices, Business Fluctuations, and Cycles; C5 Econometric Modeling; G1 General Financial Markets.

Publications Books: 1. *Linear Rational Expectation Models: A User's Guide* (Univ. Minnesota Press, 1983); 2. *Problems in Macroeconomic Theory: Solutions to Exercises from Thomas J. Sargent's Macroeconomic Theory* (Acad. Press, 1987).

Articles: 1. 'Lucas on the quantity theory: hypothesis testing without theory', *AER*, 74, Sept. 1984; 2. 'The observable implications of self-fulfilling expectations' (with J.D. Hamilton), *JME*, 16, Nov. 1985; 3. 'Spectral utility, Wiener–Hopf techniques, and rational expectations', *JEDC*, 9, 1985; 4. 'Analytical policy design under rational expectations', *Em*, 54, Nov. 1986; 5. 'The temporal stability of dividends and stock prices: evidence from the likelihood function' (with D.N. DeJong), *AER*, 81, June 1991; 6. 'Reconsidering “trends and random walks in macroeconomic time series”' (with D.N. DeJong), *JME*, 28, Nov. 1991; 7. 'Integration versus trend-stationarity in time series' (with D.N. DeJong, J. Nankervis, N.E. Savin), *Em*, 60, March 1992; 8. 'Estimating moving average parameters: classical pileups and Bayesian posteriors' (with D.N. DeJong), *JBES*, 11, July 1993; 9. 'Modelling stock prices without knowing how to induce stationarity' (with D.N. DeJong), *ET*, 10, 1994; 10. 'Supplanting the “Minnesota” prior: forecasting macroeconomic time series using real business cycle model priors' (with B.F. Ingram), *JME*, 34, Dec. 1994; 11. 'A Bayesian approach to cali-

bration' (with D.N. DeJong, B.F. Ingram), *JBES*, 14, Jan. 1996; 12. 'A daily view of yield spreads and short-term interest rate movements' (with W. Roberds, D. Runkle), *JMCB*, 28, Feb. 1996; 13. 'General-to-specific procedures for fitting a data-admissible, theory-inspired, congruent, parsimonious, encompassing, weakly-exogenous, identified, structural model to the DGP: a translation and critique' (with J. Faust), *C-RPP*, Dec. 1997; 14. 'Bayesian leading indicators: measuring and predicting economic conditions in Iowa' (with C. Otrok), *IER*, 39, Nov. 1998; 15. Endogenous term premia and anomalies in the term structure of interest rates: explaining the predictability smile' (with W. Roberds), *JME*, 44, Dec. 1999; 16. 'Keynesian impulses vs. Solow residuals: identifying sources of business cycle fluctuations' (with D.N. DeJong, B.F. Ingram), *JAE*, 15, May–June 2000; 17. 'A Bayesian approach to dynamic macroeconomics' (with D.N. DeJong, B.F. Ingram), *J Em*, 98, 2000; 18. 'Habit formation: a resolution of the equity premium puzzle?' (with C. Otrok, B. Ravikumar), *JME*, 49, Sept. 2002.

Principal Contributions My work has been in macroeconometrics, and involves the connection between data and dynamic theory. My *User's Guide* (book 1) provided a unified, 'frequency domain' framework for solving and analyzing linear rational expectations models in which it is possible to make explicit connection between the decision rules of agents or policymakers and estimable models. 'Policy design' (article 4) and related papers developed the idea of spectral utility and provided procedures for solving dynamic policy games involving expectational difference equations. Difficulties with fitting models of this sort (the restrictions they embody are too stringent for real data) led me to consider whether 'probabilistic' imposition of such restric-

tions might be carried out via Bayesian methods. ‘Temporal stability’ and ‘Reconsidering’ (articles 5 and 6) helped establish the Bayesian unit root literature, casting doubt on then existing results; while ‘Integration’ (article 7) helped establish poor performance of classical unit root tests even under ideal conditions. Methods developed for analyzing and predicting time series using a Bayesian approach developed during this effort were utilized beginning in 1990 by the University of Iowa Institute for Economic Research to produce forecasts of economic conditions and state tax revenues used by state officials in forming policy. ‘Supplanting the “Minnesota” prior’ (article 10) began development of methods for using dynamic theory as a source of prior information in time-series model estimation, while ‘A Bayesian approach’ (article 17) provided a framework for fully Bayesian analysis of dynamic models and their use in practical applications such as forecasting. My recent work involves developing new procedures for predicting macroeconomic time series using large numbers of predicting variables, the development of numerical Bayesian procedures for pricing commodity options, and development of new devices for assessing the empirical validity of models used in macroeconomics and finance.

WHITTINGTON, Dale

Born 1950, Austin, TX, USA.

Current Post Prof. Environmental Sc. and Eng., City and Regional Planning, and Public Pol., Univ. North Carolina, Chapel Hill, NC, USA, 1981–.

Past Posts Cons., Ford Foundation, Cairo Field Office, 1977–80; Water Resources Systems Analyst, Egyptian Acad. Sc. Res. and Tech., Lake Nasser–River Nile Res. Project, 1977–80; Vis. Asst

Prof., Sch. Environmental and Public Affairs, Indiana Univ., 1982; Fulbright Scholar, Inst. Environmental Stud., Univ. Khartoum, 1983; Vis. Prof., Dipartimento di Electronica, Politecnico di Milano, 1984, Dept Urban Stud. and Planning, MIT, 1997, 1998; Vis. Fulbright Lect., Inst. Rammordnung, Econ., Univ. Vienna, 1988; Cons. (long term), Infrastructure and Urban Devlp. Dept, World Bank, 1988–90.

Degrees AB Brown Univ., 1972; MPA Lyndon B. Johnson Sch. Public Affairs, Univ. Texas, Austin, 1976; MSc LSE, 1978; PhD (Interdisciplinary) Univ. Texas, Austin, 1980.

Offices and Honours Raymond Vernon Award (with D. MacRae) for best article in Vol. 5, *JPAM*, 1986; Nile Advisory Group, World Bank, 1997–; Res. Advisor, Econ. and Environment Program for Southeast Asia (EEPSEA), 1998–.

Editorial Duties Guest Ed., *Intl J. Water Resources Devlp.*, special issue on ‘Management of the Upper Nile’, 3, 1987, *Water Resources Res.*, special issue on ‘Water planning and policy in developing countries’, July 1993.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; D1 Household Behavior; R0 Urban, Rural, and Regional Economics: General.

Publications Books: 1. *Water Management Models in Practice: A Case Study of the Aswan High Dam* (with G. Guariso), (Elsevier Sc., 1983); 2. *Project and Policy Appraisal: Integrating Economics and the Environment* (with D. Pearce, S. Georgiou, D. James), (OECD, 1994); 3. *Expert Advice for Policy Choice: Analysis and Discourse* (with D. MacRae, Jr), (Georgetown Univ. Press, 1997).

Articles: 1. ‘The ambiguities of cost-benefit analysis: an evaluation of regulatory impact analyses under Executive Order 12291’ (with W.N. Grubb, M.

Humphries), in V.K. Smith (ed.), *Environmental Policy Under Reagan's Executive Order: The Role of Cost-Benefit Analysis* (Univ. North Carolina Press, 1984); 2. 'The issue of standing in cost-benefit analysis' (with D. MacRae, Jr), *JPAM*, 5, 1986; 3. 'Assessing preferences in cost-benefit analysis: reflections on rural water supply in Haiti' (with D. MacRae, Jr), *JPAM*, 7, 1988; 4. 'Calculating the value of time spent collecting water: some estimates for Ukunda, Kenya' (with X. Mu, R. Roche), *WD*, 18, Feb. 1990; 5. 'Giving respondents time to think in contingent valuation studies: a developing country application' (with V.K. Smith *et al.*), *JEEM*, 22, May 1992, repr. in K.G. Willis, K. Button, P. Nijkamp (eds), *Environmental Valuation*, Vol. I (Edward Elgar, 1999); 6. 'Possible adverse effects of increasing block water tariffs in developing countries', *EDCC*, 41, Oct. 1992; 7. 'Household demand for improved sanitation services in Kumasi, Ghana: a contingent valuation study' (with D.T. Lauria, A.M. Wright, K. Choe, J.A. Hughes, V. Swarna), *Water Resources Res.*, 29, 1993; 8. 'Administering contingent valuation surveys in developing countries', *WD*, 26, 1998; 9. 'Playing chicken on the Nile? The implications of microdam development in the Ethiopian Highlands and Egypt's New Valley Project' (with J. Waterbury), *Natural Resources Forum*, 22, Aug. 1998; 10. 'Participatory research for development projects: a comparison of the community meeting and household survey techniques' (with J. Davis), *EDCC*, 41, Oct. 1998; 11. 'Designing a neighborhood deal: for urban sewers: a case study of Semarang, Indonesia' (with J. Davis, R. Pollard, H. Miarsono), *J. Planning Educ. and Res.*, 19, 2000; 12. 'Individuals' rates of time preference in developing countries: results of a multi-country study' (with C. Poulos), *Environmental Sc. and Tech.*, 43, April 2000; 13. 'Envi-

ronmental issues', in M. Grosh, P. Glewwe (eds), *Designing Household Survey Questionnaires: Lessons from Ten Years of LSMS Experience for Developing Countries* (OUP, 2000); 14. 'The political economy of increasing block water tariffs in developing countries' (with J. Boland), in A. Dinar (ed.), *The Political Economy of Water Pricing Reforms* (OUP, 2000); 15. 'How important is improved water infrastructure to microenterprises? Evidence from Uganda' (with J. Davis, A. Kang, J. Vincent), *WD*, 29, Oct. 2001; 16. 'Private demand for a HIV/AIDS vaccine: evidence from Guadalajara, Mexico' (with O. Matsui, J. Freiburger, G. Van Houtven, S. Pattanayak), *Vaccine*, 20, 2002; 17. 'Improving the performance of contingent valuation studies in developing countries', *Environmental and Resource Econ.* 22, 2002.

Principal Contributions I have worked in four main areas in applied economics. The first is water and sanitation policy in developing countries. Here my contributions focus on water pricing and tariff design, and a better understanding of household demand for improved services. The second is the economics of water management and policy in the Nile Basin. My third area of work is the application of the contingent valuation method in developing countries. In over twenty published studies, I have demonstrated the feasibility of administering contingent valuation surveys to very poor, often illiterate respondents. Fourth, with Duncan MacRae I have discussed the importance of 'standing' in the practice of cost-benefit analysis.

WILCOX, David W. n.e.

WILCOXEN, Peter Jensen

Born 1959, Los Angeles, CA, USA.

Current Posts Assoc. Prof. Econ., and Public Admin., Syracuse Univ., Syracuse, NY, USA, 2003–; Nonresident Sr Fell., Brookings Inst., Washington, DC, USA, 1995–.

Past Posts Sr Res. Fell., Univ. Melbourne, 1989–90; Vis. Scholar, Harvard Univ., 1990–91; Asst Prof. Econ., Univ. Texas, 1991–99; Assoc. Prof. Econ., Univ. Texas, Austin, TX, USA, 1999–2003.

Degrees BA (Physics) Univ. Colorado, 1982; MA, PhD Harvard Univ., 1985, 1989.

Principal Fields of Interest Q0 Agricultural and Natural Resource Economics: General; O4 Economic Growth and Aggregate Productivity; H0 Public Economics: General.

Publications *Books*: 1. *Notes and Problems in Applied General Equilibrium Analysis* (with P.B. Dixon, B.R. Parmenter, A.A. Powell), (N-H, 1992); 2. *Climate Change Policy after Kyoto: Blueprint for a Realistic Approach* (with W.J. McKibbin), (Brookings Inst., 2002).

Articles: 1. 'Environmental regulation and US economic growth' (with D.W. Jorgenson), *RandJIE*, 21, Summer 1990; 2. 'Intertemporal general equilibrium modeling of US environmental regulation' (with D.W. Jorgenson), *J. Pol. Modeling*, 12, Winter 1990; 3. 'Global change, energy prices, and US economic growth' (with D.W. Jorgenson), *Structural Change and Econ. Dynamics*, 3, 1991; 4. 'The effects of fiscal restraint on the Australian economy as projected by the Murphy and MSG2 models: a comparison' (with B.F. Parsell, A.A. Powell), *ER*, 67, June 1991; 5. 'General-purpose software for intertemporal economic models' (with G. Codsì, K.R. Pearson), *Computer Sc. Econ. and Mgmt*, 5, Feb. 1992; 6. 'Carbon taxes and economic welfare' (with D.W.

Jorgenson, D.T. Slesnick), *BPEA*, 1992; 7. 'The economic impact of the Clean Air Act Amendments of 1990' (with D.W. Jorgenson), *Energy J.*, 14, 1993; 8. 'Reducing US carbon emissions: an econometric general equilibrium assessment' (with D.W. Jorgenson), *Resource and Energy Econ.*, 15, March 1993; 9. 'Supply elasticities in the presence of adjustment costs', *J. Pol. Modeling*, 15, 1993; 10. 'Reducing US carbon dioxide emissions: an assessment of alternative instruments' (with D.W. Jorgenson), *J. Pol. Modeling*, 15, Oct.–Dec. 1993; 11. 'The long-run dynamics of fundamental tax reform' (with D.W. Jorgenson), *AER*, 87, May 1997; 12. 'Fundamental US tax reform and energy markets' (with D.W. Jorgenson), *Energy J.*, 18, 1997; 13. 'The theoretical and empirical structure of the G-cubed model' (with W.J. McKibbin), *Econ. Modelling*, 16, 1999; 14. 'Emissions trading, capital flows and the Kyoto Protocol' (with W.J. McKibbin, M. Ross, R. Shackleton), *Energy J.*, 20, May 1999; 15. 'What to expect from an international system of tradable permits for carbon emissions' (with W.J. McKibbin, R. Shackleton), *Resource and Energy Econ.*, 21, 1999; 16. 'An econometric look at the double dividend hypothesis' (with S.D. Tuladhar), *NTA Proceedings 1998*, 1999; 17. 'The role of economics in climate change policy' (with W.J. McKibbin), *JEP*, 16, Spring 2002.

Principal Contributions The fundamental theme of my work has been measuring the effect of environmental and tax policy on capital formation and economic growth. About a third of my work has been devoted to quantifying the effects of actual regulations, such as the US Clean Air Act, after they have been in operation. Another third has examined the likely effects of proposed policies, such as a shift in the US tax system toward a consumption tax basis or a national or international agreement intended to control cli-

mate change. The remaining third of my work has been on improvements in the methodology of econometric general equilibrium modeling.

WILDASIN, David Earl

Born 1950, Willimantic, CT, USA.

Current Posts Endowed Prof. Public Fin., Martin Sch. Public Pol., and Prof., Dept Econ., Univ. Kentucky, Lexington, KY, USA, 2000–.

Past Posts Teaching and Res. Asst, Dept Econ., Univ. Iowa, 1972–76; Asst Prof., Dept Econ., Univ. Illinois, 1976–79; Asst Prof., Assoc. Prof., Prof., Dept Econ., Indiana Univ., 1979–82, 1982–86, 1986–93; Vis. Assoc. Prof., Dept Econ., Queen's Univ., 1982–83; Res. Assoc. and Vis. Prof. Econ., CORE, Univ. Catholique de Louvain, 1986–87; Vis. Positions, Univ. Bonn, 1987, 1990, CORE, Univ. Catholique de Louvain, 1989, Gadjah Mada Univ., 1990, Royal Inst. Tech., Stockholm, 1990, Univ. Munich, 1991, UBC, 1991, Univ. Helsinki, 1993, Norwegian Sch. Econ. and Bus. Admin., Bergen, 1994, École des Hautes Études en Sc. Sociales, Marseille, 1995, Europ. Univ. Inst., 1995, Econ. Pol. Res. Unit, Copenhagen Bus. Sch., 1996, Uppsala Univ., 1997; Prof., Dept West Europ. Stud., Indiana Univ., 1993; Prof., Dept Econ., Vanderbilt Univ., 1993–2000; Cons., Public Econ. Div., Pol. Res. Dept, World Bank, 1995–96.

Degrees BA Univ. Virginia, 1972; PhD Univ. Iowa, 1976.

Offices and Honours CESifo Res. Fell., 1999–; Forschungsinstitut zur Zukunft der Arbeit Res. Fell., 2000–.

Editorial Duties Assoc. Ed., *RSUE*, 1987–, *J. Regional Sc.*, 1989–, *JUE*, 1991–, *ITPF*, 1994–, *J. Public Econ. Theory*, 1999–; Book Rev. Ed., *RSUE*, 1987–96; Guest Co-Ed. (with J.D.

Wilson), *RSUE*, special issue on 'Theoretical issues in local public economics', 21, Nov. 1991; Ed. Council, *Rev. Intl Econ.*, 1994–; Guest Ed., *ITPF*, special issue on 'Fiscal aspects of evolving federations', 3, May, 1996; Co-Ed., *ITPF*, Pol. Watch Section, 1997–2000; Ed. Bd, *NTJ*, 1998–, *J Pub E*, 1999–, *Papers Regional Sc.*, 1999–2001, *German Econ. Rev.*, 2000–02, *Finanzarchiv*, 2000–; Managing Ed., *German Econ. Rev.*, 2002–; Ed., *CESifo Econ. Stud.*, 2003–.

Principal Fields of Interest H0 Public Economics: General; R0 Urban, Rural, and Regional Economics: General; F0 International Economics: General.

Publications *Books*: 1. *Public Sector Economics* (2nd edn with R. Boadway), (Little, Brown, 1984; trans., Spanish, 1986, Korean, 1988, Chinese, 2000); 2. *Urban Public Finance* (Harwood Acad., 1986, repr., *Regional and Urban Economics*, Pt 2, 1996; trans., Chinese, in progress); 3. *Fiscal Aspects of Evolving Federations* (ed.), (CUP, 1997).

Articles: 1. 'Local public goods, property values, and local public choice', *JUE*, 6, Oct. 1979; 2. 'Locational efficiency in a federal system', *RSUE*, 10, Nov. 1980; 3. 'The q theory of investment with many capital goods', *AER*, 74, March 1984; 4. 'On public good provision with distortionary taxation', *EI*, 22, April 1984; 5. 'Theoretical analysis of local public economics', in E.S. Mills (ed.), *Handbook of Regional and Urban Economics*, Vol. 2 (N-H, 1987); 6. 'Nash equilibria in models of fiscal competition', *J Pub E*, 35, March 1988; 7. 'Interjurisdictional capital mobility: fiscal externality and a corrective subsidy', *JUE*, 25, March 1989; 8. 'A median voter analysis of social security' (with R. Boadway), *IER*, 30, May 1989; 9. 'Non-neutrality of debt with endogenous fertility', *OEP*, 42, April 1990; 10. 'Budgetary pressures in the EEC: a fiscal federalism perspective', *AER*, 80,

May 1990; 11. 'Income redistribution in a common labor market', *AER*, 81, Sept. 1991; 12. 'Some rudimentary "duopoly" theory', *RSUE*, 21, Nov. 1991; 13. 'Income redistribution and migration', *CJ*, 27, Aug. 1994; 14. 'Factor mobility, risk, and redistribution in the welfare state', *Scand JE*, 97, 1995; 15. 'Factor mobility and redistributive policy: local and international perspectives', P.B. Sorensen (ed.), *Public Finance in a Changing World* (Macmillan, 1998); 16. 'Labor market integration, investment in risky human capital, and fiscal competition', *AER*, 90, March 2000; 17. 'Factor mobility and fiscal policy in the EU: policy issues and analytical approaches', *Econ. Pol.*, 31, Oct. 2000.

Principal Contributions Much of my research has dealt with issues in 'open economy public economics' (e.g., in specific applications, 'state and local public finance', 'international public economics', etc.) and fiscal federalism. This research examines fundamental public economics questions: what are the efficiency and distributional consequences of public policies, and why do governments choose the policies that they do? My early work in this field analyzes efficient local taxation, capitalization and revelation of preferences for local public goods, and the incentive and distributional effects of intergovernmental transfers. More recently, I have worked (alone and with several co-authors) on tax competition and tax exporting and its implications for income redistribution; the implications of factor market integration for redistribution, risk-sharing, and related policy issues such as EU enlargement; investment in human capital; and fiscal decentralization in LDCs. Currently, I am studying the taxation of multi-state/national corporations, optimal taxation in the international context, labor market institutions, fiscal discipline and bailouts in federations, and the fiscal adjustment process of sub-

national governments. Political economy and institutional issues are intertwined with this research. I have also studied the effects of public policies on investment, savings, fertility, growth, urban form, and the environment, as well as the theory of optimal taxation, benefit-cost analysis, and the political economy of public pensions. My applied work on such topics as fiscal policies in LDCs, state government tax policy, economic integration and public pensions in Europe, and the marginal cost of public funds motivates and is motivated by my theoretical research on federalism, optimal taxation, and urban, regional, and international economics. When time permits, I like to read, rediscover and hopefully (re)popularize ideas in classic works like those of R.M. Haig, E. Heckscher, and others.

WILLIAMSON, Jeffrey Gale

Born 1935, New Haven, CT, USA.

Current Post Laird Bell Prof., Harvard Univ., Cambridge, MA, USA, 1984–.

Past Posts Asst Prof. Econ., Assoc. Dir., Grad. Program Econ. Devlp., Vanderbilt Univ., 1961–63, 1962–63; Asst Prof., Assoc. Prof., Prof., Univ. Wisconsin, 1963–64, 1964–68, 1968–83; Vis. Prof., Prof., Chair, Harvard Univ., 1972, 1983–84, 1997–2000; Vis. Prof., Univ. Philippines, 1967–68, Stanford Univ., 1976–77, Cambridge Univ., 1978, Europ. Univ. Inst., 1994–95, Univ. Copenhagen, 2000, Stockholm Sch. Econ., 2000; Vis. Res. Scholar, Intl Inst. Apl. Systems Analysis, Austria, 1978–80, ANU, 1988; Cons., Res. Cons., IBRD, 1973–, 1981–82; Vis. Disting. Prof., Osaka Gakuin Univ., 1994; Vis. Lect., Keil Inst. World Econ., 1995; Sr Lect., Univ. Groningen, 1995.

Degrees BA (Maths) Wesleyan Univ., 1957; MA, PhD Stanford Univ., 1959, 1961.

Offices and Honours Cole Prize, 1971; Hon. MA, Harvard Univ., 1984; Galbraith Teaching Prize, Harvard, 1984, 1995; Guggenheim Foundation Fell., 1976–77; Vice-Pres., Pres., EHA, 1982–83, 1994–95; Mem., Econ. Panel, NSF, 1984–86; Master, Mather House, Harvard, 1986–93; Bd Trustees, Wesleyan Univ., 1988–94; Res. Assoc., NBER, 1991–; Trustee, Cliometrics Soc., 1991–95; Jean Monnet Fell., Europ. Univ. Inst., 1994; Hughes Teaching Prize, EHA, 2000.

Editorial Duties Ed. Bds, *Explor. Econ. Hist.*, 1965–69, 1973–74, 1977–86, *EDCC*, 1969–, *JEH*, 1983–87, *Intl Regional Sc. Rev.*, 1985–, *Thesis: Theory and Hist.*, 1991–, *Europ. Rev. Econ. Hist.*, 1995–; Co-Ed., Assoc. Ed., *Explor. Econ. Hist.*, 1969–73, 1974–77; Assoc. Ed., *REStat*, 1972–93, *JDE*, 1985–90, *BER*, 1995–; Advisory Bd, *Econ. Res. Network*, 2000–.

Principal Fields of Interest N0 Economic History: General; O1 Economic Development.

Publications *Books*: 1. *Late Nineteenth-century American Development: A General Equilibrium History* (CUP, 1974); 2. *American Inequality: A Macroeconomic History* (with P.H. Lindert), (Acad. Press, 1980); 3. *What Drives Third World City Growth?* (with A.C. Kelley), (Princeton Univ. Press, 1984); 4. *Did British Capitalism Breed Inequality?* (A&U, 1984); 5. *Coping with City Growth During the British Industrial Revolution* (CUP, 1990); 6. *Inequality, Poverty and History* (Blackwell, 1991); 7. *Industrialization, Inequality and Economic Growth* (Edward Elgar, 1997); 8. *The Age of Mass Migration: Causes and Economic Impact* (with T.J. Hatton), (OUP, 1998); 9. *Globalization and History: The Evolution of a 19th Century Atlantic Economy* (with K. O'Rourke), (MIT, 1999); 10. *Globalization in Historical Perspective* (ed. with M. Bordo, A.M. Taylor), (UCP/NBER, 2002).

Articles: 1. 'Was the industrial revolution worth it? Disamenities and deaths in 19th-century British towns', *Explor. Econ. Hist.*, 19, July 1982; 2. 'English workers' living standards during the industrial evolution: a new look' (with P.H. Lindert), *EHR*, 2nd series, 36, Feb. 1983; 3. 'The impact of the corn laws just prior to repeal', *Explor. Econ. Hist.*, 27, April 1990; 4. 'What explains wage gaps between farm and city? Exploring the Todaro model with American evidence 1890–1941' (with T.J. Hatton), *EDCC*, 40, Jan. 1992; 5. 'Capital flows to the New World as an intergenerational transfer' (with A.M. Taylor), *JPE*, 102, April 1994; 6. 'Globalization, convergence and history', *JEH*, 56, June 1996; 7. 'Demographic transitions and economic miracles in emerging Asia' (with D. Bloom), *WBER*, 12, Sept. 1998; 8. 'Globalization, labor markets and policy backlash in the past', *JEP*, 12, Fall 1998; 9. 'Land, labor and globalization in the third world 1870–1940', *JEH*, 62, March 2002; 10. 'After Columbus: explaining Europe's overseas trade boom, 1500–1800' (with K. O'Rourke), *JEH*, 62, June 2002.

Principal Contributions Empirical application of independent systems to problems in Japanese, American, European and third world 19th and 20th century economic development. In particular, the application of dynamic and static general equilibrium models to industrial revolutions in history, assessing the role of world price shocks, demographic forces and unbalanced technological progress. Modeling the accumulation process in history. Extensions to contemporary LDCs. Examination of both 'saving-driven' and 'investment-driven' models. Part of a larger research project exploring the long-term wealth portfolio changes among assets in land, government debt, foreign capital, human capital and conventional capital. The impact of international migration,

capital flows and commodity trade on global factor price convergence since 1492. Why and when the convergence stopped. Why and when it resumed. Worldwide focus, assessing open economy forces on the OECD club, the European periphery, Latin America, Asia, and the Mediterranean Basin, mostly over the past two centuries. Understanding the causes and the consequences of mass migrations under various world environmental conditions from the Irish famine to modern Africa. The evolution of world living standards since 1820. Collection and analysis of purchasing power parity adjusted real wages for comparable work and comparable workers. Includes both Western and Eastern Europe, the Mediterranean Basin, Latin America, North America and Australasia, and Asia. Offers evidence on relative factor and commodity prices to assess competing growth and globalization hypotheses that GDP aggregates cannot. A new economic history of the economic performance around the periphery since 1820. Topics including de-industrialization, the terms of trade debate, inequality, South–South mass migrations, the Lucas paradox, elastic labor supplies and other issues.

WILLIAMSON, Oliver Eaton

Born 1932, Superior, WI, USA.

Current Post Edgar F. Kaiser Prof. Bus. Admin., Prof. Econ., Prof. Law, Univ. California, Berkeley, CA, USA, 1988–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Univ. California, Berkeley, 1963–65, 1965–68; Prof. Econ., Univ. Pennsylvania, 1968–83; Special Econ. Asst, Antitrust Div., US Dept Justice, 1966–67; Gordon B. Tweedy Prof. Econ., Law and Org., Yale Univ., 1983–88.

Degrees BS MIT, 1955, MBA Stanford Univ., 1960; PhD Carnegie-Mellon Univ., 1963.

Offices and Honours Fell., Em Soc, 1977, AAAS, 1983; Mem., NAS, 1994; Pres., Amer. Law and Econ. Assoc., 1998; Pres., WEA, 1999; Pres.-Elect, Int. Soc. New Institutional Econ., 1999.

Editorial Duties Co-Ed., *JLEO*.

Principal Fields of Interest A1 General Economics; M1 Business Administration; L0 Industrial Organization: General.

Publications Books: 1. *The Economics of Discretionary Behavior* (Prentice-Hall, 1964); 2. *Corporate Control and Business Behavior* (Prentice-Hall, 1970); 3. *Markets and Hierarchies* (Free Press, 1975); 4. *The Economic Institutions of Capitalism* (Free Press, 1985); 5. *Economic Organization* (Wheatsheaf Books, 1986); 6. *The Mechanisms of Governance* (OUP, 1995).

Articles: 1. ‘Managerial discretion and business behavior’, *AER*, 53, Dec. 1963; 2. ‘Economies as an antitrust defense’, *AER*, 58, March 1968; 3. ‘The vertical integration of production’, *AER*, 61, May 1971; 4. ‘Understanding the employment relation’ (with M. Wachter, J. Harris), *Bell JE*, 6, Spring 1975; 5. ‘Franchise bidding for natural monopolies’, *Bell JE*, 7, Spring 1976; 6. ‘Transaction cost economics’, *J Law E*, 22, Oct. 1979; 7. ‘Credible commitments: using hostages to support exchange’, *AER*, 73, Sept. 1983; 8. ‘Comparative economic organization: the analysis of discrete structural alternatives’, *Admin. Sc. Q.*, 36, June 1991; 9. ‘Calculativeness, trust, and economic organization’, *J Law E*, 36, April 1993; 10. ‘Transaction cost economics and organization theory’, *Ind. Corp. Change*, 2, 1993.

Principal Contributions I became an economist with interdisciplinary interests because, in the convoluted course of events, that was the natural thing to do. Being a PhD student at Carnegie-Mellon in the early 1960s was an exciting experi-

ence. The study of economic organisation – within and between markets and hierarchies, to include both standard and non-standard forms of contracting – became an obsession thereafter. The four key academic figures in my research on problems of economic organisation were Kenneth Arrow, Alfred D. Chandler, Jr, Ronald Coase and Herbert Simon. Although I had only two (Arrow and Simon) in the classroom, I regard Chandler and Coase as my teachers nonetheless. From Arrow I learned about the importance of information and not to shoe-horn difficult problems into orthodox boxes. Chandler taught me that organisational innovation was an important and neglected phenomenon that had pervasive ramifications for understanding American industry. Coase taught me that transaction costs were central to the study of economic organisation and that such studies should be performed in a comparative institutional manner. And Simon taught me that behavioural assumptions were important and not to be intimidated by disciplinary boundaries. It has given me satisfaction to have been a participant in helping to shape the ‘new institutional economics’ during the past 20 years and to see research contributions reflected in public policy reforms – especially in the area of antitrust. Not only do the revised ‘merger guidelines’ reflect the importance of economies as an antitrust defence, but the concept of the firm as a governance structure (rather than as a production function) has taken a secure hold. Increasingly, much of the relevant action is perceived to reside in the mechanisms of governance. That is what transaction cost economics is all about.

WILLIS, Kenneth George

Born 1944, Houghton-le-Spring, Co. Durham, England.

Current Posts Prof. Environmental Econ. and Dir., Centre for Res. in Environmental Appraisal and Mgmt, Dept Architecture and Planning, Univ. Newcastle upon Tyne, Newcastle upon Tyne, UK, 1994–.

Past Posts Sr Res. Assoc. Agric. Econ., Lect., Sr Lect., Reader, Newcastle Univ., 1970–72, 1974–86, 1986–90, 1990–94; Sr Res. Officer, UK Dept Environment, 1972–74.

Degrees BSc London Univ., 1966; PhD Newcastle Univ., 1970.

Principal Fields of Interest Q2 Renewable Resources and Conservation; Environmental Management; Q3 Nonrenewable Resources and Conservation; D6 Welfare Economics.

Publications *Books*: 1. *Problems in Migration Analysis* (Heath, 1974); 2. *Rural Resource Development* (with M. Whitby), (Methuen, 1974, 1978); 3. *Economics of Town and Country Planning* (Collins, 1980); 4. *Valuing Environmental Preferences: Theory and Practice of the Contingent Valuation Method in the US, EU, and Developing Countries* (ed. with I. Bateman), (OUP, 1999); 5. *Economic Valuation of the Environment* (with G. Garrod), (Edward Elgar, 1999); 6. *Comparative Environmental Economic Assessment: Meta-Analysis and Benefit Transfer* (ed. with P. Nijkamp, R. Florax), (Edward Elgar, 2002).

Articles: 1. ‘Influence of spatial structure and socio-economic factors on migration rates’, *Regional Stud.*, 6, Jan 1972; 2. ‘Value of green belt land’ (with M. Whitby), *J. Rural Stud.*, 1, March 1985; 3. ‘Impact of a development agency on employment: resurrection discounted?’ (with C. Saunders), *Apl. Econ.*, 20, Jan. 1988; 4. ‘Impact of agricultural policy on the costs of nature conservation’ (with J. Benson, C. Saunders), *Land Econ.*, 64, May 1988; 5. ‘Valuing non-market wildlife commodities: an evaluation and com-

parison of benefits and costs', *Apl. Econ.*, 22, Jan. 1990; 6. 'Econometric and cultural analysis of rent control in Kumasi, Ghana (with S. Malpezi, G. Tipple), *Urb Stud*, 27, April 1990; 7. 'Individual travel-cost method of evaluating forest recreation' (with G. Garrod), *JAE*, 42, Jan. 1991; 8. 'Amenity value of forests in Great Britain and its impact on the internal rate of return from forestry' (with G. Garrod), *Forestry*, 65, Sept. 1992; 9. 'Not from experience: a comparison of experts' opinions and hedonic price estimates of the incremental value of property attributable to an environmental feature' (with G. Garrod), *J. Property Res.*, 10, June 1993; 10. 'Judging development control decisions', *Urb Stud*, 32, Aug. 1995; 11. 'Non-use benefits of enhancing forest biodiversity: a contingent ranking study' (with G. Garrod), *Ecological Econ.*, 21, Jan. 1997; 12. 'Water companies and river environments: the external costs of water abstraction' (with G. Garrod), *Utilities Pol.*, 7, March 1998; 13. 'Externalities from extraction of aggregates: regulation by tax or land-use controls' (with G. Garrod), *Resources Pol.*, 25, Jan. 1999; 14. 'Benefits of traffic calming on through routes: a choice experiment approach' (with G. Garrod, R. Scarpa), *J Transp EP*, 36, May 2002.

Principal Contributions Early work investigated the influence of the structure of space and occupational structures on migration; and the effect of government regulation on housing markets. However, most of my work has related to welfare and environmental economic and their applications. This has identified the costs and benefits of various town-planning policies such as green belts, factory development in rural areas, the efficacy of regulation by tax or environmental and land-use controls, and how decisions are made in land-use planning. Research has also demonstrated the importance for

allocative efficiency of incorporating external costs and benefits into other environmental regulatory policies with regard to biodiversity and regulation of water abstraction. I have also made contributions to the development of travel-cost, hedonic pricing, contingent valuation, and choice experiment methods in environmental valuation.

WILSON, John Douglas (Jay)

Born 1952, Bronxville, NY, USA.

Current Post Prof. Econ., Dept Econ., Michigan State Univ., East Lansing, MI, USA, 1998–.

Past Posts Asst Prof., Dept Econ., Columbia Univ., 1979–85; Vis. Asst Prof., Dept Econ., Univ. Wisconsin, 1984–85; Assoc. Prof., Prof., Dept Chair, Dept Econ., Indiana Univ., 1985–90, 1990–98, 1992–96.

Degrees AB Brown Univ., 1975; PhD MIT, 1979.

Honour Phi Beta Kappa, 1975.

Editorial Duties Assoc. Ed., *J Int E*, 1988–91, 1995–2001, *Econ. and Polit.*, 1990–, *ITPF*, 1998–2001, *J Pub E*, 1998–, *J. Public Econ. Theory*, 1998–; Bd Eds, *AER*, 1989–94; Ed. Bd, *JUE*, 1991–; Co-Ed., *J Int E*, 1992–95; Ed.-in-Chief, *ITPF*, 2001–.

Principal Fields of Interest F1 Trade; F2 International Factor Movements and International Business; H0 Public Economics; General.

Publications Articles: 1. 'The effect of potential emigration on the optimal linear income tax', *J Pub E*, 14, 1980; 2. 'The optimal public employment policy', *J Pub E*, 17, 1982; 3. 'Optimal road capacity in the presence of unpriced congestion', *JUE*, 13, 1983; 4. 'The excise tax effects of the property tax', *J Pub E*, 24, 1984; 5. 'A theory of interregional tax competition', *JUE*, 19, 1986; 6. 'Lobbying and tariff

formation: a deadweight loss consideration' (with S. Wellisz), *J Int E*, 20, 1986; 7. 'An examination of multijurisdictional corporate income taxation under formula apportionment' (with R. Gordon), *Em*, 54, 1986; 8. 'Trade in a Tiebout economy', *AER*, 77, 1987; 9. 'Trade, capital mobility and tax competition', *JPE*, 95, 1987; 10. 'Measuring the efficiency cost of taxing risky capital income' (with R. Gordon), *AER*, 79, 1989; 11. 'On the optimal tax base for commodity taxation', *AER*, 79, 1989; 12. 'Optimal public good provision with limited lump-sum taxation', *AER*, 81, 1991; 13. 'Tax competition with two tax instruments' (with S. Bucovetsky), *RSUE*, 21, 1991; 14. 'Mobile labor, multiple tax instruments, and tax competition', *JUE*, 38, 1995; 15. 'Imperfect mobility and local government behavior in an overlapping-generations model' (with D. Wildasin), *J Pub E*, 60, 1996; 16. 'Political reform and trade policy' (with R. Riezman), *J Int E*, 42, 1997; 17. 'Income redistribution with well-informed local governments' (with H. Raff), *ITPF*, 4, 1997; 18. 'Imperfectly mobile households and durable local public goods: does the capitalization mechanism work?' (with P. Sprunger), *JUE*, 44, 1998; 19. 'Risky local tax bases: risk-pooling vs. rent-capture' (with D. Wildasin), *J Pub E*, 69, 1998; 20. 'Theories of tax competition', *NTJ*, 52, 1999.

Principal Contributions My early contributions were in the area of optimal income taxation, including the implications of migration for the optimal income tax, and also how a government should deviate from aggregate production efficiency when designing its employment policy. I also investigated other second-best issues, including how the use of commodity taxation alters optimal public good supplies from their first-best levels, and optimal road investment in the presence of unpriced road congestion. My early inter-

ests in international and interjurisdictional factor mobility led to a series of contributions on tax competition among independent governments. I developed a theory showing how competition for mobile capital leads to inefficiently low taxes and public good levels. I later extended this theory to encompass multiple tax instruments, mobile labor, and goods trade. Another paper investigated some unique incentive effects created by multijurisdictional corporate income taxation under formula apportionment. My work in the area of international trade has included models of endogenous tariff formation, and also an extension of Tiebout's theory of efficient local public goods provision to include goods trade. Several of my papers have investigated the design and effects of various tax and expenditure policies in the presence of technological uncertainty or asymmetric information.

WILSON, Paul W. n.e.

WILSON, Robert Butler

Born 1937, Geneva, NB, USA.

Current Post McBean Prof. Decision Sc., Grad. Sch. Bus., Stanford Univ., Stanford, CA, USA, 1971–.

Past Posts Asst Prof., Univ. California, Berkeley, 1963–64; Asst Prof., Assoc. Prof., Stanford Univ., 1964–71.

Degrees BA (Maths), MBA, DBA Harvard Univ., 1959, 1961, 1963.

Offices and Honours Fell., Em Soc, 1976, AAAS, 1981; Ford Foundation Fell., 1967–68; Fell., Centre Adv. Study Behav. Sc., Stanford, 1977–78; Guggenheim Foundation Fell., 1982–83.

Editorial Duties Assoc. Ed., *Em*, 1979–; Mem., Econ. Panel, NSF, 1980–82.

Principal Fields of Interest A1 Gen-

eral Economics; C6 Mathematical Methods and Programming; C7 Game Theory and Bargaining Theory.

Publications *Articles*: 1. 'Theory of syndicates', *Em*, 36, Jan. 1968; 2. 'Computing equilibria of n -person games', *SIAM J. Appl. Maths*, 21, July 1971; 3. 'On the theory of aggregation', *JET*, 10, Feb. 1975; 4. 'A bidding model of "perfect" competition', *REStud*, 4, Oct. 1977; 5. 'The bilinear complementarity problem and competitive equilibria of piecewise-linear economic models', *Em*, 46, Jan. 1978; 6. 'Competitive exchange', *Em*, 46, May 1978; 7. 'Information, efficiency, and the core of an economy', *Em*, 46, July 1978; 8. 'Sequential equilibria' (with D. Kreps), *Em*, 50, July 1982; 9. 'Reputation and imperfect information' (with D. Kreps), *JET*, 27, Aug. 1982; 10. 'Capacity pricing' (with S. Oren, S. Smith), *Em*, 53, 1985.

Principal Contributions I think it is possible to reconstruct economic theory from a foundation in game theory, and indeed many contributors are advancing the task. The methodology has improved (though much remains) and it enables inclusion of realistic features: strategic behaviour, informational disparities, timing and dynamics. Capturing the effects of incentives on efficiency is primary, both in trading processes (bargaining, auctions, bid-ask markets, etc.) and in contracting and the organisation of firms. Pricing strategy is also a candidate, especially discriminatory practices and public-utility pricing where self-selection is important, but also competitive battles (price wars, entry and exit). The fine structure of markets is poorly modelled, in my view, and the theory barely conveys the richness of practice; this would be fine if theory captured the main features but actually it misses essentials. The challenge is more often the right formulation than the analysis. A genuine welfare economics awaits a better understanding of product and fac-

tor (especially labour) markets. The reliance of game theory on assumed common knowledge and perfect 'rationality' is an analytical strength and a practical deficiency. The robustness of this approach depends mainly on showing that simple strategies suffice for the important economic institutions. Practical studies of management, and especially investment and pricing, are my best source of theoretical topics; I continue to be amazed at the estrangement of so much economic theory, and many economists, from current practice in the field they study. I intend to return to social choice theory and political science with the tools of game theory. I see social science as modern philosophy with a realistic bent, and think it can make a difference by explicating classical conundrums; e.g., an analysis of a bargaining game sheds more light than any axiomatisation. I retain an interest in risk-sharing, public enterprises, and even markets, that achieve co-operatively efficient outcomes with economies of numbers, scale, or information; public utility investments and pricing need considerable work. My early interest in computational topics waned as micro-seconds became cheaper. Working with doctoral students is a great pleasure.

WINER, Russ S. n.e.

WINSTON, Clifford

Born 1952, Flushing, NY, USA.

Current Post Sr Fell., Econ. Stud. Program, Brookings Inst., Washington, DC, USA, 1986-.

Past Posts Res. Assoc., Brookings Inst., 1984-86; Asst Prof., Assoc. Prof., MIT, 1979-84.

Degrees AB, PhD Univ. California, Berkeley, 1974, 1979; MSc LSE, 1975.

Editorial Duties Co-Ed., *BPEA: Micro-econ.*, 1987–98.

Principal Fields of Interest L9 Industry Studies: Utilities and Transportation; L5 Regulation and Industrial Policy; R4 Transportation Systems.

Publications *Books*: 1. *The Economic Effects of Airline Deregulation* (with S. Morrison), (Brookings Inst., 1986); 2. *Blind Intersection? Policy and the Automobile Industry* (with others), (Brookings Inst., 1987); 3. *Liability: Perspectives and Policy* (with R. Litan), (Brookings Inst., 1988); 4. *Road Work: A New Highway Pricing and Investment Policy* (with K. Small, C. Evans), (Brookings Inst., 1989); 5. *The Economic Effects of Surface Freight Deregulation* (with others), (Brookings Inst., 1990); 6. *The Evolution of the Airline Industry* (with S. Morrison), (Brookings Inst., 1995); 7. *Alternate Route: Toward Efficient Urban Transportation* (with C. Shirley), (Brookings Inst., 1998); 8. *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer* (with J. Gomez-Ibanez, W. Tye), (Brookings Inst., 1999); 9. *Deregulation of Network Industries: What's Next?* (with S. Peltzman), (Brookings Inst., 2000).

Articles: 1. 'A disaggregate model of the demand for intercity freight transportation', *Em*, 49, July 1981; 2. 'Costs, technology and productivity in the US automobile industry' (with A. Friedlaender, D. Wang), *Bell JE*, 14, Spring 1983; 3. 'Conceptual developments in the economics of transportation: an interpretive survey', *JEL*, 23, March 1985; 4. 'A dynamic empirical analysis of household vehicle ownership and utilization' (with F. Mannering), *RandJE*, 16, Summer 1985; 5. 'Empirical implications and tests of the contestability hypothesis' (with S. Morrison), *J Law E*, 30, April 1987; 6. 'Optimal highway durability' (with K. Small), *AER*, 78, June 1988; 7. 'Enhancing the performance of the deregulated air transportation system'

(with S. Morrison), *BPEA*, 1, 1989; 8. 'Efficient transportation infrastructure policy', *JEP*, 5, Winter 1991; 9. 'Economic deregulation: days of reckoning for micro-economists', *JEL*, 31, Sept. 1993; 10. 'US industry adjustment to economic deregulation', *JEP*, 12, Spring 1998; 11. 'Government failure in urban transportation', *Fiscal Stud.*, 21, Dec. 2000.

Principal Contributions My research has focussed on the economics of transportation, leading to a broader concentration in regulatory and infrastructure policy analysis. Early work was concerned with freight transportation demand and cost modeling and the inefficiencies of freight transportation regulation and the benefits from deregulation. I complemented this work with analyses of the airline industry and studies of the effects of deregulation of this industry. My recent work in this area has characterized the airline industry's evolution as it continues to adjust to deregulation. I have summarized the effects of deregulation of the transportation and other major industries (article 9). I have also characterized the long-run adjustment of industries to deregulation and drawn implications for industries beginning the transition to deregulation (article 10). I have recently extended my work in transportation deregulation by analyzing the benefits from privatizing urban transportation (article 11). I have also contributed to the analysis of public investment in transportation infrastructure by quantifying the benefits from efficient pricing of and investment in highways and airports. My recent work in this area has investigated the apparent resistance to efficient road pricing and possible ways to overcome it. I have synthesized my contributions in this area (article 8). Finally, I have analyzed market conditions and policy issues facing the automobile industry. I have extended and applied dynamic discrete choice models to analyze

the demand for automobiles and developed and estimated multiproduct cost functions to characterize automobile production technology. These models have been used to understand the effects of trade policies on the automobile industry, consumer preferences for automobile safety features, the effects of automobile safety regulation, and the recent growth in automobile leasing.

WISE, David A. n.e.

WOLFE, Barbara L.

Born 1943, Philadelphia, PA, USA.

Current Post Prof., Depts Econ., Pop. Health Sc. and LaFollette Sch. Public Affairs, Univ. Wisconsin-Madison, Madison, WI, USA, 1987–.

Past Posts Econ. Cons., FRB, Philadelphia, 1972–76; Asst Prof., Dept Econ., Bryn Mawr Coll., 1973–76; Asst Prof., Assoc. Prof., Depts Econ. and Preventive Medicine, Univ. Wisconsin-Madison, 1977–81, 1981–87; Sr Staff Assoc., Office Vice-Chancellor for Health Sc., Univ. Wisconsin-Madison, 1982–91; Dir., Inst. Res. on Poverty, Univ. Wisconsin-Madison, 1994–2000.

Degrees BA Cornell Univ., 1965; MA, PhD Univ. Pennsylvania, 1971, 1973.

Offices and Honours Affiliate, Assoc., Dir., Inst. Res. on Poverty, 1976–77, 1977–, 1994–2000; Assoc. Mem., Wisconsin Clinical Cancer Center, 1982–89; Fell., Netherlands Inst. Adv. Study, 1984–85, 1996–97, ANU, 2001–; Exec. Chair, Center Health Pol. and Program Evaluation, Univ. Wisconsin-Madison, 1985–92; Res. Assoc., NBER, 1987–; Mem., Natl Acad. Social Insurance, 1990–; Vis. Scholar, Russell Sage Foundation, 1991–92; Mem., Natl Comm. on Childhood Disability, 1995; Exec. Comm., Nominations

Comm., AEA, 1996–99, 1999; Natl Advisory Comm., Robert Wood Johnson Foundation, Scholars in Health Pol. Res. Program, 1997–2002; Effective Programs Taskforce, Natl Campaign Against Teen Pregnancy, 1998–2001; Mem., Children's Roundtable, Brookings Inst., 1999–; Comm. Immunization Fin. Pols and Practices, Inst. Medicine, 1999–2000; Council Mem., Europ. Soc. Pop. Econ., 1999–2001; Bd Dirs, Intl Health Econ. Assoc., 2000–; Vice Pres., IIPF, 2000–; Mem., Dissertation Prize Comm. Mem., Assoc. Public Pol. Mgmt Pol. Council, 2001; Comm. on Consequences of Uninsurance, Subcomm. on Family Impacts, Inst. Medicine, 2001–02; Mem., Inst. Medicine, 2002–.

Editorial Duties Assoc. Ed., *JDE*, 1982–85; Advisory Ed., *Social Sc. and Medicine J.*, 1983–96; Co-Ed., *JHR*, 1985–91.

Principal Fields of Interest I0 Health, Education, and Welfare: General; I1 Health; I3 Welfare and Poverty.

Publications *Books*: 1. *The Relevance of Public Finance for Policy-Making* (ed. with H. van de Kar), (Wayne State Univ. Press, 1987); 2. *La Influencia de la Hacienda Publica en el Quehacer Politico* (Inst. Estudios Fiscales, 1990); 3. *On the Role of Budgetary Policy during Demographic Changes* (ed.), (Proceedings 48th Congress of IIPF, Seoul, Korea, 1992); 4. *Succeeding Generations: On the Effects of Investments in Children* (with R. Haveman), (Russell Sage Foundation, 1994); 5. *Making Schools Work: Improving Performance and Controlling Costs* (with E. Hanushek *et al.*), (Brookings Inst., 1994); 6. *Out of Wedlock: Causes and Consequences of Nonmarital Fertility* (ed. with L. Wu), (Russell Sage Foundation, 2001).

Articles: 1. 'Disability transfers and the work decision of older men' (with P. de Jong, R. Haveman), *QJE*, Aug. 1991; 2.

'A new index to value in-kind benefits' (with R. Moffitt), *RIW*, 37, 1991; 3. 'The effect of the Medicaid program on welfare participation and labor supply' (with R. Moffitt), *REStat*, Nov. 1992; 4. 'Teen out-of-wedlock births and welfare receipt: the role of childhood events and economic circumstances' (with C.B. An, R. Haveman), *REStat*, 75, 1992; 5. 'The determinants of children's attainments: a review of methods and findings' (with R. Haveman), *JEL*, 33, Dec. 1995; 6. 'The window problem in studies of children's attainments: a methodological exploration' (with R. Haveman, D. Ginther, C.B. An), *JASA*, Sept. 1996; 7. 'Testing the HMO competitive strategy: an analysis of impact on medical care resources' (with S. Hill), *JHE*, 16, June 1997; 8. 'Welfare to work in the US: a model for other developed nations?' (with R. Haveman), *ITPF*, 7, Feb. 2000; 9. 'Neighborhood attributes as determinants of children's outcomes: how robust are the relationships?' (with D. Ginther, R. Haveman), *JHR*, 35, 2000; 10. 'The role of economic incentives in teenage nonmarital childbearing choices' (with K. Wilson, R. Haveman), *JPE*, 81, 2001.

Principal Contributions Most of my research looks at incentive issues in the areas of health, education and welfare. Much of this research has focussed on vulnerable populations such as those in poor families. Contributions include an approach to incorporating health needs in a new poverty measure, understanding the impact of welfare reform on maintaining health care coverage, developing an approach to value nonmarket returns to schooling as well as cataloguing both nonmarket and social returns to schooling; contributing to the debate on which school resources matter for which children in order to better target school resources; improving our understanding of the incentive effects of disability-based

transfers in terms of labor market response and application for disability-related transfers; and contributing to the understanding of what individual, family and neighborhood factors are important in determining the success of young adults. These outcomes include high school graduation, years of schooling, teen non-marital pregnancy and inactivity as a young adult. Using panel data, and working with Robert Haveman, I have explored determinants influencing these outcomes including socio-economic status while a young child, a school-aged child and an adolescent. Particular contributions include learning that resources are best measured over the entire childhood rather than at one age; that a limited set of neighborhood factors may play a role in influencing outcomes, and that economic incentives in terms of expected differences in outcomes seem important in the decisions young persons make.

WOLFF, Edward Nathan

Born 1946, Long Branch, NJ, USA.

Current Posts Prof. Econ., NYU, New York, NY, USA, 1984–; Sr Scholar, Jerome Levy Econ. Inst., Bard Coll., Annandale-on-Hudson, NY, USA, 1999–.

Past Posts Res. Assoc., NBER, 1974–77, 2001–; Asst Prof. Econ., Assoc. Prof. Econ., NYU, 1974–79, 1979–84; Dir., Inst. Econ. Analysis, NYU, 1998–2001.

Degrees AB Harvard Coll., 1968; MPhil, PhD Yale Univ., 1972, 1974.

Offices and Honours Council Mem., IARIW, 1987–2004, Intl Input–Output Assoc., 1995–2003; Vice-Pres., Pres.-Elect, Pres., EEA, 2000–01, 2001–02, 2002–03.

Editorial Duties Managing Ed., *RIW*, 1987–; Assoc. Ed., *Structural Change and Econ. Dynamics*, 1989–, *J. Pop. Econ.*, 1990–95; Ed. Bd, *Econ. Systems Res.*,

1993–, *J. Econ. Inequality*, 2001–, *J. Socio-Econ.*, 2001–; Ed. Advisory Bd, *Indicators*, 2001–.

Principal Fields of Interest D3 Distribution; I3 Welfare and Poverty; O4 Economic Growth and Aggregate Productivity.

Publications *Books*: 1. *Growth, Accumulation, and Unproductive Activity: An Analysis of the Post-War US Economy* (CUP, 1987); 2. *Productivity and American Leadership: The Long View* (with W.J. Baumol, S.A.B. Blackman), (MIT Press, 1989); 3. *Competitiveness, Convergence, and International Specialization* (with D. Dollar), (MIT Press, 1993); 4. *Top Heavy: A Study of Increasing Inequality of Wealth in America* (Twentieth Century Fund Press, 1995, updated and expanded edns, New Press, 1996, 2002); 5. *Retirement Insecurity: The Income Shortfalls Awaiting the Soon-to-Retire* (Econ. Pol. Inst., 2002).

Articles: 1. ‘The rate of surplus value in Puerto Rico’, *JPE*, 83, Oct. 1975; 2. ‘Development and trade dependence: the case of Puerto Rico, 1948–1963’ (with R. Weisskoff), *REStat*, 57, Nov. 1975; 3. ‘The distributional effects of the uniform air pollution policy in the United States’ (with H. Peskin, L. Gianessi), *QJE*, 93, May 1979; 4. ‘The rate of surplus value, the organic composition, and the general rate of profit in the US economy, 1947–1967’, *AER*, 69, June 1979; 5. ‘Subsidies to new energy sources: do they add to energy stocks’ (with W.J. Baumol), *JPE*, 89, Oct. 1981; 6. ‘On interindustry differences in absolute productivity’ (with W.J. Baumol), *JPE*, 92, Dec. 1984; 7. ‘Industrial composition, interindustry effects, and the US productivity slowdown’, *REStat*, 67, May 1985; 8. ‘Unbalanced growth revisited: asymptotic stagnancy and new evidence’ (with W.J. Baumol, S.A.B. Blackman), *AER*, 75, Sept. 1985; 9. ‘Convergence of industry labor productivity among ad-

vanced economies, 1963–1982’ (with D. Dollar), *REStat*, 70, Nov. 1988; 10. ‘Productivity growth, convergence, and welfare: reply’ (with W.J. Baumol), *AER*, 78, Dec. 1988; 11. ‘Capital formation and productivity growth over the long term’, *AER*, 81, June, 1991; 12. ‘Technology and the demand for skills’, *OECD Sc., Tech. and Ind. Rev.*, 18, 1996; 13. ‘The productivity slowdown: the culprit at last?’, *AER*, 86, Dec. 1996; 14. ‘Recent trends in the size distribution of household wealth’, *JEP*, 12, Summer 1998; 15. ‘Wealth accumulation by age cohort in the US, 1962–1992: the role of savings, capital gains and intergenerational transfers’, *Geneva Papers on Risk and Insurance*, 24, Jan. 1999.

Principal Contributions I have been working on household wealth inequality since 1970. I developed a long-term time series for the US and documented a tremendous increase of wealth inequality since the late 1970s, making the US the most unequal industrialized country in this dimension. The same trend is evident with or without the inclusion of social security and pension wealth (the principal results are summarized in my 1995 book, *Top Heavy*). Simulation analysis also documents the overwhelming importance of intergenerational transfers relative to current savings in household wealth accumulation. In more recent work I have examined some of the distributional effects of the changeover from the traditional defined benefit pension system in the US to the new defined contribution system. The results show that from 1983 to 1998 the median household was made worse off in terms of both pension wealth and total wealth as a result of this transformation. Work with William Baumol helped develop the ideas of productivity convergence, the catch-up phenomenon, and conditional convergence (controlling for other effects such as educational attainment), factors which are now widely used in

cross-country productivity comparisons (see our 1989 book, *Productivity and American Leadership: The Long View*). We also found that the shift in employment to services created a substantial drag on secular productivity growth. I was also one of the first economists to translate Marxian concepts such as the rate of surplus value and the organic composition into empirical constructs. My 1979 *AER* article empirically investigated Marx's law of the falling rate of profit for the US and found that declines in the rate of profit were principally dependent on whether wages increased faster than overall productivity. Recent work has also looked at skill change in the American labor force, documenting that educational attainment is fast outstripping the demand for workplace skills.

WOLINSKY, Asher n.e.

WOLPIN, Kenneth I. n.e.

WOOD, Adrian n.e.

WOODFORD, Michael

Born 1955, Chicopee, MA, USA.

Current Post Prof. Econ., Princeton Univ., Princeton, NJ, USA, 1995–.

Past Posts Vis. Asst Prof., Univ. Pennsylvania, 1984; Asst Prof., Columbia Univ., 1984–86; Vis. Assoc. Prof., NYU, 1986; Asst Prof., Assoc. Prof., Prof., Univ. Chicago, 1986–89, 1989–92, 1992–95.

Degrees AB Univ. Chicago, 1977; JD Yale Law School, 1980; PhD MIT, 1983.

Offices and Honours MacArthur Foundation Prize Fell., 1981–86; Fell., Em Soc, 1991–; Res. Assoc., NBER, 1994–; Guggenheim Foundation Fell., 1998.

Editorial Duties Assoc. Ed., *Em*, 1989–92; Co-Ed., *ET*, 1992–95; Ed. Bds, *QJE*, 1995–, *Complexity*, 1995–98, *Macroecon. Dynamics*, 1996–, *AER*, 1997–.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; E3 Prices, Business Fluctuations, and Cycles; D9 Intertemporal Choice and Growth.

Publications *Articles*: 1. 'Stationary sunspot equilibria in a finance constrained economy', *JET*, 40, 1986, repr. in J.-M. Grandmont (ed.), *Nonlinear Economic Dynamics* (Acad. Press, 1987); 2. 'Imperfect financial intermediation and complex dynamics', in W.A. Barnett, J. Geweke, K. Shell (eds), *Economic Complexity: Chaos, Sunspots, Bubbles, and Nonlinearity* (CUP, 1989), repr. in J. Benhabib (ed.), *Cycles and Chaos in Economic Equilibrium* (Princeton Univ. Press, 1992), and M. Jarsulic (ed.), *Non-linear Dynamics in Economic Theory* (Edward Elgar, 1993); 3. 'Learning to believe in sunspots', *Em*, 58, 1990; 4. 'The optimum quantity of money', in B. Friedman, F.H. Hahn (eds), *Handbook of Monetary Economics*, Vol. II (N-H, 1990); 5. 'Endogenous fluctuations' (with R. Guesnerie), in J.-J. Laffont (ed.), *Advances in Economic Theory: Proceedings of the Sixth World Congress of the Econometric Society* (CUP, 1992); 6. 'Oligopolistic pricing and the effects of aggregate demand on economic activity' (with J.J. Rotemberg), *JPE*, 100, 1992; 7. 'Monetary policy and price level determinacy in a cash-in-advance economy', *ET*, 4, 1994; 8. 'Price level determinacy without control of a monetary aggregate', *C-RPP*, 43, 1995; 9. 'Rational asset pricing bubbles' (with M.S. Santos), *Em*, 65, 1997; 10. 'An optimization-based econometric framework for the evaluation of monetary policy' (with J.J. Rotemberg), *NBER Macroecon. Annual*, 1997.

Principal Contributions Early work concentrated on the theory of endogenous

fluctuations, with particular attention to the possibility of 'sunspot equilibria'. Main contributions to that theory included analysis of the conditions under which 'local' sunspot equilibria exist in a range of models; demonstration that a variety of relatively special features of early examples of sunspot equilibria (such as 'backward-bending' supply curves, or agents with lifetimes short relative to the length of the equilibrium cycles) were not necessary; and demonstration that simple adaptive learning rules could result in convergence to a sunspot equilibrium. More recent work (much of it with Julio Rotemberg) has focussed on the role of pricing and supply decisions in the generation of aggregate fluctuations, with particular emphasis upon the role of cyclical variations in the relation between prices and supply costs. Finally, a continuing concern has been the analysis of interest-rate rules as an alternative to monetary targeting. Early work showed that, contrary to a common view, interest-rate rules need not imply indeterminacy of the equilibrium price level, even in the extreme case of a pure interest-rate peg. Analysis of the mechanisms involved in price-level determination under such regimes has emphasized the fiscal effects of price-level and interest-rate changes. Recent work continues the analysis of interest-rate rules, considering the proper use of alternative indicator variables in successful stabilization, and analyzing the welfare properties of alternative rules on choice-theoretic grounds.

WOOLDRIDGE, Jeffrey M. n.e.

WRIGHT, Gavin n.e.

WRIGHT, Randall Douglas

Born 1956, Winnipeg, Manitoba, Canada.

Current Post Prof., Univ. Pennsylvania, Philadelphia, PA, USA, 1990–.

Past Posts Asst Prof., Cornell Univ., 1984–87; Asst Prof., Univ. Pennsylvania, 1987–90; Natl Fell., Hoover Inst., Stanford Univ., 1989–90; Econ., FRB, Minneapolis, 1990–91.

Degrees BA Univ. Manitoba, 1979; PhD Univ. Minnesota, 1986.

Offices and Honours Joseph Cohen Term Chair, Univ. Pennsylvania, 1987–90; Harry Johnson Prize for best article in *CJ*, 1988; Hoover Inst. Natl Fellowship, 1989–90; MA (Hon.), Univ. Pennsylvania, 1990; Plenary Speaker, Soc. Econ. Dynamics and Control Meetings, June 1992; William Smith Term Chair, Univ. Pennsylvania, 1995–2000; Midwest Macro Meetings, 1997, 1999; Dean's Res. Fellowship, Univ. Pennsylvania, 1995; Fell., Em Soc, 1997; Ronald S. Lauder Term Chair, Univ. Pennsylvania, 2001–06.

Editorial Duties Assoc. Ed., *JEDC*, 1987–97, *JET*, 1990–98, *BER*, 1995–99, *Rev. Econ. Dynamics*, 1997–99; Ed. Bds, *CJ*, 1989–92, *IER*, 1993–98, *AER*, 1998–2000; Advisory Ed., *Macroecon. Dynamics*, 1996–; Ed., *IER*, 1998–.

Principal Fields of Interest E1 General Aggregate Models; E4 Money and Interest Rates; E5 Monetary Policy, Central Banking, and the Supply of Money.

Publications *Articles*: 1. 'Job search and cyclical unemployment', *JPE*, 94, 1986; 2. 'The redistributive roles of unemployment insurance and the dynamics of voting', *JPE*, 31, 1986; 3. 'Unemployment insurance, taxes, and unemployment' (with J. Loberg), *CJ*, 20, 1987; 4. 'On money as a medium of exchange' (with N. Kiyotaki), *JPE*, 97, 1989; 5. 'Unemployment insurance and short-time com-

pensionation: the effects on layoffs, hours per worker and wages' (with K. Burdett), *JPE*, 97, 1989; 6. 'A contribution to the pure theory of money' (with N. Kiyotaki), *JET*, 53, 1991; 7. 'Homework in macroeconomics: household production and aggregate fluctuations' (with J. Benhabib, R. Rogerson), *JPE*, 99, 1991; 8. 'Why is automobile insurance in Philadelphia so damn expensive?' (with E. Smith), *AER*, 82, 1992; 9. 'Indivisibilities, lotteries, and sunspot equilibria' (with K. Shell), *ET*, 3, 1993; 10. 'A search-theoretic approach to monetary economics' (with N. Kiyotaki), *AER*, 83, 1993; 11. 'Barter and monetary exchange under private information' (with S. Williamson), *AER*, 84, 1994; 12. 'Search, evolution and money', *JEDC*, 19, 1995; 13. 'Search, bargaining, money and prices' (with A. Trejos), *JPE*, 103, 1995; 14. 'Coexistence of money and interest bearing securities' (with S.R. Aiyagari, N. Wallace), *JME*, 37, 1996; 15. 'An equilibrium model of the business cycle with household production and fiscal policy' (with E. McGrattan, R. Rogerson), *IER*, 38, 1997; 16. 'A dynamic equilibrium model of search, bargaining and money' (with M. Coles), *JET*, 78, 1998; 17. 'Homework in development economics: household production and the wealth of nations' (with S. Parente, R. Rogerson), *JPE*, 48, 2000; 18. 'Cigarette money' (with K. Burdett, A. Trejos), *JET*, 99, 2001; 19. 'Pricing and matching with frictions' (with K. Burdett, S. Shi), *JPE*, 109, 2001; 20. 'Competitive pricing and efficiency in search equilibrium' (with D. Mortensen), *IER*, 43, 2002.

Principal Contributions Principal contributions to economics include the use of models that explicitly incorporate frictions, in order to analyze phenomena that are not easy to understand using conventional economic theory. The main example is in monetary economics, where search-theoretic models that explicitly in-

corporate trading frictions are used to capture the medium of exchange role of money and to study implications for monetary theory and policy. New methods in search and bargaining theory have been developed and a new paradigm for monetary theory (sometimes called the search or matching framework) has been established. Related work involves the study of search theory *per se*, and also applies the models to the labor market and marriage markets. In the labor market, in particular, the role of unemployment insurance has been analyzed. Another contribution is to integrate household production into general equilibrium macroeconomic models and explore the implications, both theoretically and quantitatively. It has been shown that incorporating household production has important implications for the way we think about many macro phenomena, including business cycles, development, the labor market and fiscal policy.

WRIGLEY, Neil

Born 1948, Denton, Lancashire, UK.

Current Post Prof. Econ. Geography, Univ. Southampton, Southampton, UK, 1991–.

Past Posts Lect., Univ. Southampton, 1973–76; Lect., Reader, Univ. Bristol, 1976–86; Prof. City and Regional Planning, Univ. Wales, Cardiff, 1986–91; Head, Dept Geography, Univ. Southampton, 1992–95, 1999–2001.

Degrees BA (Geography) Univ. Wales, 1970; PhD (Geography) Univ. Cambridge, 1976; DSc (Geography) Univ. Bristol, 1990.

Offices and Honours Mem., Res. Resources and Methods Comm., UK ESRC, 1984–91; Mem. Council, Inst. British Geographers, 1988–93; Erskine Fell., New Zealand, 1995; Sr Res. Fell., St Peter's

Coll., Oxford, 1996–97; Leverhulme Trust Individual Award, 1998–99.

Editorial Duties Ed., *Transactions Inst. British Geographers*, 1988–93, *J. Econ. Geography*, 2000–.

Principal Fields of Interest R0 Urban, Rural, and Regional Economics: General; L2 Firm Objectives, Organization, and Behavior; L8 Industry Studies: Services.

Publications *Books*: 1. *Categorical Data Analysis* (Longman, 1985, Blackburn Press, 2002); 2. *Retailing, Consumption and Capital* (with M.S. Lowe), (Addison Wesley Longman, 1996); 3. *Reading Retail: A Geographical Perspective on Retailing and Consumption Spaces* (with M.S. Lowe), (Arnold and OUP, 2002).

Articles: 1. ‘Probability surface mapping’, *Transactions, Inst. British Geographers*, NS2, April 1977; 2. ‘Paired comparison experiments and logit models’, *Environment and Planning A*, 12, Jan. 1980; 3. ‘Categorical data, repeated measurement research designs and regional industrial surveys’, *Regional Stud.*, 14, Aug. 1980; 4. ‘An investigation of the assumptions of the NBD model as applied to purchasing at individual stores’ (with R. Dunn, S. Reader), *Apl. Stats*, 32, Sept. 1983; 5. ‘Stochastic panel data models of urban shopping behaviour – Parts 1–4’ (with R. Dunn), *Environment and Planning A*, 16–17, 1984–85; 6. ‘A non-parametric approach to the incorporation of heterogeneity into repeated polytomous models of urban shopping behaviour’ (with R. Dunn, S. Reader), *Transportation Res. A*, 21A, Aug. 1987; 7. ‘Unobserved heterogeneity and the analysis of longitudinal spatial choice data’, *Europ. J. Pop.*, 6, May 1990; 8. ‘Is the “golden age” of British grocery retailing at a watershed?’, *Environment and Planning A*, 23, Nov. 1991; 9. ‘Antitrust regulation and the restructuring of grocery retailing in Britain and the USA’, *Environment and*

Planning A, 24, May 1992; 10. ‘After the store wars: towards a new era of competition in UK food retailing?’, *J. Retailing and Consumer Services*, 1, March 1994; 11. ‘The spatial configuration of the firm and the management of sunk costs’ (with G.L. Clark), *Econ. Geography*, 73, July 1997; 12. ‘Corporate finance, leveraged restructuring and the economic landscape: the LBO wave in US food retailing’, in R.L. Martin (ed.), *Money and the Space Economy* (John Wiley, 1999); 13. ‘Market rules and spatial outcomes: insights from the corporate restructuring of US food retailing’, *Geographical Analysis*, 31, April 1999; 14. ‘Strategic market behaviour in the internationalization of food retailing’, *Europ. J. Marketing*, 34, Aug. 2000; 15. ‘The globalization of retail capital’, in G.L. Clark, M. Feldman, M.S. Gertler (eds), *Oxford Handbook of Economic Geography* (OUP, 2001); 16. ‘Transforming the corporate landscape of US food retailing’, *Tijdschrift voor Economische en Sociale Geografie*, 93, Jan. 2002; 17. ‘Deprivation, diet and food retail access’ (with D.L. Warm, B.M. Margetts), *Environment and Planning A*, 35, Jan. 2003.

Principal Contributions I am an economic geographer contributing to the cross-disciplinary development of economic geography/geographical economics via co-editorship (with economists Richard Arnott and Diego Puga) of the *Journal of Economic Geography* (OUP). My contributions have been in two main fields. During the 1970s/1980s my work centred on quantitative social science and spatial statistics – particularly in the fields of categorical data analysis, discrete choice modelling and longitudinal/panel data analysis, with an applied focus on urban and regional issues. I also made contributions on the modifiable areal unit problem, surface modelling and census data analysis. From the late 1980s on-

wards, my focus shifted to economic geography – in particular issues relating to the firm, corporate finance, corporate strategy and the economic landscape. The specific reference for my work has been the corporate restructuring, regulation and globalization of the retail industry, and I have written extensively on financial re-engineering, consolidation and regulation in the US food retail industry during the post-LBO period, changing conditions of competition and regulation in UK and continental European retail, issues of retail development and finance, and the globalization of retail capital.

WYPLOSZ, Charles André

Born 1947, Vichy, France.

Current Posts Prof. Intl Econ., Grad. Inst. Intl Stud., Geneva, Switzerland, 1995–; Dir., Intl Center for Monetary and Banking Stud., Geneva, Switzerland, 1998–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Prof. Econ., INSEAD, 1978–95; Prof. Econ., École des Hautes Études en Sc. Sociales, 1988–96.

Degrees Eng. École Centrale, Paris, 1970; Diplôme d'Études Supérieures, Inst. Supérieur de Stats des Univs Paris, 1972; PhD Harvard Univ., 1978.

Offices and Honours Assoc. Dean Res. and Devlp., INSEAD, 1986–89; Council, Europ. Econ. Assoc., 1990–94; Co-Dir., Intl Econ. Programme, CEPR, London, 1999–.

Editorial Duties Founding Managing Ed., *Econ. Pol.*, 1984–2001.

Principal Fields of Interest E5 Monetary Policy, Central Banking, and the Supply of Money; F3 International Finance.

Publications *Books:* 1. *L'union monétaire de l'Europe* (with P. Riché), (Le Seuil, 1993); 2. *Macroeconomics, A Euro-*

pean Text (with M. Burda), (OUP, 1993, 1997, 2001; trans., French, 1993, 1998, German, 1994, Italian, 1994, 1997, Spanish, 1994, Russian, 1998, Polish, 1995, 2000, Ukrainian, 1998, Serbian, 2001, Romanian, 2002); 3. *Hungary: Towards a Market Economy* (with L. Halpern), (CUP, 1998); 4. *EMU: Prospects and Challenges for the Euro* (with D. Begg, J. von Hagen, K. Zimmermann), (Blackwell, 1998); 5. *The Impact of EMU on Europe and the Developing Countries* (OUP, 2001).

Articles: 1. 'The interest and exchange rate term structure under risk aversion and rational expectations', *J Int E*, 28, Feb. 1983; 2. 'A note on the zero-root problem: dynamic determination of the stationary equilibrium in linear models' (with F. Giavazzi), *RESstud*, 52, April 1985; 3. 'Capital controls and balance of payments crises', *JIMF*, 5, June 1986; 4. 'Unstable EMS' (with B. Eichengreen), *BPEA*, 1, Spring 1993; 5. 'Worker and job heterogeneity in European worker flows' (with M. Burda), *Europ ER*, 38, June 1994; 6. 'Two cases for sand in the wheels of international finance' (with B. Eichengreen, J. Tobin), *EJ*, 105, Jan. 1995; 7. 'Price and trade effects of exchange rates fluctuations and the design of policy coordination' (with D. Cohen), *JIMF*, 14, June 1995; 8. 'Exchange market mayhem: the antecedents and aftermath of speculative attacks' (with B. Eichengreen, A. Rose), *Econ. Pol.*, 21, Oct. 1995; 9. 'EMU: why and how it might happen', *JEP*, 11, Fall 1997; 10. 'The stability pact: minor nuisance, major diversion?' (with B. Eichengreen), *Econ. Pol.*, 26, Oct. 1997; 11. 'Equilibrium exchange rates in transition economies' (with L. Halpern), *IMF Staff Papers*, 44, Dec. 1997; 12. 'An independent and accountable IMF' (with J. De Gregorio, B. Eichengreen, T. Ito), *Geneva Reports on World Econ.*, 1, Sept. 1999; 13. 'How do central banks talk?' (with A. Blinder, C. Goodhart, P.

Hildebrand, D. Lipton), *Geneva Reports on World Econ.*, 3, Sept. 2001; 14. 'How risky is financial liberalization in the developing countries?', *Comparative Econ. Stud.*, 17, June 2002; 15. 'The international lender of last resort: how large is large enough?' (with O. Jeanne), in M.P. Dooley, J.A. Frankel (eds), *Managing Currency Crises in Emerging Markets* (UCP, 2002).

Principal Contributions I have followed two main interests: understanding international financial flows and their impact on the macroeconomy, and macroeconomic policy. My earlier work has been on the theory of exchange rate determination. I have looked at the joint dynamics of the exchange and interest rates, at the role of capital controls which has trig-

gered my interest in exchange rate crises. Through theoretical and empirical work, I have argued that capital controls are an effective tool to allow monetary authorities to deal with the onset of speculative pressure, that crises are often self-fulfilling, the outcome of a market failure that justifies second-best restraints on capital mobility. Much of my interest in policy has been directed towards Europe's exchange rate arrangements. I have produced several empirical analyses of the EMS and have contributed to the discussions about the desirability and structure of the European Monetary Union. I have also studied the international monetary system, focusing more recently on regional exchange rate arrangements and the role of international financial institutions.

Y

YELLEN, Janet Louise

Born 1946, Brooklyn, NY, USA.

Current Posts Prof. Bus. and Prof. Econ., Univ. California, Berkeley, CA, USA, 1980–, 1999–.

Past Posts Asst Prof. Econ., Harvard Univ., 1971–76; Econ., Mem., Bd Governors, Fed. Reserve System, 1977–78, 1994–97; Lect., LSE, 1978–80; Chair, US President's Council Econ. Advisers, 1997–99.

Degrees BA Brown Univ., 1967; PhD Yale Univ., 1971.

Offices and Honours Guggenheim Fell., 1986–87; Maria and Sidney Rolfe Award for Natl Econ. Service, Women's Econ. Round Table, 1997; Wilbur Lucius Cross Medal, Yale Univ., 1997; Chair, Econ. Pol. Comm., OECD, 1997–99; DL (Hon.), Brown Univ., 1998; DHL (Hon.), Bard Coll., 2000; Trustee, Yale Univ., 2000–; Fell., AAAS, 2001; Pres.-Elect, WEA, 2002–03.

Editorial Duties Assoc. Ed., *JEP*, 1987–91.

Principal Fields of Interest E0 Macroeconomics and Monetary Economics: General; E3 Prices, Business Fluctuations, and Cycles; J6 Mobility, Unemployment, and Vacancies.

Publications Books: 1. *Efficiency Wage Models of the Labor Market* (ed.), (with G. Akerlof), (CUP, 1986); 2. *The Fabulous Decade: Macroeconomic Lessons from the 1990s* (with A. Blinder), (Century Foundation Press, 2001).

Articles: 1. 'Consequences of a tax on the brain drain for unemployment and income inequality in less developed countries' (with R. McCulloch), *JDE*, 2, Sept. 1975; 2. 'Commodity bundling and the burden of monopoly' (with W.J. Adams), *QJE*, 90, Aug. 1976; 3. 'Factor mobility,

regional development and the distribution of income' (with R. McCulloch), *JPE*, 85, Feb. 1977; 4. 'What makes advertising profitable?' (with W.J. Adams), *EJ*, 87, Sept. 1977; 5. 'On Keynesian economics and the economics of the Post-Keynesians', *AER*, 70, May 1980; 6. 'Can capital movements eliminate the need for technology transfer?' (with R. McCulloch), *J Int E*, 12, May 1982; 7. 'Technology transfer and the national interest' (with R. McCulloch), *IER*, 23, May 1982; 8. 'Efficiency wage models of unemployment', *AER*, 74, May 1984; 9. 'Unemployment through the filter of memory' (with G. Akerlof), *QJE*, 100, Aug. 1985; 10. 'A near-rational model of the business cycle with wage and price inertia' (with G. Akerlof), *QJE*, 100, suppl., Sept. 1985; 11. 'Can small deviations from rationality make significant differences to economic equilibria?' (with G. Akerlof), *AER*, 75, Sept. 1985; 12. 'Rational models of irrational behavior' (with G. Akerlof), *AER*, 77, May 1987; 13. 'Fairness and unemployment' (with G. Akerlof), *AER*, 78, May 1988; 14. 'Job switching and job satisfaction in the US labor market' (with G. Akerlof, A. Rose), *BPEA*, Fall 1988; 15. 'Is there a J-curve?' (with A. Rose), *JME*, 24, July 1989; 16. 'The fair wage/effort hypothesis and unemployment' (with G. Akerlof), *QJE*, 105, May 1990; 17. 'East Germany in from the cold: the economic aftermath of currency union' (with G. Akerlof, A. Rose, H. Hennesius), *BPEA*, Spring 1991; 18. 'An analysis of out-of-wedlock childbearing in the United States' (with G. Akerlof, M. Katz), *QJE*, 111, May 1996.

Principal Contributions Much of my work, joint with George Akerlof, concerns the causes of unemployment and the mechanisms responsible for business cycle fluctuations. Our joint work develops efficiency wage explanations for unemployment in which wages are set above

market-clearing levels due to equity and fairness considerations. We have also explored the consequence of efficiency wages, coupled with monopsonistic competition in product markets, for business cycle fluctuations. We find that deviations from fully maximizing wage and price setting behavior is 'near-rational': the use of rules-of-thumb or inertial behavior in wage and price setting results in losses to individuals and firms that are 'small' but produces fluctuations in output and employment that are large. Near-rational wage and price setting thus constitutes a microeconomic underpinning for new Keynesian economics. In other work, also joint with G. Akerlof, I have explored patterns of quits and job satisfaction, analyzed the economic prospects for East Germany after Unification, and developed a new explanation for the rise in out-of-wedlock childbearing in the United States. A recent book, with A. Blinder, analyzes the roles that monetary and fiscal policy played in accounting for the success of the United States during the long expansion of the 1990s.

YOUNG, Alwyn n.e.

YOUNG, Hobart Peyton

Born 1945, Evanston, IL, USA.

Current Posts Scott and Barbara Black Prof. Econ., Johns Hopkins Univ., Baltimore, MD, USA, 1994–; Sr Fell., Econ. Stud. and Co-Dir., Center on Social and Econ. Dynamics, Brookings Inst., Washington, DC, USA, 1997–.

Past Posts Econ., Natl Water Commission, 1971; Assoc. Prof. Maths, Grad. Sch., City Univ., New York, 1971–76; Res. Scholar and Dep. Chairman, System and Decision Sc., Intl Inst. Apl. Systems Analysis, Austria, 1976–81; Prof. Econ.

and Public Pol., Univ. Maryland, 1982–94.

Degrees BA (Maths) Harvard Univ., 1966; PhD (Maths) Univ. Michigan, 1970.

Offices and Honours Sumner B. Myers Thesis Prize Maths, Univ. Michigan, 1970; Lester R. Ford Award, Math. Assoc. Amer., 1976; Erskine Fell. Econ., 1990; Fell., Em Soc, 1995; Council Mem., Game Theory Soc., 2000–; Mem., Sc. Steering Comm., Santa Fe Inst., 2000–.

Editorial Duties Assoc. Ed., *Games and Econ. Behav.*, 1991–, *Social Choice and Welfare*, 1994–99, *Math. Social Sc.*, 1995–2001.

Principal Fields of Interest C7 Game Theory and Bargaining Theory; D6 Welfare Economics; D7 Analysis of Collective Decision-Making.

Publications *Books*: 1. *Fair Representation* (with M.L. Balinski), (YUP, 1982, Brookings, 2001); 2. *Equity: In Theory and Practice* (Princeton Univ. Press, 1994); 3. *Individual Strategy and Social Structure: An Evolutionary Theory of Institutions* (Princeton Univ. Press, 1998).

Articles: 1. 'An axiomatization of Borda's rule', *JET*, 9, 1974; 2. 'A new method for congressional apportionment' (with M.L. Balinski), *Proceedings NAS*, 71, 1974; 3. 'Interpreting von Neumann model prices as marginal values' (with M.L. Balinski), *JET*, 9, 1974; 4. 'Social choice scoring functions', *SIAM J. Apl. Maths*, 28, June 1975; 5. 'Stability, coalitions, and schisms in proportional representation systems' (with M.L. Balinski), *Amer. Polit. Sc. Rev.*, 72, Sept. 1978; 6. 'The Webster method of apportionment' (with M.L. Balinski), *Proceedings NAS*, 77, Jan. 1980; 7. 'Producer incentives in cost allocation', *Em*, 53, July 1985; 8. 'Distributive justice in taxation', *JET*, 44, April 1988; 9. 'Condorcet's theory of voting', *Amer. Polit. Sc. Rev.*, 82, Dec. 1988; 10. 'Progressive taxation and equal sacrifice', *AER*, 80, March 1990; 11.

'Stochastic evolutionary game dynamics' (with D.P. Foster), *Theoretical Pop. Biology*, 38, Oct. 1990; 12. 'The evolution of conventions', *Em*, 61, Jan. 1993; 13. 'An evolutionary model of bargaining', *JET*, 59, Feb. 1993; 14. 'Conventional contracts', *REStud*, 65, Oct. 1998; 15. 'Competition and custom in economic contracts: a case study of Illinois agriculture' (with M.A. Burke), *AER*, 91, June 2001; 16. 'On the impossibility of predicting the behavior of rational agents' (with D.P. Foster), *Proceedings NAS*, 98, Oct. 2001.

Principal Contributions My early work focussed on formal models of representation and voting. When I began to think about these issues in the 1970s, voting theory was dominated mainly by impossibility results. I set out to develop a more positive theory that would put axiomatic foundations under the rules frequently used in practice. These include scoring rules, among which Borda's rule and plurality voting are the best known. I also showed that another procedure (due essentially to Condorcet) maximizes the likelihood that a group decision will be correct when individual judgments may be in error (as in a jury trial for example). Another line of my research was con-

cerned with principles for dividing representation fairly among constituencies. My 1982 book *Fair Representation*, with Michel Balinski, treats the history, politics, and formal analysis of this problem for both federal and proportional representation systems of government. The representation problem led me to think more generally about the principles that are invoked by public agencies when they must allocate scarce resources among competing groups of claimants. In my 1994 book, *Equity: In Theory and Practice*, I outline a conceptual framework for studying principles of justice as revealed by group choices, and show how it can be applied to a variety of concrete distributive problems. For the last decade I have been concerned with learning and evolution in economic systems. In particular, I show how simple adaptive learning rules by individuals can aggregate into complex forms of equilibrium (and disequilibrium) behavior at the societal level. This framework can be used to study how specific kinds of economic institutions evolve over different time scales, and to analyze the relationship between the welfare properties of institutions and their durability under persistent random shocks.

Z

ZANG, I. n.e.

ZAX, Jeffrey S.

Born 1954, Gulfport, MS, USA.

Current Post Prof. Econ., Univ. Colorado, Boulder, CO, USA, 1996–.

Past Posts Asst Prof. Econ., Assoc. Prof. Econ., Queens Coll., City Univ., New York, 1984–89, 1989–91; Assoc. Prof. Econ., Univ. Colorado, Boulder, 1990–96.

Degrees BA, PhD Harvard Univ., 1976, 1984.

Offices and Honours Fulbright Lect., Univ. Ghana, 1990; Stanford Calderwood Teaching Excellence Award, Dept Econ., Univ. Colorado, 1993, 2000.

Principal Fields of Interest J0 Labor and Demographic Economics: General; R0 Urban, Rural, and Regional Economics: General; H0 Public Economics: General.

Publications Articles: 1. 'Fringe benefits, tax exemptions and implicit subsidies', *JPE*, 37, Nov. 1988; 2. 'Is there a leviathan in your neighborhood?', *AER*, 79, June 1989; 3. 'Quits and race', *JHR*, 24, Summer 1989; 4. 'Employment and local public sector unions', *Ind. Relations*, 28, Winter 1989; 5. 'Initiatives and government expenditures', *Public Choice*, 63, Dec. 1989; 6. 'Today's associations, tomorrow's unions' (with C. Ichniowski), *ILRR*, 43, Jan. 1990; 7. 'Bargaining laws and unionization in the local public sector' (with C. Ichniowski), *ILRR*, 43, April 1990; 8. 'Race and commutes', *JUE*, 28, Nov. 1990; 9. 'Excludability and the effects of free riders: right-to-work laws and local public sector unionization' (with C. Ichniowski), *Public Fin. Q.*, 19, July 1991; 10. 'Right to work laws, free riders and

unionization in the local public sector' (with C. Ichniowski), *J Lab E*, 9, July 1991; 11. 'Compensation for commutes in labor and housing markets', *JUE*, 30, Sept. 1991; 12. 'The substitution between moves and quits', *EJ*, 101, Nov. 1991; 13. 'When is a move a migration?', *RSUE*, 24, June 1994; 14. 'Property tax rate changes and the rate of development' (with M.S. Skidmore), *JUE*, 36, Nov. 1994; 15. 'Moving to the suburbs: do relocating companies leave their black employees behind?' (with J.F. Kain), *J Lab E*, 14, July 1996; 16. 'Latent demand for urban housing in the People's Republic of China', *JUE*, 42, Nov. 1997; 17. 'Immigration, race and space', in D.S. Hamermesh, F.D. Bean (eds), *Help or Hindrance? The Economic Implications of Immigration for African Americans* (Russell Sage Foundation, 1998); 18. 'Comment on "Estimating the extent of racially polarized voting in multicandidate contests" by Bernard Grofman and Michael Migalski', *Sociological Methods and Res.*, 31, Aug. 2002; 19. 'IQ, academic performance, environment and earnings' (with D.I. Rees), *REStat*, Oct. 2002; 20. 'Housing reform in urban China', in *How Far Across the River? Chinese Policy Reform at the Millennium* (Stanford Univ. Press, forthcoming).

Principal Contributions I have refined the spatial mismatch theory, describing the effects of residential segregation on black employment outcomes, and demonstrated that important negative effects occur. I have clarified the predictions of Tiebout theory regarding the consequences of fragmentation and centralization in local government hierarchies, and confirmed these predictions empirically. I have demonstrated that the effects of IQ on earnings have been substantially overstated, and that earnings also respond significantly to characteristics under the individual's control, such as motivation and

academic performance. I have discussed the incidence and size of subsidies to non-wage compensation. I have demonstrated that laws governing unionization have substantial causal effects on unionization rates. I have demonstrated that local public sector unions have important effects on employment levels and non-wage compensation, as well as on wages.

ZECKHAUSER, Richard Jay

Born 1940, Philadelphia, PA, USA.

Current Post Frank P. Ramsey Prof. Polit. Econ., J.F. Kennedy Sch. Govt, Harvard Univ., Cambridge, MA, USA, 1972–.

Past Posts Asst Prof., Assoc. Prof., Harvard Univ., 1968–70, 1970–72.

Degrees BA, PhD Harvard Univ., 1962, 1969.

Offices and Honours Jr Fell., Soc. Fellows, Assoc. Public Pol. and Mgmt, Em Soc, AAAS; Natl Bd Mem., Common Cause; Res. Assoc., Center Bus. and Govt, Center Sc. and Intl Affairs, Center Intl Devlp., Harvard Univ., NBER, Center for Japan–US Bus. and Econ. Stud.; Dir., Niederhoffer, Cross and Zeckhauser Inc., NY, 1967–83, Johnson-Grace, 1992–96 (sold to AOL), Recovery Eng., 1985–99 (sold to Procter & Gamble), Rational Investors, 1996–2000 (sold to S&P); Commissioner, Group Insurance Commission, Commonwealth of Massachusetts, 1993–; Trustee, Commonwealth Sch., 1994–; Acad. Advisory Comm., AEI, 1997–.

Editorial Duties Co-Ed. or Assoc. Ed., *JRU, Japan and World Econ.*, *Intl J. Econ. Theory and Pol.*, *J. Econ. Bus.*, *Regulation*, *REStat*, *J. Risk and Insurance*, *Risk, Decision and Pol.*

Principal Fields of Interest DO Microeconomics: General; D8 Information and Uncertainty; C7 Game Theory and Bargaining Theory.

Publications Books: 1. *Benefit Cost and Policy Analysis Annual* (ed. with others), (Aldine, 1971, 1972, 1973, 1974); 2. *A Primer for Policy Analysis* (with E. Stokey), (W.W. Norton, 1978); 3. *Demographic Dimensions of the New Republic* (with P. McClelland), (CUP, 1982); 4. *What Role for Government?* (ed. with D. Leebaert), (Duke Univ. Press, 1983); 5. *Principals and Agents: The Structure of Business* (ed. with J. Pratt), (Harvard Bus. Sch. Press, 1985); 6. *American Society: Public and Private Responsibilities* (with W. Knowlton), (Ballinger, 1986); 7. *Privatization and State-owned Enterprises: Lessons from the United States, Great Britain, and Canada* (with others), (Kluwer, 1989); 8. *Strategy and Choice* (MIT, 1991); 9. *Wise Choices: Games, Decisions, and Negotiations* (with R. Keeney, J. Sebenius), (Harvard Bus. Sch. Press, 1996); 10. *Joining the Elite: The Early Admissions Game* (with C. Avery, A. Fairbanks), (HUP, 2003).

Articles: 1. ‘Insurance, information, and individual action’ (with M. Spence), *AER*, 61, May 1971; 2. ‘Optimal mechanisms for income transfer’, *AER*, 61, June 1971; 3. ‘Voting systems, honest preferences and Pareto optimality’, *Amer Polit. Sc. Rev.*, Sept. 1973; 4. ‘Impossibility of Bayesian group decision making with separate aggregation of beliefs and values’ (with A. Hylland), *Em*, 47, Nov. 1979; 5. ‘Targeting transfers through restrictions on recipients’ (with A. Nichols), *AER*, 72, May 1982; 6. ‘Proper risk aversion’ (with J. Pratt), *Em*, 55, Jan. 1987; 7. ‘Assessing dynamic efficiency: theory and evidence’ (with A. Abel, N. Mankiw, L. Summers), *REStud*, 56, 1989; 8. ‘Efficiency despite mutually payoff-relevant private information’ (with S. Johnson, J. Pratt), *Em*, 58, July 1990; 9. ‘Willingness to pay and the distribution of risk and wealth’ (with J. Pratt), *JPE*, May 1996; 10. ‘Earnings management to exceed thresholds’ (with

F. Degeorge, J. Patel), *J Bus*, 72, Jan. 1999.

Principal Contributions The primary challenge facing our society is how to allocate resources in accordance with the preferences of the citizenry. Unfortunately, centralised decision-making is hopelessly distorted by a political process that encourages individuals to misrepresent their preferences and inevitably favours certain groups over others. Thus, my conceptual work has tried to discover possibilities for decentralised allocation procedures, particularly when uncertainty and asymmetric information are problems. This work has naturally focused on incentives for honest revelation. Welcome results are (1) that paying the expected externality effectively decentralises multi-stage externality and group decision problems under uncertainty, and (2) that a point-voting-type mechanism for public goods can elicit honest preferences and lead to an efficient bundle. Similarly I have shown that groups employing Bayesian decision methods cannot preserve Pareto optimality; that a fundamental nonconvexity arises if externality leads to shutdown; and that voting mechanisms must be inefficient if intensities of preference matter. Other work has dealt with agency theory, insurance, and populations with heterogeneous risk. I have also been involved in a variety of policy investigations, exploring ways to promote the health of human beings, to help labour markets and financial markets operate more efficiently, and to foster informed and appropriate choices by individuals and government agencies. Cross-fertilisation between these policy investigations and my conceptual work has been of great value. In considering such topics as risk analysis (life valuation, calibration of probabilities) and the redesign of regulatory processes, I have found uncertainty and decentralisation to be salient issues, and a major theme of my cur-

rent work on human resources and health is the importance of heterogeneity (possibly unobservable) in the population.

ZEGER, Scott L. n.e.

ZEIRA, Joseph

Born 1950, Jerusalem, Israel.

Current Post Assoc. Prof., Hebrew Univ., Jerusalem, Israel, 1998–.

Past Posts Lect. and Sr Lect., Hebrew Univ., Jerusalem, 1985–98; Vis. Prof., Brown Univ., 1990, Harvard Univ., 1991, Brandeis Univ., 1997, Harvard Univ., 2002–03.

Degrees BSc (Maths), MSc (Maths), PhD Hebrew Univ., Jerusalem, 1971, 1977, 1984.

Offices and Honours Res. Fell., CEPR, 1993–; Dir., Sapir Forum for Econ. Pol. in Israel, 1995, 1999–2000.

Editorial Duties Ed. Bd, *JEG*, 1998–.

Principal Fields of Interest E1 General Aggregative Models; D3 Distribution; D8 Information and Uncertainty.

Publications *Articles*: 1. 'Investment as a process of search', *JPE*, 95, 1987; 2. 'Risk and capital accumulation in a small open economy', *QJE*, 102, 1987; 3. 'Risk reducing fiscal policies and economic growth', in E. Helpman, A. Razin, E. Sadka (eds), *The Economic Effects of the Government Budget* (MIT Press, 1988); 4. 'Inflationary inertia in a wage price spiral model', *Europ ER*, 33, 1989; 5. 'Cost uncertainty and the rate of investment', *JEDC*, 14, 1990; 6. 'Fiscal policy and the real exchange rate under risk', *JIMF*, 10, 1991; 7. 'Credit rationing in an open economy', *IER*, 32, 1991; 8. 'Income distribution and macroeconomics' (with O. Galor), *REStud*, 60, 1993, repr. in D. Mookerjee, D. Ray (eds), *Readings in the Theory of Economic Development*

(Blackwell, 2000); 9. 'Informational cycles', *REStud*, 61, 1994; 10. 'Workers, machines, and economic growth', *QJE*, 113, 1998; 11. 'Informational overshooting, booms and crashes', *JME*, 43, 1999; 12. 'Reducing the relative size of government in Israel after 1985' (with M. Strawczynski), in A. Ben-Bassat (ed.), *The Israeli Economy, 1985–1998: From Government Intervention to Market Economics* (MIT Press, forthcoming).

Principal Contributions Most of my contributions are in the area of macroeconomic theory. One important contribution is in connecting the issue of income distribution to mainstream macroeconomics. This has been done in my 1993 *REStud* paper with Oded Galor, 'Income distribution and macroeconomics'. This paper, together with others written around that time, has helped in making income distribution not only an important topic in itself, but an important macroeconomic variable. We have shown that the distribution of wealth is relevant to the aggregate performance of the economy not only in the short run, but in the long run as well. Since the paper began to circulate in the late 1980s, it has become very popular and it is widely cited. A second contribution is in the area of missing information and Bayesian learning in macroeconomics. In a number of papers I have studied a situation in which there is missing information on the scale of the market, which can be explored only by expansion through investment. These papers show that such missing information, and the process of gradual learning that it generates, can yield very interesting results. Such an environment can lead to gradual investment, even if adjustment costs are not convex, as shown in my 1987 *JPE* paper 'Investment as a process of search'. A more recent paper, 'Informational cycles' (*REStud*, 1994) has shown that such learning can add to our understanding of the dynamics of business cycles. The 1999

JME paper 'Informational overshooting, booms and crashes', shows that such learning can also rationalize the large booms and crashes, which are often experienced in stock markets.

ZELDES, Stephen P.

Born 1956, New Haven, CT, USA.

Current Post Benjamin Rosen Prof. Econ. Fin., Grad. Sch. Bus., Columbia Univ., New York, NY, USA, 1996–.

Past Posts Res. Assoc., FRB, San Francisco, 1978–80; Instr., Intermediate Macroecon., MIT, 1982–83; Asst Prof., Assoc. Prof. with tenure, Prof., Fin. Dept, Wharton Sch., Univ. Pennsylvania, 1984–90, 1990–95, 1995–96; Vis. Assoc. Prof., Vis. Prof., Grad. Sch. Bus., Columbia Univ., 1993–94, 1995–96.

Degrees BS (Apl. Maths Econ.) Brown Univ., 1978; PhD MIT, 1984.

Offices and Honours NBER–Olin Res. Fell., 1988–89; Alfred P. Sloan Res. Fell., 1990–92; Res. Assoc., NBER, 1990–; Mem., Tech. Panel on Trends and Issues in Retirement Saving, for 1994–96 Advisory Council on Social Security; Vis. Scholar, FRB, New York, 1994–97; Paul A. Samuelson Award of Excellence, TIAA–CREF, 1996; Chazen Int. Innovation Prize, Columbia Bus. Sch., 1997; Mem., Nat. Acad. Social Insurance, Panel on Privatization of Social Security, 1996–98; Bd Mem., Pension Res. Council, Wharton Sch., Univ. Pennsylvania, 1997–; Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Fin. Security, TIAA–CREF, 1999.

Principal Fields of Interest E1 General Aggregative Models; D9 Intertemporal Choice and Growth; H5 National Government Expenditures and Related Policies.

Publications Books: 1. *Would a Privatized Social Security System Really Pay a*

Higher Rate of Return? (with J. Geanakoplos, O.S. Mitchell), (Brookings Inst. Press, 1998); 2. *Social Security Money's Worth* (with J. Geanakoplos, O.S. Mitchell), (Univ. Pennsylvania Press, 1999); 3. *Innovations in Retirement Financing* (ed. with O.S. Mitchell, Z. Bodie, P.B. Hammond), (Univ. Pennsylvania Press, 2002).

Articles: 1. 'Ricardian consumers with Keynesian propensities' (with R. Barsky, N.G. Mankiw), *AER*, 76, Sept. 1986; 2. 'Seasonality, cost shocks, and the production smoothing model of inventories' (with J. Miron), *Em*, 56, July 1988; 3. 'Rational ponzi games' (with S. O'Connell), *IER*, 29, Aug. 1988; 4. 'Consumption and liquidity constraints: an empirical investigation', *JPE*, 97, April 1989; 5. 'Optimal consumption with stochastic income: deviations from certainty equivalence', *QJE*, 104, May 1989; 6. 'Production, sales, and the change in inventories: an identity that doesn't add up' (with J. Miron), *JME*, 24, July 1989; 7. 'The consumption of stockholders and nonstockholders' (with N.G. Mankiw), *J Fin E*, 29, 1991; 8. 'Dynamic efficiency in the gifts economy' (with S.A. O'Connell), *JME*, 31, June 1993; 9. 'Expanding the life-cycle model: precautionary saving and public policy' (with R.G. Hubbard, J. Skinner), *AER*, 84, May 1994; 10. 'The importance of precautionary motives in explaining individual and aggregate saving' (with R.G. Hubbard, J. Skinner), *C-RPP*, 40, June 1994; 11. 'Precautionary saving and social insurance' (with R.G. Hubbard, J. Skinner), *JPE*, 103, April 1995; 12. 'Social security privatization: a structure for analysis' (with O.S. Mitchell), *AER*, 86, May 1996; 13. 'The importance of bequests and life-cycle saving in capital accumulation: a new answer' (with K.E. Dynan, J. Skinner), *AER*, 92, May 2002.

Principal Contributions My research focusses on issues of intertemporal choice

– deriving and testing models of how households, firms, and governments make decisions that involve tradeoffs between the present and the future. Frequently, I have investigated macroeconomic phenomena using microeconomic theories and data. In my work on households, I have focussed on intertemporal saving and spending decisions and their effects on the macroeconomy. Key questions that guide this work are: what are the determinants of saving? How does uncertainty at the household level affect consumer spending and saving? Do credit markets operate in such a way that households can borrow to smooth out fluctuations in income? What factors influence the distribution of wealth in the US? How do households make portfolio decisions? What is the relationship between consumer spending and the stock market? Can we use the answers to these questions to help price financial assets? My work on firms investigates a parallel intertemporal issue: do firms use inventories to smooth production in the face of variations in sales? My research on government analyzes issues related to the government's choices about the budget deficit and the social security program. The questions I address include: is it feasible for the government to roll over its debt perpetually? What are the effects of budget deficits on consumer spending? What would be the effects of a major reform of the social security program?

ZERVOS, Sara n.e.

ZHAO, Lue Ping n.e.

ZIN, Stanley E. n.e.

ZINGALES, Luigi

Born 1963 Padua, Italy.

Current Post Robert C. McCormack Prof. Entrepreneurship and Fin., Grad. Sch. Bus., Univ. Chicago, Chicago, IL, USA, 2001–.

Past Posts Asst Prof. Fin., Assoc. Prof. Fin., Prof. Fin., Grad. Sch. Bus., Univ. Chicago, 1992–96, 1996–99, 1999–2001.

Degrees Laurea (Bachelor) Univ. Bocconi, Milan, Italy, 1987; MA, PhD MIT, 1992, 1992.

Honours Undergrad. thesis awarded prize, *Il Mondo*, 1992; Best thesis in Econ., *REStud*, 1992; Brattle Prize, Disting. Paper Award for outstanding papers on corp. fin., *J Fin*, 2000; NASDAQ award for the best paper in capital formation, 2002.

Editorial Duties Advisory Bd, *Europ. Fin. Mgmt Rev.*, *Econ. Notes*.

Principal Fields of Interest G3 Corporate Finance and Governance; D2 Production and Organizations; N2 Financial Markets and Institutions.

Publications *Book*: 1. *Savings Capitalism from the Capitalists* (with R. Rajan), (Crown Books, 2003).

Articles: 1. ‘The value of the voting right: a study of the Milan stock exchange experience’, *Rev. Fin. Stud.*, 7, Spring 1994; 2. ‘Insider ownership and the decision to go public’, *REStud*, 62, July 1995; 3. ‘What determines the value of corporate votes?’, *QJE*, 110, Nov. 1995; 4. ‘What do we know about capital structure? Some evidence from international data’ (with R. Rajan), *J Fin*, 50, Dec. 1995; 5. ‘Do investment–cashflow sensitivities provide useful measures of financing constraints?’ (with S. Kaplan), *QJE*, 112, Feb. 1997; 6. ‘Why do companies go public? An empirical analysis’ (with M. Pagano, F. Panetta), *J Fin*, 53, Feb. 1998; 7. ‘Power in a theory of the firm’ (with R. Rajan), *QJE*, 113, May 1998; 8. ‘The survival of

the fittest or the fattest: exit and financing in the trucking industry’, *J Fin*, 53, June 1998; 9. ‘Financial dependence and growth’ (with R. Rajan), *AER*, 88, June 1998; 10. ‘Which capitalism? Lessons from the East Asian crisis’ (with R. Rajan), *J. Apl. Corp. Fin.*, 11, Fall 1998; 11. ‘The cost of diversity: diversification discount and inefficient investment’ (with R. Rajan, H. Servaes), *J Fin*, 55, Feb. 2000; 12. ‘Investment–cash flow sensitivities are not valid measures of financing constraints’ (with S. Kaplan), *QJE*, 115, May 2000; 13. ‘The tyranny of inequality: an inquiry into the adverse consequences of power struggles’ (with R. Rajan), *J Pub E*, 76, June 2000; 14. ‘In search of new foundations’, *J Fin*, 55 Aug. 2000; 15. ‘The influence of the financial revolution on the nature of firms’ (with R. Rajan), *AER*, 91, May 2001; 16. ‘The firm as a dedicated hierarchy: a theory of the origins and growth of firms’ (with R. Rajan), *QJE*, 116, Aug. 2001; 17. ‘The great reversals: the politics of financial development in the 20th century’ (with R. Rajan), *J Fin E*, forthcoming; 18. ‘Private benefits of control: an international comparison’ (with A. Dyck), *J Fin*, forthcoming; 19. ‘People’s opium? Religion and economic attitudes’ (with L. Guiso, P. Sapienza), *JME*, forthcoming.

Principal Contributions My work spans three related areas: international corporate governance, financial development (causes and effects), and the theory of the firm. In the first area my contribution is to have estimated the value of control in different countries and to have explored, both theoretically and empirically, the implications of these different values on a firm decision to go public. More recently, Dyck and I have made further progress, trying to uncover the reasons why the value of control differs greatly across countries. We find that public opinion pressure and the monitoring provided by the tax au-

thorities are the two most important determinants of these differences. On the effects of financial development, Rajan and I have provided evidence of the mechanism through which financial development affects growth by showing that industries depending on external finance grow faster in financially developed countries. Rajan and I have also advanced a theory of why there exists political resistance to financial development and have provided historical evidence in support of this theory. Our forthcoming book expands on this theme, providing a new theory of why some countries develop and others do not, based on the initial distribution of asset ownership. On the theory of the firm, Rajan and I have further developed the property rights theory of Grossman, Hart, and Moore, introducing the concept of access. Access is the ability to use and work with a critical resource and can be thought of as a firm internal organization. By regulating access an entrepreneur can provide better incentives for firm-specific investments. The sum over time of these specific investments is, in our theory, what differentiates an organization from the arm's-length market. In two separate contributions I have also explained the important relation existing between the theory of the firm, corporate governance, capital structure theory, and the theory of valuation.

ZIVOT, Eric W. n.e.

ZUPAN, Mark A.

Born 1959, Rochester, NY, USA.

Current Post Dean, Eller Coll. Bus. and Public Admin., Univ. Arizona, Tucson, AZ, USA, 1997–.

Past Posts Asst Prof., Assoc. Prof., Assoc. Dean Masters Programs, Marshall

Sch. Bus., Univ. Southern California, 1986–91, 1991–96, 1992–94; Vis. Prof., Amos Tuck Sch. Bus. Admin., Dartmouth Coll., 1995.

Degrees BA Harvard Univ., 1981, PhD MIT, 1987.

Offices and Honours Allyn Young Teaching Prize, Econ. Dept, Harvard Univ., 1984, 1985; Beta Gamma Sigma Faculty Initiate, Golden Apple Teaching Award, Marshall Sch. Bus., Univ. Southern California, 1988, 1989; Joseph R. Levenson Memorial Teaching Prize, Harvard Univ., 1989; Burlington Resources Foundation Faculty Achievement Award for Outstanding Scholarship, Univ. Southern California, 1992; Bus. Accreditation Comm., Amer. Assoc. Collegiate Schs Bus., 1999–2001; Leadership Educ. and Devlp. Council of Deans, 2001–.

Editorial Duties Ed. Bds, *EI*, 1990–92, *Public Choice*, 1990–, *J. Bus. Econ.*, 1992–, *Res. Law and Econ.*, 1993–; Co-Ed., *EI*, 1992–96.

Principal Fields of Interest K0 Law and Economics: General; L0 Industrial Organization: General.

Publications *Book*: 1. *Microeconomic Theory and Applications* (with E.K. Browning), (John Wiley, 1996, 1998, 2001, 2003).

Articles: 1. 'Divisia monetary aggregates: would they be more palatable than the traditional simple-sum stews?', *Econ. Rev. FRB Cleveland*, 1983; 2. 'Capture and ideology in the economic theory of politics', *AER*, 74, 1984; 3. 'A test for regulatory lag and the role played by periodic contract renewals in mitigating such lag in local cable franchise relationships', *J. Regulatory Econ.*, 1, 1989; 4. 'Nonprice concessions and the effect of franchise bidding schemes on cable company costs', *Apl. Econ.*, 21, 1989; 5. 'A cross-institutional comparison of the extent to which political representatives' voting behavior reflects constituents' preferences', *Econ.*

Letters, 30, 1989; 6. 'The efficacy of franchise bidding schemes in the case of CATV: some systematic evidence', *J Law E*, 32, 1989; 7. 'Cable franchise renewals: do incumbent firms behave opportunistically?', *RandJE*, 20, 1989; 8. 'On cream skimming, Coase, and the sustainability of natural monopoly', *Apl. Econ.*, 22, 1990; 9. 'The apparent ideological behavior of legislators: testing for principal-agent slack in political institutions' (with J.P. Kalt), *J Law E*, 33, 1990; 10. 'The last-period problem in politics: do congressional representatives not subject to a reelection constraint alter their voting behavior?', *Public Choice*, 65, 1990; 11. 'Why nice guys finish last: a comment on Robert Axelrod's *The Evolution of Cooperation*', *Public Choice*, 65, 1990; 12. 'A further test of a simple economic explanation for the existence and nature of political ticket splitting', *Econ. Letters*, 33, 1990; 13. 'Paradigms and cultures: some economic reasons for their stickiness', *Amer. J. Econ. and Sociology*, 50, 1991; 14. 'Local benefit-seeking and national policymaking: Democrats vs. Republicans in the legislature', *Public*

Choice, 68, 1991; 15. 'An economic explanation for the existence and nature of political ticket splitting', *J Law E*, 34, 1991; 16. 'Extending the economic theory of regulation to the form of policy' (with E. Rasmusen), *Public Choice*, 72, 1991; 17. 'Measuring the ideological preferences of US presidents: a proposed (extremely simple) method', *Public Choice*, 73, 1992; 18. 'Slicing the Federal government net spending pie: who wins, who loses, and why' (with C. Atlas, T. Gilligan, R. Hendershott), *AER*, 85, 1997.

Principal Contributions Researching the extent to which pecuniary versus nonpecuniary, ideological interests play a role in explaining legislative decision-making. Exploring the efficacy of franchise bidding as a mechanism to promote efficiency in cases of natural monopoly. Explaining the reasons for political ticket-splitting. Investigating policy instrument choice. Analyzing the determinants of legislative voting behavior (constituent interests as well as the personal ideological preferences of legislators). Developing measures of the ideological preferences of US presidents.

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Appendix 1 Index of principal fields of interest

Every respondent was asked to select three principal fields of interest from the American Economic Association's classification scheme of fields in economics, included in every issue of the *Journal of Economic Literature* and in all 22 volumes of the AEA Index of Economic Articles. This index refers to the first of these three principal fields of interest.

- A0 General Economics and Teaching: General
Bertola, G. Frey, B.S.
- A1 General Economics
Arthur, W.B. Postlewaite, A.W.
Hall, S.G.F. Robson, A.J.
Laband, D.N. Stern, N.H.
Laffont, J.-J.M. Varian, H.R.
Mortensen, D.T. Williamson, O.E.
Nelson, R.R. Wilson, R.B.
Posner, R.A.
- A2 Teaching of Economics
Becker, W.E. Jain, D.C.
Beil, Jr, R.O. Watts, M.W.
- B2 History of Economic Thought since 1925
Hodgson, G.M.
- B5 Current Heterodox Approaches
Bromley, D.W. Thrift, N.J.
- C0 Mathematical and Quantitative Methods: General
Bolton, G. Osterwald-Lenum, M.
Brock, W.A. Paarsch, H.J.
Drew, J.H. Pantula, S.G.
Heath, D.C. Rudebusch, G.D.
Johansen, S. Sickles, R.C.
Luce, R.D.
- C1 Econometric and Statistical Methods: General
Arellano, M. Franses, P.H.
Ashenfelter, O.C. Gallant, A.R.
Bagozzi, R.P. Ghysels, E.
Baillie, R.T. Hall, A.R.
Bauer, P.W. Hansen, B.E.
Beck, N.L. Harvey, A.C.
Bollerslev, T. Hendry, D.F.
Chavas, J.-P. Horowitz, J.L.
Christiano, L.J. Hylleberg, S.
Cornwell, C.M. Kaul, G.
Diebold, F.X. Li, Q.
Evans, P. MacKinnon, J.G.

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| Manski, C.F. | Ploberger, W. |
| Manton, K.G. | Richardson, M.P. |
| McFadden, D.L. | Robinson, P.M. |
| Meese, R.A. | Rubin, D.B. |
| Nelson, C.R. | Serletis, A. |
| Park, J.Y. | Shephard, N. |
| Pesaran, M.H. | Spady, R.H. |
| Phillips, P.C.B. | Tanner, M.A. |
| | |
| C2 | Econometric Methods: Single Equation Models |
| Bond, S.R. | Melino, A. |
| Cheung, Y.-W. | Ouliaris, S. |
| De Jong, R.M. | Perron, P. |
| Gonzalo, J. | |
| | |
| C3 | Econometric Methods: Multiple/Simultaneous Equation Models |
| Atkinson, S.E. | Lütkepohl, H. |
| Banerjee, A. | Saikkonen, P.J. |
| Juselius, K.I. | |
| | |
| C4 | Econometric and Statistical Methods: Special Topics |
| Dolado, J.J. | Granger, C.W.J. |
| Engle, R.F. | |
| | |
| C5 | Econometric Modeling |
| Ericsson, N.R. | Schmidt, P. |
| Jorgenson, D.W. | Smith, R.P. |
| Ng, S. | Teräsvirta, T.L. |
| Pagan, A.R. | |
| | |
| C6 | Mathematical Methods and Programming |
| Färe, R.G. | Levine, D.K. |
| Judd, K.L. | |
| | |
| C7 | Game Theory and Bargaining Theory |
| Binmore, K.G. | Mailath, G.J.M. |
| Blume, L.E. | McKelvey, R. |
| Camerer, C.F. | Milgrom, P.R. |
| Cramton, P.C. | Morris, S.E. |
| Crawford, V.P. | Palfrey, III, T.R. |
| de Vries, C.G. | Roth, A.E. |
| Dekel, E. | Rubinstein, A. |
| Fudenberg, D. | Selten, R. |
| Harris, M. | Sobel, J.K. |
| Kalai, E. | Stahl, III, D.O. |
| Kandori, M. | Thomson, W. |
| Kreps, D.M. | Young, H.P. |
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| C8 | Data Collection and Data Estimation Methodology; Computer Programs |
| Moulton, B.R. | Summers, R. |
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| C9 | Design of Experiments |
| Battalio, R.C. | Plott, C.R. |
| Loomes, G.C. | Shogren, J.F. |

- D0 Microeconomics: General
 Aghion, P.
 Akerlof, G.A.
 Basu, K.
 Baye, M.R.
 Beaudry, P.
 Binswanger, H.P.
 Blackorby, C.
 de Meza, D.E.
 Easley, D.A.
 Fishburn, P.C.
 Formby, J.P.
 Fullerton, D.
 Hausman, J.A.
 Hirshleifer, D.A.
 Innes, R.D.
 Katz, M.L.
 Kirman, A.P.
 Lazear, E.P.
 Lockwood, B.
 Loewenstein, G.
 MacLeod, W.B.
 Miller, J.H.
 Mookherjee, D.
 Nalebuff, B.J.
 Pindyck, R.S.
 Platteau, J.-P.
 Psacharopoulos, G.
 Rochet, J.-C.
 Rothschild, M.
 Salop, S.C.
 Sandler, T.
 Scheinkman, J.A.
 Schmidt, K.M.
 Scotchmer, S.A.
 Shavell, S.
 Slovic, P.
 Smith, V.L.
 Waldman, M.
 Walker, J.M.
 Whinston, M.D.
 Zeckhauser, R.J.
- D1 Household Behavior
 Attanasio, O.P.
 Börsch-Supan, A.H.
 Carroll, C.D.
 Chiappori, P.-A.
 Cox, D.
 Fafchamps, M.
 Frank, R.H.
 Furstenberg, F.F.
 Juster, F.T.
 Meghir, K.E.D.
 Morey, E.R.
 Pashardes, P.
 Pollak, R.A.
 Richins, M.L.
 Rindfuss, R.R.
 Schkade, D.
 Stafford, F.P.
 Weber, G.
- D2 Production and Organizations
 Ferrier, G.D.
 Gibbons, R.S.
 Grosskopf, S.P.
 Hart, O.S.D'A.
 Holmström, B.R.
 Kumbhakar, S.C.
 Murrell, P.
 Putterman, L.
- D3 Distribution
 Bishop, J.A.
 Jenkins, S.P.
 Kanbur, S.M.R.
 Wolff, E.N.
- D4 Market Structure and Pricing
 Bolton, R.N.
 Friedman, D.
 Hannan, T.H.
 Kamien, M.I.
 Mackie-Mason, J.K.
 McMillan, J.
 Thisse, J.-F.
- D5 General Equilibrium and Disequilibrium
 Gale, D.M.
 Laroque, G.R.
- D6 Welfare Economics
 Ayres, I.
 Sen, A.K.
 Suzumura, K.

D7 Analysis of Collective Decision-Making

Bendor, J.	Moulin, H.
Bossert, W.	Nitzan, S.I.
Coate, S.T.	Persson, T.E.
Fearon, J.D.	Saari, D.G.
Hamilton, J.T.	Tian, G.
Jackson, M.O.	Weingast, B.R.

D8 Information and Uncertainty

Crocker, K.J.	Quiggin, J.C.
Epstein, L.G.	Reichelstein, S.
Gilboa, I.	Rob, R.
Gollier, C.	Schmeidler, D.
Greenwald, B.C.N.	Segal, U.
Kagel, J.H.	Starmar, C.V.
Kahn, C.M.	Stiglitz, J.E.
Leland, H.E.	Sugden, R.
Malcomson, J.M.	Viscusi, W.K.
Maskin, E.S.	

D9 Intertemporal Choice and Growth

Prelec, D.	Wang, P.
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E0 Macroeconomics and Monetary Economics: General

Azariadis, C.	Karras, G.
Bayoumi, T.A.	Lam, P.-S.
Bean, C.R.	Lastrapes, W.D.
Bénabou, R.J.-M.	Lee, J.-W.
Benhabib, J.	Leeper, E.M.
Bernanke, B.S.	Lindbeck, A.C.E.
Blinder, A.S.	Lucas, Jr, R.E.
Burnside, A.C.	Mankiw, N.G.
Caballero, R.J.	Matsuyama, K.
Calvo, G.A.	McCallum, B.T.
Caplin, A.S.	Miller, S.M.
Chirinko, R.S.	Mishkin, F.S.
Cogley, T.	Nason, J.M.
Cole, H.L.	Nordhaus, W.D.
Cooley, T.F.	Ostry, J.D.
Durlauf, S.N.	Prescott, E.C.
Farmer, R.E.A.	Rebelo, S.T.
Friedman, M.	Romer, D.H.
Glomm, G.	Sims, C.A.
Goodhart, C.A.E.	Startz, R.
Hamilton, J.D.	Tabellini, G.
Howitt, P.W.	Uhlig, H.
Jansen, D.W.	Yellen, J.L.
Jones, L.E.	

E1 General Aggregative Models

Crucini, M.J.	Zeira, J.
Turnovsky, S.J.	Zeldes, S.P.
Wright, R.D.	

E2 Consumption, Saving, Production, Employment, and Investment

Abel, A.B.	Haltiwanger, J.C.
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- Jappelli, T.
Ramey, V.
- Saint-Paul, G.J.B.
- E3 Prices, Business Fluctuations, and Cycles
Cukierman, A.
Evans, C.L.
Evans, G.W.
Hall, R.E.
Hommes, C.H.
Kydland, F.E.
Ramey, G.
Rogers, J.
Rotemberg, J.J.
Stock, J.H.
West, K.D.
Whiteman, C.H.
- E4 Money and Interest Rates
Flood, Jr, R.P.
- E5 Monetary Policy, Central Banking, and the Supply of Money
Cecchetti, S.G.
Fischer, S.
Friedman, B.M.
Fuhrer, J.C.
Grier, K.B.
Kuttner, K.N.
Romer, C.D.
Svensson, L.E.O.
Vickers, J.S.
Walsh, C.E.
Woodford, M.
Wyplosz, C.A.
- E6 Macroeconomic Aspects of Public Finance, Macroeconomic Policy, and General Outlook
Alesina, A.
Gramlich, E.M.
von Hagen, J.
- F0 International Economics: General
Frankel, J.A.
Helpman, E.
Krueger, A.O.
Lake, D.A.
Rodrik, D.
Venables, A.J.
- F1 Trade
Bardhan, P.K.
Bernard, A.B.
Brander, J.A.
Dixit, A.K.
Eaton, J.
Greenaway, D.
Grossman, G.M.
Hanson, G.H.
Markusen, J.R.
Neary, J.P.
Russett, B.M.
Segerstrom, P.S.
Wilson, J.D.
- F2 International Factor Movements and International Business
Cooke, W.N.
Eichengreen, B.
- F3 International Finance
Bahmani-Oskooee, M.
Bekaert, G.
Claessens, S.
Dornbusch, R.
Edwards, S.
Engel, C.
Hodrick, R.J.
Jorion, P.
Lothian, J.R.
Lyons, R.K.
MacDonald, R.
Mark, N.C.
Masson, P.R.L.
Obstfeld, M.
Reinhart, C.M.
Rogoff, K.S.
Taylor, M.P.

- F4 Macroeconomic Aspects of International Trade and Finance
De Gregorio, J. Mendoza, E.G.
Frieden, J.A.
- G0 Financial Economics: General
Allen, F. Lucas, D.J.
Amihud, Y. Morck, R.K.
Atkinson, T. O'Hara, M.
Brown, S.J. Rajan, R.
Chan, K.C. Ritter, J.R.
Cochrane, J.H. Schultz, P.H.
Comment, R. Stein, J.C.
Fama, E.F. Stoll, H.R.
Froot, K.A. Titman, S.D.
Grossman, S.J. Townsend, R.M.
Hoshi, T. Vermaelen, T.J.
Levine, R. Wang, J.
Lo, A.W. Welch, I.
- G1 General Financial Markets
Andersen, T.G. Huang, R.D.
Bessembinder, H. Hull, J.C.
Campbell, J.Y. Jagannathan, R.
Chan, K. Jarrow, R.A.
Chen, N.-f. Kandel, S.
Constantinides, G.M. Karolyi, G.A.
Detemple, J.B. Kau, J.B.
Dow, J. McConnell, J.J.
Forsythe, R. Schwert, G.W.
Glosten, L.R. Shiller, R.J.
Gompers, P.A. Sloan, R.G.
Hamao, Y. Subrahmanyam, A.
Hardouvelis, G.A. Timmermann, A.G.
- G2 Financial Institutions and Services
Berger, A.N. Mester, L.J.
Clark, G.L. Smith, Jr, C.W.
Cummins, J.D. Udell, G.F.
Lerner, J.
- G3 Corporate Finance and Governance
Agrawal, A. Petersen, M.
Bebchuk, L.A. Roe, M.J.
Gilson, S.C. Servaes, H.
Hubbard, R.G. Stulz, R.
Lang, L.H.P. Thakor, A.V.
Maksimovic, V. Walkling, R.
Masulis, R.W. Weiss, L.A.
Megginson, W.L. Zingales, L.
- H0 Public Economics: General
Alm, J.R. Currie, J.M.
Andreoni, J.R. Cutler, D.M.
Besley, T.J. Diamond, P.A.
Bovenberg, A.L. Donohue, III, J.J.
Bucovetsky, S. Ferson, W.E.

- Gale, W.G.
 Haveman, R.H.
 Keen, M.J.
 Matsusaka, J.G.
 Meyer, B.D.
 Oates, W.E.
- Rosen, H.S.
 Scholz, J.K.
 Skinner, J.
 Stimson, J.A.
 Wildasin, D.E.
- H1 Structure and Scope of Government
 Cooper, J.
- H2 Taxation, Subsidies, and Revenue
 Feldstein, M.S.
 Gordon, R.H.
 Kaplow, L.
- King, M.A.
 Poterba, J.M.
 Slemrod, J.
- H3 Fiscal Policies and Behavior of Economic Agents
 Auerbach, A.J.
- Devereux, M.P.
- H5 National Government Expenditures and Related Policies
 Frank, R.G.
- Kotlikoff, L.J.
- H7 State and Local Government; Intergovernmental Relations
 Epple, D.N.
- Myers, G.M.
- H8 Miscellaneous Issues
 Hines, Jr, J.R.
- I0 Health, Education, and Welfare: General
 Garfinkel, I.
 Korenman, S.
- Thomas, D.
 Wolfe, B.L.
- I1 Health
 Dranove, D.
 Feldman, R.D.
 Grossman, M.
 Johannesson, M.
 Jönsson, B.G.
 Keeler, T.E.
 Kenkel, D.S.
- Mullahy, J.
 Newhouse, J.P.
 Ruhm, C.J.
 van Doorslaer, E.K.A.
 Wagstaff, B.A.S.
 Waite, L.
- I2 Education
 Becker, G.S.
 Ehrenberg, R.G.
- Hanushek, E.A.
- I3 Welfare and Poverty
 Duncan, G.J.
- Ravallion, M.
- J0 Labor and Demographic Economics: General
 Addison, J.T.
 Altonji, J.G.
 Baker, W.M.D.
 Berman, E.
 Blackburn, M.L.
 Blank, R.M.
 Bloom, D.E.
 Borjas, G.J.
- Burkhauser, R.V.
 Card, D.E.
 Chiswick, B.R.
 Clark, A.E.
 Grogger, J.
 Groshen, E.L.
 Heckman, J.J.
 Holzer, H.J.

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| | Jaeger, D.A.
Katz, L.F.
Kennan, J.
Krueger, A.B.
Massey, D.S.
Moffitt, R.A. | Nickell, S.J.
Polachek, S.W.
Ransom, M.R.
Solon, G.R.
Trejo, S.J.
Zax, J.S. |
| J1 | Demographic Economics
Bongaarts, J.
Lee, R.D.
Razin, A. | Schultz, T.P.
Wheeler, D.R. |
| J2 | Time Allocation; Work Behaviour; Employment Determination, and Creation
Blau, D.M.
Hamermesh, D.
Lynch, L.M. | Neumark, D.
Sicherman, N. |
| J3 | Wages, Compensation, and Labor Costs
Angrist, J.D.
Blanchflower, D.G.
Blau, F.D.
Butler, R.J.
Hersch, J.
Heywood, J.S.
Hirsch, B.T.
Kahn, L.M. | Levine, D.I.
Levy, F.S.
Macpherson, D.A.
Miller, P.W.
Murphy, K.J.
Oswald, A.J.
Van Reenen, J. |
| J4 | Particular Labor Markets
Freeman, R.B.
Johnson, G.E. | Welch, F.R. |
| J5 | Labor–Management Relations, Trade Unions, and Collective Bargaining
Jones, D.C. | |
| J6 | Mobility, Unemployment, and Vacancies
Gregg, P.A. | Pissarides, C.A. |
| K0 | Law and Economics: General
Allen, D.W.
Hansmann, H.B.
Liebowitz, S.J.
Lott, Jr, J.R.
Margolis, S.E.
Polinsky, A.M. | Ramseyer, J.M.
Rasmusen, E.B.
Spier, K.E.
Sunstein, C.R.
Zupan, M.A. |
| K1 | Basic Areas of Law
Miceli, T.J. | |
| K2 | Regulation and Business Law
Romano, R. | |
| K4 | Legal Procedure, the Legal System, and Illegal Behavior
Benson, B.L. | Ehrlich, I. |
| L0 | Industrial Organization: General
Ausubel, L.M. | Caves, R.E. |

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| Ellison, G. | Rey, P. |
| Geroski, P.A. | Riordan, M.H. |
| Henderson, R.M. | Schmalensee, R.L. |
| Klemperer, P.D. | Siegfried, J.J. |
| Kovenock, D. | Spiller, P.T. |
| Newbery, D.M.G. | Teece, D.J. |
| Pakes, A. | Vives, X. |
| Peltzman, S. | Wernerfelt, B. |
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| L1 Market Structure, Firm Strategy, and Market Performance | |
| Anderson, S.P. | Harris, R.I.D. |
| Borenstein, S. | Saloner, G. |
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| L2 Firm Objectives, Organization, and Behavior | |
| Hermalin, B.E. | Radner, R. |
| Lafontaine, F. | Roberts, D.J. |
| Masten, S.E. | |
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| L3 Nonprofit Organizations and Public Enterprise | |
| Weisbrod, B.A. | |
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| L4 Antitrust Policy | |
| Ordover, J.A. | |
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| L5 Regulation and Industrial Policy | |
| Hitchens, D.M.W.N | Joskow, P.L. |
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| L9 Industry Studies: Utilities and Transportation | |
| Oum, T.H. | Winston, C. |
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 | |
| M0 Business Administration and Business Economics; Marketing; Accounting:
General | |
| Armstrong, J.S. | Payne, J.W. |
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| M1 Business Administration | |
| Thompson, C.J. | |
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| M2 Business Economics | |
| Jensen, M.C. | |
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| M3 Marketing and Advertising | |
| Chintagunta, P.K. | Muller, E. |
| Hauser, J.R. | Pechmann, C.A.R. |
| Johnson, E.J. | |
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| M4 Accounting | |
| Berger, P.G. | Watts, R.L. |
| Kim, O. | |
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| M5 Personnel Economics | |
| Baker, G.P. | |
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| N0 Economic History: General | |
| Fogel, R.W. | North, D.C. |
| Goldin, C. | Williamson, J.G. |
| Greif, A. | |

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- N1 Macroeconomics and Monetary Economics; Growth and Fluctuations
Crafts, N.F.R. Sala-i-Martin, X.
- N2 Financial Markets and Institutions
Tickell, A.T.
- N3 Labor and Consumers, Demography, Education, Income and Wealth
Margo, R.A.
- N4 Government, War, Law, and Regulation
Oneal, J.R.
- O0 Economic Development, Technological Change, and Growth: General
Behrman, J.R. Paul, C.J.M.
Galor, O. Quah, D.
Harrison, B. Rivera-Batiz, L.A.
Heston, A.W. Sachs, J.D.
Jefferson, G.H. Tamura, R.
- O1 Economic Development
Acemoglu, K.D. Haddad, L.J.
Banerjee, A.V. Hartwick, J.M.
Barbier, E.B. Ikenberry, D.L.
Benjamin, H.D. Paxson, C.H.
Case, A.C. Pritchett, L.
Darity, Jr, W.A. Rosenzweig, M.R.
de Janvry, A. Sadoulet, E.
Deaton, A.S. Strauss, J.
Dollar, D.R. Taylor, J.E.
Glewwe, P.W.
- O3 Technological Change
Audretsch, D.B. Jaffe, A.B.
Coe, D.T. Romer, P.M.
DiMasi, J.A.
- O4 Economic Growth and Aggregate Productivity
Barro, R.J. Lovell, C.A.K.
Baumol, W.J. Sichel, D.E.
Dowrick, S.
- P1 Capitalist Systems
Drazen, A. Peck, J.A.
Jessop, R.D.
- P2 Socialist Systems and Transitional Economies
Ickes, B.W. Rawski, T.G.
- P5 Comparative Economic Systems
Aoki, M. Roland, G.
Gordon, R.J.
- Q0 Agricultural and Natural Resource Economics: General
Alston, J.M. McConnell, K.E.
Cropper, M.L. Mendelsohn, R.
Goodwin, B.K. Moschini, G.C.

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| | Reardon, T.A.
Smith, V.K. | Whittington, D.
Wilcoxon, P.J. |
| Q1 | Agriculture
Just, R.E.
Lin, J.Y. | Sexton, R.J. |
| Q2 | Renewable Resources and Conservation; Environmental Management
Adamowicz, W.L.
Adams, R.M.
Barrett, S.A.
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Portney, P.R.
Stavins, R.N.
Weitzman, M.L.
Willis, K.G. |
| R0 | Urban, Rural, and Regional Economics: General
Arnott, R.J.
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Galster, G.C.
Glaeser, E.L.
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Helsley, R.W.
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Rietveld, P.
Small, K.A.
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Wrigley, N. |
| R1 | General Regional Economics
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Martin, R.L. | Storper, M.C. |
| R2 | Household Analysis
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| R3 | Production Analysis and Firm Location
Sirmans, C.F. | |
| R4 | Transportation Systems
de Palma, A. | |
| Z0 | Other Special Topics: General
Scott, A.J. | |
| Unknown | Blanchard, O.J.
Blundell, R.W.
Booth, A.L.
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Booth, A.L. n.e.

Brown, S.J. 1949

Clark, G.L. 1950

Macpherson, D.A. 1960

Mailath, G.J.M. 1957

Miller, P.W. 1955

Ouliaris, S. 1957

Pagan, A.R. 1947

Quiggin, J.C. 1956

Ravallion, M. 1952

Watts, R.L. 1942

AUSTRIA

Epstein, L.G. 1947

Ploberger, W. 1956

BELGIUM

Bekaert, G. 1964

de Palma, A. 1952

Fafchamps, M. 1955

Ghysels, E. 1956

Gollier, C. 1961

Jorion, P. 1955

Platteau, J.-P. 1947

Roland, G. 1954

Servaes, H. 1966

Thisse, J.-F. 1946

van Doorslaer, E.K.A.
1958

Vermaelen, T.J. 1953

BRAZIL

Scheinkman, J.A. 1948

BURMA

Huang, R.D. 1955

CANADA

Adamowicz, W.L. 1959

Allen, D.W. 1960

Baker, W.M.D. 1959

Beaudry, P. 1960

Benjamin, H.D. 1961

Berger, P.G. 1962

Berman, E. 1960

Bessembinder, H. 1956

Bolton, R.N. 1956

Brander, J.A. 1953

Bucovetsky, S. 1952

Burnside, A.C. 1965

Cameron, T.A. 1956

Card, D.E. 1956

Crucini, M.J. 1962

Currie, J.M. 1960

Gale, D.M. 1950

Gilson, S.C. 1958

Hartwick, J.M. 1944

Henderson, J.V. 1947

Howitt, P.W. 1946

Karolyi, G.A. 1962

Lafontaine, F. 1958

MacKinnon, J.G. 1951

Manton, K.G. 1947

Masson, P.R.L. 1946

Melino, A. 1956

Morck, R.K. 1956

Myers, G.M. 1958

Ostry, J.D. 1962

Paarsch, H.J. 1959

Pakes, A. 1949

Perron, P. 1959

Roberts, D.J. 1945

Weiss, L.A. 1957

Wright, R.D. 1956

CHILE

Caballero, R.J. 1959

De Gregorio, J. 1959

Edwards, S. 1953

CROATIA

Prelec, D. 1955

CUBA

Borjas, G.J. 1950

Reinhart, C.M. 1955

CYPRUS

Constantinides, G.M. 1947

Pashardes, P. 1949

Pissarides, C.A. 1948

DENMARK

Bollerslev, T. 1958

Hylleberg, S. 1944

Johansen, S. 1939

Osterwald-Lenum, M.

1962

Timmermann, A.G. 1964

Wernerfelt, B. 1951

EIRE

Dowrick, S. 1953

Kennan, J. 1947

Neary, J.P. 1950

FINLAND

Holmström, B.R. 1949

Juselius, K.I. 1943

Saikkonen, P.J. 1952

Teräsvirta, T.L. 1941

FRANCE

Aghion, P. 1956

Bénabou, R.J.-M. 1958

Blanchard, O.J. 1948

Chavas, J.-P. 1951

Cukierman, A. 1938

de Janvry, A. 1939

Detemple, J.B. 1957

Laffont, J.-J.M. 1947

Laroque, G.R. 1946

Moulin, H. 1950

Rochet, J.-C. 1957

Sadoulet, E. 1945

Saint-Paul, G.J.B. 1963

Thomson, W. 1949

Wyplosz, C.A. 1947

GERMANY

Börsch-Supan, A.H. 1954

Bossert, W. 1962

Dornbusch, R. 1942

Fullerton, D. 1953

Glomm, G. 1957

Groshen, E.L. 1954
 Lütkepohl, H. 1951
 MacLeod, W.B. 1954
 Reichelstein, S. 1957
 Schmidt, K.M. 1961
 Selten, R. 1930
 Stock, J.H. 1956
 Stoll, H.R. 1939
 Uhlig, H. 1961
 von Hagen, J. 1955
 Welch, I. 1963

GREECE

Azariadis, C. 1943
 Hardouvelis, G.A. 1955
 Karras, G. 1962
 Meghir, K.E.D. 1959
 Psacharopoulos, G. 1937
 Serletis, A. 1954

HONG KONG

Chan, K. 1961
 Chan, K.C. 1957
 Chen, N.-f. 1950
 Lam, P.-S. 1958
 Lo, A.W. 1960
 Ng, S. n.e.

INDIA

Agrawal, A. 1958
 Banerjee, A. 1961
 Banerjee, A.V. 1961
 Bardhan, P.K. 1939
 Basu, K. 1952
 Chintagunta, P.K. 1963
 Dixit, A.K. 1944
 Jain, D.C. 1957
 Jagannathan, R. 1949
 Kanbur, S.M.R. 1954
 Kaul, G. 1954
 Kumbhakar, S.C. 1954
 Mookherjee, D. 1956
 Pantula, S.G. 1957
 Rajan, R. 1963
 Sen, A.K. 1933
 Subrahmanyam, A. 1962
 Thakor, A.V. 1951

IRAN

Bahmani-Oskooee, M.
 1951
 Leeper, E.M. 1958
 Pesaran, H. 1946

ISRAEL

Amihud, Y. 1947

Ehrlich, I. 1938
 Galor, O. n.e.
 Gilboa, I. 1963
 Greif, A. 1955
 Kahneman, D. 1934
 Kalai, E. 1942
 Kandel, S. 1951
 Muller, E. 1948
 Nitzan, S.I. 1948
 Razin, A. 1941
 Rob, R. 1950
 Rubinstein, A. 1951
 Segal, U. 1954
 Sicherman, N. 1954
 Zeira, J. 1950

ITALY

Alesina, A. 1957
 Attanasio, O.P. 1959
 Bertola, G. 1960
 Jappelli, T. 1956
 Moschini, G.C. 1954
 Tabellini, G. 1956
 Weber, G. 1958
 Zingales, L. 1963

JAPAN

Aoki, M. 1938
 Fujita, M. 1943
 Hamao, Y. 1955
 Hoshi, T. 1960
 Kandori, M. 1959
 Matsuyama, K. 1957
 Suzumura, K. 1944

KOREA

Kim, O. 1947
 Lee, J.-W. 1960
 Park, J.Y. 1955

MALAYSIA

Quah, D. 1958

MEXICO

Mendoza, E.G. 1963

MONACO

Chiappori, P.-A. 1955

NEW ZEALAND

Clark, W.A.V. 1938
 Jenkins, S.P. 1956
 McMillan, J. 1951
 Robson, A.J. 1948
 Teece, D.J. 1948
 Turnovsky, S.J. 1941

NORWAY

Kydland, F.E. 1943

PANAMA

Coe, D.T. 1947
 Ramey, V. 1959

POLAND

Bebchuk, L.A. 1955
 Kamien, M.I. 1938
 Ordovery, J.A. 1946
 Schmeidler, D. 1939

PORTUGAL

Rebelo, S.T. 1959

PRC (China)

Cheung, Y.-W. 1957
 Li, Q. 1956
 Tian, G. 1956
 Wang, J. 1959

ROC (Taiwan)

Lang, L.H.P. 1956
 Lin, J.Y. 1952
 Wang, P. 1957

SOUTH AFRICA

Haddad, L.J. 1959
 Saloner, G. 1955
 Turok, I.N. 1956

SOUTH KOREA

Oum, T.H. 1942

SPAIN

Arellano, M. 1957
 Dolado, J.J. 1955
 Gonzalo, J. 1959
 Sala-i-Martin, X. 1963
 Vives, X. 1955

SWEDEN

Andersen, T.G. 1957
 Färe, R.G. 1942
 Johannesson, M. 1964
 Jönsson, B.G. 1944
 Lindbeck, A.C.E. 1930
 Persson, T.E. 1954
 Svensson, L.E.O. 1947

SWITZERLAND

Binswanger, H.P. 1943
 Frey, B.S. 1941
 Stulz, R. 1952

THE NETHERLANDS

Bongaarts, J. 1945
 Bovenberg, A.L. 1958
 Claessens, S. 1959
 De Jong, R.M. 1967
 de Vries, C.G. 1955
 Franses, P.H. 1963
 Hommes, C.H. 1960
 Rietveld, P. 1952

TUNISIA

Rey, P. 1957

TURKEY

Acemoglu, K.D. 1967
 Benhabib, J. 1948
 Rodrik, D. 1957

UK

Addison, J.T. 1946
 Allen, F. 1956
 Anderson, S.P. 1958
 Arnott, R.J. 1949
 Arthur, W.B. 1945
 Atkinson, T. 1944
 Baillie, R.T. 1948
 Bayoumi, T.A. 1959
 Bean, C.R. 1953
 Besley, T.J. 1960
 Binmore, K.G. 1940
 Blanchflower, D.G. 1952
 Blundell, R.W. 1952
 Bond, S.R. 1963
 Campbell, J.Y. 1958
 Caplin, A.S. 1956
 Clark, A.E. 1963
 Coate, S.T. 1957
 Crafts, N.F.R. 1949
 de Meza, D.E. 1952
 Deaton, A.S. 1945
 Devereux, M.P. 1959
 Dow, J. 1961
 Farmer, R.E.A. 1955
 Farrell, J. 1954
 Goodhart, C.A.E. 1936
 Granger, C.W.J. 1934
 Greenaway, D. 1952
 Gregg, P.A. 1960
 Hall, A.R. 1959
 Hall, S.G.F. 1953
 Hamnett, C. 1946
 Harris, R.I.D. 1957
 Hart, O.S.D'A. 1948
 Harvey, A.C. 1947
 Henderson, R.M. 1960
 Hendry, D.F. 1944

Hitchens, D.M.W.N. 1948
 Hodgson, G.M. 1946
 Hull, J.C. 1946
 Jessop, R.D. 1946
 Jones, D.C. 1946
 Keeble, D.E. 1939
 Keen, M.J. 1956
 King, M.A. 1948
 Kirman, A.P. 1939
 Klemperer, P.D. 1956
 Lockwood, B. 1957
 Loomes, G.C. 1950
 MacDonald, R. 1955
 Malcomson, J.M. 1946
 Martin, R.L. 1948
 Morris, S.E. 1963
 Murrell, P. 1950
 Newbery, D.M.G. 1943
 Nickell, S.J. 1944
 Oswald, A.J. 1953
 Pearce, D.W. 1941
 Peck, J.A. 1962
 Phillips, P.C.B. 1948
 Richardson, M.P. 1964
 Robinson, P.M. 1947
 Scott, A.J. 1938
 Shephard, N. 1964
 Sloan, R.G. 1964
 Smith, R.P. 1946
 Starmer, C.V. 1961
 Stern, N.H. 1946
 Sugden, R. 1949
 Taylor, M.P. 1958
 Thrift, N.J. 1949
 Tickell, A.T. 1964
 Van Reenen, J. 1965
 Venables, A.J. 1953
 Vickers, J.S. 1958
 Wagstaff, R.A.S. 1959
 Willis, K.G. 1944
 Wrigley, N. 1948

URUGUAY

Spiller, P.T. 1951

USA

Abel, A.B. 1952
 Adams, R.M. 1945
 Akerlof, G.A. 1940
 Alm, J.R. 1950
 Altonji, J.G. 1953
 Andreoni, J.R. 1959
 Angrist, J.D. 1960
 Armstrong, J.S. 1937
 Ashenfelter, O.C. 1942
 Atkinson, S.E. 1942

Audretsch, D.B. 1954
 Auerbach, A.J. 1951
 Ausubel, L.M. 1959
 Ayres, I. 1959
 Bagozzi, R.P. 1946
 Baker, G.P. 1957
 Barbier, E.B. 1957
 Barrett, S.A. 1957
 Barro, R.J. 1944
 Battalio, R.C. 1938
 Bauer, P.W. 1959
 Baumol, W.J. 1922
 Baye, M.R. 1958
 Beck, N.L. 1947
 Becker, G.S. 1930
 Becker, W.E. 1945
 Behrman, J.R. 1940
 Beil, Jr, R.O. 1955
 Bendor, J. 1950
 Benson, B.L. 1949
 Berger, A.N. 1953
 Bernanke, B.S. 1953
 Bernard, A.B. 1963
 Bishop, J.A. 1955
 Blackburn, M.L. 1960
 Blackorby, C. 1938
 Blank, R.M. 1955
 Blau, D.M. 1951
 Blau, F.D. 1946
 Blinder, A.S. 1945
 Bloom, D.E. 1955
 Blume, L.E. 1952
 Bolton, G. 1958
 Borenstein, S. 1957
 Brock, W.A. 1941
 Bromley, D.W. 1940
 Brueckner, J.K. 1950
 Burkhauser, R.V. 1945
 Butler, R.J. 1950
 Camerer, C.F. 1959
 Carroll, C.D. 1964
 Carson, R.T. 1955
 Case, A.C. 1958
 Caves, R.E. 1931
 Cecchetti, S.G. 1956
 Chirinko, R.S. 1953
 Chiswick, B.R. 1942
 Cochrane, J.H. 1957
 Cogley, T. 1958
 Comment, R. 1953
 Cooke, W.N. 1948
 Cooley, T.F. 1943
 Cooper, J. 1933
 Cornwell, C.M. 1959
 Cox, D. 1954
 Cramton, P.C. 1957

- Crawford, V.P. 1950
 Crocker, K.J. 1954
 Cropper, M.L. 1949
 Cummins, J.D. 1946
 Cutler, D.M. 1965
 Darity, Jr, W.A. 1953
 Dekel, E. 1958
 Diamond, P.A. 1940
 Diebold, F.X. 1959
 DiMasi, J.A. 1954
 Dollar, D.R. 1954
 Donohue, III, J.J. 1953
 Dranove, D. 1956
 Drazen, A. 1950
 Drew, J.H. 1950
 Duncan, G.J. 1948
 Durlauf, S.N. 1958
 Easley, D.A. 1952
 Eaton, J. 1950
 Ehrenberg, R.G. 1946
 Eichengreen, B. 1952
 Ellison, G. 1965
 Engel, C. 1956
 Engle, R.F. 1942
 Epple, D.N. 1946
 Ericsson, N.R. 1954
 Evans, C.L. 1958
 Evans, G.W. 1949
 Evans, P. 1946
 Fama, E.F. 1939
 Fearon, J.D. 1962
 Feldman, R.D. 1945
 Feldstein, M.S. 1939
 Ferrier, G.D. 1958
 Ferson, W.E. 1951
 Fishburn, P.C. 1936
 Flood, Jr, R.P. 1949
 Fogel, R.W. 1926
 Formby, J.P. 1940
 Forsythe, R. 1949
 Frank, R.G. 1952
 Frank, R.H. 1945
 Frankel, J.A. 1952
 Freeman, R.B. 1945
 Frieden, J.A. 1953
 Friedman, B.M. 1944
 Friedman, D. 1947
 Friedman, M. 1912
 Froot, K.A. 1957
 Fudenberg, D. 1957
 Fuhrer, J.C. 1957
 Furstenberg, F.F. 1940
 Gale, W.G. 1959
 Gallant, A.R. 1942
 Galster, G.C. 1948
 Garfinkel, I. 1943
 Geroski, P.A. 1952
 Gibbons, R.S. 1958
 Glaeser, E.L. 1967
 Glewwe, P.W. 1958
 Glostien, L.R. 1951
 Goldin, C. 1946
 Gompers, P.A. 1964
 Goodwin, B.K. 1960
 Gordon, R.H. 1949
 Gordon, R.J. 1940
 Goulder, L.H. 1951
 Gramlich, E.M. 1939
 Greenwald, B.C.N. 1946
 Gregory, R.S. 1950
 Grier, K.B. 1958
 Grogger, J. 1959
 Grosskopf, S.P. 1950
 Grossman, G.M. 1955
 Grossman, M. 1942
 Grossman, S.J. 1953
 Hall, R.E. 1943
 Haltiwanger, J.C. 1955
 Hamermesh, D. 1943
 Hamilton, J.D. 1954
 Hamilton, J.T. 1961
 Hannan, T.H. 1944
 Hansen, B.E. 1962
 Hansen, L.P. 1952
 Hansmann, H.B. 1945
 Hanson, G.H. 1964
 Hanushek, E.A. 1943
 Harris, M. 1946
 Harrison, B. 1942
 Hauser, J.R. 1949
 Hausman, J.A. 1946
 Haveman, R.H. 1936
 Heath, D.C. 1942
 Heckman, J.J. 1944
 Helsley, R.W. 1955
 Hermalin, B.E. 1962
 Hersch, J. 1956
 Heston, A.W. 1934
 Heywood, J.S. 1957
 Hines, Jr, J.R. 1958
 Hirsch, B.T. 1949
 Hirshleifer, D.A. 1958
 Hodrick, R.J. 1950
 Holzer, H.J. 1957
 Horowitz, J.L. 1941
 Howarth, R.B. 1962
 Hubbard, R.G. 1958
 Ickes, B.W. 1955
 Ihlanfeldt, K. 1950
 Ikenberry, D.L. 1960
 Innes, R.D. 1959
 Jackson, M.O. 1962
 Jaeger, D.A. 1964
 Jaffe, A.B. 1955
 Jansen, D.W. 1956
 Jarrow, R.A. 1952
 Jefferson, G.H. 1943
 Jensen, M.C. 1939
 Johnson, E.J. 1954
 Johnson, G.E. 1940
 Jones, L.E. 1953
 Jorgenson, D.W. 1933
 Joskow, P.L. 1947
 Judd, K.L. 1953
 Just, R.E. 1948
 Juster, F.T. 1926
 Kagel, J.H. 1942
 Kahn, C.M. 1952
 Kahn, L.M. 1950
 Kaplow, L. 1956
 Katz, L.F. 1959
 Katz, M.L. 1957
 Kau, J.B. 1943
 Keeler, T.E. 1945
 Kenkel, D.S. 1959
 Kling, C.L. 1960
 Knetsch, J.L. 1933
 Korenman, S. 1961
 Kovenock, D. 1956
 Kreps, D.M. 1950
 Krueger, A.B. 1960
 Krueger, A.O. 1934
 Kuttner, K.N. 1960
 Laband, D.N. 1956
 Lake, D.A. 1956
 Lastrapes, W.D. 1958
 Lazear, E.P. 1948
 Lee, R.D. 1941
 Leland, H.E. 1941
 Lerner, J. 1960
 Levine, D.I. 1960
 Levine, D.K. 1955
 Levine, R. 1960
 Levy, F.S. 1941
 Liebowitz, S.J. 1950
 Loewenstein, G. 1955
 Lothian, J.R. 1945
 Lott, Jr, J.R. 1958
 Lovell, C.A.K. 1942
 Lucas, D.J. 1958
 Lucas, Jr, R.E. 1937
 Luce, R.D. 1925
 Lynch, L.M. 1956
 Lyons, R.K. 1961
 Mackie-Mason, J.K. 1959
 Mankiw, N.G. 1958
 Manski, C.F. 1948
 Margo, R.A. 1954

- Margolis, S.E. 1950
 Mark, N.C. 1955
 Markusen, A.R. 1946
 Markusen, J.R. 1948
 Maskin, E.S. 1950
 Massey, D.S. 1952
 Masten, S.E. 1955
 Masulis, R.W. 1948
 McCallum, B.T. 1935
 McConnell, J.J. 1945
 McConnell, K.E. 1941
 McDonald, J.F. 1943
 McFadden, D.L. 1937
 McKelvey, R. 1944
 McMillen, D.P. 1958
 Meese, R.A. 1952
 Megginson, W.L. 1954
 Mendelsohn, R. 1952
 Mester, L.J. 1958
 Meyer, B.D. 1959
 Miceli, T.J. 1959
 Milgrom, P.R. 1948
 Miller, J.H. 1959
 Miller, S.M. 1945
 Mishkin, F.S. 1951
 Moffitt, R.A. 1948
 Morey, E.R. 1950
 Mortensen, D.T. 1939
 Moulton, B.R. 1954
 Mullahy, J. 1957
 Murphy, K.J. 1957
 Nalebuff, B.J. 1958
 Nason, J.M. 1957
 Nelson, C.R. 1942
 Nelson, R.R. 1930
 Neumark, D. 1959
 Newhouse, J.P. 1942
 Nordhaus, W.D. 1941
 North, D.C. 1920
 O'Hara, M. 1953
 Oates, W.E. 1937
 Obstfeld, M. 1952
 Oneal, J.R. 1946
 Ostrom, E. 1933
 Palfrey, III, T.R. 1953
 Paul, C.J.M. 1953
 Paxson, C.H. 1960
 Payne, J.W. 1947
 Pechmann, C.A.R. 1959
 Peltzman, S. 1940
 Petersen, M. 1963
 Pindyck, R.S. 1945
 Plott, C.R. 1938
 Polachek, S.W. 1945
 Polinsky, A.M. 1948
 Pollak, R.A. 1938
 Portney, P.R. 1945
 Posner, R.A. 1939
 Postlewaite, A.W. 1943
 Poterba, J.M. 1958
 Prescott, E.C. 1940
 Pritchett, L. 1959
 Putterman, L. 1952
 Quigley, J.M. 1942
 Radner, R. 1927
 Ramey, G. 1958
 Ramseyer, J.M. 1954
 Ransom, M.R. 1952
 Rasmusen, E.B. 1958
 Rawski, T.G. 1943
 Reardon, T.A. 1954
 Richins, M.L. 1950
 Rindfuss, R.R. 1946
 Riordan, M.H. 1951
 Ritter, J.R. 1954
 Rivera-Batiz, L.A. 1949
 Roe, M.J. 1951
 Rogers, J. 1961
 Rogoff, K.S. 1953
 Romano, R. 1952
 Romer, C.D. 1958
 Romer, D.H. 1958
 Romer, P.M. 1955
 Rosen, H.S. 1949
 Rosenzweig, M.R. 1947
 Roth, A.E. 1951
 Rothschild, M. 1942
 Rubin, D.B. 1943
 Rudebusch, G.D. 1959
 Ruhm, C.J. 1955
 Russett, B.M. 1935
 Saari, D.G. 1940
 Sachs, J.D. 1954
 Salop, S.C. 1946
 Sandler, T. 1946
 Schkade, D.A. 1955
 Schmalensee, R.L. 1944
 Schmidt, P. 1947
 Scholz, J.K. 1959
 Schultz, P.H. 1956
 Schultz, T.P. 1940
 Schwert, G.W. 1950
 Scotchmer, S.A. 1950
 Segerstrom, P.S. 1957
 Sexton, R.J. 1955
 Shapiro, C. 1955
 Shavell, S. 1946
 Shiller, R.J. 1946
 Shogren, J.F. 1958
 Sichel, D.E. 1961
 Sickles, R.C. 1949
 Siegfried, J.J. 1945
 Sims, C.A. 1942
 Sirmans, C.F. 1949
 Skinner, J. 1955
 Slemrod, J. 1951
 Slovic, P. 1938
 Small, K.A. 1945
 Smith, V.K. 1945
 Smith, V.L. 1927
 Smith, Jr, C.W. 1947
 Sobel, J.K. 1954
 Solon, G.R. 1954
 Spady, R.H. 1952
 Spier, K.E. 1963
 Stafford, F.P. 1940
 Stahl, D.O. 1947
 Startz, R. 1952
 Stavins, R.N. 1948
 Stein, J.C. 1960
 Stiglitz, J.E. 1943
 Stimson, J.A. 1943
 Storper, M.C. 1954
 Strauss, J. 1951
 Summers, R. 1922
 Sunstein, C.R. 1954
 Tamura, R. 1959
 Tanner, M.A. 1957
 Taylor, J.E. 1957
 Thompson, C.J. 1962
 Titman, S.D. 1954
 Townsend, R.M. 1948
 Trejo, S.J. 1959
 Udell, G.F. 1946
 Varian, H.R. 1947
 Viscusi, W.K. 1949
 Waite, L. 1947
 Waldman, M. 1955
 Walker, J.M. 1950
 Walkling, R. 1949
 Walsh, C.E. 1949
 Watts, M.W. 1950
 Weingast, B.R. 1952
 Weisbrod, B.A. 1931
 Weitzman, M.L. 1942
 Welch, F.R. 1938
 West, K.D. 1953
 Wheeler, D.R. 1946
 Whinston, M.D. 1959
 Whiteman, C.H. 1954
 Whittington, D. 1950
 Wilcoxon, P.J. 1959
 Wildasin, D.E. 1950
 Williamson, J.G. 1935
 Williamson, O.E. 1932
 Wilson, J.D. 1952
 Wilson, R.B. 1937
 Winston, C. 1952

Wolfe, B.L. 1943
Wolff, E.N. 1946
Woodford, M. 1955
Yellen, J.L. 1946
Young, H.P. 1945
Zax, J.S. 1954
Zeckhauser, R.J. 1940
Zeldes, S.P. 1956
Zupan, M.A. 1959

USSR
Helpman, E. 1946

VIETNAM
Cole, H.L. 1957
YUGOSLAVIA
Maksimovic, V. 1955

ZAMBIA
Fischer, S. 1943

ZIMBABWE
Thomas, D. 1958

UNKNOWN
Goetzmann, W.N. n.e.
Kotlikoff, L.J. 1951
Marsden, T. n.e.
Matsusaka, J.G. 1964
Nijkamp, P. 1946
Smith, B.D. 1954

Appendix 4 Index of affiliation, first degree and doctorate

Name	Affiliation	First degree	Doctorate (most recent)
Abel, A.B.	Univ. Pennsylvania	Princeton Univ., 1974	MIT, 1978
Acemoglu, K.D.	MIT	Univ. York, UK, 1989	LSE, 1992
Adamowicz, W.L.	Univ. Alberta	Univ. Alberta, 1981	Univ. Minnesota, 1988
Adams, R.M.	Oregon State Univ.	Univ. California, Davis, 1968	Univ. California, Davis, 1975
Addison, J.T.	Univ. South Carolina	LSE, 1967	LSE, 1971
Aghion, P.	Univ. Coll. London	n.e.	Harvard Univ., 1987
Agrawal, A.	Univ. Alabama	Univ. Bombay, 1977	Univ. Pittsburgh, 1986
Akerlof, G.A.	Univ. California, Berkeley	Yale Univ., 1962	MIT, 1966
Alesina, A.	Harvard Univ.	Univ. Bocconi, 1981	Harvard Univ., 1986
Allen, D.W.	Simon Fraser Univ.	Simon Fraser Univ., 1983	Univ. Washington, 1988
Allen, F.	Univ. Pennsylvania	Univ. East Anglia, 1977	Oxford Univ., 1980
Alm, J.R.	Georgia State Univ.	Earlham Coll., Richmond, 1972	Univ. Wisconsin-Madison, 1980
Alston, J.M.	Univ. California, Davis	Univ. Melbourne, 1975	North Carolina State Univ., 1984
Altonji, J.G.	Yale Univ.	Yale Univ., 1975	Princeton Univ., 1981
Amihud, Y.	NYU	Hebrew Univ., Jerusalem, 1969	NYU, 1975
Andersen, T.G.	Northwestern Univ.	Univ. Aarhus, 1985	Yale Univ., 1992
Anderson, S.P.	Univ. Virginia	Southampton Univ., 1979	Queen's Univ., Canada, 1985
Andreoni, J.R.	Univ. Wisconsin-Madison	Univ. Minnesota, 1981	Univ. Michigan, 1986
Angrist, J.D.	MIT	Oberlin Coll., 1982	Princeton Univ., 1989
Aoki, M.	Stanford Univ.	Univ. Tokyo, 1962	Univ. Minnesota, 1967
Arellano, M.	CEMFI	Univ. Barcelona, 1979	LSE, 1985
Armstrong, J.S.	Univ. Pennsylvania	Lehigh Univ., 1959	MIT, 1968
Arnott, R.J.	Boston Coll.	MIT, 1969	Yale Univ., 1975
Arthur, W.B.	Santa Fe Inst.	Queen's Univ., Belfast, 1966	Univ. California, Berkeley, 1973
Ashenfelter, O.C.	Princeton Univ.	Claremont Men's Coll., 1964	Princeton Univ., 1970

Name	Affiliation	First degree	Doctorate (most recent)
Atkinson, S.E.	Univ. Georgia	Williams Coll., 1966	Univ. Colorado, 1972
Atkinson, T.	Oxford Univ.	Univ. Cambridge, 1966	n.e.
Attanasio, O.P.	Univ. Coll. London	Univ. Bologna, 1982	LSE, 1988
Audretsch, D.B.	Indiana Univ.	Drew Univ., 1976	Univ. Wisconsin, 1980
Auerbach, A.J.	Univ. California, Berkeley	Yale Univ., 1974	Harvard Univ., 1978
Ausubel, L.M.	Univ. Maryland	Princeton Univ., 1980	Stanford Univ., 1984
Ayres, I.	Yale Law Sch.	Yale Univ., 1981	MIT, 1998
Azariadis, C.	UCLA	Natl Tech. Univ., Athens, 1969	Carnegie-Mellon Univ., 1975
Bagozzi, R.P.	Rice Univ.	Kettering Univ., 1970	Northwestern Univ., 1976
Bahmani-Oskooee, M.	Univ. Wisconsin-Milwaukee	Natl Univ. Iran, 1975	Michigan State Univ., 1981
Baillie, R.T.	Michigan State Univ.	Middlesex Univ., 1970	LSE, 1978
Baker, G.P.	Harvard Univ.	Harvard Univ., 1979	Harvard Univ., 1986
Baker, W.M.D.	Univ. Toronto	Univ. Toronto, 1982	Univ. Michigan, 1990
Banerjee, A.V.	MIT	Univ. Calcutta, 1981	Harvard Univ., 1988
Banerjee, A.	Europ. Univ. Inst.	LSE, 1983	Oxford Univ., 1987
Barbier, E.B.	Univ. Wyoming	Yale Univ., 1979	Univ. London, 1986
Bardhan, P.K.	Univ. California, Berkeley	Presidency Coll., Calcutta, 1958	Univ. Cambridge, 1966
Barrett, S.A.	Johns Hopkins Univ.	Univ. Massachusetts, 1979	LSE, 1989
Barro, R.J.	Harvard Univ.	California Inst. Tech., 1965	Harvard Univ., 1970
Basu, K.	Cornell Univ.	Delhi Univ., 1972	LSE, 1976
Battalio, R.C.	Texas A&M Univ.	Univ. California, Berkeley, 1966	Purdue Univ., 1970
Bauer, P.W.	FRB, Cleveland	Texas Christian Univ., 1981	Univ. North Carolina, 1985
Baumol, W.J.	NYU	City Coll. New York, 1942	Univ. London, 1949
Baye, M.R.	Indiana Univ.	Texas A&M Univ., 1980	Purdue Univ., 1983
Bayoumi, T.A.	IMF	Cambridge Univ., 1981	Stanford Univ., 1988
Bean, C.R.	Bank of England	Univ. Cambridge, 1975	MIT, 1981
Beaudry, P.	UBC	Laval Univ., 1983	Princeton Univ., 1989
Bebchuk, L.A.	Harvard Law Sch.	Univ. Haifa, 1977	Harvard Univ., 1993
Beck, N.L.	Univ. California, San Diego	Univ. Rochester, 1967	Yale Univ., 1977
Becker, G.S.	Univ. Chicago	Princeton Univ., 1951	Univ. Chicago, 1955

- Becker, W.E. Indiana Univ.
 Behrman, J.R. Univ. Pennsylvania
 Beil, Jr, R.O. Auburn Univ.
 Bekaert, G. Columbia Bus. Sch.
 Bénabou, R.J.-M. Princeton Univ.
 Bendor, J. Stanford Univ.
 Benhabib, J. NYU
 Benjamin, H.D. Univ. Toronto
 Benson, B.L. Florida State Univ.
 Berger, A.N. Fed. Reserve System
 Berger, P.G. Univ. Chicago
 Berman, E. Rice Univ.
 Bernanke, B.S. Princeton Univ.
 Bernard, A.B. Dartmouth Coll.
 Bertola, G. Univ. Torino
 Besley, T.J. LSE
 Bessembinder, H. Univ. Utah
 Binmore, K.G. Bristol Univ.
 Binswanger, H.P. World Bank
 Bishop, J.A. East Carolina Univ.
 Blackburn, M.L. Univ. South Carolina
 Blackorby, C. UBC
 Blanchard, O.J. MIT
 Blanchflower, D.G. Dartmouth Coll.
 Blank, R.M. Univ. Michigan
 Blau, D.M. Univ. North Carolina
 Blau, F.D. Cornell Univ.
 Blinder, A.S. Princeton Univ.
 Bloom, D.E. Harvard Sch. Public Health
 Blume, L.E. Cornell Univ.
 Blundell, R.W. Univ. Coll. London
 Bollerslev, T. Duke Univ.
 Bolton, G. Pennsylvania State Univ.
 Bolton, R.N. Vanderbilt Univ.
- Univ. St. Thomas, 1967
 Williams Coll., 1962
 Texas Tech. Univ., 1977
 State Univ. Ghent, 1986
 École Polytech., Paris, 1980
 Univ. California, Berkeley, 1972
 Bogazici Univ., 1971
 Univ. Toronto, 1984
 Univ. Montana, 1973
 Northwestern Univ., 1976
 Univ. Saskatchewan, 1984
 Hebrew Univ., Jerusalem, 1987
 Harvard Univ., 1975
 Harvard Univ., 1985
 Univ. Torino, 1983
 Oxford Univ., 1983
 Utah State Univ., 1977
 Imperial Coll., London, 1962
 Univ. Paris, 1964
 Univ. Virginia, 1978
 Univ. South Carolina, 1982
 Harvard Univ., 1960
 Univ. Paris Nanterre, 1972
 Univ. Leicester, 1973
 Univ. Minnesota, 1976
 Antioch Coll., 1973
 Cornell Univ., 1966
 Princeton Univ., 1967
 Cornell Univ., 1976
 Washington Univ., 1973
 Univ. Bristol, 1973
 Univ. Aarhus, 1983
 Drew Univ., 1983
 Queen's Univ., Canada, 1978
- Univ. Pittsburgh, 1973
 MIT, 1966
 Texas A&M Univ., 1988
 Northwestern Univ., 1992
 MIT, 1986
 Univ. California, Berkeley, 1979
 Columbia Univ., 1976
 Princeton Univ., 1989
 Texas A&M Univ., 1978
 Univ. California, Berkeley, 1983
 Univ. Chicago, 1992
 Harvard Univ., 1993
 MIT, 1979
 Stanford Univ., 1991
 MIT, 1988
 Oxford Univ., 1987
 Univ. Washington, 1986
 Imperial Coll., London Univ., 1965
 North Carolina State Univ., 1973
 Univ. Alabama, 1987
 Harvard Univ., 1987
 Johns Hopkins Univ., 1967
 MIT, 1977
 Univ. London, 1985
 MIT, 1983
 Univ. Wisconsin, 1980
 Harvard Univ., 1975
 MIT, 1971
 Princeton Univ., 1981
 Univ. California, Berkeley, 1977
 n.e.
 Univ. California, San Diego, 1986
 Carnegie-Mellon Univ., 1990
 Carnegie-Mellon Univ., 1983

Name	Affiliation	First degree	Doctorate (most recent)
Bond, S.R.	Univ. Oxford	Univ. Cambridge, 1984	Univ. Oxford, 1990
Bongaarts, J.	Pop. Council, New York	Eindhoven Inst. Tech., 1968	Univ. Illinois, 1972
Booth, A.L.	Univ. Essex	Sydney Univ., 1978	LSE, 1984
Borenstein, S.	Univ. California, Berkeley	Univ. California, Berkeley, 1978	MIT, 1983
Borjas, G.J.	Harvard Univ.	St Peter's Coll., 1971	Columbia Univ., 1975
Börsch-Supan, A.H.	Univ. Mannheim	Univ. Munich, 1976	MIT, 1984
Bossert, W.	Univ. Montreal	Univ. Karlsruhe, 1985	Univ. Karlsruhe, 1988
Bovenberg, A.L.	Tilburg Univ.	n.e.	Univ. California, Berkeley, 1984
Brander, J.A.	UBC	UBC, 1975	Stanford Univ., 1979
Brock, W.A.	Univ. Wisconsin, Madison	Univ. Missouri, 1965	Univ. California, Berkeley, 1969
Bromley, D.W.	Univ. Wisconsin-Madison	Utah State Univ., 1963	Oregon State Univ., 1969
Brown, S.J.	NYU	Monash Univ., 1972	Univ. Chicago, 1976
Brueckner, J.K.	Univ. Illinois, Urbana-Champaign	Univ. California, Berkeley, 1972	Stanford Univ., 1976
Bucovetsky, S.	York Univ., Canada	Univ. Toronto, 1973	Yale Univ., 1979
Burkhauser, R.V.	Cornell Univ.	St. Vincent Coll., 1967	Univ. Chicago, 1976
Burnside, A.C.	Univ. Virginia	UBC, 1985	Northwestern Univ., 1991
Butler, R.J.	Brigham Young Univ.	Univ. Utah, 1972	Univ. Chicago, 1979
Caballero, R.J.	MIT	Pontificia Univ. Católica de Chile, 1982	MIT, 1988
Calvo, G.A.	Inter-Amer. Devlp. Bank	Yale Univ., 1965	Yale Univ., 1974
Camerer, C.F.	California Inst. Tech.	Johns Hopkins Univ., 1977	Univ. Chicago, 1981
Cameron, T.A.	Univ. Oregon	UBC, 1977	Princeton Univ., 1982
Campbell, J.Y.	Harvard Univ.	Oxford Univ., 1976	Yale Univ., 1984
Caplin, A.S.	NYU	Cambridge Univ., 1978	Yale Univ., 1983
Card, D.E.	Univ. California, Berkeley	Queen's Univ., Canada, 1978	Princeton Univ., 1983
Carroll, C.D.	Johns Hopkins Univ.	Harvard Univ., 1986	MIT, 1990
Carson, R.T.	Univ. California, San Diego	Mississippi State Univ., 1977	Univ. California, Berkeley, 1985
Case, A.C.	Princeton Univ.	SUNY, 1980	Princeton Univ., 1988
Caves, R.E.	Harvard Univ.	Oberlin Coll., 1953	Harvard Univ., 1958
Cecchetti, S.G.	Ohio State Univ.	MIT, 1977	Univ. California, Berkeley, 1982
Chan, K.C.	Hong Kong Univ. Sc. and Tech.	Wesleyan Univ., 1979	Univ. Chicago, 1985

- Chan, K. Hong Kong Univ. Sc. and Tech.
 Chavas, J.-P. Univ. Wisconsin, Madison
 Chen, N.-f. Univ. California, Irvine
 Cheung, Y.-W. Univ. California, Santa Cruz
 Chiappori, P.-A. Univ. Chicago
 Chintagunta, P.K. Univ. Chicago
 Chirinko, R.S. Emory Univ.
 Chiswick, B.R. Univ. Illinois, Chicago
 Christiano, L.J. Northwestern Univ.
 Claessens, S. Univ. Amsterdam
 Clark, A.E. DELTA
 Clark, G.L. Oxford Univ.
 Clark, W.A.V. UCLA
 Coate, S.T. Cornell Univ.
 Cochrane, J.H. Univ. Chicago
 Coe, D.T. IMF
 Cogley, T. Arizona State Univ.
 Cole, H.L. UCLA
 Comment, R. Analysis Group/Econ., Washington, DC
 Constantinides, G.M. Univ. Chicago
 Cooke, W.N. Wayne State Univ.
 Cooley, T.F. NYU
 Cooper, J. Johns Hopkins Univ.
 Cornwell, C.M. Univ. Georgia
 Cox, D. Boston Coll.
 Crafts, N.F.R. LSE
 Cramton, P.C. Univ. Maryland
 Crawford, V.P. Univ. California, San Diego
 Crocker, K.J. Pennsylvania State Univ.
 Cropper, M.L. World Bank
 Crucini, M.J. Vanderbilt Univ.
 Cukierman, A. Tel Aviv Univ.
 Cummins, J.D. Univ. Pennsylvania
 Currie, J.M. UCLA
- Chinese Univ. Hong Kong, 1985
 ISARA, 1972
 Univ. California, Berkeley, 1972
 Univ. Hong Kong, 1980
 Univ. Paris 7, 1975
 Banaras Hindu Univ., 1984
 Univ. Pennsylvania, 1975
 Brooklyn Coll., 1962
 Univ. Minnesota, 1973
 Erasmus Univ., 1981
 Univ. Warwick, 1985
 Monash Univ., 1973
 Univ. New Zealand, 1960
 Univ. Coll. Swansea, 1980
 MIT, 1979
 Univ. Maryland, 1970
 Univ. California, Berkeley, 1980
 Bates Coll., 1979
 Univ. Michigan, 1977
 Oxford Univ., 1970
 Eastern Illinois Univ., 1970
 Rensselaer Polytech. Inst., 1965
 Harvard Univ., 1955
 Univ. North Carolina, 1981
 Boston Coll., 1975
 Cambridge Univ., 1970
 Cornell Univ., 1980
 Princeton Univ., 1972
 Washington and Lee Univ., 1976
 Bryn Mawr Coll., 1969
 Univ. Western Ontario, 1985
 Hebrew Univ., 1963
 Univ. Nebraska, 1968
 Univ. Toronto, 1982
- Ohio State Univ., 1990
 Univ. Missouri, 1978
 UCLA, 1981
 Univ. Pennsylvania, 1990
 Univ. Paris I, 1981
 Northwestern Univ., 1990
 Northwestern Univ., 1982
 Columbia Univ., 1967
 Columbia Univ., 1977
 Univ. Pennsylvania, 1986
 LSE, 1989
 Oxford Univ. 2002
 Univ. Illinois, 1964
 Northwestern Univ., 1988
 Univ. California, Berkeley, 1986
 Univ. Michigan, 1978
 Univ. California, Berkeley, 1988
 Univ. Rochester, 1986
 Univ. Michigan, 1985
 Indiana Univ., 1975
 Univ. Illinois, 1977
 Univ. Pennsylvania, 1971
 Harvard Univ., 1961
 Michigan State Univ., 1985
 Brown Univ., 1980
 n.e.
 Stanford Univ., 1984
 MIT, 1976
 Carnegie-Mellon Univ., 1981
 Cornell Univ., 1973
 Univ. Rochester, 1991
 MIT, 1972
 Univ. Pennsylvania, 1972
 Princeton Univ., 1988

Name	Affiliation	First degree	Doctorate (most recent)
Cutler, D.M.	Harvard Univ.	Harvard Univ., 1987	MIT, 1991
Darity, Jr, W.A.	Duke Univ.	Brown Univ., 1974	MIT, 1978
De Gregorio, J.	Univ. Chile	Univ. Chile, 1984	MIT, 1990
De Janvry, A.	Univ. California, Berkeley	Inst. Natl Agronomique, Paris, 1962	Univ. California, Berkeley, 1967
de Jong, R.M.	Michigan State Univ.	Univ. Amsterdam, 1989	Free Univ. Amsterdam, 1993
De Meza, D.E.	Univ. Bristol	LSE, 1973	n.e.
De Palma, A.	Univ. Cergy-Pontoise	Univ. Libre de Bruxelles, 1976	Univ. Bourgogne, 1988
de Vries, C.G.	Erasmus Univ.	Erasmus Univ., 1976	Purdue Univ., 1983
Deaton, A.S.	Princeton Univ.	Univ. Cambridge, 1967	Univ. Cambridge, 1974
Dekel, E.	Northwestern Univ.	Tel Aviv Univ., 1981	Harvard Univ., 1986
Detemple, J.B.	Boston Univ.	Cergy-Pontoise Univ., 1979	Univ. L. Pasteur, Strasbourg, 1985
Devereux, M.P.	Warwick Univ.	Oxford Univ., 1980	Univ. Coll. London, 1990
Diamond, P.A.	MIT	Yale Univ., 1960	MIT, 1963
Diebold, F.X.	Univ. Pennsylvania	Univ. Pennsylvania, 1981	Univ. Pennsylvania, 1986
DiMasi, J.A.	Tufts Univ.	Univ. Massachusetts, 1975	Boston Coll., 1984
Dixit, A.K.	Princeton Univ.	Bombay Univ., 1963	MIT, 1968
Dolado, J.J.	Univ. Carlos III de Madrid	Univ. Complutense de Madrid, 1977	Oxford Univ., 1988
Dollar, D.R.	World Bank	Dartmouth Coll., 1975	NYU, 1984
Donohue, III, J.J.	Stanford Univ.	Hamilton Coll., 1974	Harvard Law Sch., 1986
Dornbusch, R.	MIT	Univ. Geneva, 1966	Univ. Chicago, 1971
Dow, J.	London Bus. Sch.	Cambridge Univ., 1982	Princeton Univ., 1987
Dowrick, S.	ANU	Cambridge Univ., 1983	Warwick Univ., 1987
Dranove, D.	Northwestern Univ.	Cornell Univ., 1977	Stanford Univ., 1983
Drazen, A.	Tel Aviv Univ.	MIT, 1972	MIT, 1976
Drew, J.H.	Verizon Labs, Waltham, MA	Williams Coll., 1972	Iowa State Univ., 1981
Duncan, G.J.	Northwestern Univ.	Grinnell Coll., 1970	Univ. Michigan, 1974
Durlauf, S.N.	Univ. Wisconsin, Madison	Harvard Univ., 1980	Yale Univ., 1986
Easley, D.A.	Cornell Univ.	Univ. Kentucky, 1974	Northwestern Univ., 1979
Eaton, J.	NYU	Harvard Coll., 1972	Yale Univ., 1976

- Edwards, S. UCLA
 Ehrenberg, R.G. Cornell Univ.
 Ehrlich, I. SUNY
 Eichengreen, B. Univ. California, Berkeley
 Ellison, G. MIT
 Engel, C. Univ. Wisconsin, Madison
 Engle, R.F. Univ. California, San Diego
 Epple, D.N. Carnegie-Mellon Univ.
 Epstein, L.G. Univ. Rochester
 Ericsson, N.R. Fed. Reserve System
 Evans, C.L. FRB, Chicago
 Evans, G.W. Univ. Oregon
 Evans, P. Ohio State Univ.
- Fafchamps, M. Mansfield Coll., Oxford
 Fama, E.F. Univ. Chicago
 Färe, R.G. Oregon State Univ.
 Farmer, R.E.A. Churchill Coll., Cambridge
 Farrell, J. Univ. California, Berkeley
 Fearon, J.D. Stanford Univ.
 Feldman, R.D. Univ. Minnesota
 Feldstein, M.S. Harvard Univ.
 Ferrier, G.D. Univ. Arkansas
 Ferson, W.E. Boston Coll.
 Fischer, S. Citigroup Intl, Washington, DC
 Fishburn, P.C. Retired
 Flood, Jr, R.P. IMF
 Fogel, R.W. Univ. Chicago
 Formby, J.P. Univ. Alabama
 Forsythe, R. Univ. Iowa
 Frank, R.G. Harvard Univ. Medical Sch.
 Frank, R.H. Cornell Univ.
 Frankel, J.A. NBER
 Franses, P.H. Erasmus Univ.
- Univ. Católica de Chile, 1975
 SUNY, 1966
 Hebrew Univ., Jerusalem, 1964
 Yale Univ., 1976
 Harvard Coll., 1987
 Univ. North Carolina, 1977
 Williams Coll., 1964
 Purdue Univ., 1968
 Univ. Manitoba, n.e.
 Yale Univ., 1976
 Univ. Virginia, 1980
 Oxford Univ., 1972
 MIT, 1969
- Catholic Univ., Louvain-la-Neuve, 1978
 Tufts Univ., 1960
 Univ. Lund, 1969
 Manchester Univ., 1976
 Oxford Univ., 1976
 Univ. California, Berkeley, 1987
 Univ. Wisconsin, 1963
 Harvard Univ., 1961
 Univ. Wisconsin, 1980
 Southern Methodist Univ., 1972
 Univ. London, 1965
 Pennsylvania State Univ., 1958
 Wake Forest Univ., 1970
 Cornell Univ., 1948
 Colorado Coll., 1962
 Pennsylvania State Univ., 1970
 Bard Coll., 1974
 Georgia Tech., 1966
 Swarthmore Coll., 1974
 Univ. Groningen, 1987
- Univ. Chicago, 1981
 Northwestern Univ., 1970
 Columbia Univ., 1970
 Yale Univ., 1979
 MIT, 1992
 Univ. California, Berkeley, 1983
 Cornell Univ., 1969
 Princeton Univ., 1975
 UBC, 1977
 LSE, 1982
 Carnegie-Mellon Univ., 1989
 Univ. California, Berkeley, 1980
 Univ. Chicago, 1976
- Univ. California, Berkeley, 1989
 Univ. Chicago, 1964
 Univ. Lund, 1976
 Univ. Western Ontario, 1982
 Oxford Univ., 1981
 Univ. California, Berkeley, 1992
 Univ. Rochester, 1976
 Oxford Univ., 1967
 Univ. North Carolina, 1988
 Stanford Univ., 1982
 MIT, 1969
 Case Inst. Tech., 1962
 Univ. Rochester, 1977
 Johns Hopkins Univ., 1963
 Univ. Colorado, 1965
 Carnegie-Mellon Univ., 1975
 Boston Univ., 1982
 Univ. California, Berkeley, 1972
 MIT, 1978
 Erasmus Univ., 1991

Name	Affiliation	First degree	Doctorate (most recent)
Freeman, R.B.	Harvard Univ.	Dartmouth Coll., 1964	Harvard Univ., 1969
Frey, B.S.	Univ. Zurich	Univ. Basel, 1964	Univ. Basel, 1969
Frieden, J.A.	Harvard Univ.	Columbia Univ., 1979	Columbia Univ., 1984
Friedman, B.M.	Harvard Univ.	Harvard Univ., 1966	Harvard Univ., 1971
Friedman, D.	Univ. California, Santa Cruz	Reed Coll., 1969	Univ. California, Santa Cruz, 1977
Freidman, M.	Hoover Inst., Stanford, CA	Rutgers Univ., 1932	Columbia Univ., 1946
Froot, K.A.	Harvard Univ.	Stanford Univ., 1980	Univ. California, Berkeley, 1986
Fudenberg, D.	Harvard Univ.	Harvard Univ., 1978	MIT, 1981
Fuhrer, J.C.	FRB, Boston	Princeton Univ., 1979	Harvard Univ., 1985
Fujita, M.	Kyoto Univ.	Kyoto Univ., 1966	Univ. Pennsylvania, 1972
Fullerton, D.	Univ. Texas, Austin	Cornell Univ., 1974	Univ. California, Berkeley, 1978
Furstenberg, F.F.	Univ. Pennsylvania	Haverford Coll., 1961	Columbia Univ., 1967
Gale, D.M.	NYU	Univ. Trent, 1970	Univ. Cambridge, 1975
Gale, W.G.	Brookings Inst.	Duke Univ., 1981	Stanford Univ., 1987
Gallant, A.R.	Univ. North Carolina	San Diego State Univ., 1965	Iowa State Univ., 1971
Galor, O.	Brown Univ.	Hebrew Univ., 1978	Columbia Univ., 1984
Galster, G.C.	Wayne State Univ.	Wittenberg Univ., 1970	MIT, 1974
Garfinkel, I.	Columbia Univ.	Univ. Pittsburgh, 1965	Univ. Michigan, 1970
Geroski, P.A.	Competition Commission, London	Bard Coll., 1974	Univ. Warwick, 1978
Ghysels, E.	Univ. North Carolina	Univ. Brussels, 1979	Northwestern Univ., 1985
Gibbons, R.S.	MIT	Harvard Univ., 1980	Stanford Univ., 1985
Gilboa, I.	Tel Aviv Univ.	Tel Aviv Univ., 1982	Tel Aviv Univ., 1987
Gilson, S.C.	Harvard Bus. Sch.	Univ. Manitoba, 1980	Univ. Rochester, 1988
Glaeser, E.L.	Harvard Univ.	Princeton Univ., 1988	Univ. Chicago, 1992
Glewwe, P.W.	Univ. Minnesota	Univ. Chicago, 1979	Stanford Univ., 1985
Glomm, G.	Indiana Univ.	Kansas Univ., 1981	Univ. Minnesota, 1988
Glosten, L.R.	Columbia Univ.	Occidental Coll., 1973	Northwestern Univ., 1980
Goetzmann, W.N.	Yale Sch. Mgmt	Yale Coll., 1978	Yale Univ., 1991
Goldin, C.	Harvard Univ.	Cornell Univ., 1967	Univ. Chicago, 1972
Gollier, C.	Univ. Toulouse	Univ. Louvain, 1985	Univ. Louvain, 1989

- Gompers, P.A. Harvard Bus. Sch.
 Gonzalo, J. Univ. Carlos III de Madrid
 Goodhart, C.A.E. LSE
 Goodwin, B.K. Ohio State Univ.
 Gordon, R.J. Northwestern Univ.
 Gordon, R.H. Univ. California, San Diego
 Goulder, L.H. Stanford Univ.
 Gramlich, E.M. Fed. Reserve Bd
 Granger, C.W.J. Univ. California, San Diego
 Greenaway, D. Univ. Nottingham
 Greenwald, B.C.N. Columbia Univ.
 Gregg, P.A. Univ. Bristol
 Gregory, R.S. Decision Res., Canada
 Greif, A. Stanford Univ.
 Grier, K.B. Univ. Oklahoma
 Grogger, J. UCLA
 Groshen, E.L. FRB, New York
 Grosskopf, S.P. Oregon State Univ.
 Grossman, G.M. Princeton Univ.
 Grossman, M. City Univ., New York
 Grossman, S.J. Quant. Fin. Strategies, Inc., Stamford, CT
- Haddad, L.J. Intl Food Pol. Res. Inst., Washington, DC
 Hall, A.R. North Carolina State Univ.
 Hall, R.E. Stanford Univ.
 Hall, S.G.F. London Univ.
 Haltiwanger, J.C. Univ. Maryland
 Hamao, Y. Univ. Southern California
 Hamermesh, D. Univ. Texas, Austin
 Hamilton, J.D. Univ. California, San Diego
 Hamilton, J.T. Duke Univ.
 Hamnett, C. King's Coll., London
 Hannan, T.H. Fed. Reserve Bd
 Hansen, B.E. Univ. Wisconsin, Madison
- Harvard Coll., 1987
 Univ. Complutense de Madrid, 1981
 Univ. Cambridge, 1960
 Troy State Univ., 1982
 Harvard Univ., 1962
 Harvard Coll., 1972
 Harvard Univ., 1973
 Williams Coll., 1961
 Univ. Nottingham, 1955
 Univ. London, 1974
 MIT, 1967
 Kent Univ., 1982
 Yale Univ., 1972
 Tel Aviv Univ., 1981
 Cedarville Coll., 1979
 Univ. Kansas, 1981
 Univ. Wisconsin-Madison, 1977
 Kalamazoo Coll., 1972
 Yale Univ., 1976
 Trinity Coll., 1964
 Univ. Chicago, 1973
- Univ. Reading, 1980
 Warwick Univ., 1981
 Univ. California, Berkeley, 1964
 City Univ. London, 1977
 Brown Univ., 1977
 Univ. Tokyo, 1978
 Univ. Chicago, 1965
 Colorado Coll., 1977
 Harvard Univ., 1983
 Univ. London, 1969
 Univ. Washington, 1967
 Occidental Coll., 1984
- Harvard Univ., 1993
 Univ. California, San Diego, 1991
 Harvard Univ., 1963
 North Carolina State Univ., 1988
 MIT, 1967
 MIT, 1976
 Stanford Univ., 1982
 Yale Univ., 1965
 Univ. Nottingham, 1959
 n.e.
 MIT, 1978
 n.e.
 UBC, 1982
 Northwestern Univ., 1989
 Washington Univ., 1984
 Univ. California, San Diego, 1987
 Harvard Univ., 1986
 Syracuse Univ., 1977
 MIT, 1980
 Columbia Univ., 1970
 Univ. Chicago, 1975
- Stanford Univ., 1988
 Warwick Univ., 1985
 MIT, 1967
 LSE, 1986
 Johns Hopkins Univ., 1981
 Yale Univ., 1987
 Yale Univ., 1969
 Univ. California, Berkeley, 1983
 Harvard Univ., 1991
 n.e.
 Univ. Wisconsin, 1974
 Yale Univ., 1989

Name	Affiliation	First degree	Doctorate (most recent)
Hansen, L.P.	Univ. Chicago	Utah State Univ., 1974	Univ. Minnesota, 1978
Hansmann, H.B.	Yale Law Sch.	Brown Univ., 1967	Yale Univ., 1978
Hanson, G.H.	Univ. California, San Diego	Occidental Coll., 1986	MIT, 1992
Hanushek, E.A.	Univ. Rochester	USAF Acad., 1965	MIT, 1968
Hardouvelis, G.A.	Econ. Office of Prime Minister, Greece	Harvard Univ., 1978	Univ. California, Berkeley, 1983
Harris, M.	Univ. Chicago	Rice Univ., 1968	Univ. Chicago, 1974
Harris, R.I.D.	Univ. Durham	Kent Univ., 1978	Queen's Univ., Belfast, 1987
Harrison, B.	MIT	Brandeis Univ., 1965	Univ. Pennsylvania, 1970
Hart, O.S.D'A.	Harvard Univ.	Univ. Cambridge, 1969	Univ. Princeton, 1974
Hartwick, J.M.	Queen's Univ., Canada	Carleton Univ., 1966	Johns Hopkins Univ., 1969
Harvey, A.C.	Univ. Cambridge	Univ. York, UK, 1968	n.e.
Hauser, J.R.	MIT	MIT, 1973	MIT, 1975
Hausman, J.A.	MIT	Brown Univ., 1968	Univ. Oxford, 1973
Haveman, R.H.	Univ. Wisconsin-Madison	Calvin Coll., 1958	Vanderbilt Univ., 1963
Heath, D.C.	Carnegie-Mellon Univ.	Kalamazoo Coll., 1964	Univ. Illinois, 1969
Heckman, J.J.	Univ. Chicago	Colorado Coll., 1965	Princeton Univ., 1971
Helpman, E.	Harvard Univ.	Tel Aviv Univ., 1969	Harvard Univ., 1974
Helsley, R.W.	UBC	Univ. Oregon, 1979	Princeton Univ., 1985
Henderson, J.V.	Brown Univ.	UBC, 1968	Univ. Chicago, 1972
Henderson, R.M.	MIT	MIT, 1981	Harvard Univ., 1988
Hendry, D.F.	Nuffield Coll., Oxford	Aberdeen Univ. 1966	Univ. London, 1970
Hermalin, B.E.	Univ. California, Berkeley	Princeton Univ., 1984	MIT, 1988
Hersch, J.	Harvard Law Sch.	Univ. South Florida, 1977	Northwestern Univ., 1981
Heston, A.W.	Univ. Pennsylvania	Univ. Oregon, 1955	Yale Univ., 1962
Heywood, J.S.	Univ. Wisconsin-Milwaukee	Swarthmore Coll., 1979	Univ. Michigan, 1986
Hines, Jr, J.R.	Univ. Michigan	Yale Univ., 1980	Harvard Univ., 1986
Hirsch, B.T.	Trinity Univ.	Univ. Virginia, 1972	Univ. Virginia, 1977
Hirshleifer, D.A.	Ohio State Univ.	n.e.	Univ. Chicago, 1985
Hitchens, D.M.W.N.	Queen's Univ., Belfast	Univ. Coll., Cardiff, 1970	Univ. Aston, 1974
Hodgson, G.M.	Univ. Hertfordshire	Univ. Manchester, 1968	Univ. Cambridge, 1997
Hodrick, R.J.	Columbia Bus. Sch.	Princeton Univ., 1972	Univ. Chicago, 1976

- Holmström, B.R. MIT
 Holzer, H.J. Georgetown Public Pol. Inst.
 Hommes, C.H. Univ. Amsterdam
 Horowitz, J.L. Northwestern Univ.
 Hoshi, T. Univ. California, San Diego
 Howarth, R.B. Dartmouth Coll.
 Howitt, P.W. Brown Univ.
 Huang, R.D. Univ. Notre Dame
 Hubbard, R.G. Columbia Univ.
 Hull, J.C. Univ. Toronto
 Hylleberg, S. Univ. Aarhus
- Ickes, B.W. Pennsylvania State Univ.
 Ihlanfeldt, K. Florida State Univ.
 Ikenberry, D.L. Univ. Illinois, Champaign
 Innes, R.D. Univ. Arizona
- Jackson, M.O. California Inst. Tech.
 Jaeger, D.A. Coll. William and Mary
 Jaffe, A.B. Brandeis Univ.
 Jagannathan, R. Northwestern Univ.
 Jain, D.C. Chulalongkorn Univ.
 Jansen, D.W. Texas A&M Univ.
 Jappelli, T. Univ. Salerno
 Jarrow, R.A. Cornell Univ.
 Jefferson, G.H. Brandeis Univ.
 Jenkins, S.P. Univ. Essex
 Jensen, M.C. Harvard Univ.
 Jessop, R.D. Univ. Lancaster
 Johannesson, M. Stockholm Sch. Econ.
 Johansen, S. Univ. Copenhagen
 Johnson, E.J. Columbia Univ.
 Johnson, G.E. Univ. Michigan
 Jones, D.C. Hamilton Coll.
- Univ. Helsinki, 1972
 Harvard Univ., 1978
 Univ. Groningen, 1985
 Stanford Univ., 1962
 Univ. Tokyo, 1983
 Cornell Univ., 1985
 McGill Univ., 1968
 Purdue Univ., 1975
 Univ. Central Florida, 1979
 Cambridge Univ., 1968
 Univ. Aarhus, 1971
- UCLA, 1978
 Illinois Wesleyan Univ., 1972
 Pennsylvania State Univ., 1983
 Univ. California, Berkeley, 1981
- Princeton Univ., 1984
 Williams Coll., 1986
 MIT, 1976
 Univ. Madras, 1970
 Guwahati Univ., 1976
 St. Louis Univ., 1978
 Univ. Palermo, 1980
 Duke Univ., 1974
 Dartmouth Coll., 1966
 Univ. Otago, 1977
 Macalester Coll., 1962
 Univ. Exeter, 1967
 Linköping Univ., 1989
 Univ. Copenhagen, 1964
 Rutgers Univ., 1976
 Univ. California, Berkeley, 1964
 Newcastle upon Tyne Univ., 1968
- Stanford Univ., 1978
 Harvard Univ., 1983
 Univ. Groningen, 1991
 Cornell Univ., 1967
 MIT, 1988
 Univ. California, Berkeley, 1990
 Northwestern Univ., 1973
 Univ. Pennsylvania, 1980
 Harvard Univ., 1983
 Cranfield Univ., 1976
 Univ. Aarhus, 1984
- Univ. California, Berkeley, 1984
 Washington Univ., 1978
 Univ. Illinois, 1990
 Univ. California, Berkeley, 1986
- Stanford Univ., 1988
 Univ. Michigan, 1995
 Harvard Univ., 1985
 Carnegie-Mellon Univ., 1983
 Univ. Texas, 1987
 Univ. North Carolina, 1983
 Boston Coll., 1989
 MIT, 1979
 Yale Univ., 1985
 Univ. York, UK, 1983
 Univ. Chicago, 1968
 Cambridge Univ., 1972
 Linköping Univ., 1991
 Univ. Copenhagen, 1974
 Carnegie-Mellon Univ., 1980
 Univ. California, Berkeley, 1968
 Cornell Univ., 1974

Name	Affiliation	First degree	Doctorate (most recent)
Jones, L.E.	Univ. Minnesota	Univ. California, Davis, 1975	Univ. California, Berkeley, 1981
Jönsson, B.G.	Stockholm Sch. Econ.	Lund Univ., 1969	Lund Univ., 1976
Jorgenson, D.W.	Harvard Univ.	Reed Coll., 1995	Harvard Univ., 1959
Jorion, P.	Univ. California, Irvine	Univ. Libre de Bruxelles, 1978	Univ. Chicago, 1983
Joskow, P.L.	MIT	Cornell Univ., 1968	Yale Univ., 1972
Judd, K.L.	Hoover Inst., Stanford, CA	Univ. Wisconsin, 1975	Univ. Wisconsin, 1981
Juselius, K.I.	Univ. Copenhagen	Swedish Sch. Econ. and Bus. Admin., 1970	Swedish Sch. Econ. and Bus. Admin., 1983
Just, R.E.	Univ. Maryland	Oklahoma State Univ., 1969	Univ. California, Berkeley, 1972
Juster, F.T.	Univ. Michigan	Rutgers Univ., 1949	Columbia Univ., 1956
Kagel, J.H.	Ohio State Univ.	Tufts Univ., 1964	Purdue Univ., 1970
Kahn, C.M.	Univ. Illinois, Urbana-Champaign	Harvard Univ., 1975	Harvard Univ., 1981
Kahn, L.M.	Cornell Univ.	Univ. Michigan, 1971	Univ. California, Berkeley, 1975
Kahneman, D.	Princeton Univ.	Hebrew Univ., Jerusalem, 1954	Univ. California, 1961
Kalai, E.	Northwestern Univ.	Univ. California, Berkeley, 1967	Cornell Univ., 1972
Kamien, M.I.	Northwestern Univ.	City Coll., New York, 1960	Purdue Univ., 1964
Kanbur, S.M.R.	Cornell Univ.	Univ. Cambridge, 1975	Univ. Oxford, 1981
Kandel, S.	Tel Aviv Univ.	Yale Univ., 1981	Yale Univ., 1983
Kandori, M.	Univ. Tokyo	Univ. Tokyo, 1982	Stanford Univ., 1989
Kaplow, L.	Harvard Univ.	Northwestern Univ., 1977	Harvard Univ., 1987
Karolyi, G.A.	Ohio State Univ.	McGill Univ., 1983	Univ. Chicago, 1989
Karras, G.	Univ. Illinois, Chicago	Univ. Athens, 1984	Ohio State Univ., 1990
Katz, L.F.	Harvard Univ.	Univ. California, Berkeley, 1981	MIT, 1986
Katz, M.L.	Univ. California, Berkeley	Harvard Univ., 1978	Oxford Univ., 1982
Kau, J.B.	Univ. Georgia	Univ. Washington, 1967	Univ. Washington, 1971
Kaul, G.	Univ. Michigan Bus. Sch.	Delhi Univ., 1974	Univ. Chicago, 1985
Keeble, D.E.	Cambridge Univ.	Cambridge Univ., 1961	Cambridge Univ., 1966
Keeler, T.E.	Univ. California, Berkeley	Reed Coll., 1967	MIT, 1971
Keen, M.J.	IMF	Univ. Oxford, 1977	n.e.
Kenkel, D.S.	Cornell Univ.	Univ. Kentucky, 1981	Univ. Chicago, 1987

- Kennan, J. Univ. Wisconsin, Madison
 Kim, O. Univ. Maryland
 King, M.A. Bank of England
 Kirman, A.P. Univ. Aix-Marseille III
 Klemperer, P.D. Oxford Univ.
 Kling, C.L. Iowa State Univ.
 Knetsch, J.L. Simon Fraser Univ.
 Korenman, S. City Univ., New York
 Kotlikoff, L.J. Boston Univ.
 Kovenock, D. Purdue Univ.
 Kreps, D.M. Stanford Univ.
 Krueger, A.B. Princeton Univ.
 Krueger, A.O. IMF
 Kumbhakar, S.C. SUNY
 Kuttner, K.N. FRB, NY
 Kydland, F.E. Carnegie-Mellon Univ.
- Laband, D.N. Auburn Univ.
 Laffont, J.-J.M. Univ. Sc. Sociales, Toulouse
 Lafontaine, F. Univ. Michigan Bus. Sch.
 Lake, D.A. Univ. California, San Diego
 Lam, P.-S. Ohio State Univ.
 Lang, L.H.P. Chinese Univ. Hong Kong
 Laroque, G.R. CREST-INSEE
 Lastrapes, W.D. Univ. Georgia
 Lazear, E.P. Hoover Inst., Stanford, CA
 Lee, J.-W. Korea Univ.
 Lee, R.D. Univ. California, Berkeley
 Leeper, E.M. Indiana Univ.
 Leland, H.E. Univ. California, Berkeley
 Lerner, J. Harvard Bus. Sch.
 Levine, D.I. Univ. California, Berkeley
 Levine, D.K. UCLA
 Levine, R. Univ. Minnesota
- Univ. Coll., Dublin, 1968
 Seoul Natl Univ., 1973
 Univ. Cambridge, 1969
 Oxford Univ., 1960
 Cambridge Univ., 1978
 Univ. Iowa, 1981
 Michigan State Univ., 1955
 Univ. California, Berkeley, 1983
 Univ. Pennsylvania, 1973
 Hebrew Univ., Jerusalem, 1977
 Dartmouth Coll., 1972
 Cornell Univ., 1983
 Oberlin Coll., 1953
 Calcutta Univ., 1974
 Univ. California, Berkeley, 1982
 Norwegian Sch. Econ., 1968
- Northwestern Univ., 1973
 Univ. Pennsylvania, 1990
 n.e.
 Princeton Univ., 1971
 Stanford Univ., 1986
 Univ. Maryland, 1986
 Harvard Univ., 1963
 Harvard Univ., 1989
 Harvard Univ., 1977
 Univ. Wisconsin-Madison, 1983
 Stanford Univ., 1975
 Harvard Univ., 1987
 Univ. Wisconsin, 1958
 Univ. Southern California, 1986
 Harvard Univ., 1989
 Carnegie-Mellon Univ., 1973
- Virginia Polytech., 1978
 Univ. Paris, 1970
 Univ. Montréal, 1980
 Clark Univ., 1978
 Chinese Univ., Hong Kong, 1981
 Tunghai Univ., 1978
 École Polytech., Paris, 1965
 Louisiana State Univ., 1980
 UCLA, 1971
 Korea Univ., 1981
 Reed Coll., 1963
 George Mason Univ., 1980
 Harvard Univ., 1964
 Yale Univ., 1982
 Univ. California, Berkeley, 1982
 UCLA, 1977
 Cornell Univ., 1982
- Virginia Polytech., 1981
 Harvard Univ., 1975
 UBC, 1988
 Cornell Univ., 1984
 Harvard Univ., 1986
 Univ. Pennsylvania, 1986
 n.e.
 Univ. North Carolina, 1986
 Harvard Univ., 1974
 Harvard Univ., 1992
 Harvard Univ., 1971
 Univ. Minnesota, 1989
 Harvard Univ., 1968
 Harvard Univ., 1992
 Harvard Univ., 1987
 MIT, 1981
 UCLA, 1987

Name	Affiliation	First degree	Doctorate (most recent)
Levy, F.S.	MIT	MIT, 1959	Yale Univ., 1969
Li, Q.	Texas A&M Univ.	Peking Univ., 1982	Texas A&M Univ., 1991
Liebowitz, S.J.	Univ. Texas, Dallas	Johns Hopkins Univ., 1971	UCLA, 1978
Lin, J.Y.	Peking Univ.	Natl Chengchi Univ., 1978	Univ. Chicago, 1986
Lindbeck, A.C.E.	Univ. Stockholm	Uppsala Univ., 1953	Univ. Stockholm, 1963
Lo, A.W.	MIT	Yale Univ., 1980	Harvard Univ., 1984
Lockwood, B.	Univ. Warwick	Univ. Sussex, 1978	Univ. Warwick, 1987
Loewenstein, G.	Carnegie-Mellon Univ.	Brandeis Univ., 1977	Yale Univ., 1985
Loomes, G.C.	Univ. East Anglia	Univ. Essex, 1970	n.e.
Lothian, J.R.	Fordham Univ.	Catholic Univ. America, 1967	Univ. Chicago, 1973
Lott, Jr, J.R.	AEI	UCLA, 1980	UCLA, 1984
Lovell, C.A.K.	Univ. Georgia	Coll. William and Mary, 1963	Duke Univ., 1966
Lucas, D.J.	Northwestern Univ.	Univ. Chicago, 1980	Univ. Chicago, 1986
Lucas, Jr, R.E.	Univ. Chicago	Univ. Chicago, 1959	Univ. Chicago, 1964
Luce, R.D.	Univ. California, Irvine	MIT, 1945	MIT, 1950
Lütkepohl, H.	Europ. Univ. Inst.	Univ. Bielefeld, 1977	Univ. Osnabrück, 1984
Lynch, L.M.	Tufts Univ.	Wellesley Coll., 1978	LSE, 1983
Lyons, R.K.	Univ. California, Berkeley	Univ. California, Berkeley, 1982	MIT, 1987
MacDonald, R.	Univ. Strathclyde	Heriot Watt Univ., 1978	Manchester Univ., 1983
Mackie-Mason, J.K.	Univ. Michigan	Dartmouth Coll., 1980	MIT, 1986
MacKinnon, J.G.	Queen's Univ., Canada	York Univ., Canada, 1971	Princeton Univ., 1975
MacLeod, W.B.	Univ. Southern California	Queen's Univ., Canada, 1975	UBC, 1984
Macpherson, D.A.	Florida State Univ.	Pennsylvania State Univ., 1981	Pennsylvania State Univ., 1987
Mailath, G.J.M.	Univ. Pennsylvania	ANU, 1980	Princeton Univ., 1985
Maksimovic, V.	Univ. Maryland	LSE, 1976	Harvard Univ., 1986
Malcomson, J.M.	All Souls Coll., Oxford	Univ. Cambridge, 1967	Harvard Univ., 1973
Mankiw, N.G.	Harvard Univ.	Princeton Univ., 1980	MIT, 1984
Manski, C.F.	Northwestern Univ.	MIT, 1970	MIT, 1973
Manton, K.G.	Duke Univ.	Princeton Univ., 1969	Duke Univ., 1974
Margo, R.A.	Vanderbilt Univ.	Univ. Michigan, 1976	Harvard Univ., 1982

- Margolis, S.E. North Carolina State Univ.
 Mark, N.C. Ohio State Univ.
 Markusen, A.R. Univ. Minnesota
 Markusen, J.R. Univ. Colorado
 Marsden, T. Cardiff Univ.
 Martin, R.L. Univ. Cambridge
 Maskin, E.S. Inst. Adv. Study, Princeton, NJ
 Massey, D.S. Univ. Pennsylvania
 Masson, P.R.L. Brookings Inst.
 Masten, S.E. Univ. Michigan
 Masulis, R.W. Vanderbilt Univ.
 Matsusaka, J.G. Univ. Southern California
 Matsuyama, K. Northwestern Univ.
 McCallum, B.T. Carnegie-Mellon Univ.
 McConnell, J.J. Purdue Univ.
 McConnell, K.E. Univ. Maryland
 McDonald, J.F. Univ. Illinois, Chicago
 McFadden, D.L. Univ. California, Berkeley
 McKelvey, R. California Inst. Tech.
 McMillan, J. Stanford Univ.
 McMillen, D.P. Univ. Illinois, Chicago
 Meese, R.A. Univ. California, Berkeley
 Megginson, W.L. Univ. Oklahoma
 Meghir, K.E.D. Univ. Coll. London
 Melino, A. Univ. Toronto
 Mendelsohn, R. Yale Univ.
 Mendoza, E.G. Univ. Maryland
 Mester, L.J. FRB, Philadelphia
 Meyer, B.D. Northwestern Univ.
 Miceli, T.J. Univ. Connecticut
 Milgrom, P.R. Stanford Univ.
 Miller, J.H. Carnegie-Mellon Univ.
 Miller, P.W. Univ. Western Australia
 Miller, S.M. Univ. Nevada
 Northwestern Univ., 1972
 Univ. California, Santa Barbara, 1978
 Georgetown Univ., 1968
 Boston Coll., 1970
 n.e.
 Univ. Cambridge, 1972
 Harvard Univ., 1972
 Western Washington Univ., 1974
 McGill Univ., 1968
 Dartmouth Coll., 1977
 Northeastern Univ., 1971
 Univ. Washington, 1985
 Univ. Tokyo, 1980
 Rice Univ., 1957
 Denison Univ., 1968
 Univ. Florida, 1964
 Grinnell Coll., 1965
 Univ. Minnesota, 1957
 Oberlin Coll., 1966
 Univ. Canterbury, 1971
 Univ. Illinois, 1981
 Univ. Michigan, n.e.
 Mississippi Coll., 1976
 Manchester Univ., 1979
 Univ. Toronto, 1977
 Harvard Univ., 1973
 Anahuac Univ., 1985
 Columbia Univ., 1980
 Northwestern Univ., 1981
 Wesleyan Univ., 1981
 Univ. Michigan, 1970
 Univ. Colorado, 1982
 Univ. New England, 1977
 Purdue Univ., 1967
 UCLA, 1978
 Univ. Chicago, 1983
 Michigan State Univ., 1974
 Boston Coll., 1973
 n.e.
 Univ. Cambridge, 1977
 Harvard Univ., 1976
 Princeton Univ., 1978
 LSE, 1973
 Univ. Pennsylvania, 1982
 Univ. Chicago, 1978
 Univ. Chicago, 1991
 Harvard Univ., 1987
 Rice Univ., 1969
 Purdue Univ., 1974
 Univ. Maryland, 1973
 Yale Univ., 1971
 Univ. Minnesota, 1962
 Univ. Rochester, 1971
 Univ. NSW, 1978
 Northwestern Univ., 1987
 Univ. Wisconsin, n.e.
 Florida State Univ., 1986
 Manchester Univ., 1985
 Harvard Univ., 1983
 Yale Univ., 1978
 Univ. Western Ontario, 1989
 Princeton Univ., 1985
 MIT, 1987
 Brown Univ., 1988
 Stanford Univ., 1979
 Univ. Michigan, 1988
 ANU, 1982
 SUNY, 1972

Name	Affiliation	First degree	Doctorate (most recent)
Mishkin, F.S.	Columbia Univ.	MIT, 1973	MIT, 1976
Moffitt, R.A.	Johns Hopkins Univ.	Rice Univ., 1970	Brown Univ., 1975
Mookherjee, D.	Boston Univ.	Presidency Coll., Calcutta Univ., 1975	LSE, 1982
Morck, R.K.	Univ. Alberta Sch. Bus.	Leningrad State Univ., 1977	Yale Univ., 1986
Morey, E.R.	Univ. Colorado	Univ. Denver, 1971	UBC, 1978
Morris, S.E.	Yale Univ.	Cambridge Univ., 1985	Yale Univ., 1991
Mortensen, D.T.	Northwestern Univ.	Willamette Univ., 1961	Carnegie-Mellon Univ., 1967
Moschini, G.C.	Iowa State Univ.	Catholic Univ. Piacenza, 1978	Univ. Guelph, 1986
Moulin, H.	Rice Univ.	Univ. Paris, 1971	Univ. Paris, 1975
Moulton, B.R.	US Dept Commerce	Brigham Young Univ., 1977	Univ. Chicago, 1985
Mullahy, J.	Univ. Wisconsin-Madison	Georgetown Univ., 1979	Univ. Virginia, 1985
Muller, E.	Tel Aviv Univ.	Israel Inst. Tech., 1973	Northwestern Univ., 1977
Murphy, K.J.	Univ. Southern California	UCLA, 1979	Univ. Chicago, 1984
Murrell, P.	Univ. Maryland	LSE, 1971	Univ. Pennsylvania, 1977
Myers, G.M.	Simon Fraser Univ.	Queen's Univ., Canada, 1983	McMaster Univ., 1990
Nalebuff, B.J.	Yale Univ.	MIT, 1980	Oxford Univ., 1982
Nason, J.M.	UBC	Univ. Michigan, 1979	Univ. Wisconsin, 1987
Neary, J.P.	Univ. Coll. Dublin	Univ. Coll. Dublin, 1970	Univ. Oxford, 1978
Nelson, C.R.	Univ. Washington	Yale Univ., 1963	Univ. Wisconsin, 1969
Nelson, R.R.	Columbia Univ.	Oberlin Coll., 1952	Yale Univ., 1956
Neumark, D.	Public Pol. Inst. of California	Univ. Pennsylvania, 1982	Harvard Univ., 1987
Newbery, D.M.G.	Univ. Cambridge	Univ. Cambridge, 1964	Univ. Cambridge, 2001
Newhouse, J.P.	Harvard Univ.	Harvard Univ., 1963	Harvard Univ., 1969
Ng, S.	Johns Hopkins Univ.	Univ. Western Ontario, 1981	Princeton Univ., 1993
Nickell, S.J.	LSE	Cambridge Univ., 1965	n.e.
Nijkamp, P.	Free Univ., Amsterdam	Erasmus Univ., 1970	Erasmus Univ., 1972
Nitzan, S.I.	Open Univ., Tel Aviv	Hebrew Univ., 1971	Hebrew Univ., 1976
Nordhaus, W.D.	Yale Univ.	Inst. d'Études Polit., Paris, 1962	MIT, 1967
North, D.C.	Washington Univ.	Univ. California, Berkeley, 1942	Univ. California, Berkeley, 1952

- O'Hara, M. Cornell Univ.
 Oates, W.E. Univ. Maryland
 Obstfeld, M. Univ. California, Berkeley
 Oneal, J.R. Univ. Alabama
 Ordovery, J.A. NYU
 Osterwald-Lenum, M. Stats Denmark
 Ostrom, E. Indiana Univ.
 Ostry, J.D. IMF
 Oswald, A.J. Univ. Warwick
 Ouliaris, S. Natl Univ. Singapore
 Oum, T.H. UBC
- Paarsch, H.J. Univ. Iowa
 Pagan, A.R. ANU
 Pakes, A. Harvard Univ.
 Palfrey, III, T.R. California Inst. Tech.
 Pantula, S.G. North Carolina State Univ.
 Park, J.Y. Seoul Natl Univ.
 Pashardes, P. Univ. Cyprus
 Paul, C.J.M. Univ. California, Davis
 Paxson, C.H. Princeton Univ.
 Payne, J.W. Duke Univ.
 Pearce, D.W. Univ. Coll. London
 Pechmann, C.A.R. Univ. California, Irvine
 Peck, J.A. Univ. Wisconsin-Madison
 Peltzman, S. Univ. Chicago
 Perron, P. Boston Univ.
 Persson, T.E. Stockholm Univ.
 Pesaran, H. Univ. Cambridge
 Petersen, M. Northwestern Univ.
 Phillips, P.C.B. Yale Univ.
 Pindyck, R.S. MIT
 Pissarides, C.A. LSE
 Platteau, J.-P. Univ. Namur
- Univ. Illinois, 1975
 Stanford Univ., 1959
 Univ. Pennsylvania, 1973
 US Military Acad., 1968
 n.e.
 Univ. Copenhagen, 1988
 UCLA, 1954
 Queen's Univ., Canada, 1981
 Univ. Stirling, 1975
 Univ. Melbourne, 1979
 Sung Kyun Univ., 1967
- Queen's Univ., Canada
 Queensland Univ., 1968
 Hebrew Univ. Jerusalem, 1971
 Univ. Michigan, 1975
 Indian Stat. Inst., Calcutta, 1978
 Seoul Natl Univ., 1978
 Univ. Athens, 1973
 UBC, 1976
 Swarthmore Coll., 1982
 Univ. California, Irvine, 1969
 Univ. Oxford, 1963
 Bucknell Univ., 1981
 Univ. Manchester, 1983
 City Coll., New York, 1960
 McGill Univ., 1981
 Stockholm Univ., 1977
 Salford Univ., 1968
 Princeton Univ., 1986
 Auckland Univ., 1969
 MIT, 1966
 Univ. Essex, 1970
 Univ. Namur, 1969
- Northwestern Univ., 1979
 Stanford Univ., 1965
 MIT, 1979
 Stanford Univ., 1979
 Columbia Univ., 1973
 n.e.
 UCLA, 1965
 Univ. Chicago, 1988
 Univ. Oxford, 1980
 Yale Univ., 1987
 UBC, 1979
- Stanford Univ., 1987
 ANU, 1972
 Harvard Univ., 1979
 California Inst. Tech., 1981
 Iowa State Univ., 1982
 Yale Univ., 1987
 Univ. London, 1979
 UBC, 1982
 Columbia Univ., 1987
 Univ. California, Irvine, 1973
 n.e.
 Vanderbilt Univ., 1988
 Univ. Manchester, 1988
 Univ. Chicago, 1965
 Yale Univ., 1986
 Stockholm Univ., 1984.
 Univ. Cambridge, 1972
 MIT, 1990
 Univ. London, 1974
 MIT, 1971
 LSE, 1974
 Univ. Namur, 1977

Name	Affiliation	First degree	Doctorate (most recent)
Ploberger, W.	Univ. Rochester	Vienna Univ. Tech., 1978	Vienna Univ. Tech., 1981
Plott, C.R.	California Inst. Tech.	Oklahoma State Univ., 1961	Univ. Virginia, 1965
Polachek, S.W.	SUNY	George Washington Univ., 1967	Columbia Univ., 1973
Polinsky, A.M.	Stanford Univ.	Harvard Univ., 1970	MIT, 1973
Pollak, R.A.	Washington Univ.	Amherst Coll., 1960	MIT, 1964
Portney, P.R.	Resources for the Future	Alma Coll., 1967	Northwestern Univ., 1973
Posner, R.A.	US Court Appeals	Yale Univ., 1959	Harvard Univ., 1962
Postlewaite, A.W.	Univ. Pennsylvania	Illinois Wesleyan Univ., 1965	Northwestern Univ., 1974
Poterba, J.M.	MIT	Harvard Coll., 1980	Oxford Univ., 1983
Prelec, D.	MIT	Harvard Coll., 1978	Harvard Univ., 1983
Prescott, E.C.	Univ. Minnesota	Swarthmore Coll., 1962	Carnegie-Mellon Univ., 1967
Pritchett, L.	Harvard Univ.	Brigham Young Univ., 1983	MIT, 1988
Psacharopoulos, G.	Athens Univ.	Grad. Bus. Sch., Athens, 1960	Univ. Chicago, 1968
Putterman, L.	Brown Univ.	Columbia Univ., 1976	Yale Univ., 1980
Quah, D.	LSE	Princeton Univ., 1980	Harvard Univ., 1986
Quiggin, J.C.	Univ. Queensland	ANU, 1978	Univ. New England, 1988
Quigley, J.M.	Univ. California, Berkeley	USAF Acad., 1964	Harvard Univ., 1972
Radner, R.	NYU	Univ. Chicago, 1945	Univ. Chicago, 1956
Rajan, R.	Univ. Chicago	Indian Inst. Tech., Delhi, 1985	MIT, 1991
Ramey, G.	Univ. California, San Diego	Univ. Arizona, 1980	Stanford Univ., 1987
Ramey, V.	Univ. California, San Diego	Univ. Arizona, 1981	Stanford Univ., 1987
Ramseyer, J.M.	Harvard Univ.	Goshen Coll., 1976	Harvard Univ., 1982
Ransom, M.R.	Brigham Young Univ.	Brigham Young Univ., 1977	Princeton Univ., 1983
Rasmusen, E.B.	Indiana Univ.	Yale Univ., 1980	MIT, 1984
Ravallion, M.	World Bank	Univ. Sydney, 1974	LSE, 1981
Rawski, T.G.	Univ. Pittsburgh	Cornell Univ., 1965	Harvard Univ., 1972
Razin, A.	Tel Aviv Univ.	Hebrew Univ., 1965	Univ. Chicago, 1969
Reardon, T.A.	Michigan State Univ.	Claremont Men's Coll., 1976	Univ. California, Berkeley, 1984
Rebelo, S.T.	Northwestern Univ.	Portuguese Catholic Univ., 1981	Univ. Rochester, 1989

- Reichelstein, S. Stanford Univ.
Reinhart, C.M. IMF
Rey, P. Univ. Toulouse
Richardson, M.P. NYU
Richins, M.L. Univ. Missouri
Rietveld, P. Vrije Univ.
Rindfuss, R.R. Univ. North Carolina
Riordan, M.H. Columbia Univ.
Ritter, J.R. Univ. Florida
Rivera-Batiz, L.A. Columbia Univ.
Rob, R. Univ. Pennsylvania
Roberts, D.J. Stanford Univ.
Robinson, P.M. LSE
Robson, A.J. Univ. Western Ontario
Rochet, J.-C. Toulouse Univ.
Rodrik, D. Harvard Univ.
Roe, M.J. Harvard Law Sch.
Rogers, J. FRB, Washington
Rogoff, K.S. IMF
Roland, G. Univ. California, Berkeley
Romano, R. Yale Univ.
Romer, C.D. Univ. California, Berkeley
Romer, D.H. Univ. California, Berkeley
Romer, P.M. Stanford Univ.
Rosen, H.S. Princeton Univ.
Rosenzweig, M.R. Harvard Univ.
Rotemberg, J.J. Harvard Bus. Sch.
Roth, A.E. Harvard Univ.
Rothschild, M. Princeton Univ.
Rubin, D.B. Harvard Univ.
Rubinstein, A. Tel Aviv Univ.
Rudebusch, G.D. FRB, San Francisco
Ruhm, C.J. Univ. North Carolina
Russett, B.M. Yale Univ.
- Univ. Bonn, 1978
Columbia Univ., 1980
École Polytech., 1981
UCLA, 1984
California State Univ., 1974
Erasmus Univ., 1975
Fordham Univ., 1968
Georgetown Univ., 1973
Univ. Chicago, 1976
Univ. Chicago, 1976
Hebrew Univ., Jerusalem, 1976
Univ. Manitoba, 1967
Univ. Coll., London Univ., 1968
Victoria Univ., 1968
Paris 9 Univ., 1980
Harvard Coll., 1979
Columbia Univ., 1972
Univ. Delaware, 1983
Yale Univ., 1975
Univ. Libre de Bruxelles, 1983
Univ. Rochester, 1973
Coll. William and Mary, 1981
Princeton Univ., 1980
Univ. Chicago, 1977
Univ. Michigan, 1970
Columbia Coll., 1969
Univ. California, Berkeley, 1975
Columbia Univ., 1971
Reed Coll., 1963
Princeton Univ., 1965
Hebrew Univ., 1974
Northwestern Univ., 1981
Univ. California, Davis, 1978
Williams Coll., 1956
- Northwestern Univ., 1984
Columbia Univ., 1988
Univ. Toulouse, 1992
Stanford Univ., 1989
Univ. Texas, 1979
Vrije Univ., 1980
Princeton Univ., 1974
Univ. California, Berkeley, 1981
Univ. Chicago, 1981
Univ. Chicago, 1992
UCLA, 1981
Univ. Minnesota, 1972
ANU, 1973
MIT, 1974
Paris 9 Univ., 1986
Princeton Univ., 1985
Harvard Law Sch., 1975
Univ. Virginia, 1989
MIT, 1980
Univ. Libre de Bruxelles, 1988
Yale Univ., 1980
MIT, 1985
MIT, 1985
Univ. Chicago, 1983
Harvard Univ., 1974
Columbia Univ., 1973
Princeton Univ., 1981
Stanford Univ., 1974
MIT, 1969
Harvard Univ., 1970
Hebrew Univ., 1979
Univ. Pennsylvania, 1986
Univ. California, Berkeley, 1984
Yale Univ., 1961

Name	Affiliation	First degree	Doctorate (most recent)
Saari, D.G.	Univ. California, Irvine	Michigan Tech. Univ., 1962	Purdue Univ., 1967
Sachs, J.D.	Columbia Univ.	Harvard Univ., 1976	Harvard Univ., 1980
Sadoulet, E.	Univ. California, Berkeley	Univ. Lyon, 1966	Univ. Geneva, 1982
Saikkonen, P.J.	Univ. Helsinki	Univ. Helsinki, 1975	Univ. Helsinki, 1986
Saint-Paul, G.J.B.	Univ. Sc. Sociales, Toulouse	École Polytech., 1985	MIT, 1990
Sala-i-Martin, X.	Columbia Univ.	Harvard Univ., 1987	Harvard Univ., 1990
Saloner, G.	Stanford Univ.	Univ. Witwatersrand, 1976	Stanford Univ., 1982
Salop, S.C.	Georgetown Univ. Law Center	Univ. Pennsylvania, 1968	Yale Univ., 1972
Sandler, T.	Univ. Southern California	SUNY, 1968	SUNY, 1971
Scheinkman, J.A.	Princeton Univ.	Fed. Univ. Rio de Janeiro, 1969	Univ. Rochester, 1974
Schkade, D.A.	Univ. Texas, Austin	Univ. Texas, 1978	Carnegie-Mellon Univ., 1986
Schmalensee, R.L.	MIT	MIT, 1965	MIT, 1970
Schmeidler, D.	Tel Aviv Univ.	Hebrew Univ., Jerusalem, 1963	Hebrew Univ., Jerusalem, 1969
Schmidt, K.M.	Univ. Munich	Univ. Hamburg, 1997	Univ. Bonn, 1995
Schmidt, P.	Michigan State Univ.	Michigan State Univ., 1969	Michigan State Univ., 1970
Scholz, J.K.	Univ. Wisconsin-Madison	Carleton Coll., 1981	Stanford Univ., 1988
Schultz, P.H.	Notre Dame Univ.	Macalester Coll., 1978	Univ. Chicago, 1988
Schultz, T.P.	Yale Univ.	Swarthmore Coll., 1961	MIT, 1966
Schwert, G.W.	Univ. Rochester	Trinity Coll., 1971	Univ. Chicago, 1975
Scotchmer, S.A.	Univ. California, Berkeley	Univ. Washington, 1970	Univ. California, Berkeley, 1980
Scott, A.J.	UCLA	Oxford Univ., 1961	Northwestern Univ., 1965
Segal, U.	Boston Coll.	Hebrew Univ., Jerusalem, 1979	Hebrew Univ., Jerusalem, 1984
Segerstrom, P.S.	Stockholm Sch. Econ.	Brandeis Univ., 1979	Univ. Rochester, 1985
Selten, R.	Univ. Bonn	Johann-Wolfgang-Goethe-Univ., 1957	n.e.
Sen, A.K.	Cambridge Univ.	Calcutta Univ., 1953	Univ. Cambridge, 1959
Serletis, A.	Univ. Calgary	Univ. Piraeus, 1976	McMaster Univ., 1984
Servaes, H.	London Bus. Sch.	Europ. Univ., 1985	Purdue Univ., 1989
Sexton, R.J.	Univ. California, Davis	St. Cloud State Univ., 1977	Univ. Minnesota, 1984
Shapiro, C.	Univ. California, Berkeley	MIT, 1976	MIT, 1981
Shavell, S.	Harvard Univ.	Univ. Michigan, 1968	MIT, 1973
Shephard, N.	Nuffield Coll., Oxford	Univ. York, UK, 1986	LSE, 1990

Shiller, R.J.	Yale Univ.	Univ. Michigan, 1967	MIT, 1972
Shogren, J.F.	Univ. Wyoming	Univ. Minnesota, 1980	Univ. Wyoming, 1986
Sichel, D.E.	Fed. Reserve Bd	Univ. Michigan, 1983	Princeton Univ., 1988
Sicherman, N.	Columbia Univ.	Hebrew Univ., Jerusalem, 1980	Columbia Univ., 1987
Sickles, R.C.	Rice Univ.	Georgia Inst. Tech., 1972	Univ. North Carolina, 1976
Siegfried, J.J.	Vanderbilt Univ.	Rensselaer Polytech. Inst., 1967	Univ. Wisconsin, 1972
Sims, C.A.	Princeton Univ.	Harvard Univ., 1963	Harvard Univ., 1968
Sirmans, C.F.	Univ. Connecticut	Valdosta State Univ., 1971	Univ. Georgia, 1976
Skinner, J.	Dartmouth Coll.	Univ. Rochester, 1977	UCLA, 1983
Slemrod, J.	Univ. Michigan	Princeton Univ., 1973	Harvard Univ., 1980
Sloan, R.G.	Univ. Michigan Bus. Sch.	Univ. Western Australia, 1987	Univ. Rochester, 1992
Slovic, P.	Decision Res., Eugene, OR	Stanford Univ., 1959	Univ. Michigan, 1964
Small, K.A.	Univ. California, Irvine	Univ. Rochester, 1968	Univ. California, Berkeley, 1976
Smith, B.D.	Univ. Texas, Austin	Univ. Minnesota, 1977	MIT, 1981
Smith, Jr, C.W.	Univ. Rochester	Emory Univ., 1969	Univ. North Carolina, 1975
Smith, R.P.	Birkbeck Coll., London	Cambridge Univ., 1968	Cambridge Univ., 1974
Smith, V.K.	North Carolina State Univ.	Rutgers Univ., 1966	Rutgers Univ., 1970
Smith, V.L.	George Mason Univ.	California Inst. Tech., 1949	Harvard Univ., 1955
Sobel, J.K.	Univ. California, San Diego	Univ. Michigan, 1974	Univ. California, Berkeley, 1978
Solon, G.R.	Univ. Michigan	Harvard Univ., 1975	Princeton Univ., 1983
Spady, R.H.	Nuffield Coll., Oxford	Haverford Coll., 1973	MIT, 1978
Spier, K.E.	Northwestern Univ.	Yale Univ., 1985	MIT, 1989
Spiller, P.T.	Univ. California, Berkeley	Univ. de la Republica, Uruguay, 1972	Univ. Chicago, 1980
Stafford, F.P.	Univ. Michigan	Northwestern Univ., 1962	Univ. Chicago, 1968
Stahl, D.O.	Univ. Texas, Austin	MIT, 1968	Univ. California, Berkeley, 1981
Starmer, C.V.	Univ. Nottingham	City Birmingham Polytech., 1985	Univ. East Anglia, 1992
Startz, R.	Univ. Washington	Yale Univ., 1974	MIT, 1978
Stavins, R.N.	Harvard Univ.	Northwestern Univ., 1969	Harvard Univ., 1988
Stein, J.C.	Harvard Univ.	Princeton Univ., 1983	MIT, 1986
Stern, N.H.	EBRD, London	Univ. Cambridge, 1967	Univ. Oxford, 1972
Stiglitz, J.E.	Columbia Univ.	Amherst Coll., 1964	MIT, 1966
Stimson, J.A.	Univ. North Carolina	Univ. Minnesota, 1966	Univ. North Carolina, 1970
Stock, J.H.	Harvard Univ.	Yale Univ., 1978	Univ. California, Berkeley, 1983
Stoll, H.R.	Vanderbilt Univ.	Swarthmore Coll., 1961	Univ. Chicago, 1966

Name	Affiliation	First degree	Doctorate (most recent)
Storper, M.C.	UCLA	Univ. California, Berkeley, 1976	Univ. California, Berkeley, 1982
Strauss, J.	Michigan State Univ.	Northwestern Univ., 1973	Michigan State Univ., 1981
Stulz, R.	Ohio State Univ.	Univ. Neuchatel, 1975	MIT, 1980
Subrahmanyam, A.	UCLA	Indian Inst. Tech., 1984	UCLA, 1990
Sugden, R.	Univ. East Anglia	Univ. York, UK, 1970	Univ. York, UK, 1988
Summers, R.	Univ. Pennsylvania	Univ. Chicago, 1943	Stanford Univ., 1956
Sunstein, C.R.	Univ. Chicago	Harvard Univ., 1975	Harvard Univ., 1978
Suzumura, K.	Hitotsubashi Univ.	Hitotsubashi Univ., 1966	Hitotsubashi Univ., 1980
Svensson, L.E.O.	Princeton Univ.	Royal Inst. Tech., 1971	Stockholm Univ., 1978
Tabellini, G.	Bocconi Univ.	Univ. Torino, 1980	UCLA, 1984
Tamura, R.	Clemson Univ.	Coll. William and Mary, 1981	Univ. Chicago, 1988
Tanner, M.A.	Northwestern Univ.	Univ. Chicago, 1978	Univ. Chicago, 1982
Taylor, J.E.	Univ. California, Davis	Univ. California, Riverside, 1979	Univ. California, Berkeley, 1984
Taylor, M.P.	Univ. Warwick	Univ. Oxford, 1980	Birkbeck Coll., Univ. London, 1984
Teece, D.J.	Univ. California, Berkeley	Univ. Canterbury, 1970	Univ. Pennsylvania, 1975
Teräsvirta, T.L.	Stockholm Sch. Econ.	Univ. Helsinki, 1964	Univ. Helsinki, 1970
Thakor, A.V.	Univ. Michigan Bus. Sch.	Univ. Baroda, 1972	Northwestern Univ., 1979
Thisse, J.-F.	Univ. Catholique Louvain	Univ. Liège, 1968	Univ. Liège, 1975
Thomas, D.	UCLA	Bristol Univ., 1981	Princeton Univ., 1986
Thompson, C.J.	Univ. Wisconsin-Madison	Univ. Tennessee, 1984	Univ. Tennessee, 1991
Thomson, W.	Univ. Rochester	École Polytech., Paris, 1973	Stanford, 1976
Thrift, N.J.	Univ. Bristol	Univ. Wales, 1971	Bristol Univ., 1992
Tian, G.	Texas A&M Univ.	Huazhong Univ. Sc. and Tech., 1982	Univ. Minnesota, 1987
Tickell, A.T.	Univ. Bristol	Univ. Manchester, 1987	Univ. Manchester, 1992
Timmermann, A.G.	Univ. California, San Diego	LSE, 1988	Univ. Cambridge, 1992
Titman, S.D.	Univ. Texas, Austin	Univ. Colorado, 1975	Carnegie-Mellon Univ., 1981
Townsend, R.M.	Univ. Chicago	Duke Univ., 1970	Univ. Minnesota, 1975
Trejo, S.J.	Univ. Texas, Austin	Univ. California, Santa Barbara, 1981	Univ. Chicago, 1988
Turnovsky, S.J.	Univ. Washington	Victoria Univ., 1962	Harvard Univ., 1968
Turok, I.N.	Univ. Glasgow	Univ. Bristol, 1979	Reading Univ., 1987

Udell, G.F.	Indiana Univ.	DePauw Univ., 1968	Indiana Univ., 1983
Uhlig, H.	Humboldt Univ.	Technische Univ. Berlin, 1985	Univ. Minnesota, 1990
Van Doorslaer, E.K.A.	Erasmus Univ.	Univ. Antwerp, 1980	Univ. Maastricht, 1987
Van Reenen, J.	Univ. Coll. London	Univ. Cambridge, 1988	Univ. Coll. London, 1992
Varian, H.R.	Univ. California, Berkeley	MIT, 1969	Univ. California, Berkeley, 1973
Venables, A.J.	LSE	Cambridge Univ., 1974	Oxford Univ., 1984
Vermaelen, T.J.	INSEAD	Catholic Univ. Leuven, 1975	Univ. Chicago, 1980
Vickers, J.S.	OFT, London	Oxford Univ., 1979	Oxford Univ., 1985
Viscusi, W.K.	Harvard Law Sch.	Harvard Univ., 1971	Harvard Univ., 1976
Vives, X.	INSEAD	Univ. Autònoma Barcelona, 1978	Univ. California, Berkeley, 1983
Von Hagen, J.	Univ. Bonn	Univ. Bonn, 1981	Univ. Bonn, 1985
Wagstaff, R.A.S.	World Bank	Univ. Wales, 1980	Univ. York, UK, 1985
Waite, L.	Univ. Chicago	Michigan State Univ., 1969	Univ. Michigan, 1976
Waldman, M.	Cornell Univ.	MIT, 1977	Univ. Pennsylvania, 1982
Walker, J.M.	Indiana Univ.	Auburn Univ., 1973	Texas A&M Univ., 1978
Walkling, R.	Ohio State Univ.	Towson State Univ., 1975	Univ. Maryland, 1980
Walsh, C.E.	Univ. California, Santa Cruz	Univ. California, Berkeley, 1971	Univ. California, Berkeley, 1976
Wang, J.	MIT	Nanjing Univ., 1981	Univ. Pennsylvania, 1990
Wang, P.	Vanderbilt Univ.	Natl Chao Tung Univ., 1979	Univ. Rochester, 1987
Watts, M.W.	Purdue Univ.	Louisiana State Univ., 1972	Louisiana State Univ., 1978
Watts, R.L.	Univ. Rochester	Univ. Newcastle, Australia, 1966	Univ. Chicago, 1971
Weber, G.	Univ. Padua	Siena Univ., 1982	LSE, 1988
Weingast, B.R.	Stanford Univ.	Univ. California, Santa Cruz, 1973	California Inst. Tech., 1978
Weisbrod, B.A.	Northwestern Univ.	Univ. Illinois, 1951	Northwestern Univ., 1958
Weiss, L.A.	MIT	McGill Univ., 1976	Harvard Univ., 1989
Weitzman, M.L.	Harvard Univ.	Swarthmore Coll., 1963	MIT, 1967
Welch, F.R.	Texas A&M Univ.	Univ. Houston, 1961	Univ. Chicago, 1965
Welch, I.	Yale Univ.	Columbia Univ., 1985	Univ. Chicago, 1991
Wernerfelt, B.	MIT	Univ. Copenhagen, 1974	Harvard Univ., 1977
West, K.D.	Univ. Wisconsin, Madison	Wesleyan Univ., 1973	MIT, 1983
Wheeler, D.R.	World Bank	Princeton Univ., 1968	MIT, 1974
Whinston, M.D.	Northwestern Univ.	Pennsylvania Univ., 1980	MIT, 1984

Name	Affiliation	First degree	Doctorate (most recent)
Whiteman, C.H.	Univ. Iowa	Univ. Kansas, 1975	Univ. Minnesota, 1981
Whittington, D.	Univ. North Carolina	Brown Univ., 1972	Univ. Texas, 1980
Wilcoxon, P.J.	Syracuse Univ.	Univ. Colorado, 1982	Harvard Univ., 1989
Wildasin, D.E.	Univ. Kentucky	Univ. Virginia, 1972	Univ. Iowa, 1976
Williamson, J.G.	Harvard Univ.	Wesleyan Univ., 1957	Stanford Univ., 1961
Williamson, O.E.	Univ. California, Berkeley	MIT, 1955	Carnegie-Mellon Univ., 1963
Willis, K.G.	Univ. Newcastle upon Tyne	London Univ., 1966	Newcastle Univ., 1970
Wilson, J.D.	Michigan State Univ.	Brown Univ., 1975	MIT, 1979
Wilson, R.B.	Stanford Univ.	Harvard Univ., 1959	Harvard Univ., 1963
Winston, C.	Brookings Inst.	Univ. California, Berkeley, 1974	Univ. California, Berkeley, 1979
Wolfe, B.L.	Univ. Wisconsin-Madison	Cornell Univ., 1965	Univ. Pennsylvania, 1973
Wolff, E.N.	NYU	Harvard Coll., 1968	Yale Univ., 1974
Woodford, M.	Princeton Univ.	Univ. Chicago, 1977	MIT, 1983
Wright, R.D.	Univ. Pennsylvania	Univ. Manitoba, 1979	Univ. Minnesota, 1986
Wrigley, N.	Univ. Southampton	Univ. Wales, 1970	Univ. Bristol, 1990
Wyplosz, C.A.	Grad. Inst. Intl Stud., Geneva	École Centrale, Paris, 1970	Harvard Univ., 1978
Yellen, J.L.	Univ. California, Berkeley	Brown Univ., 1967	Yale Univ., 1971
Young, H.P.	Johns Hopkins Univ.	Harvard Univ., 1966	Univ. Michigan, 1970
Zax, J.S.	Univ. Colorado	Harvard Univ., 1976	Harvard Univ., 1984
Zeckhauser, R.J.	Harvard Univ.	Harvard Univ., 1962	Harvard Univ., 1969
Zeira, J.	Hebrew Univ., Jerusalem	Hebrew Univ., Jerusalem, 1971	Hebrew Univ., Jerusalem, 1984
Zeldes, S.P.	Columbia Univ.	Brown Univ., 1978	MIT, 1984
Zingales, L.	Univ. Chicago	Univ. Bocconi, 1987	MIT, 1992
Zupan, M.A.	Univ. Arizona	Harvard Univ., 1981	MIT, 1987

Appendix 5 Names without an entry

Of the 1168 most frequently cited economists in the years 1990–2000 presented in this volume there are 425 names against which there is no entry. The following list of those 425 names includes both a small handful of economists who declined our invitation to participate in this project and those who failed to return their form even after a second and third contact. In the latter case it is impossible to tell how many of these received a form but refused to fill it in because of some studious opposition to any ‘Who’s Who’, whatever its purpose, and how many never received the form because they were on leave or had recently changed their place of employment. The list also includes a number of individuals whose work appears in economic journals but who declined to respond, as they do not regard themselves as economists. In any case, here is the full list of names against which there is no entry.

Abreu, D.	Bound, J.	Creel, M.D.
Albert, J.H.	Boycko, M.	Cremer, H.
Allenby, G.M.	Bradley, M.D.	Cummings, R.G.
Anand, S.	Brandenburger, A.M.	Davis, S.J.
Anderson, E.W.	Bremer, S.A.	deAngelo, L.
Andrews, D.W.K.	Brennan, M.J.	Dechow, P.M.
Anselin, L.	Breslow, N.E.	Deiningner, K.
Arnould, E.J.	Bresnahan, T.F.	DeLong, J.B.
Austen-Smith, D.	Brickley, J.A.	Deneckere, R.J.
Azzam, A.M.	Bronars, S.G.	Denis, D.J.
Babcock, B.A.	Browning, M.	Dewatripoint, M.
Backus, D.K.	Bumpass, L.L.	Diamond, D.W.
Bagwell, K.W.	Calabresi, S.G.	DiNardo, J.
Baker, R.M.	Caldwell, J.C.	Dinopoulos, E.
Balke, N.S.	Caldwell, P.	Dixon, W.J.
Ball, L.M.	Calomiris, C.W.	Donaldson, D.
Barber, B.M.	Canova, F.	Duffie, D.
Barbera, S.	Carroll, R.J.	Dufour, J.-M.
Barclay, M.J.	Carter, C.A.	Dumas, B.
Basu, S.	Carter, R.B.	Easterly, W.
Baxter, M.	Cason, T.N.	Eichenbaum, M.
Belk, R.W.	Chaloupka IV, F.J.	Eisenberg, T.
Bencivenga, V.R.	Chambers, R.	Elhauge, E.R.
Bentolila, S.	Chan, L.K.-C.	Ellickson, R.C.
Bernheim, B.D.	Chari, V.V.	Erev, I.
Berry, S.T.	Chib, S.	Erikson, R.S.
Bhagat, S.	Chichilnisky, G.	Esckridge, Jr, W.N.
Bhagwati, J.	Chou, R.Y.	Eubank, R.L.
Bikchandani, S.	Christie, W.G.	Evans, W.N.
Birch, S.	Clayton, D.G.	Fan, J.
Black, B.S.	Collier, P.	Farber, H.S.
Bockstael, N.E.	Cook, R.D.	Feenstra, R.C.
Boldrin, M.	Cooper, R.W.	Fehr, E.
Bolton, P.	Corcoran, M.	Feldman, M.P.
Boot, A.W.A.	Cox, T.L.	Fernandez, R.

- Fershtman, C.
 Foster, A.D.
 Foster, F.D.
 French, K.R.
 Frey, W.H.
 Gafni, A.
 Gali, J.
 Garrett, G.
 Geanakoplos, J.
 Gelfand, A.E.
 George, E.I.
 Geronimus, A.T.
 Gertler, M.
 Gertler, P.J.
 Gertner, R.H.
 Gilchrist, S.
 Goldman, N.
 Goldscheider, F.K.
 Gorton, G.
 Gottschalk, P.
 Greenwood, J.
 Gregory, A.W.
 Grilli, V.
 Grinblatt, M.
 Gruber, J.H.
 Guilkey, D.K.
 Gul, F.
 Güth, W.
 Haas, P.M.
 Hafer, R.W.
 Hakkio, C.S.
 Hall, P.
 Hancock, D.
 Hanemann, W.M.
 Hansen, G.D.
 Hardle, W.
 Harrington, Jr, J.E.
 Harris, L.E.
 Harrison, A.E.
 Harrison, G.W.
 Harvey, C.R.
 Hasbrouck, J.S.
 Hayashi, F.
 Hayes, D.J.
 Hayward, M.D.
 He, H.
 Heaton, J.
 Heston, S.L.
 Hirschman, E.C.
 Hoch, S.J.
 Hoffman, E.
 Hoffman, S.D.
 Holthausen, R.W.
 Holtz-Eakin, D.
 Honoré, B.E.
 Hopenhayn, H.A.
 Hsieh, D.A.
 Humphrey, D.B.
 Hunter, W.C.
 Hurd, M.D.
 Huth, P.K.
 Iannaccone, L.R.
 Ichniowski, C.
 Imbens, G.W.
 Inman, J.J.
 Ito, T.
 James, C.
 Jegadeesh, N.
 John, K.
 Jones, C.I.
 Joulfaian, D.
 Jovanovic, B.
 Joyce, T.
 Juhn, C.
 Kaminsky, G.L.
 Kanninen, B.J.
 Kaplan, S.N.
 Karim, M.R.
 Kashyap, A.K.
 Kass, R.E.
 Katz, J.N.
 Kealy, M.J.
 Keane, M.P.
 Kehoe, P.J.
 Kimball, M.S.
 King, R.G.
 Kirchsteiger, G.
 Kiyotaki, N.
 Klepper, S.I.
 Knetter, M.M.
 Kocherlakota, N.-R.
 Kohn, R.
 Koop, G.
 Kose, J.
 Kothari, S.P.
 Kremer, M.R.
 Kremers, J.
 Kroner, K.F.
 Kroner, P.R.
 Kwiatkowski, D.
 La Porta, R.
 Lai, K.S.
 Lakonishok, J.
 Lal, R.
 LaLonde, R.J.
 Lamoureux, C.G.
 Larcker, D.F.
 Le-Breton, M.
 Leahy, J.V.
 LeBaron, B.D.
 Lee, C.M.C.
 Lehrer, E.
 Leiderman, L.
 Lemieux, T.
 Levinsohn, J.A.
 Levitt, S.D.
 Lewbel, A.
 Lewis, K.K.
 Lewis, T.R.
 Leybourne, S.J.
 Lichtenberg, F.R.
 Logan, J.R.
 Lohmann, S.
 Longstaff, F.A.
 Loomis, J.B.
 Loretan, M.
 Loughran, T.
 Lumsdaine, R.L.
 Lundberg, S.J.
 Lynch, Jr, J.G.
 Lyon, J.D.
 MacDuffie, J.P.
 Machin, S.
 MacKinlay, A.C.
 MacKuen, M.B.
 Madhavan, A.
 Maheswaran, D.
 Mahoney, M.R.
 Manaster, S.
 Manning, A.
 Manuelli, R.E.
 Maoz, Z.
 Marimon, R.
 Marron, J.-S.
 Matsui, A.
 Mauro, P.
 Mayers, D.
 McAdams, R.H.
 McAfee, R.P.
 McCabe, K.A.
 McCulloch, R.E.
 McGratten, E.R.
 McGuire, T.J.
 McGuire, T.G.
 Mendelson, H.
 Michaely, R.
 Mick, D.G.
 Micklewright, J.
 Miron, J.A.
 Mody, A.
 Moe, T.M.
 Monahan, J.C.
 Moore, J.H.
 Moravcsik, A.
 Morgan, S.P.
 Morgan, T.C.
 Morton, A.J.
 Munger, M.C.

Munnell, A.H.
 Murnane, R.J.
 Murphy, K.M.
 Naughton, B.
 Neal, D.A.
 Newey, W.K.
 Newman, A.F.
 Ng, V.K.
 O'Farrell, P.N.
 O'Neill, J.E.
 Ofek, E.
 Oliver, R.L.
 Osterman, P.
 Pagano, M.
 Palepu, K.G.
 Pauly, M.V.
 Pearson, N.D.
 Perotti, R.
 Pierce, B.
 Pitt, M.M.
 Porter, M.E.
 Powell, J.L.
 Preston, S.H.
 Rabin, M.J.
 Ratneshwar, S.
 Ravikumar, B.
 Raviv, A.
 Ready, M.J.
 Reny, P.J.
 Ridder, G.
 Robins, J.M.
 Robins, P.K.
 Rogers, R.G.
 Rogerson, R.D.
 Rose, A.K.
 Rosenthal, R.W.
 Rosenthal, S.S.
 Rosenzweig, M.R.
 Rossi, P.E.
 Rotnitzky, A.
 Roubini, N.
 Rousseeuw, P.J.
 Runkle, D.E.
 Ruppert, D.
 Rush, M.
 Rustichini, A.
 Samuelson, L.W.
 Santos, M.S.
 Sappington, D.E.M.
 Sargent, T.J.
 Saunders, A.
 Scharfstein, D.S.
 Schotman, P.C.
 Schwab, R.M.
 Schwartz, A.
 Schwartz, E.S.
 Scott, L.M.
 Segerson, K.
 Seguin, P.J.
 Seiford, L.M.
 Selden, T.M.
 Sen, A.
 Shanken, J.
 Sharpe, S.A.
 Shaw, K.
 Shin, H.-S.
 Shleifer, A.
 Simonson, I.
 Singleton, K.J.
 Sinn, H.W.
 Siverson, R.M.
 Sjoquist, D.L.
 Skaperdas, S.
 Slade, M.E.
 Slovin, M.B.
 Smith, A.
 Smith, G.W.
 Snyder, E.A.
 Snyder, Jr, J.M.
 Sowell, F.B.
 Squire, L.
 Staiger, D.O.
 Staiger, R.W.
 Stambaugh, R.F.
 Stayman, D.M.
 Stewart, M.B.
 Stokey, N.L.
 Sullivan, M.W.
 Summers, L.H.
 Sushka, M.E.
 Tauchen, G.
 Tesar, L.L.
 Thaler, R.H.
 Thrall, R.M.
 Timme, S.G.
 Tirole, J.
 Toda, H.Y.
 Topel, R.H.
 Trajtenberg, M.
 Trefler, D.
 Trivedi, P.K.
 Tsay, R.S.
 Tsiddon, D.
 Turnbull, S.M.
 Tybout, J.R.
 van den Berg, G.J.
 van der Ploeg, F.
 Van Huyck, J.B.
 van Ours, J.C.
 van Zomeren, B.C.
 Végh, C.A.
 Verrecchia, R.E.
 Villanueva, D.
 Vishny, R.W.
 Viswanathan, S.
 Vogelsang, T.J.
 Wadhvani, S.
 Wagner, J.
 Wakker, P.P.
 Walker, J.R.
 Warner, J.B.
 Wasserman, L.
 Watkins, S.C.
 Watson, M.W.
 Webb, S.B.
 Weber, M.
 Weil, D.N.
 Weil, P.
 Weiler, J.H.H.
 Weisbach, M.S.
 Wendt, A.
 Whaley, R.E.
 Wheaton, W.C.
 White, A.
 White, H.L.
 Whited, T.M.
 Wilcox, D.W.
 Wilson, P.W.
 Winer, R.S.
 Wise, D.A.
 Wolinsky, A.
 Wolpin, K.I.
 Wood, A.
 Wooldridge, J.M.
 Wright, G.
 Young, A.
 Zang, I.
 Zeger, S.L.
 Zervos, S.
 Zhao, L.P.
 Zin, S.E.
 Zivot, E.W.