Growth prospects and challenges in EBRD countries of operation

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Post-crisis slowdown in convergence became more protracted, affected emerging markets globally

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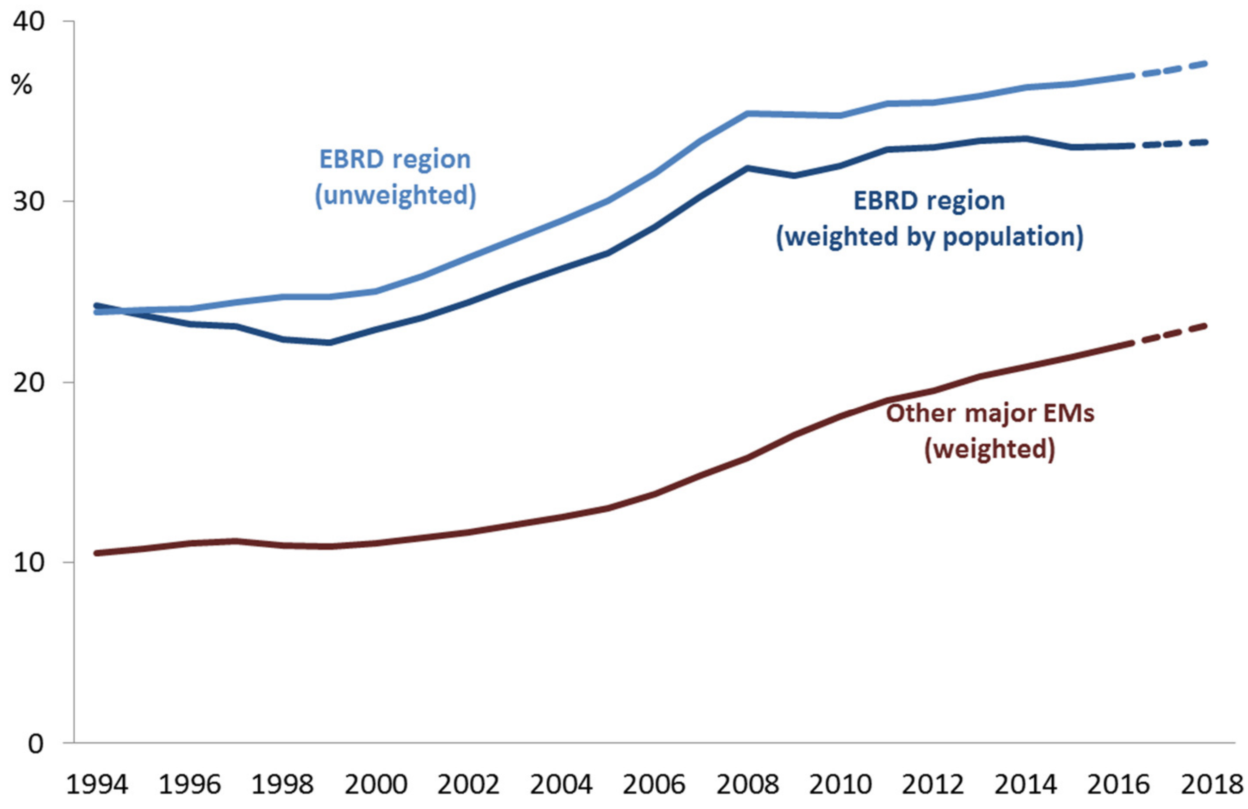
- Is this slowdown part of a broader phenomenon: Trapped in middle income?
- Has the region's recent growth performance fallen short of that of other emerging markets?

Average GDP per capita at PPP, in % of US



Source: IMF and authors' calculations.

EBRD region consistently outperformed comparators in 1998-2008, underperformed since 2009

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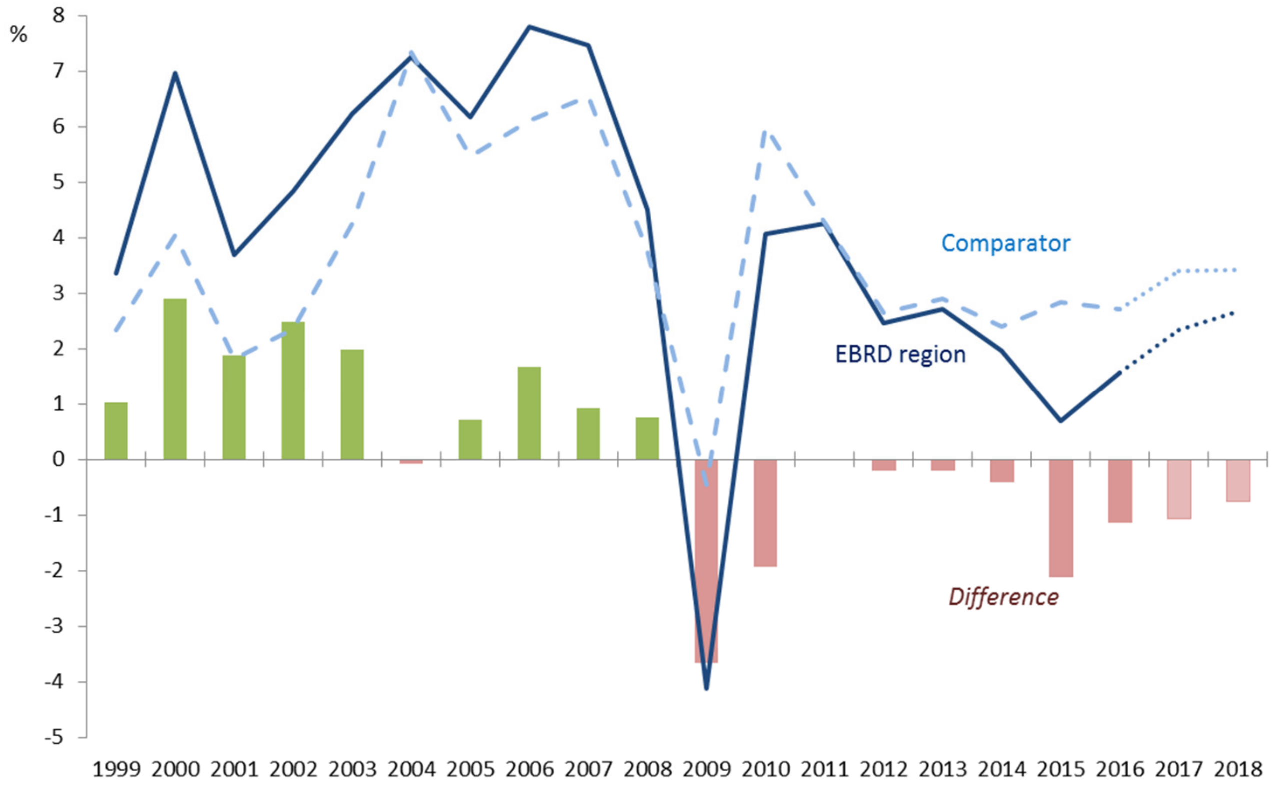
EBRD region outperformance yielded 15% higher output; underperformance cost 9% of output

For each country, construct synthetic comparator (15+ countries with max weight 15%) in each year (income per capita, population)

EBRD region's growth, %



Source: IMF WEO and authors' calculations. For instance, Tunisia's comparators include Ecuador, Indonesia, Sri Lanka, ++.

Weaker performance in SEMED, stronger in Central Europe

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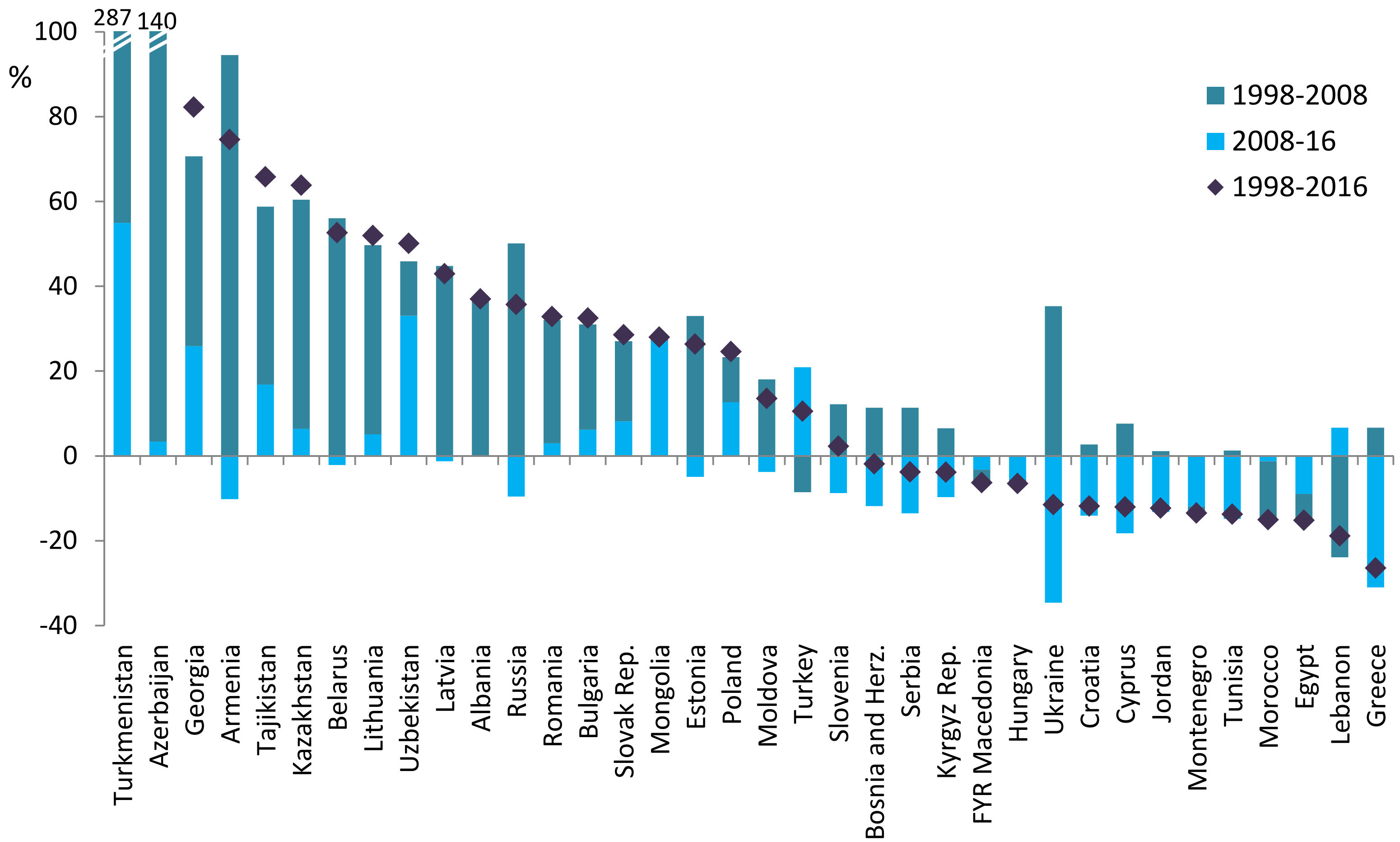
EBRD region's per capita growth, relative performance, %



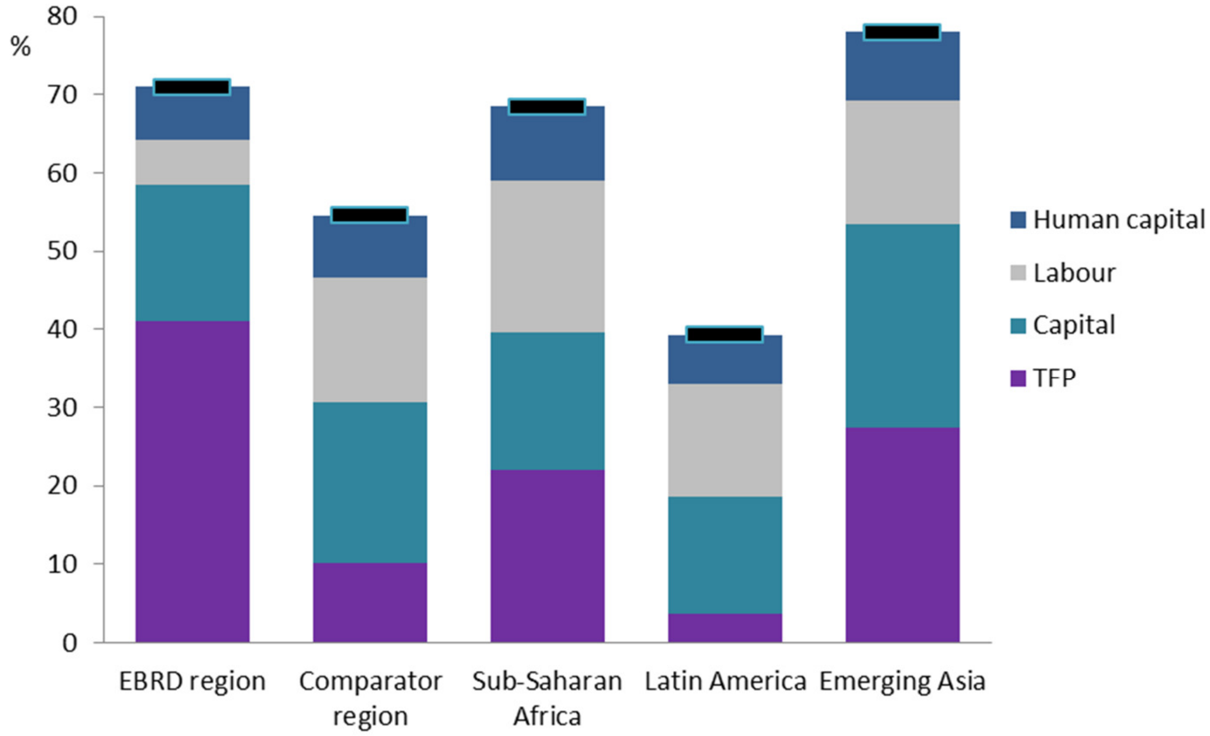
Source: Penn World Tables, IMF, World Bank and authors' calculations.

Growth in 1998-2008 driven by TFP

Factors of production had been combined inefficiently under central planning

Market reforms helped to boost productivity and close TFP gap

Decomposition of sources of growth, 1998-2008, percentage points



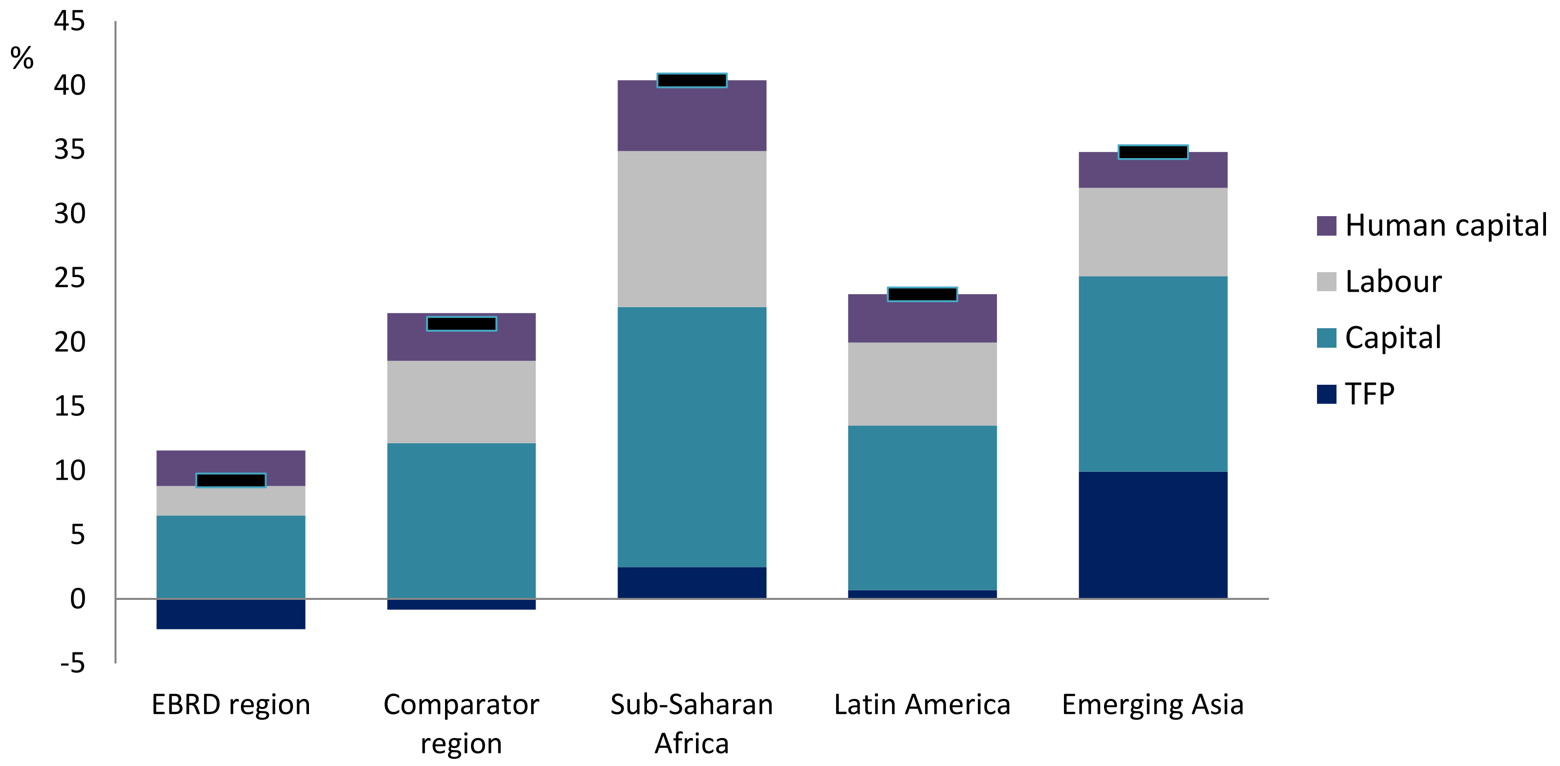
Source: Penn World Tables, IMF, World Bank and authors’ calculations.

Growth since 2009 driven by capital accumulation; TFP growth slow

Common pattern for emerging markets although Emerging Asia an exception

TFP slowdown in (small) part reflects lower capacity utilisation (limited data)

Decomposition of sources of growth, 2008-14, percentage points



Source: Penn World Tables, IMF, World Bank and authors' calculations.

Productivity challenge looming large in Central Europe and the Baltics

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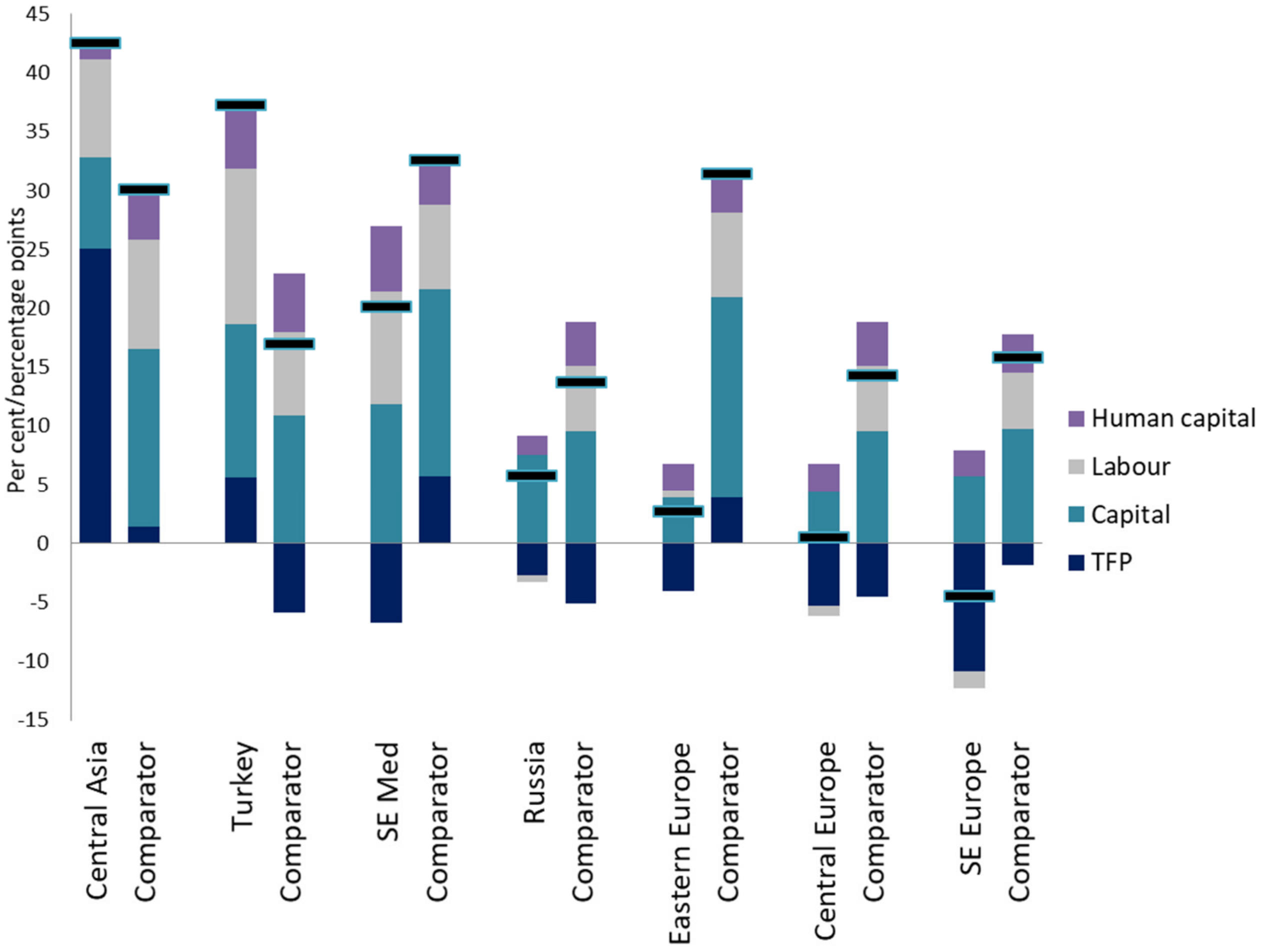
Decomposition of sources of growth, 2008-14, percentage points

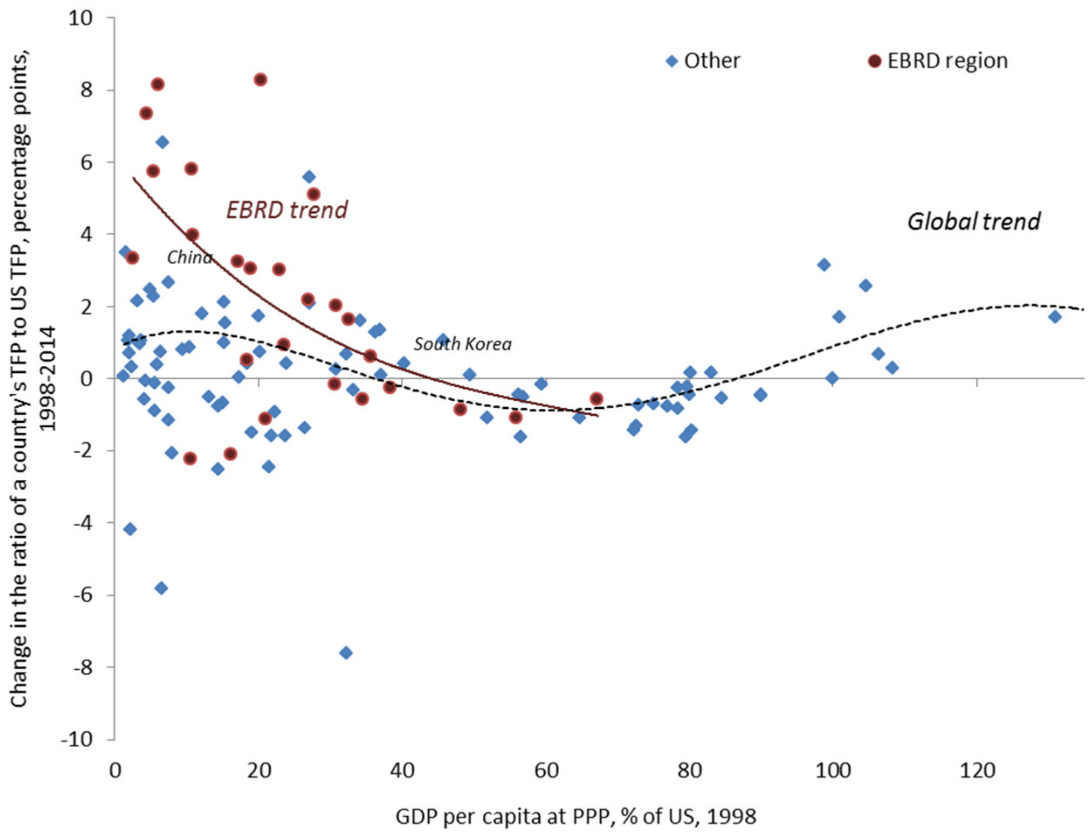


Source: Penn World Tables, IMF, World Bank and authors’ calculations.

TFP slowdown a common challenge for middle-income economies since 1998

Consistent with Neo-Schumpeterian view – hard to move from imitation to innovation
EBRD economies enjoyed faster TFP growth – driven by the pre-crisis years

Initial per capita income and total factor productivity growth, 1998-2014



Source: IMF, World Bank, Penn World Tables and authors' calculations. The trend line is based on a polynomial fit.

Middle income emissions challenge

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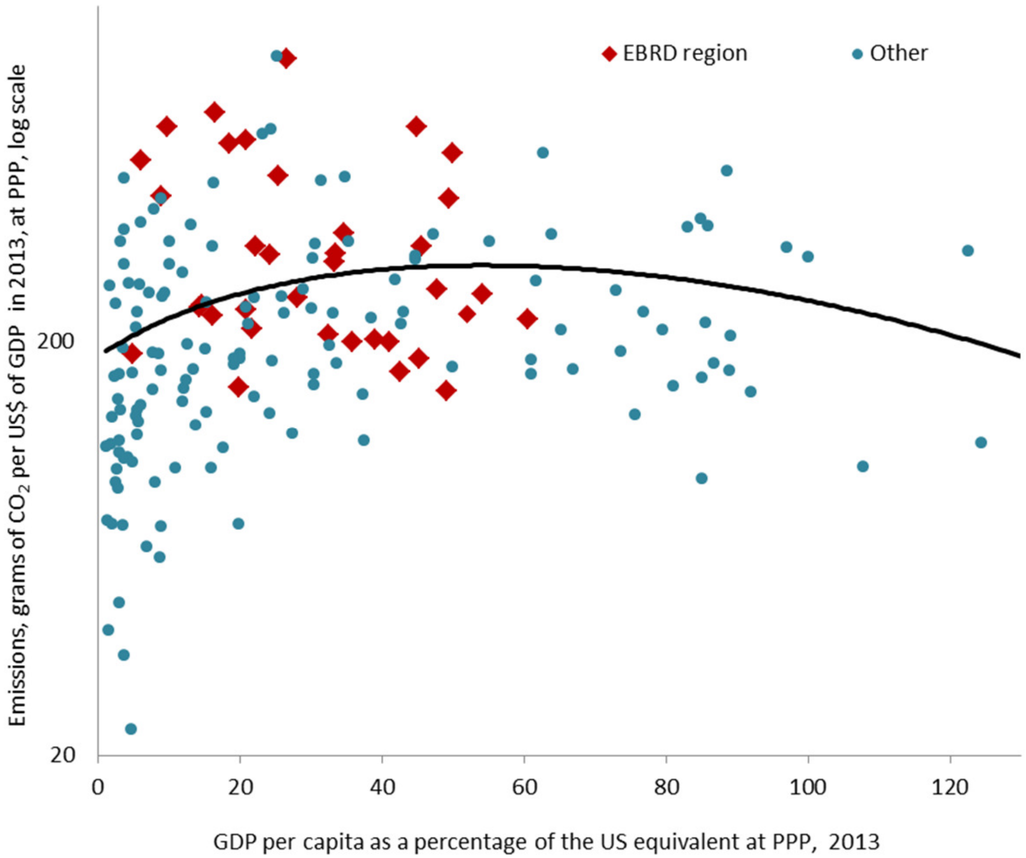
Middle-income countries tend to industrialise yet firms may not deploy the most advanced and climate-friendly technologies

GDP per capita and emissions per unit of GDP in 2013



Source: World Resources Institute, IMF and authors' calculation. The trend line is based on a polynomial fit.

Investment in almost all EBRD economies has been well below comparators' levels

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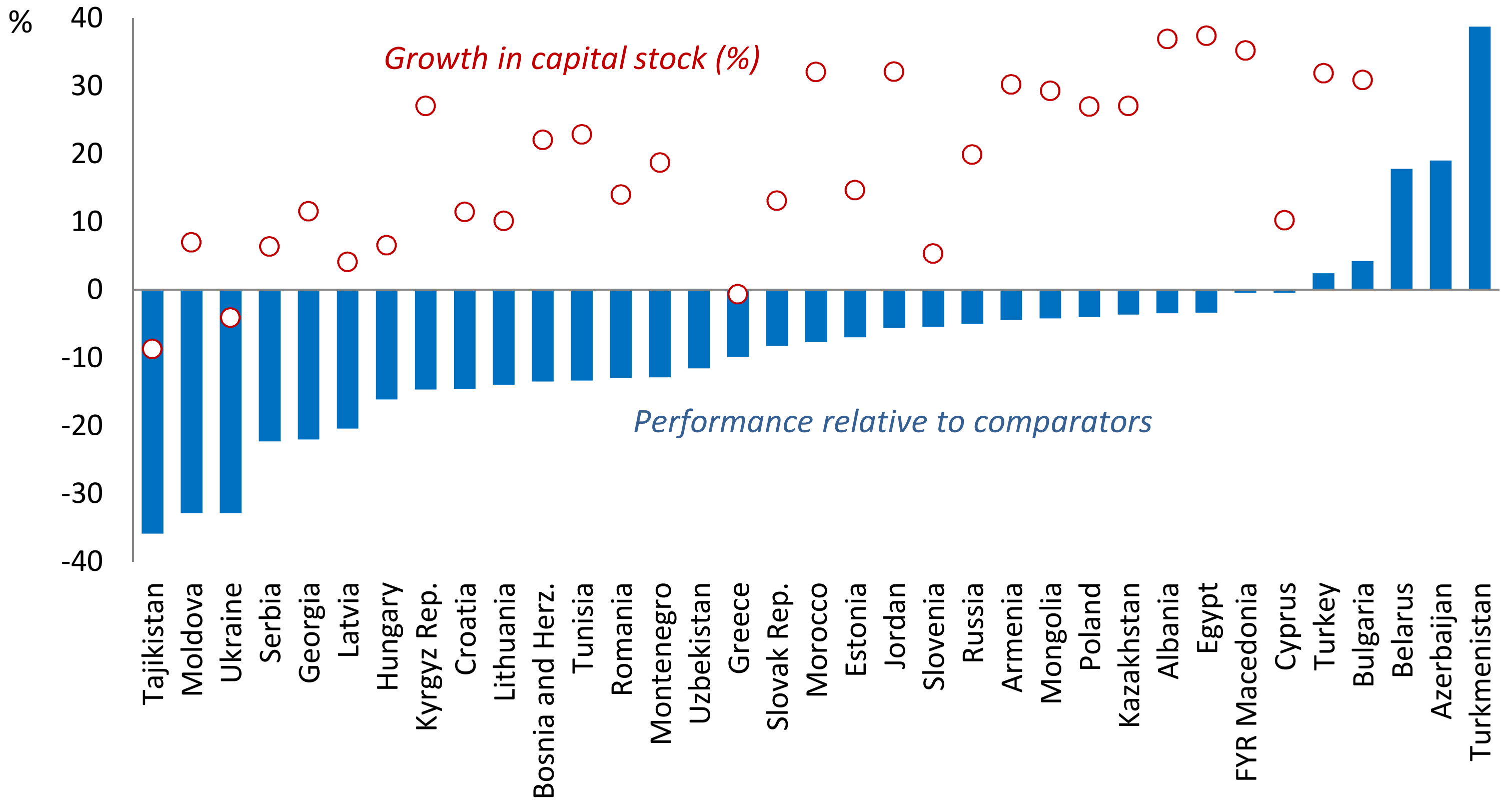
Total capital stock gap € 2.2 trillion (~18% of capital stock), of which ~ €500 bn due to 2008-14

~ 40% is due to infrastructure deficit; 60% due to equipment, buildings, intellectual property

Capital stock growth, 2008-14



Source: Penn World Tables, IMF and authors' calculations.

What drives underperformance

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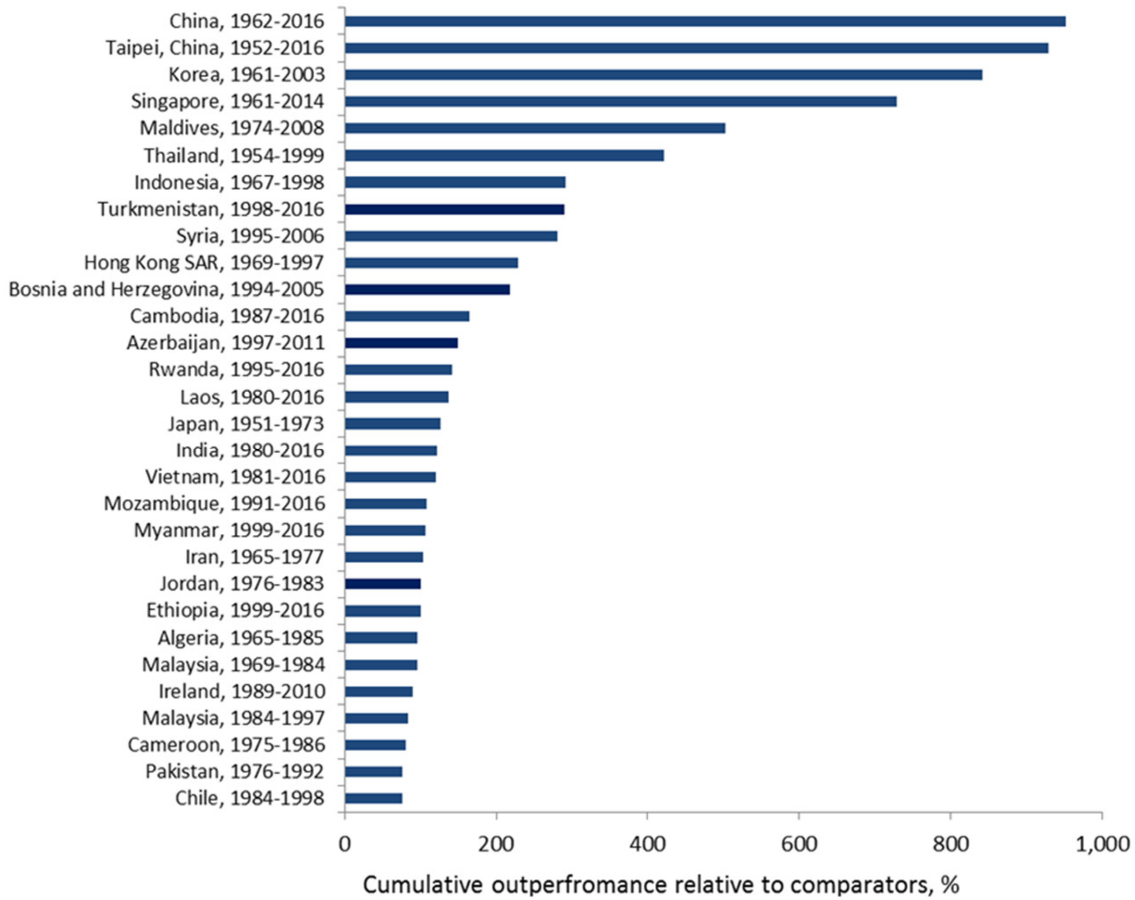
Are boom-bust growth patterns common?
Look at outperformance / underperformance episodes

Outperform synthetic controls for 8+ years, at least 90% of the time, with an average of at least 1% outperformance per year

Episodes of strong long-term growth performance



Source: IMF, World Bank, Penn World Tables and authors' calculations.

Sustaining outperformance and avoiding reversals is hard: only 17% of episodes last 2 decades or longer

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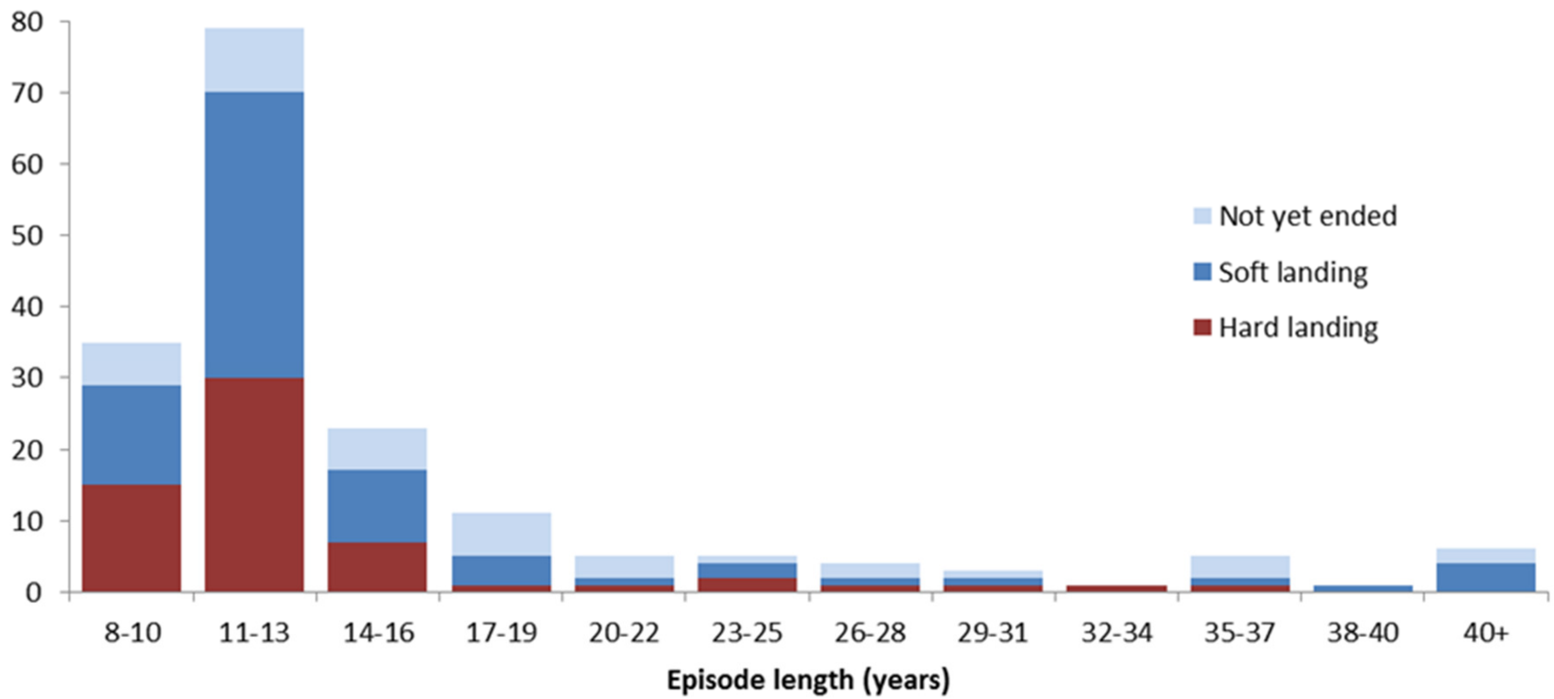
- 43% end in hard landings – 8+ years with cumulative underperformance of 8pp+
- Hence EBRD region's experience is not uncommon
- Countries naturally exhaust their advantages (such as cheap labour), need a new growth model

Number of growth outperformance episodes, by length and outcome



Source: IMF, World Bank, Penn World Tables and authors' calculations.

Korea: Sustained outperformance key to attaining high income: 42 years, first growing TFP, then capital

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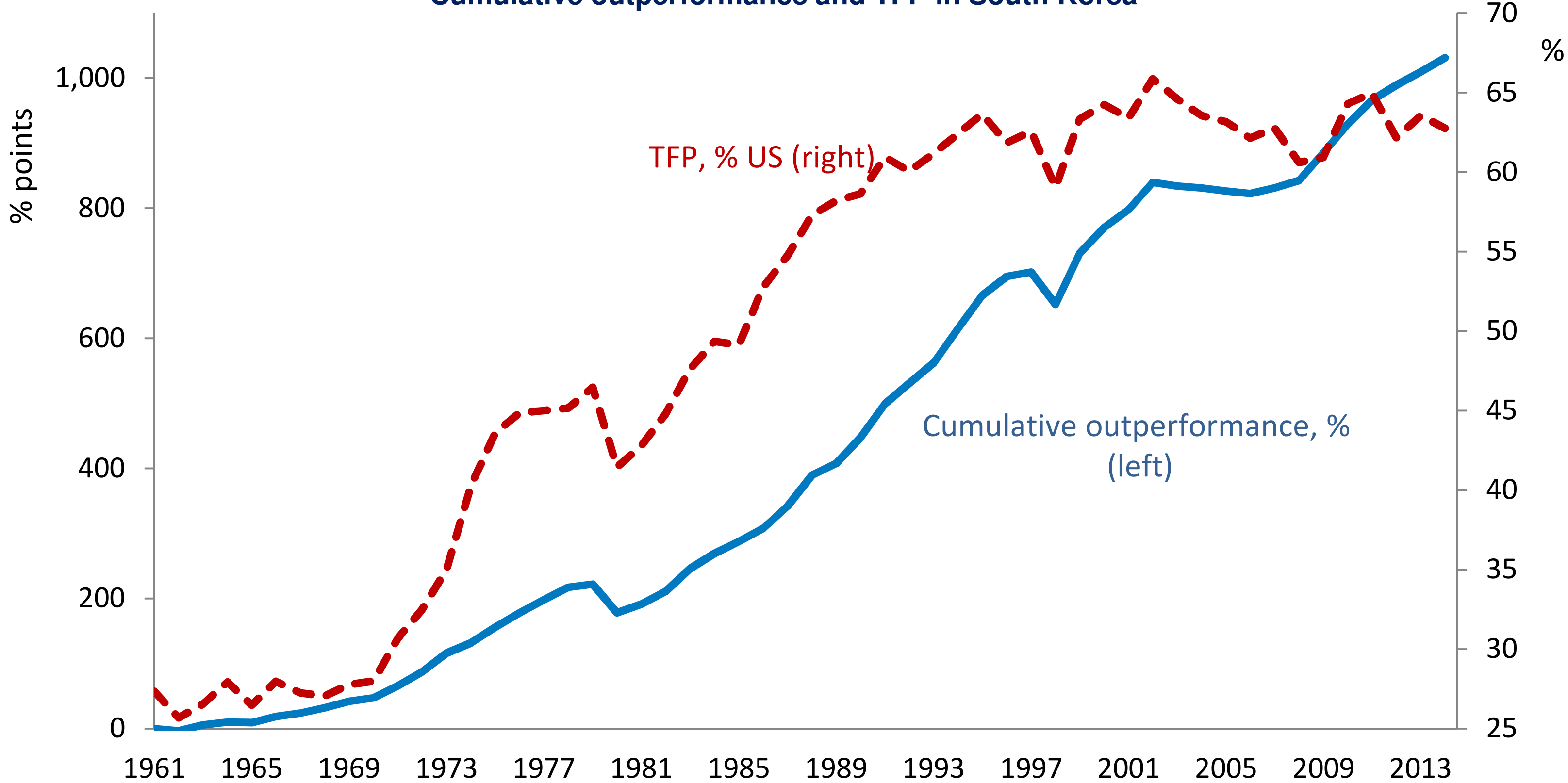
Balanced contributions from all factors: large human capital gains; high investment financed domestically

Focus on lower end of high-tech exports: gradual shift imitation → innovation, facilitated by human capital ↑

Hard hit by multiple crises of 1980 and 1998 but recovered swiftly; GDP per capita now 48% of US (66% at PPP)

Cumulative outperformance and TFP in South Korea



Source: IMF, World Bank, Penn World Tables and authors' calculations.

In a typical growth episode, capital formation exceeds that of peer economies by at least 2 percentage points

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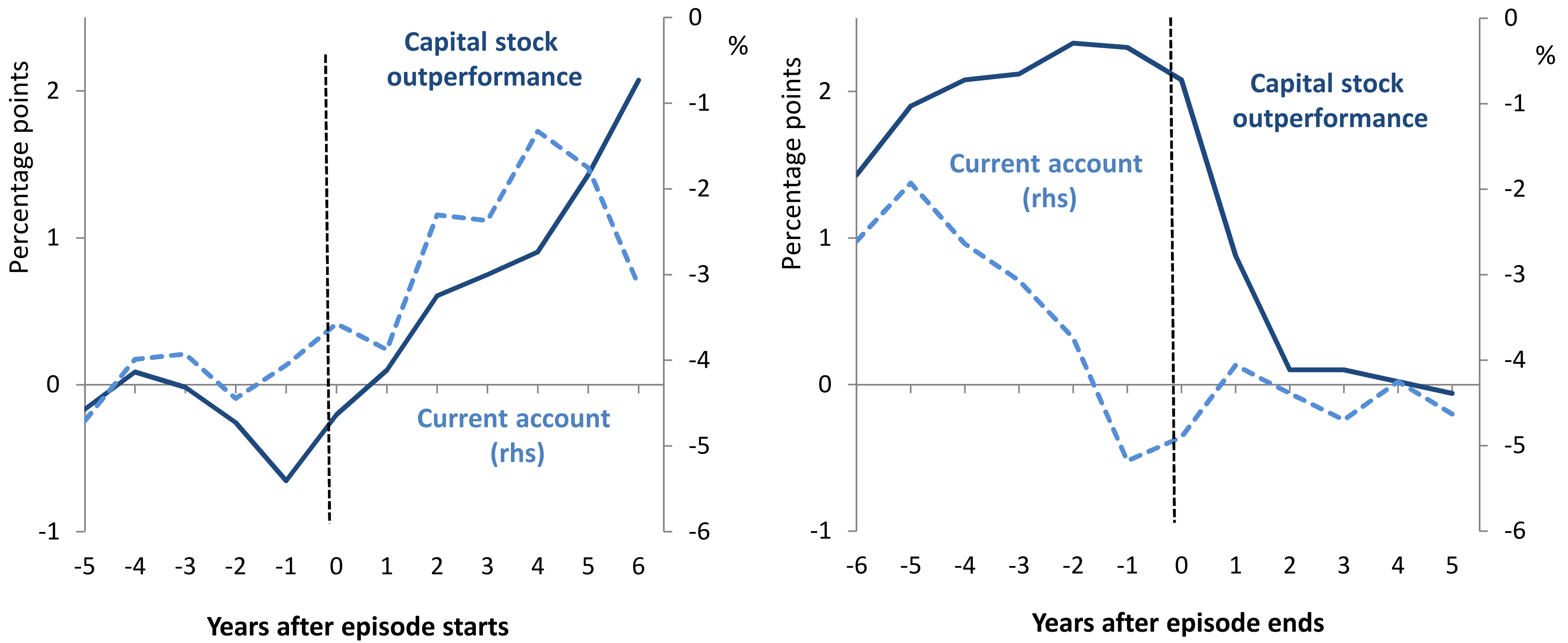
Investment typically responds to improved outlook – but could be boosted by infrastructure

EBRD region relied unusually heavily on foreign savings – hence hit particularly hard by 2008-09 crisis

Capital stock outperformance during GDP growth outperformance episodes, percentage points



Source: IMF, World Bank, Penn World Tables and authors' calculations.

Drivers of growth outperformance: high investment financed by domestic savings, quality of institutions

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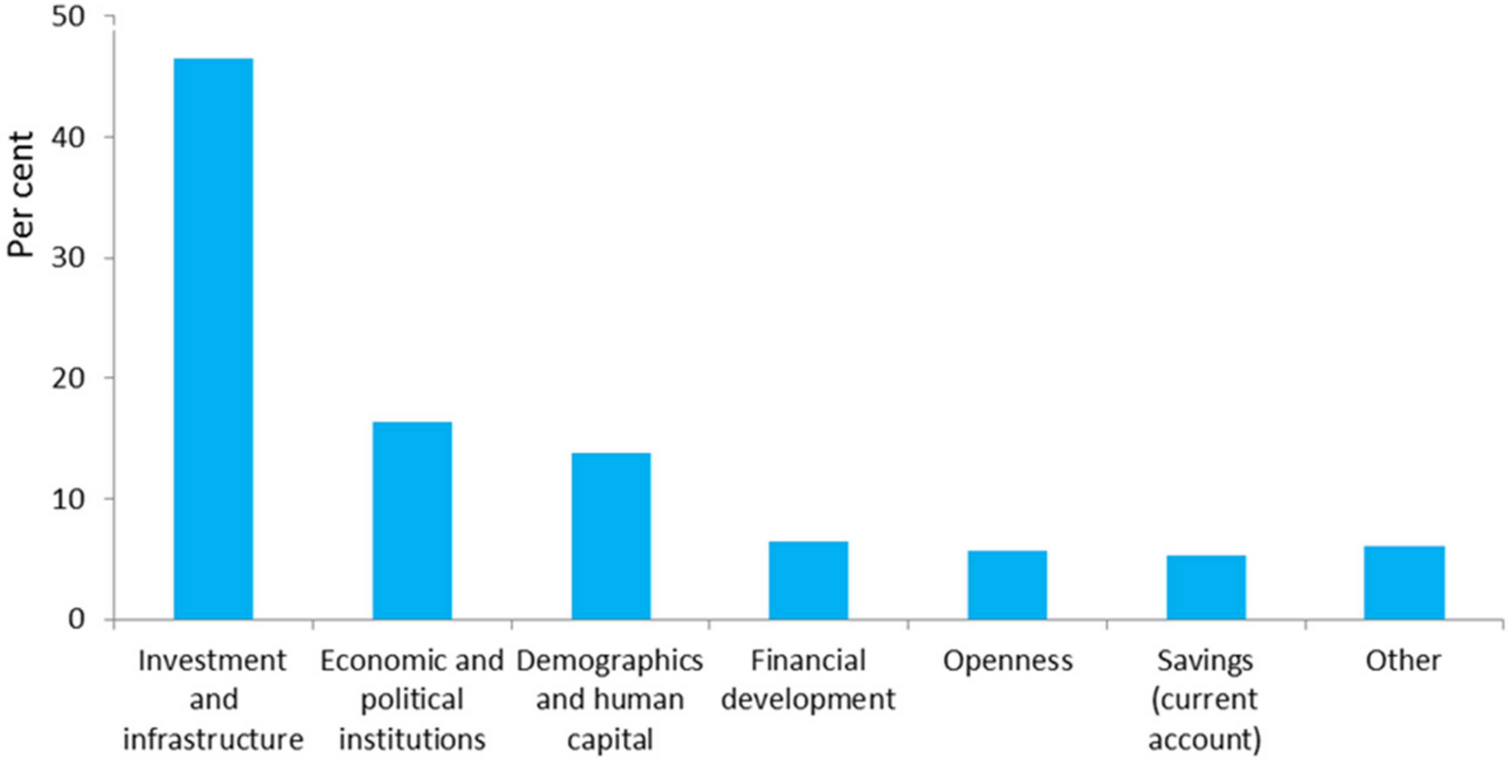
Finance matters, in particular equity and longer-term debt

Trade and financial openness reduce chances of underperformance episodes

Determinants of growth outperformances and underperformances since 1995: Shapley decomposition



Source: IMF, World Bank, Penn World Tables and authors' calculations.

In EBRD countries, positive correlation between democracy and quality of economic institutions

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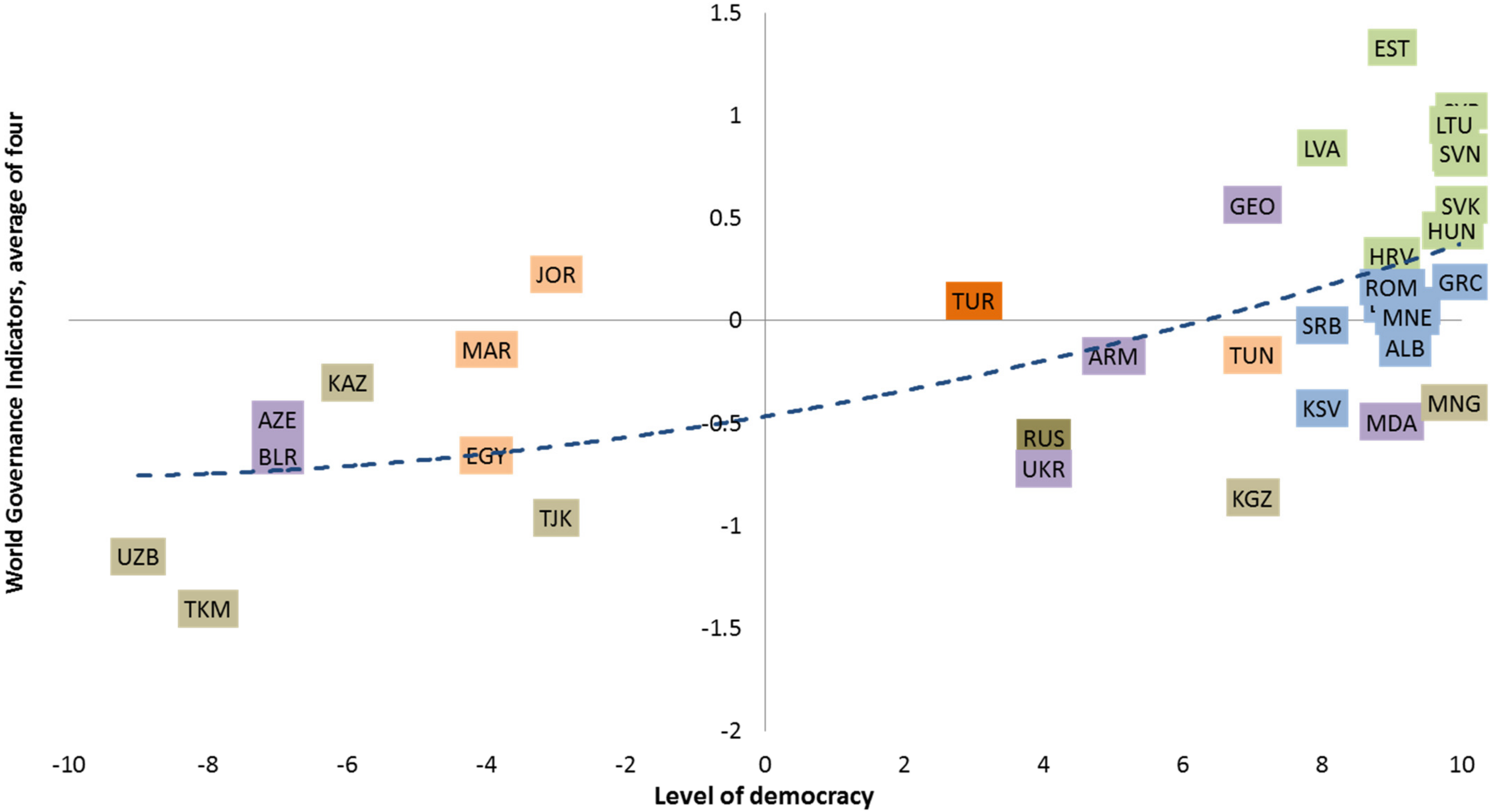

Sources: Policy IV, World Governance Indicators. Based on 2015 data.

Democratic and institutional change went hand in hand in successful countries

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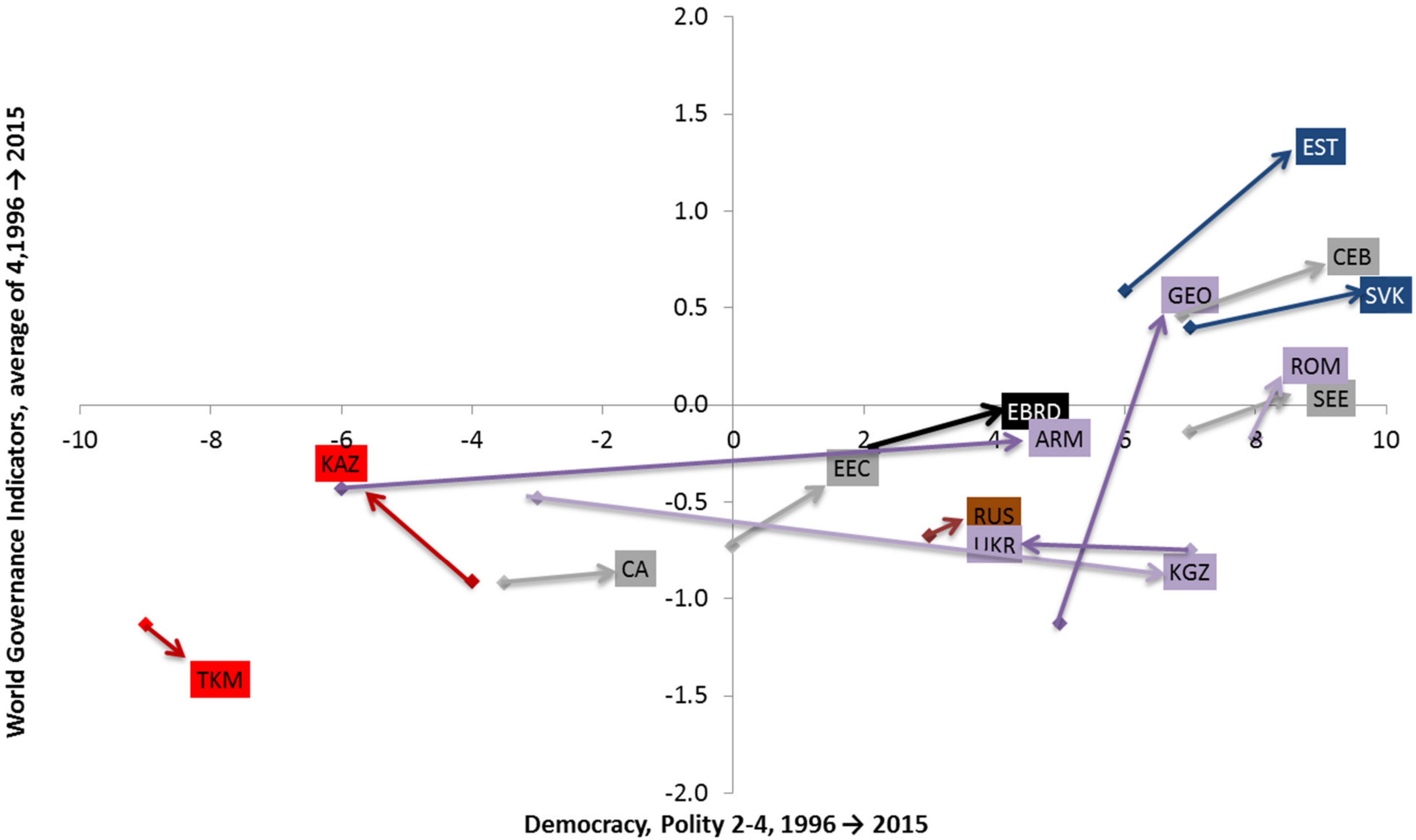
Economic reforms can strengthen competition, weaken special interests, build constituencies for democracy



Sources: Policy II&IV, World Governance Indicators, authors' calculations.

Panel analysis of the determinants of economic institutions: positive effect of democracy and of openness

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Dependent Variable:	Average of 4 World Governance Indicators	
	Panel OLS	***Panel OLS***
Polity2	0.00968***	0.00860**
	(0.00327)	*(0.00337)*
Transition country*Polity2	0,0124	0,015
	(0.00902)	*(0.00928)*
Natural Resources	-0.0931	-0.0806
	(0.0732)	*(0.0748)*
Trade Openness	-0,0161	-0.0414
	(0.0552)	*(0.0521)*
Financial Openness	0.0857*	0.0990**
	(0.0479)	*(0.0492)*
Income	0.141***	
	(0.029)	
Observations	658	710
Countries	177	177
R-squared		
- within	0,0821	0,036
- between	0,7207	0,312
- overall	0,6965	0,273

Source: Worldwide Governance Indicators, WTO, IMF, authors' calculations, based on the time period 1997-2014.

Crucial factor for institutional quality in EBRD countries is EU membership, income and democracy

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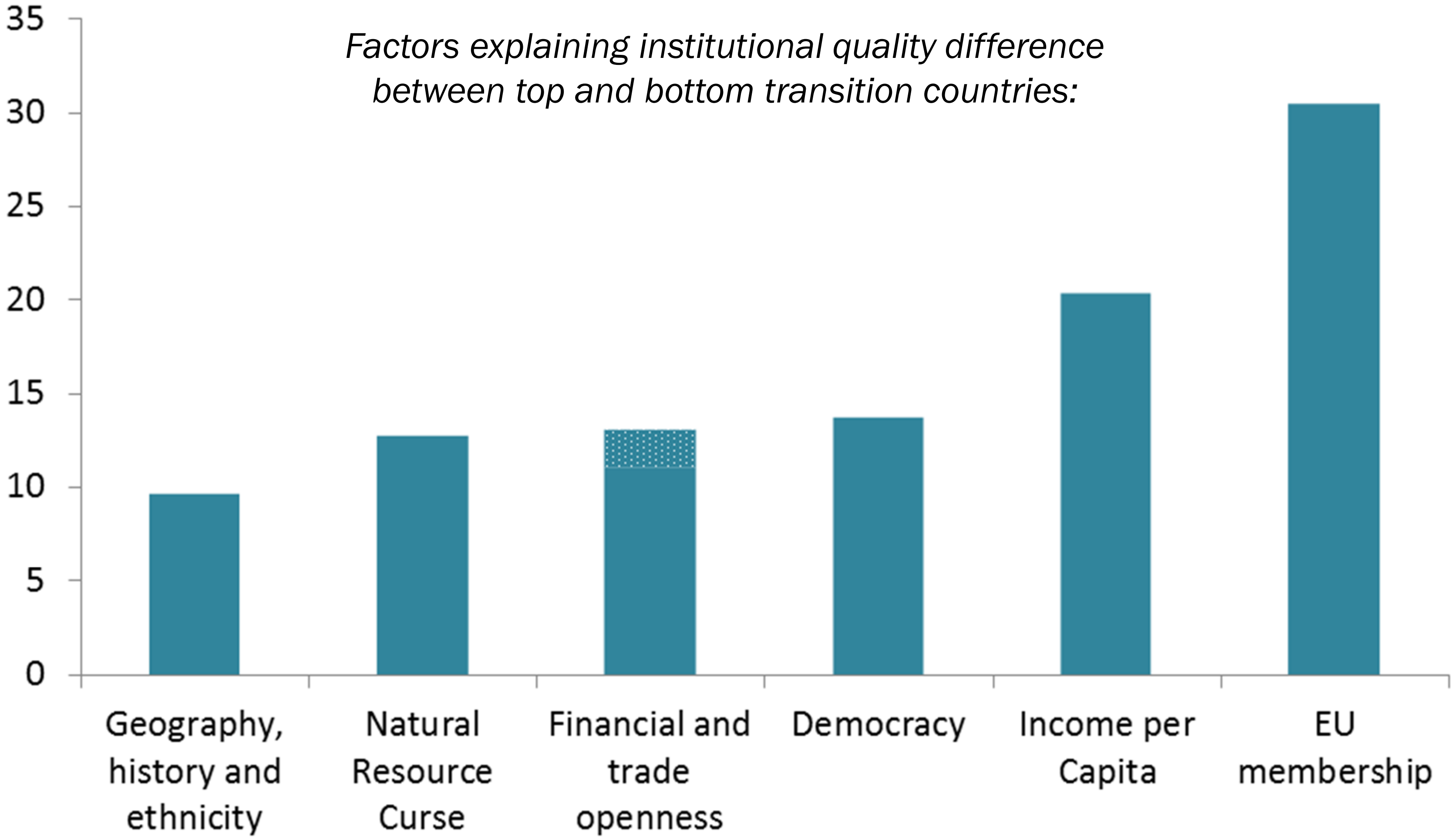

Source: Stuck in Transition?, authors' calculations, based on time period 1997-2014.

EU accession played an important role – but a weaker anchor post-accession

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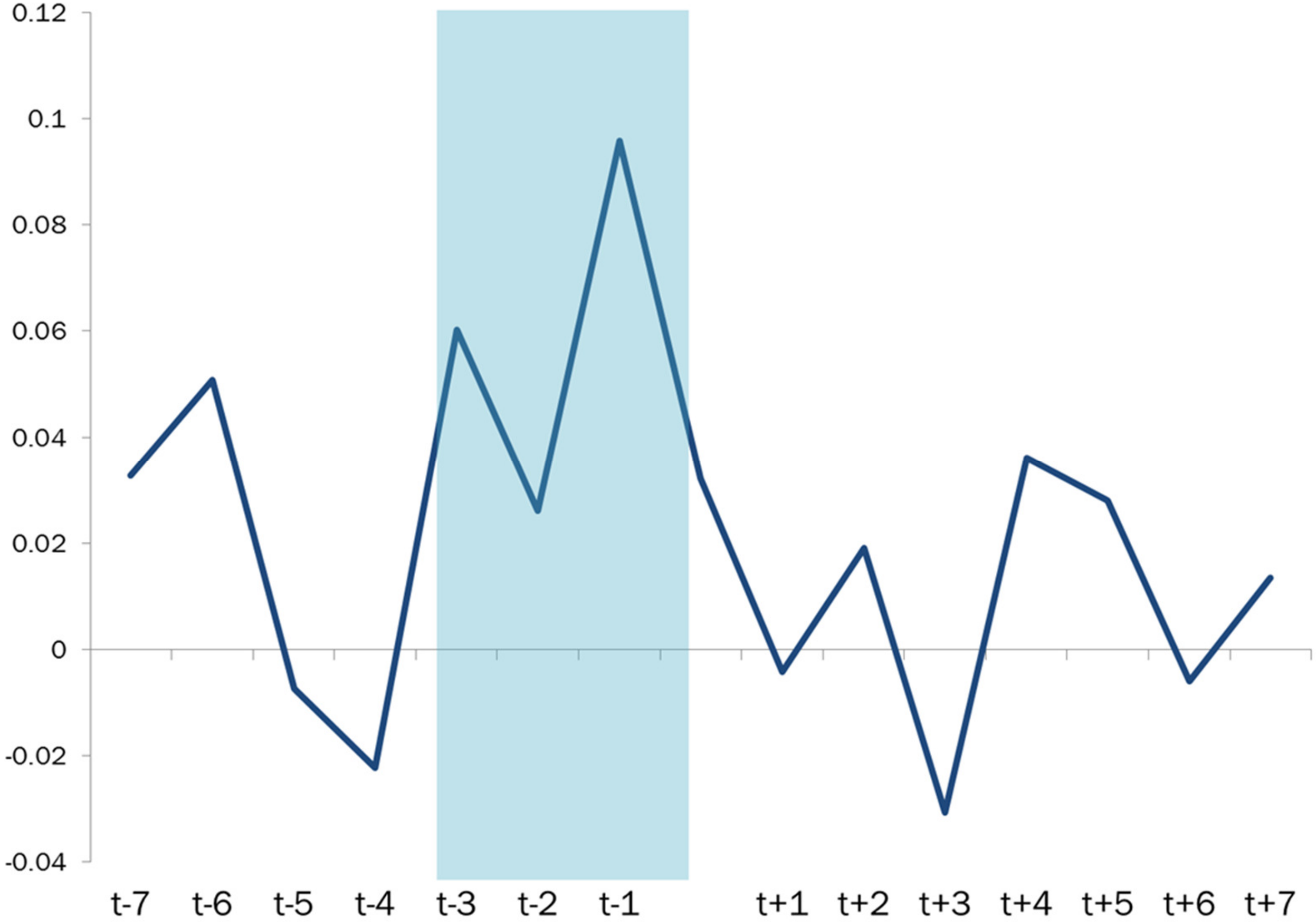
Average annual change in governance indicators in EU-10 relative to accession year



Source: World governance indicators, authors' calculations. On -2.5 to 2.5 scale; standard deviation is 1.

Support for reforms depends on perception of *fairness* of income distribution

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	Support for markets			Support for democracy		
	1	2	3 (LPM)	4	5	6 (LPM)
Direct channels						
Inequality of opportunity:	-4.508*	-4.169*	-1.093*	-1.899	-1.783	-0.314
income	(2.112)	(2.085)	(0.480)	(3.042)	(3.034)	(0.687)
Indirect channel						
Perception of relative		0.077***			0.033	
economic wellbeing		(0.022)			(0.022)	
Controls						
Income decile	0.042***	0.035**	0.010***	0.040***	0.037***	0.009***
	(0.011)	(0.011)	(0.003)	(0.011)	(0.011)	(0.002)
"Fair" income inequality	4.424**	4.516**	1.046**	5.218**	5.228**	1.061**
	(1.587)	(1.600)	(0.354)	(1.832)	(1.828)	(0.374)
Level of democracy (polity2)	0.058**	0.061**	0.014**	0.064**	0.064**	0.014**
	(0.020)	(0.019)	(0.004)	(0.022)	(0.022)	(0.005)
Additional individual, region and country controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,258	12,185	12,258	12,514	12,433	12,514

Sources: LiTS III, IMF, authors' calculations. Also controlling for unemployment, GDP growth, inequality of opportunity with respect to jobs and education, other characteristics.

Raising productivity of firms

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Innovation in the EBRD region lagged behind per capita income: "innovation-light" growth

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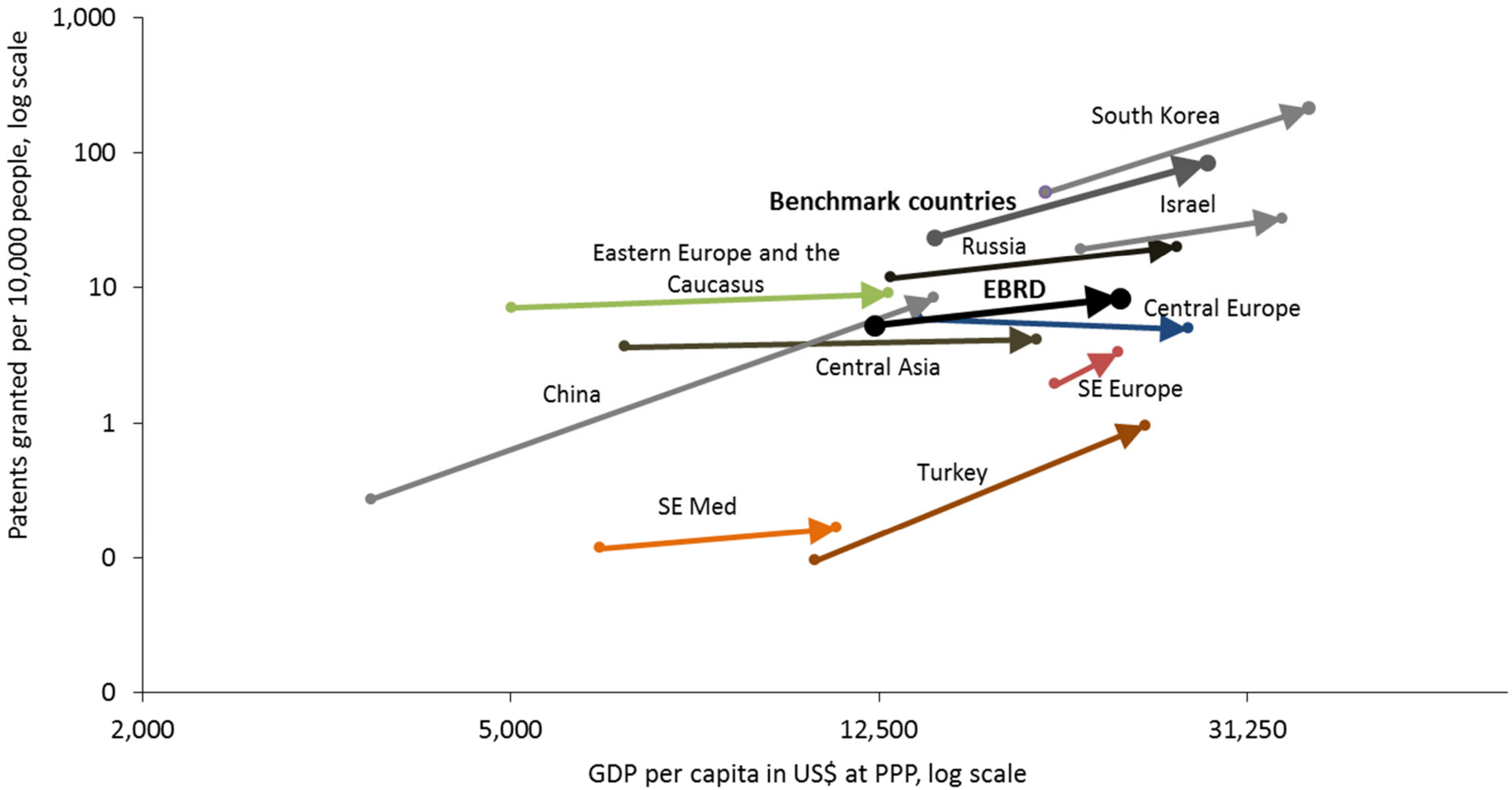
<1% of firms introduce a product that is new to the world

Change in patents granted and per capita income, 2002-15



Source: World Bank, World Intellectual Property Organization (WIPO) and authors' calculations

Small firms are abundant in the region (96% of total), accounting for 42% of employment

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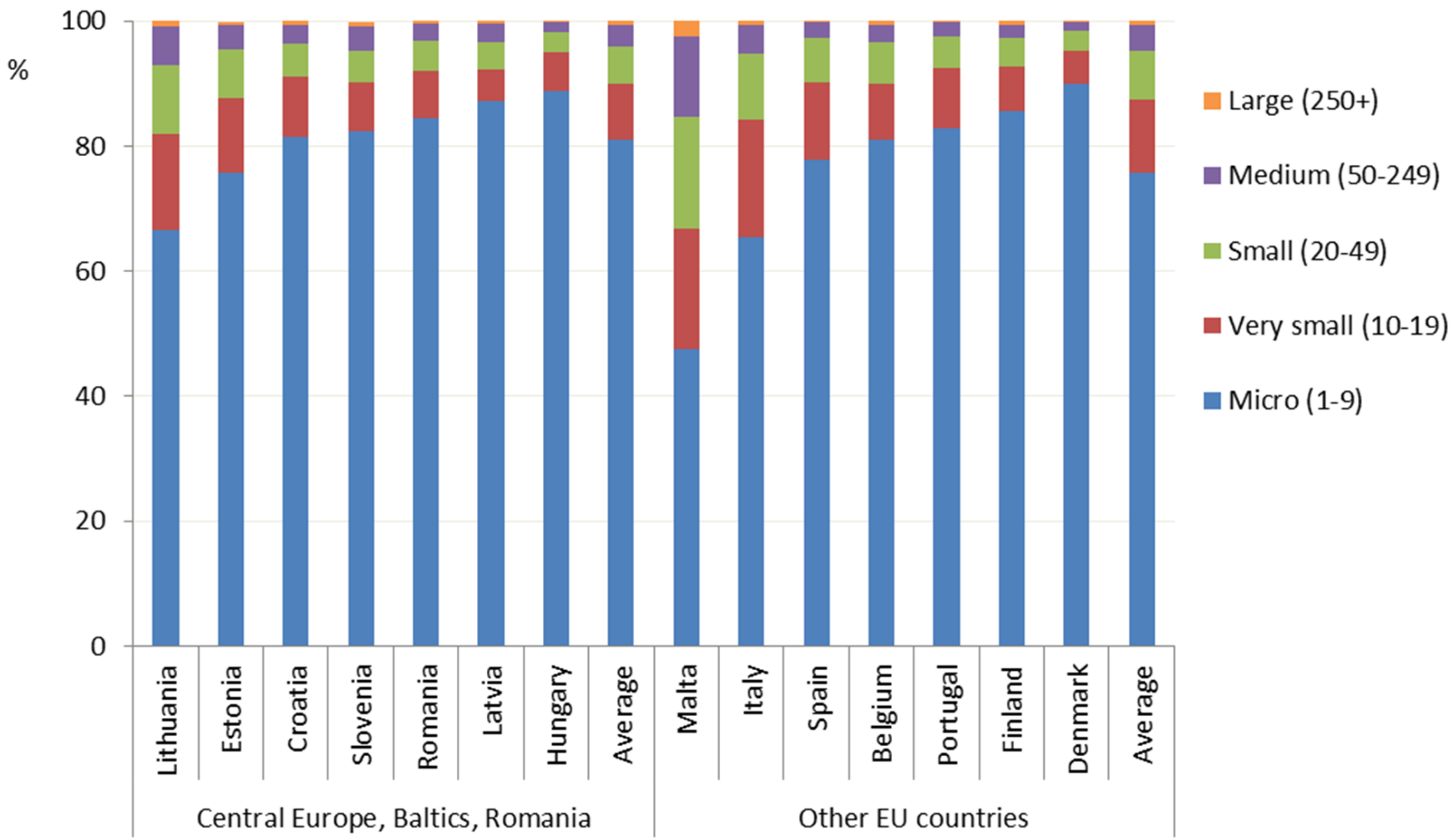
Composition of firms by employment size



Source: CompNet and authors' calculations, based on 2013 data

Smaller firms are relatively inefficient, more so in Central Europe than in EU-15

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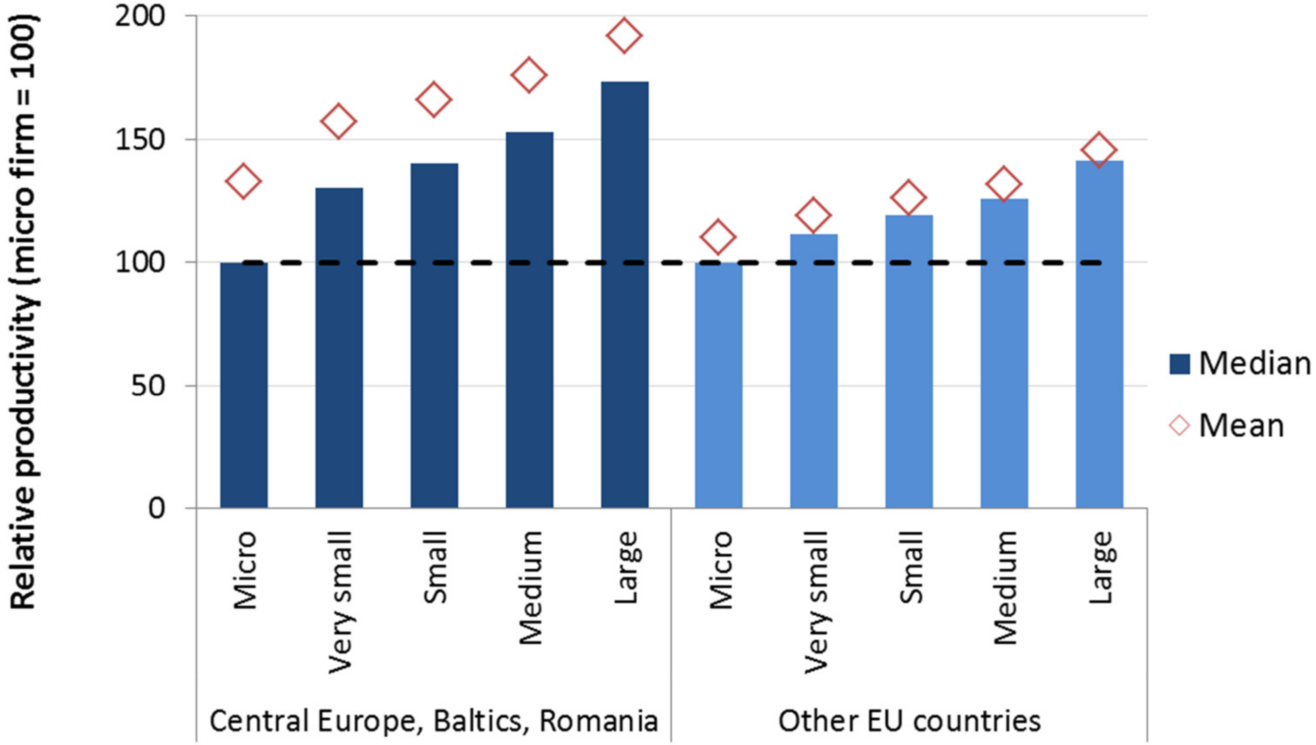
Median large firm in Central Europe and Romania is 70% more productive than median micro firm – versus 40% difference in EU-15

Productivity levels by firm size (micro = 100)



Source: CompNet and authors' calculations

Small firms in the region fail to grow

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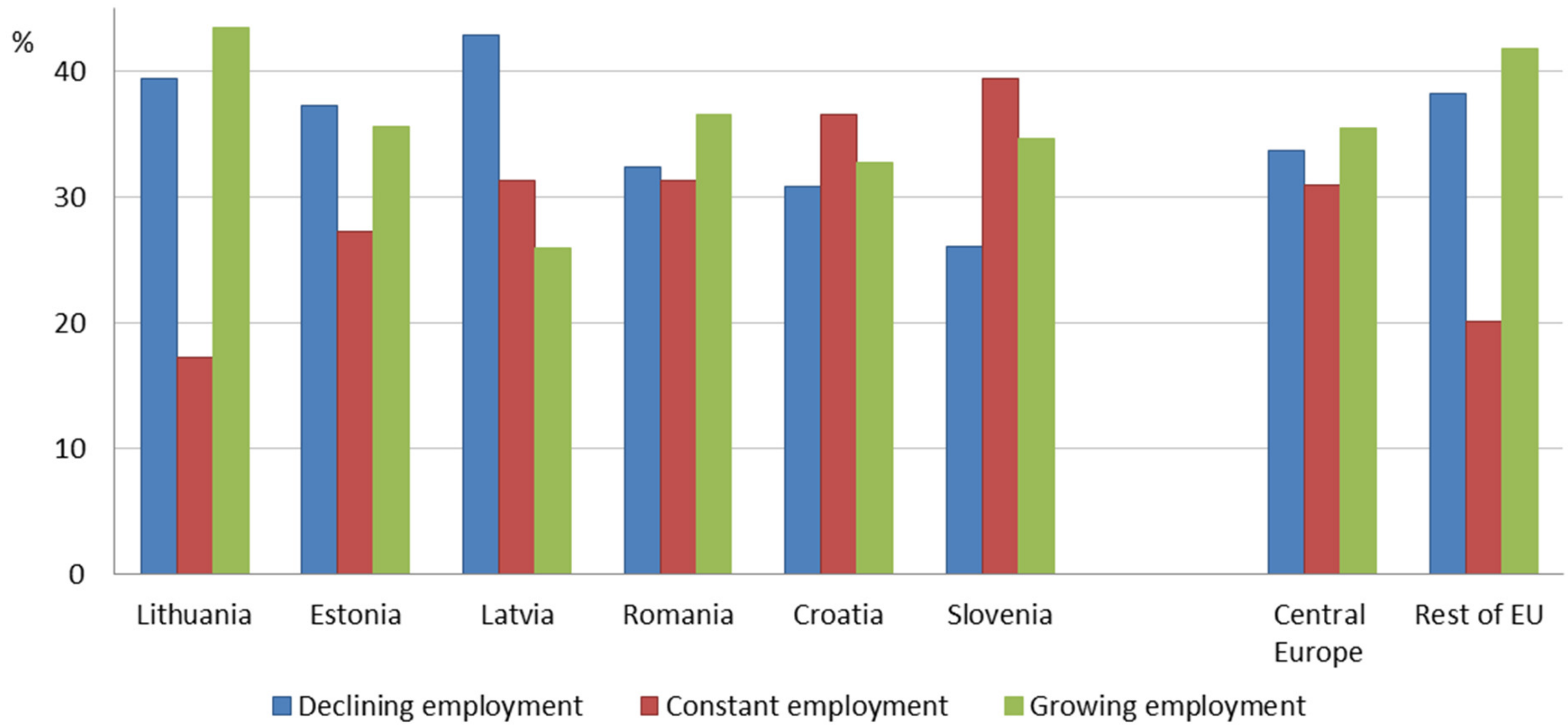
In EU-15 only 20% of firms remain in the same size bracket over 10 years, 40%+ of firms grow

In Central Europe, firms have roughly equal chance to grow, remain the same or shrink

% of firms by change in employment, 2002-13



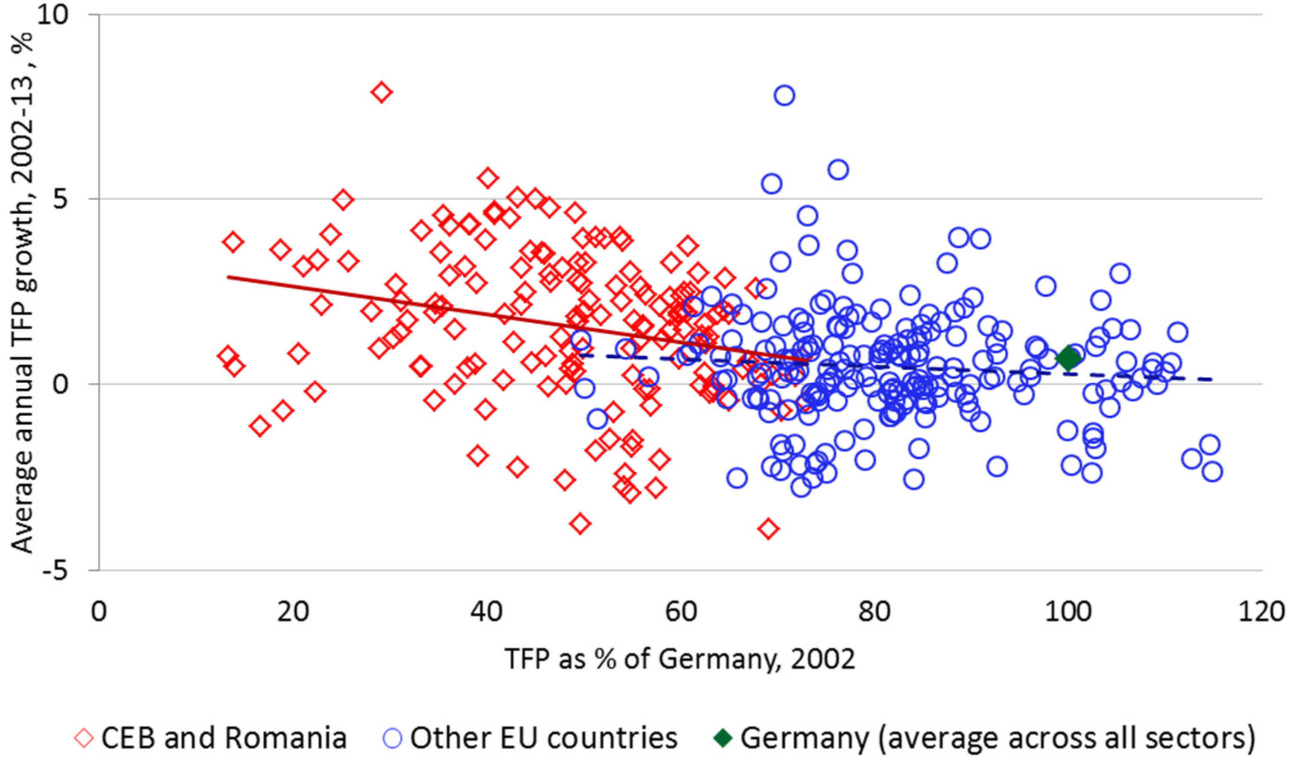
Source: CompNet and authors' calculations

Productivity growth is faster in industries further away from the technological frontier

In industries with TFP < 60% of Germany's productivity growth is fast

On average, little or no convergence between the most productive industries in central Europe and their counterparts in Germany

Average annual TFP growth, 2002-13, depending on initial TFP



Source: WIOD.

With greater trade openness, productivity convergence can be sustained for longer

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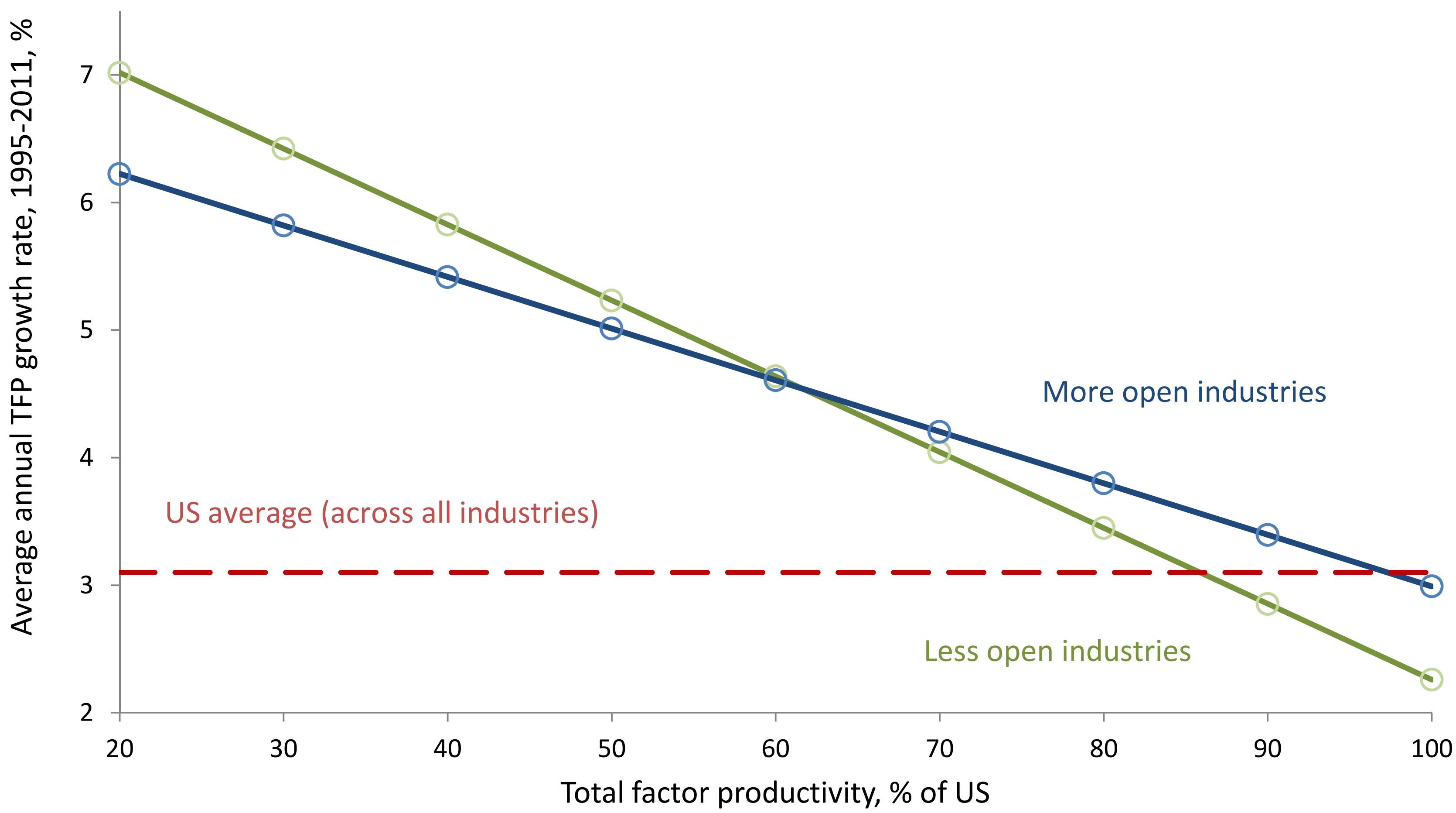
Average annual TFP growth, 1995-2011, depending on initial TFP



Source: WIOD. "Less open" ~ exports + imports < 10% output (bottom declie), "more open" > 110% (top decile)

Integration in global value chains (GVCs) key to maintaining productivity growth

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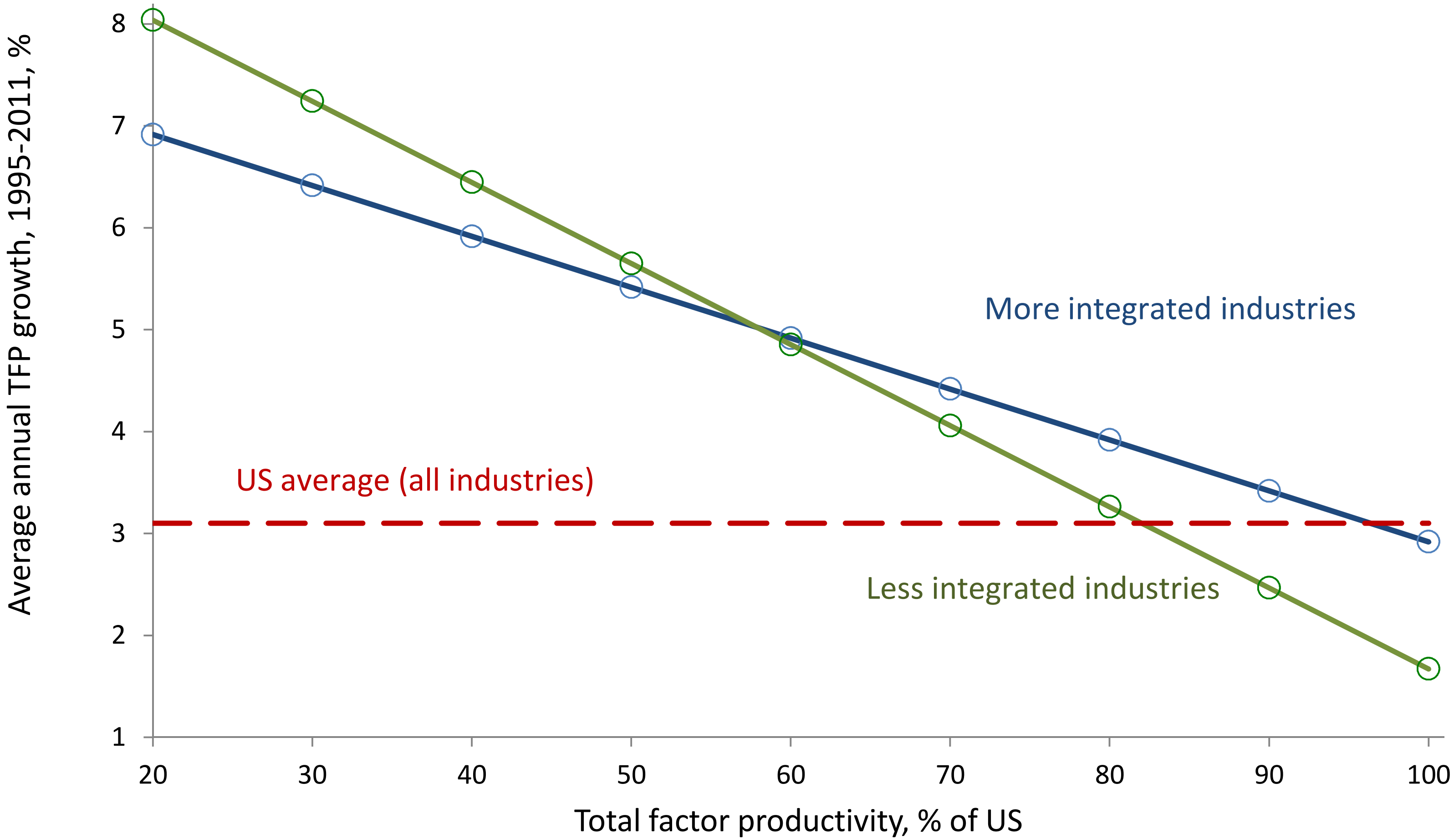
Average annual TFP growth, 1995-2011, depending on initial TFP



Source: WIOD. Less integrated source <40% of inputs abroad; more integrated > 80%

More productive industries create more jobs, reallocation of labour boosts growth

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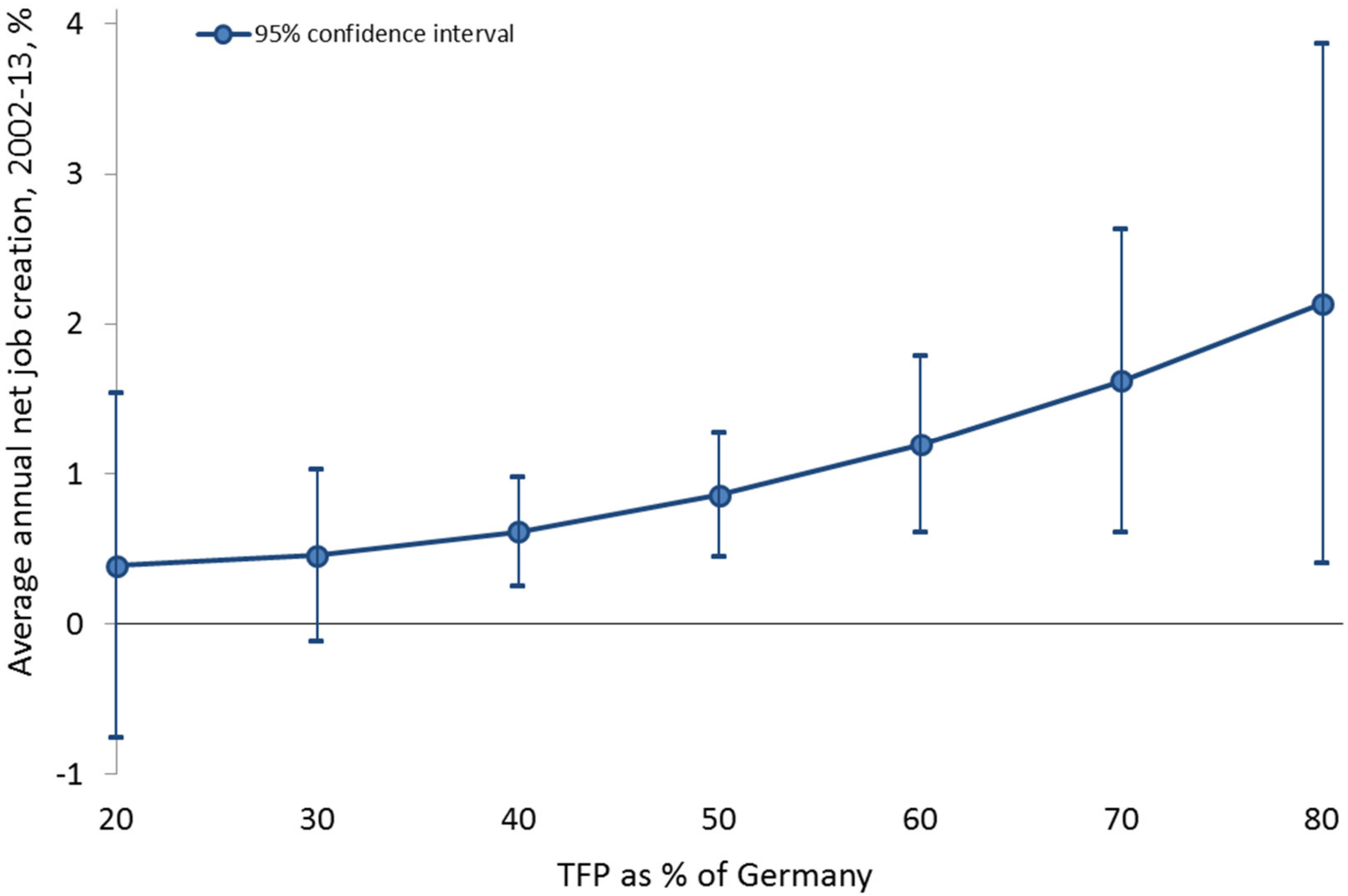
Average annual job creation, 2002-2013, depending on initial TFP



Source: CompNet. 95% confidence interval reported. Regressions control for country, industry and year fixed effects.

Concluding remarks:
Region in search of new growth drivers

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- Growth in the Central and Eastern Europe has lagged comparators' since 2009
  - Hit particularly hard by the crisis, region is in need of a new growth model
  - Typical problem for middle-income economies
- As TFP catch-up has been exhausted, growth has been led by capital formation
  - But investment has been weak and capital stock is now 18% below comparators, much of it due to infrastructure
  - Institutions also matter
- Small firms in the region are less likely to grow and become more efficient
- In EBRD regions, reallocation between industries is key for job creation
- Productivity growth within industries slows down as income grows –
  - But less so for industries integrated in global economy and especially in global value chains

More in the forthcoming *Transition Report 2017-18*, to be launched 22 Nov 2017

Backup slides

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Demographic tailwinds become headwinds as income rise

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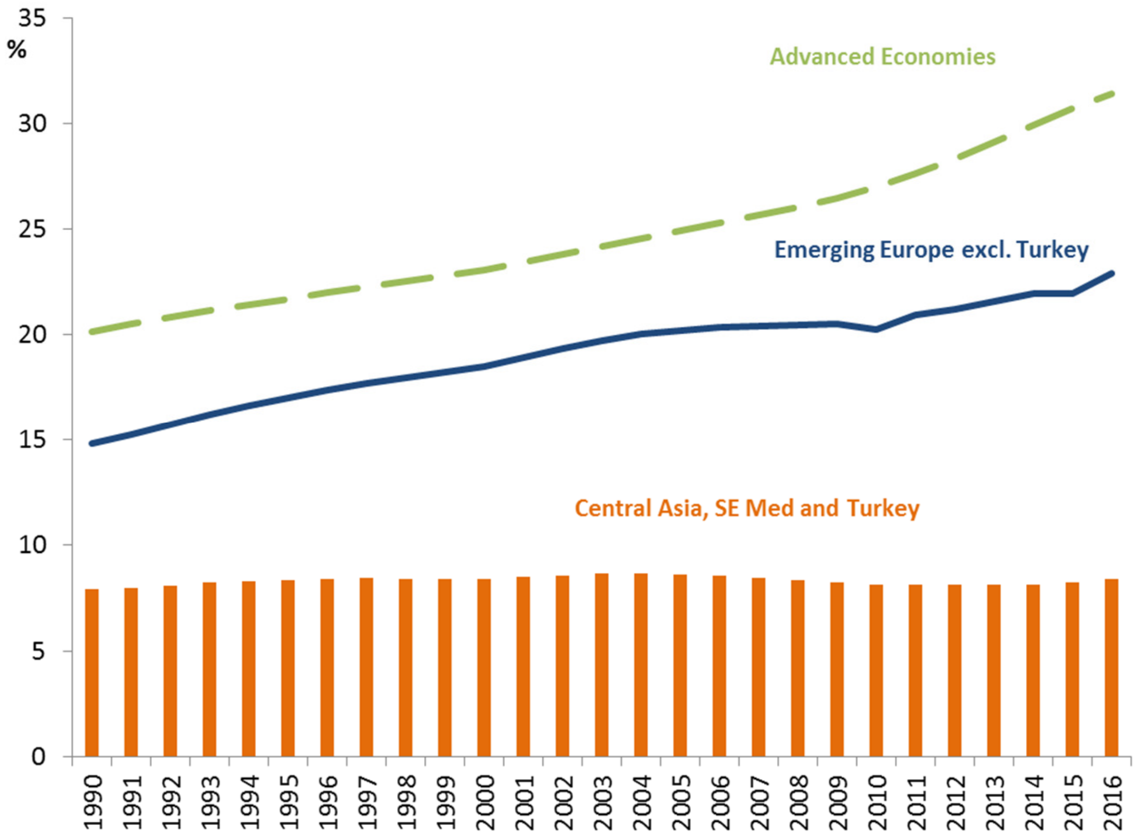
First fertility ↓; spending on human capital of each individual ↑ → productivity growth ↑

Then aging, falling labour force, rising pension obligations and taxes

Emerging Europe: Rising old-dependency ratio



Source: IMF, World Bank, Penn World Tables and authors' calculations. Unweighted averages