

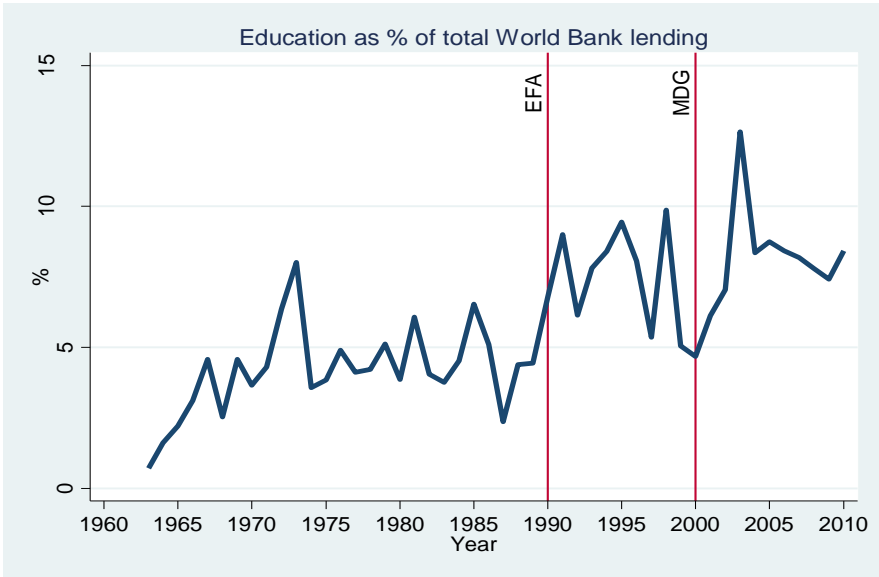
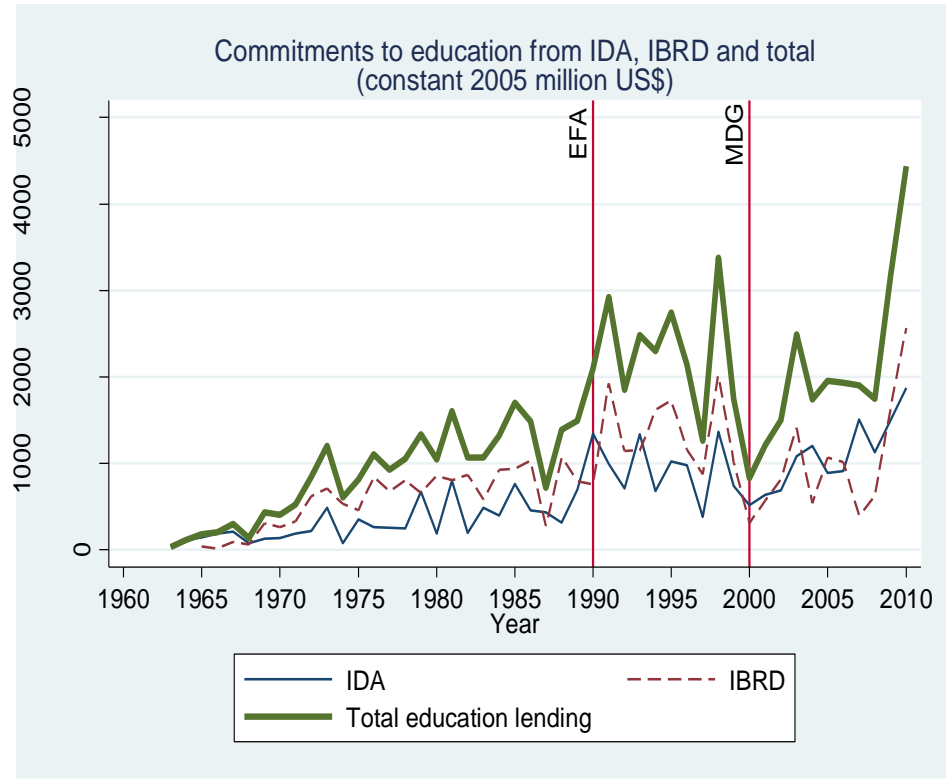
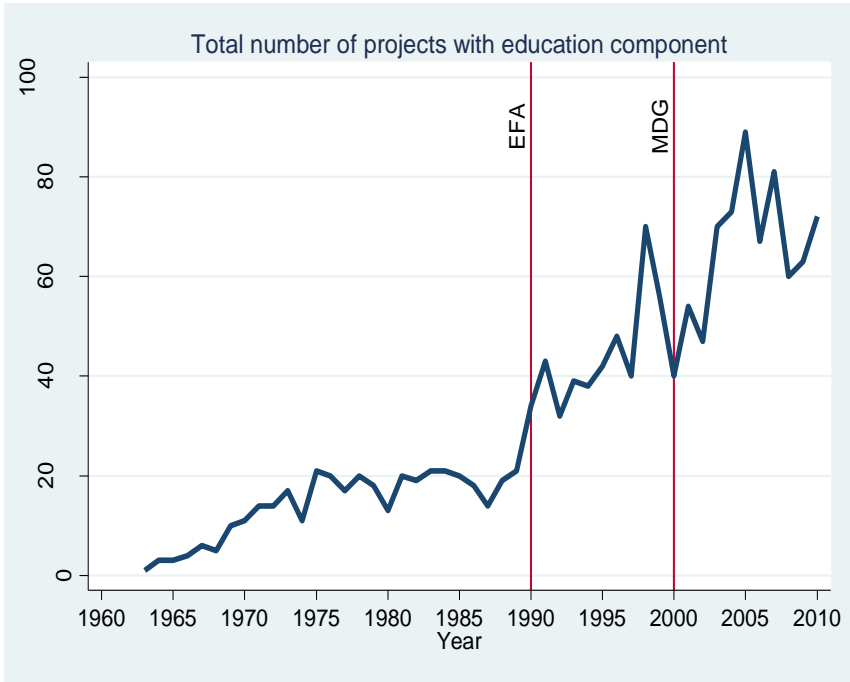
World Bank Project Brief

SPIRIT - SCHOLARSHIPS PROGRAM STRENGTHENING
REFORMING INSTITUTIONS

RISER - RESEARCH AND INNOVATION IN SCIENCE
AND TECHNOLOGY

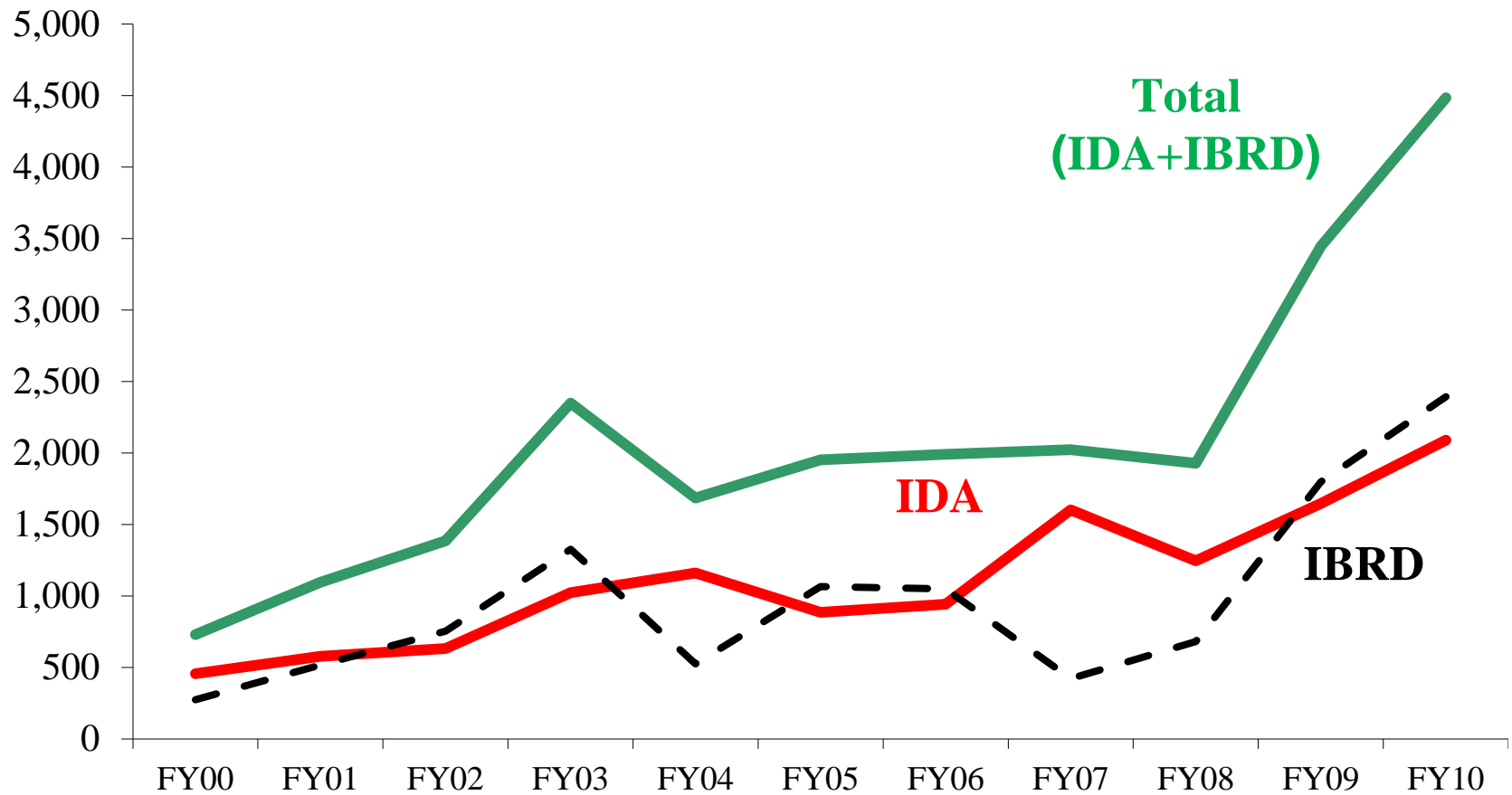
Chris Smith Video Conference

6th July 2011

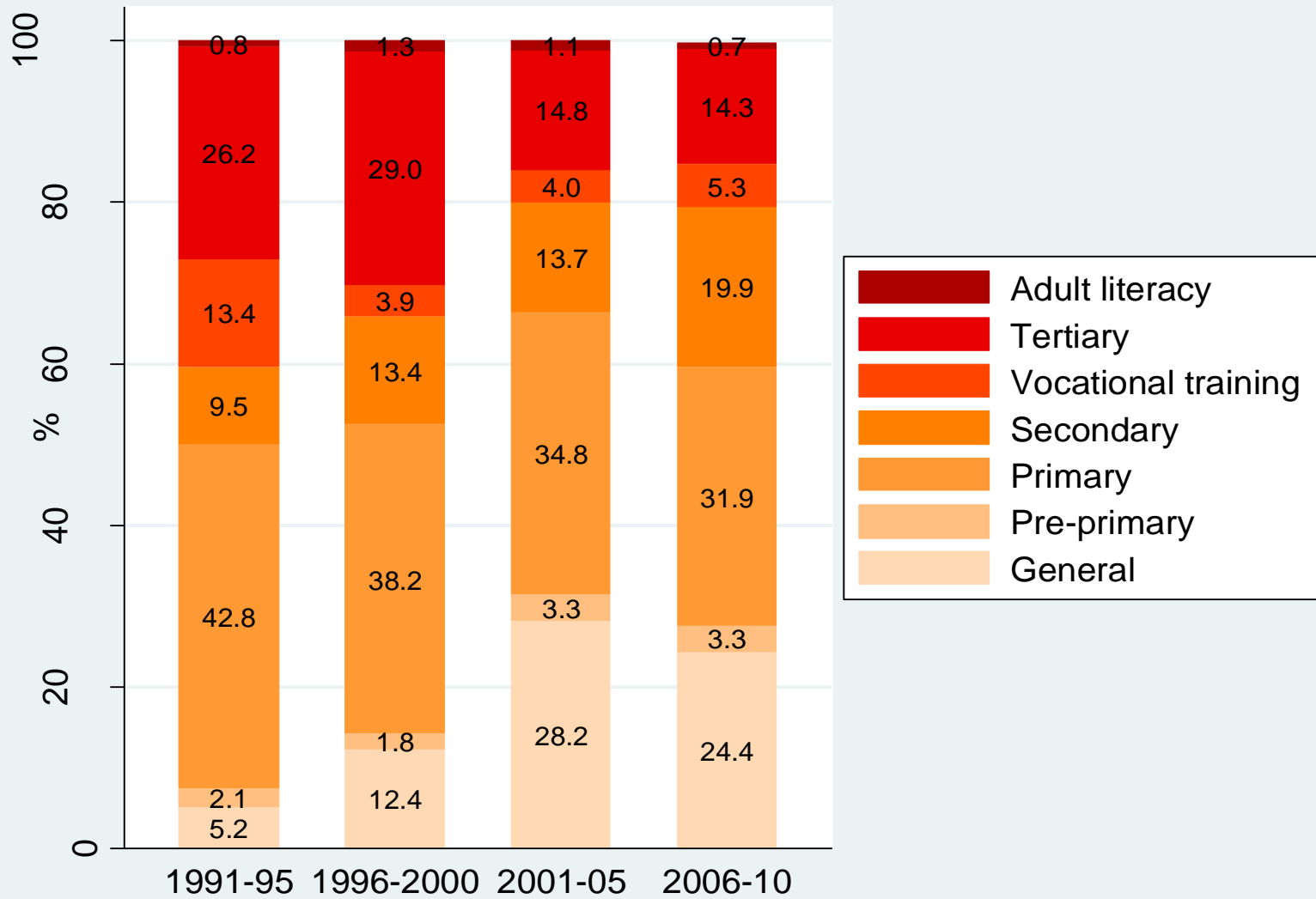


Trends in the World Bank's lending for education, FY1963-FY2010

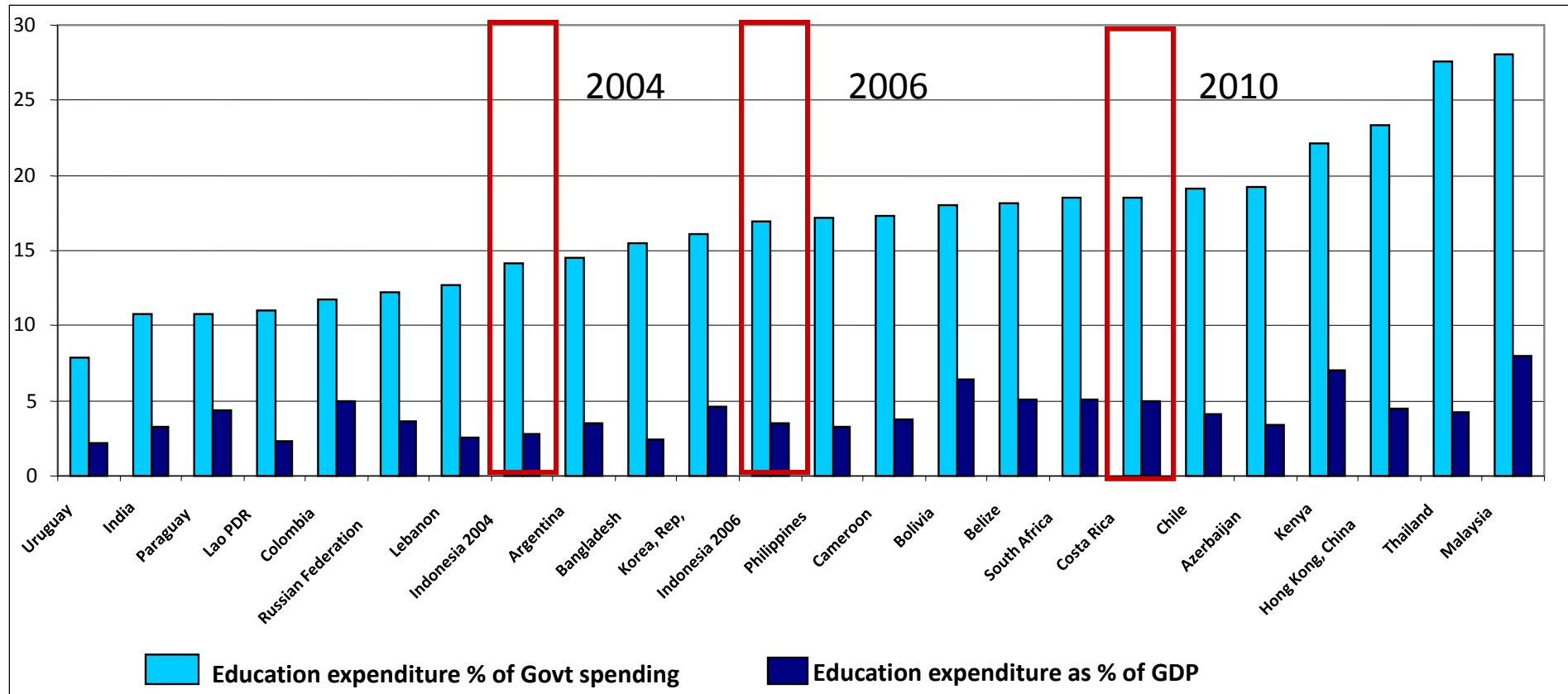
World Bank's lending for education (in constant 2005 US\$)



Bank support for education

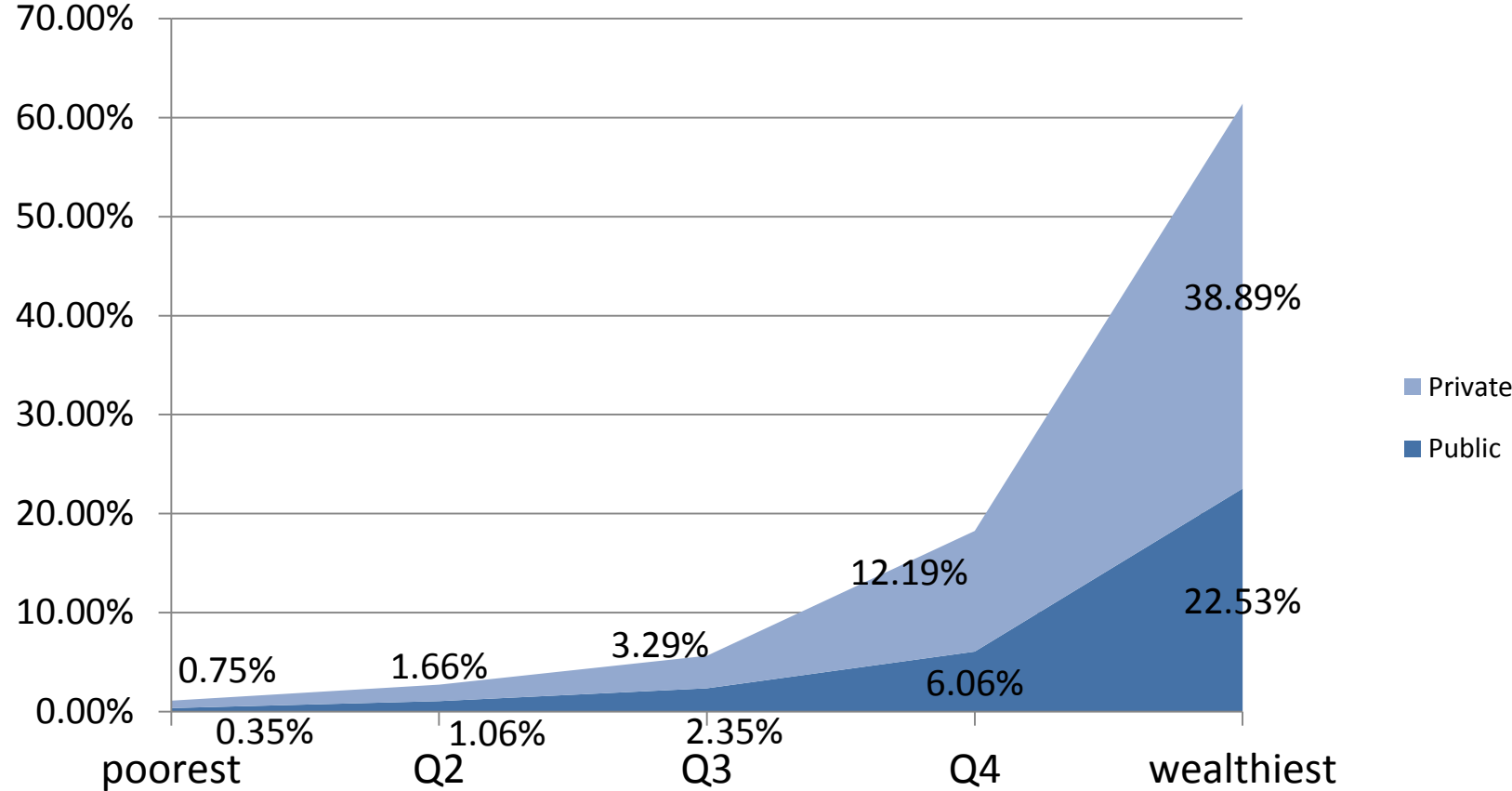


Indonesia spends approx 17 percent of total expenditures on education, similar to many other developing countries

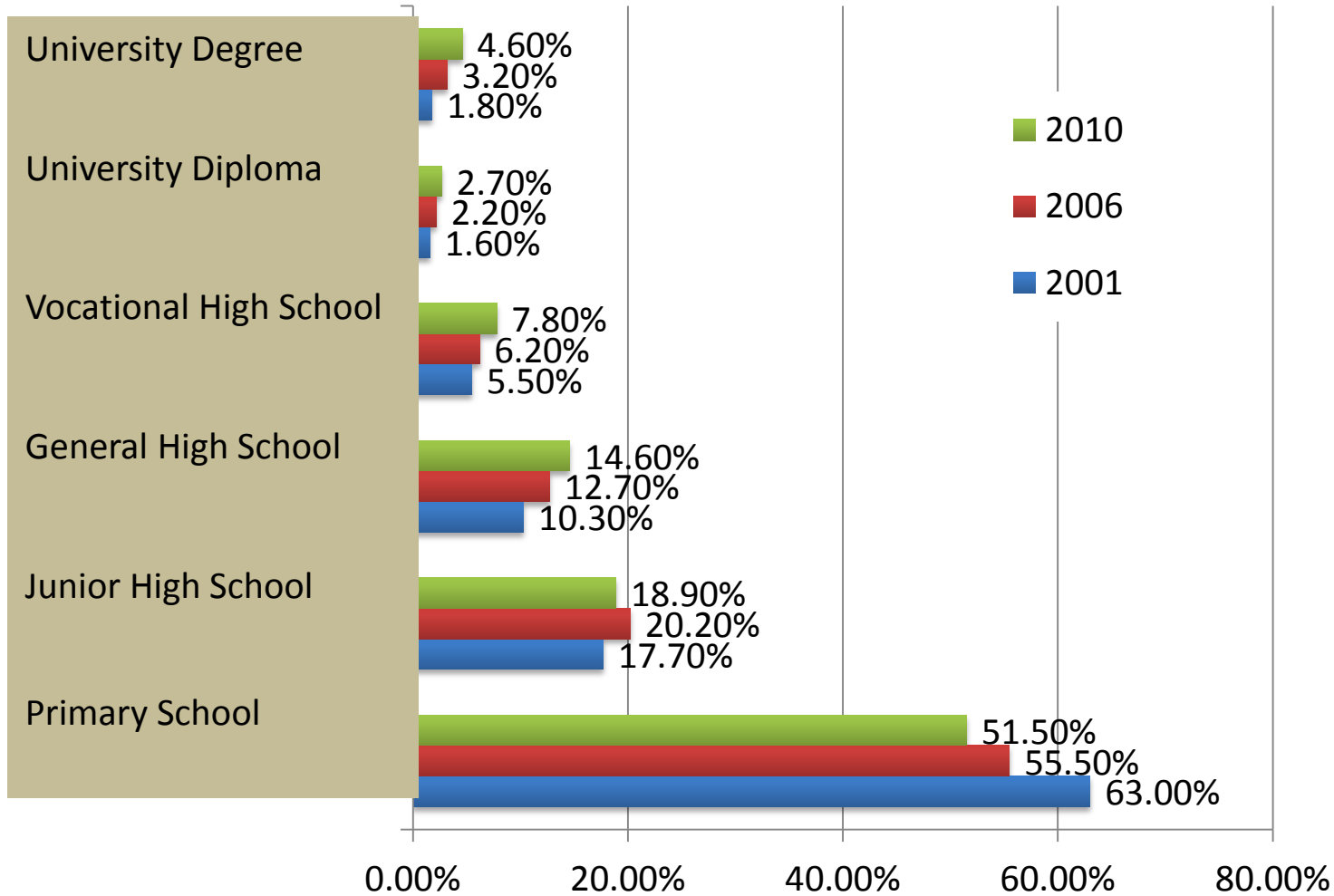


Source: Edstats and World Bank staff estimates

Tertiary Education Gross Enrollment Rate by Household Expenditure Quintile (Youth 19-22 years of age)



Level of Educational Attainment (2010 Bureau of Statistics)



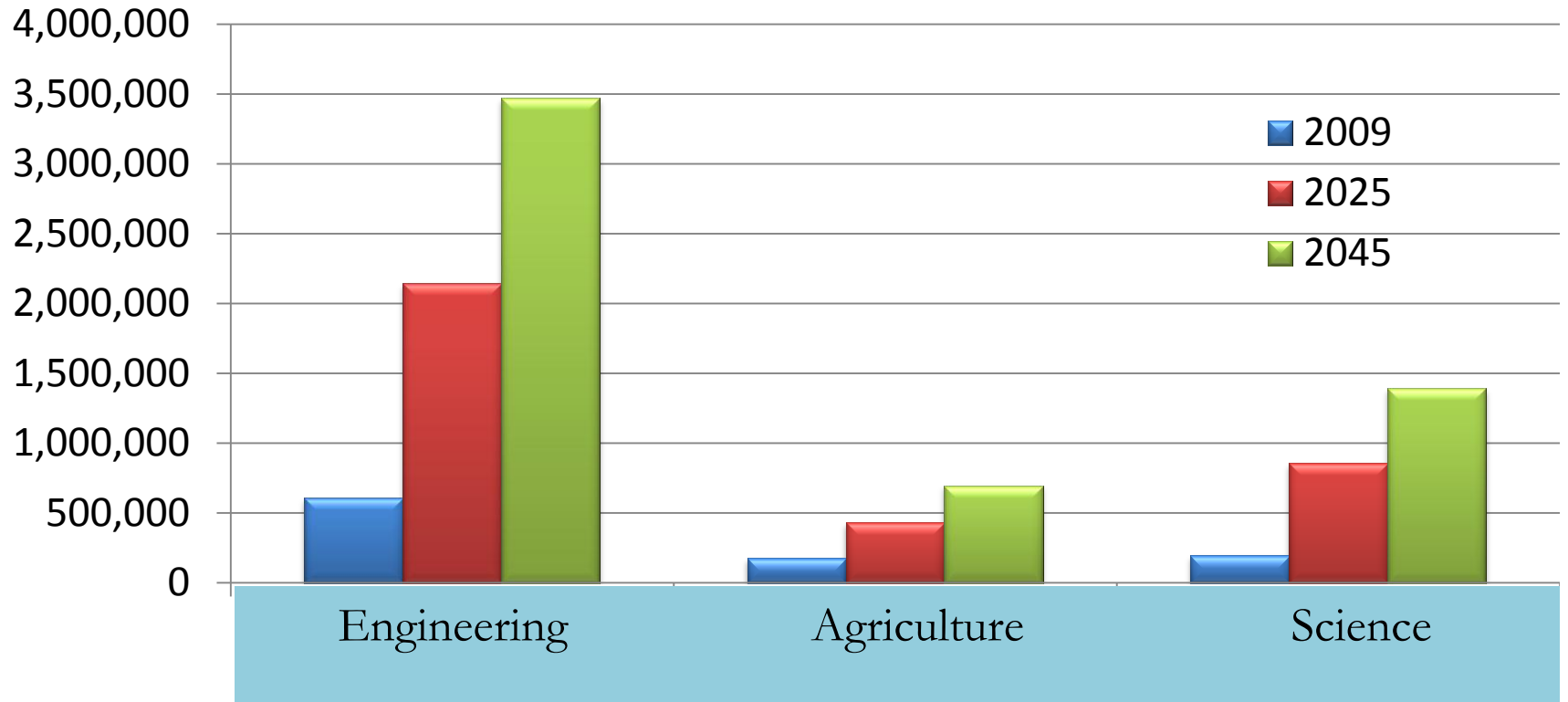
Higher Education Sector	2005	2006	2007	2008	2009	2010	5-Year Growth Percent
	Student Enrolment in millions						
Total Students Enrolled	3.87	4.29	4.38	4.5	4.66	5.23	35.1%
Public Enrollment	0.81	0.83	0.98	0.97	1.01	1.03	27.2%
Public as percent of total	20.9%	19.3%	22.4%	21.6%	21.7%	19.7%	-5.9%
Private Enrollment	2.24	2.57	2.39	2.41	2.45	2.89	29.0%
Private as percent of total	57.9%	59.9%	54.6%	53.6%	52.6%	55.3%	-4.5%
Religious	0.51	0.52	0.51	0.57	0.5	0.57	11.8%
Open University	0.26	0.32	0.45	0.52	0.62	0.65	150.0%
Other	0.05	0.05	0.05	0.03	0.08	0.09	80.0%
GER Percent	18.26%	20.23%	20.66%	21.26%	22.00%	26.67%	46.1%

DGHE Target for Staff Qualification Upgrading

(Director General Bali, June 2011)

Indicator	Baseline	TARGET				
		2010	2011	2012	2013	2014
Percentage of Public HEI Staff with S2	73.8%	78.5% (71.1%)*	82.5%	88.5%	94.5%	100.0%
Percentage of Private HEI Staff with S2	46.7%	51.7% (52.6%)*	57.0%	65.0%	75.0%	90.0%
Percentage of Public HEI Staff with S3	16.1%	17.5% (16.8%)*	20.0%	23.5%	26.5%	30.0%
Percentage of Private HEI Staff with S3	5.0%	6.3% (6.9%)*	8.0%	10.0%	12.5%	15.0%
Certified Public HEI Staff	26.8%	39.3% (39.2%)*	50.0%	65.0%	80.0%	100.0%
Certified Private HEI Staff	7.4%	10.5% (10.3%)*	26.0%	37.3%	48.7%	55.5%

DGHE Projection of Future Priority Fields of Study and Enrollments



Year	Engineering		Agriculture		Science	
	%	Students	%	Students	%	Students
2010	11.6%	604	3.3%	173	3.7%	192
2015	16.0%	1,117	3.9%	258	5.8%	413
2025	25%	2,142	5%	428	10%	856

Lessons Experience from Previous Indonesian Scholarship Programs:

Major benefits accrue to the individual recipient rather than the host agency or institution.

Quality needs to be assured at 3 key points:

- Quality at entry – selection of the best and brightest, eligibility and selection criteria,
- Quality at Placement – pre-departure preparation & university selection, monitoring of performance, regular contact,
- Quality at re-entry – commences the years before return, indicators of success expressed as rate of utilization / contribution.

SPIRIT

The Development Objective is to build the participating agency's capacity by strengthening its core human resources and improving its internal operating environment.

The program is located in strategically important central agencies, those that are most important for realization of the Government's national priority of improving "soft infrastructure", as detailed in the RPJMN. Criteria for inclusion are

- key government agencies that are responsible for public sector financial, economic, and human resource management;
- key agencies responsible for improving the investment climate in Indonesia, or
- agencies that are responsible for managing and implementing Bureaucracy Reform

The broader aim is for the SPIRIT program to become one key component of the Bureaucracy Reform Roadmap that all central government agencies are currently in the process of preparing. There are 3 concrete ways in which this can happen:

1. The concept of staff training anchored in an agency institutional development strategy, what in this project is referred to as agency Human Capital Development Plans (HCDPs) becomes one component of each agency's Roadmap; not limited to the participating agencies for this project but eventually to all government agencies
2. Suggested results indicators for the program become a subset of the key performance indicators to monitor progress in Bureaucracy Reform
3. The implementation modalities for the project — selection of scholars, re-entry, monitoring arrangements, quality assurance — become part of the standard operating procedures (SOP) for reforming agencies

SPIRIT Expected number of scholarship recipients

BAPPENAS	2011	2012	2013	2014	2015	2016	2017	Total
<i>Master (S2)</i>								
Master overseas	48	56	63	54	44	0	0	265
Master domestic	41	70	57	49	44	0	0	261
Master linkage	5	8	16	14	6	0	0	49
<i>Doctorates (S3)</i>								
PhD Overseas	8	24	21	0	0	0	0	53
PhD Domestic	3	20	17	1	0	0	0	41
<i>Non-Degree Training</i>								
Internship	19	35	35	31	33	16	0	169
Non-Degree Overseas	126	189	182	159	107	71	0	834
Non-Degree Domestic	121	106	151	108	94	84	0	664
MINISTRY of FINANCE								
<i>Master (S2)</i>								
Master Overseas	0	35	35	35	35	0	0	140
Master linkage	26	26	26	26	26	0	0	130
<i>Doctorates (S3)</i>								
PhD overseas	0	10	10	0	0	0	0	20
Grand total	397	579	613	477	389	171	0	2626

Cluster 1

- Ministry of Finance (all 12 Directorate Generals)

Cluster 2

- Bappenas,
- Civil Service Agency (BKN)
- Supreme Audit Board (BPK)
- Land Administration Agency (BPN)
- Ministry of Home Affairs (MoHA)
- National Institute of Public Administration (LAN)
- Financial and Development Supervisory Board (BPKP)
- Ministry of Foreign Affairs (MoFA)
- Investment Coordination Board (BKPM)
- State Ministry for Administrative Reforms (MenPAN)

RISET

The Development Objective is to create an enabling environment for Research & Development in science and technology and to strengthen the *performance incentives* and the *human resources* of key public science and technology institutes in Indonesia.

The main direct beneficiaries of the project are the seven non-ministerial public science and technology institutes in Indonesia (LPNK), which will receive assistance to develop institutional development plans, define their strategic priorities and upgrade their human capital to match the identified priorities.

Indonesia ranks poorly on competitiveness and knowledge economy indices. Indonesia was ranked 54th out of 134 countries in the “Global Competitiveness Index”, behind countries such as Malaysia (24), China (29), Thailand (36), and India (49). One of the 12 pillars of competitiveness is the strength of a nation’s innovation system, which puts Indonesia at the rank of 40, behind Malaysia (24), India (28), and China (29).

“The Global Competitiveness Report (2009-2010)”, World Economic Forum.

The resources devoted to R&D are insufficient and largely inadequate, especially in human capital investment. Indonesia’s overall public budget allocation to R&D is very low, estimated at only 0.05 percent of GDP, a level much lower than other countries in the region such as China (1.42), Malaysia (0.6), Thailand (0.26), and Vietnam (0.19). The country has a low science base, with 199 researchers per million people. A simple breakdown of LPNK research staff by level of education shows that less than 5 percent of staff hold a Ph.D. degree (S3 level), and only 15 percent hold masters degrees (S2 level).

Indonesia also underperforms in research outputs partly due to the low investment, but also because the productivity of R&D is lower than in other countries. Perhaps the most direct output of R&D is scientific publications. When normalized by both the size of the population and the number of researchers, Indonesia's ranking is especially low when compared to other middle income countries. Indicators of R&D output measuring knowledge creation such as fees received from royalties and licenses (\$US 31 million, or 0.14 cents per person in Indonesia) or patents granted by the USPTO (18 in the 2003-07 period in Indonesia) are much lower in than in other countries such as:

Brazil (royalty/license fees of \$53 per person and 141 patents)

China (\$31.9 and 758 patents) or

India (\$13.3 and 446 patents).

Institution	Priority fields of Study	Proposed No. PhD
BPPT Agency for Assessment and Application of Technology	Biotechnology, Food Science, Environment, Chemical Engineering, Material, Manufacture and Processing Technology, Computing, Renewable Energy, Life Sc., Land Transportation, Tsunami Early Warning Systems, Natural Resources Accounting, Environment, Applied Physics, Marketing, Information Technology, Geothermal, Chemistry, Physic Science, Sea Transportation, Industrial Technology, Fire Early Warning Systems, Marine Science., Earth Science, Sales, Communication, Solar Cell, Biology, Pharmacy, Air Transportation, Soil Science, RS & GIS, Nano Technology, PR, Electronics, Alternative Fuel Energy, Agriculture & Fishery, Medicine, Geology, Meteorology, Polymer, Accounting, Electrics, Oil & Gas, Climate, Law, Satellite, Space Science, Geology, Strategic Planning, Project Management, HRD	100
LIPI Indonesian Institute of Sciences	Chemistry, Life Sciences, Physics, Social Sciences, Anthropology, Biochemistry, Molecular Biology, Biotechnology, Botany, Demography, Ecology, Thermodynamics, Theoretical physics, Condensed Matter Physics, Geology, Geophysics, Food Science, Politics, Policy and Administration, Metallurgy, Microbiology, Oceanography, Mechatronics, History, Sociology, Material Sience, Electronics, Mechanical Engineering, Environmental, Information Engineering	181

Institution cont...	Priority fields of Study	Proposed No. PhD
Batan National Nuclear Energy Agency	Physic, Chemistry, Biology, Mathematics, Statistics, Pharmacy, Geo-physic, Electrical Engineering, Physics Engineering, Nuclear Engineering, Chemical Engineering, Mechanical Engineering, Industrial Engineering, Metallurgy, Geology, Agriculture, Livestock, Environment, Community Health, Computer, Information system, Medical, Dentistry, Veterinary Science	70
Bapeten Nuclear Energy Regulatory Agency	Nuclear Engineering, Physics Engineering, Medical Physics, Electrical Engineering, Chemical Engineering, Civil Engineering, Electronics and Instrumentation, Geology, Environment, Mechanical Engineering, Information, Social Science	20
BSN National Standardization Agency	HR Development, Finance, Standardization, Quality Management, Administration, Laboratory and Accreditation	-
Bakosurtanal National Survey and Mapping Coordination Agency	Geodesy, Geography	40
Lapan National Institute of Aeronautics and Space	Aerospace science, Aerospace technology, Aerospace Applied Science, Basic Science, Chemical Engineering	50
Ristek & Others	public policy, S&T policy, management	20

Non Degree Training Program	No. of beneficiaries
Tailor-made Course (Overseas)	225
Tailor-made Course (Domestic)	150
Off-the-Shelf Course (Overseas)	75
Off-the-Shelf Course (Domestic)	75
Work Placement (Overseas)	70
Work Placement (Domestic)	75
Visiting Scholar	90
TOTAL	760