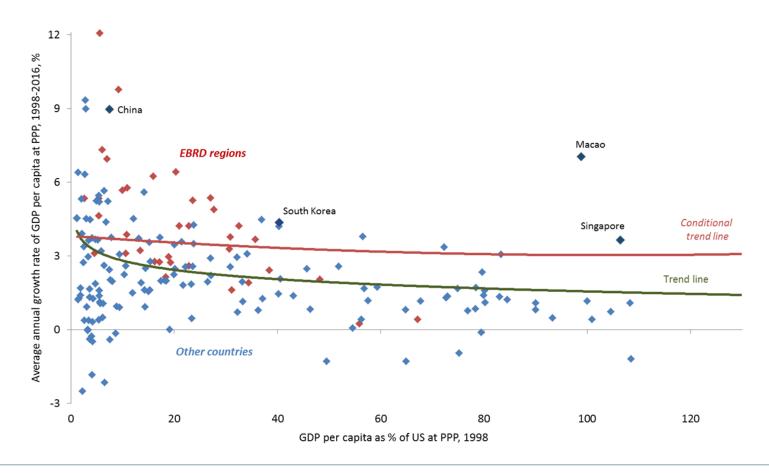


# Middle-income trap: rethinking development model rather than overcoming a particular level of income

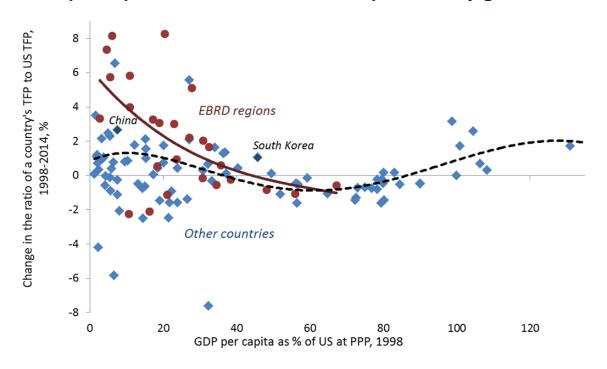
Initial per capita income and average annual GDP per capita growth, 1998-2016



### But TFP growth slows down at middle incomes as economies switch to innovation-led development

- Total factor productivity (TFP) is efficiency with which factors of production are combined
- But also a residual, meaning middle-income economies invest more in both old and new capabilities

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



### Middle-income trap is a useful concept describing evolution of emerging markets' growth model

### Low → middle incomes

- Industrial development, mostly in low-value-added sectors
- adoption of existing technologies; investment in basic education and physical capital

### Middle → high incomes

- Creating high-value-added industries and services
- Higher education, research and development, innovation

Hence growth of middle-income countries = transition to a different set of political and economic institutions that provide incentives to develop new products and services

May be hard to accomplish, hence "the middle-income trap"

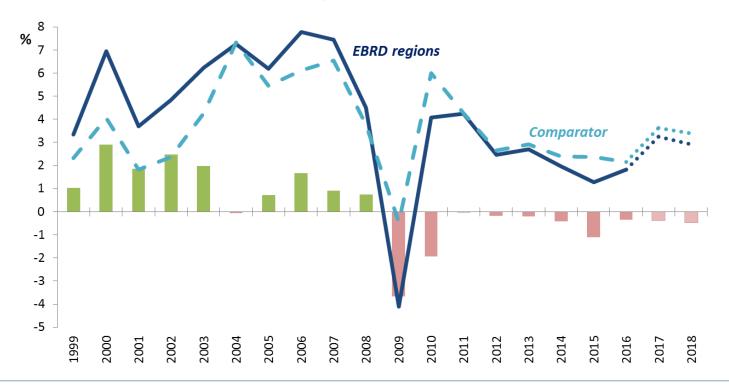
 For example, because it contradicts the interests of incumbents that benefit from status quo of the "old" model

# **Shades of middle-income trap: EBRD regions consistently outperformed 1998-2008, underperformed since 2009**

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

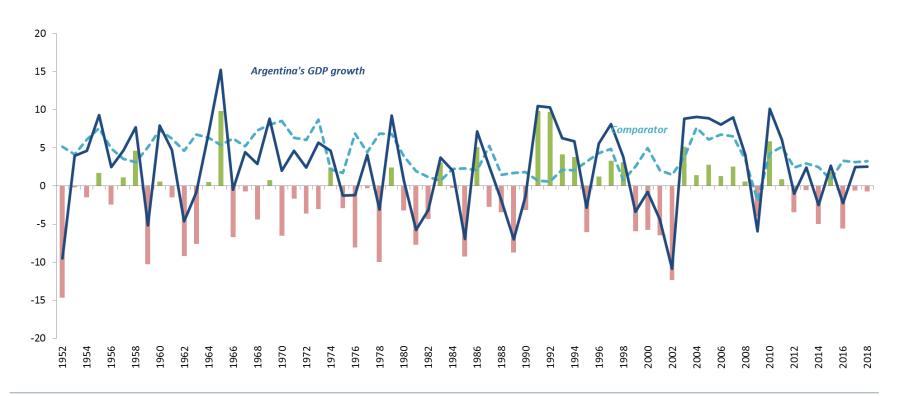
For each country, construct synthetic comparator (15+ countries with max weight 15%) in each year (income per capita, population)





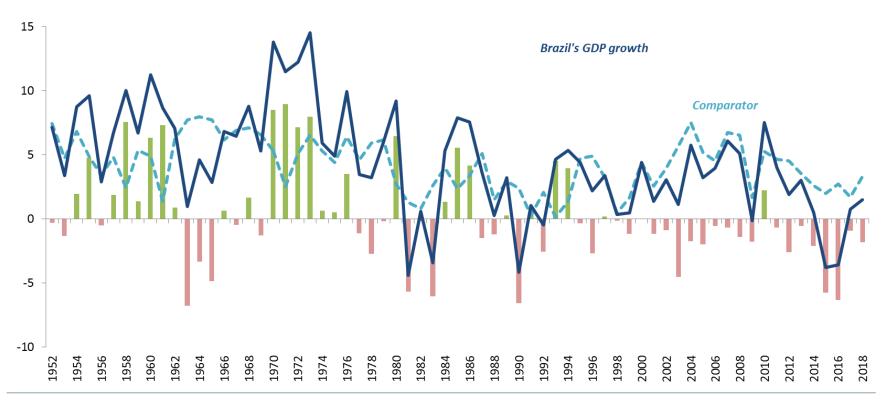
# Argentina's profile is somewhat similar to that of EBRD regions

**Argentina: Growth, %** 



# While Brazil's economy has been underperforming its synthetic comparators for 20+ years

**Brazil: Growth, %** 

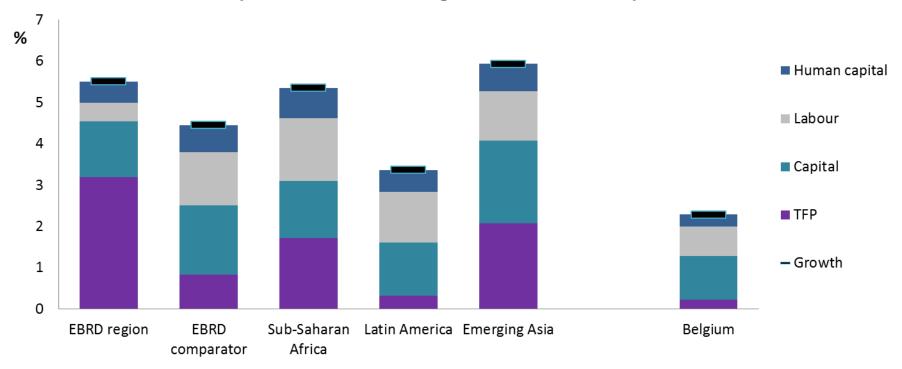


## In transition economies, growth in 1998-2008 driven by total factor productivity

High levels of education, urbanisation and industrial development but factors of production had been combined inefficiently under central planning

Market reforms helped to improve efficiency of factor use, boost productivity and close TFP gap

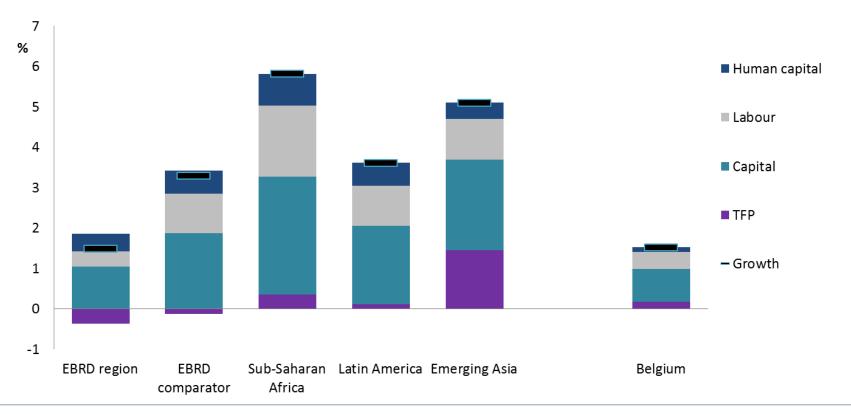
#### Decomposition of sources of growth, 1998-2008, % per annum



# With inefficiencies eliminated, countries faced typical middle-income challenges, growth slowed since 2009

TFP slowdown also in (small) part reflects lower capacity utilisation (limited data) Growth now driven by capital accumulation (as in most EMs)

### Decomposition of sources of growth, 2008-14, % per annum

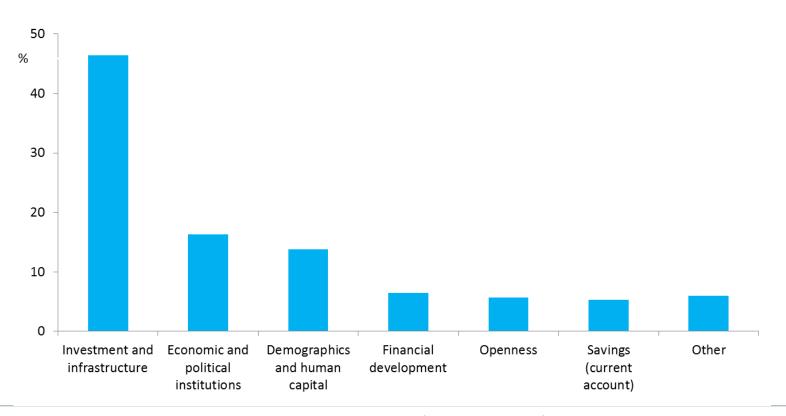


# Growth outperformance: high investment financed by domestic savings, quality institutions, equity markets

Finance matters, in particular equity and longer-term debt

Trade and financial openness reduce chances of underperformance episodes

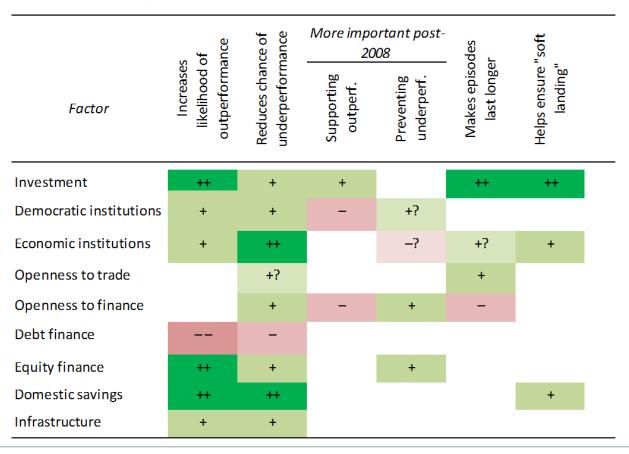
### Determinants of growth out / under performances since 1995: Shapley decomposition



# Factors behind "growth miracles" change with technology but investment remains the key ingredient

Underpinned by good governance, skills and infrastructure

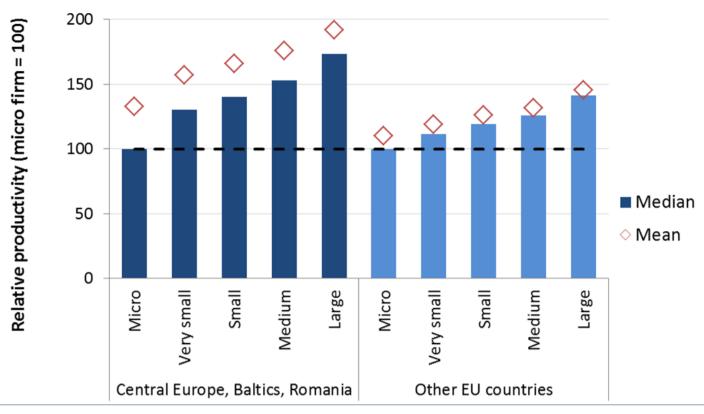
#### Correlates of growth outperformance episodes, a summary view



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

"National champions" may deliver fast improvements in productivity as countries develop – but they seldom excel in innovation on the global scale

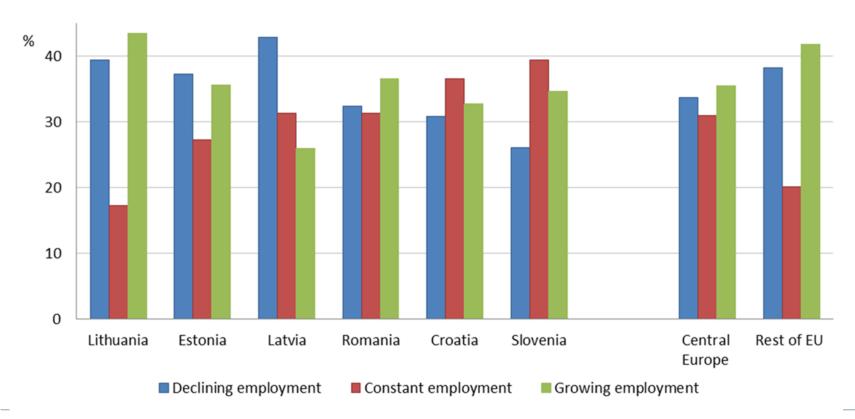
#### **Productivity levels by firm size (micro = 100)**



# Problem: smaller firms fail to grow, often due to incentives distorted by regulation or rent-seeking

In Central Europe, firms have roughly equal chance to grow or shrink; often unrelated to performance

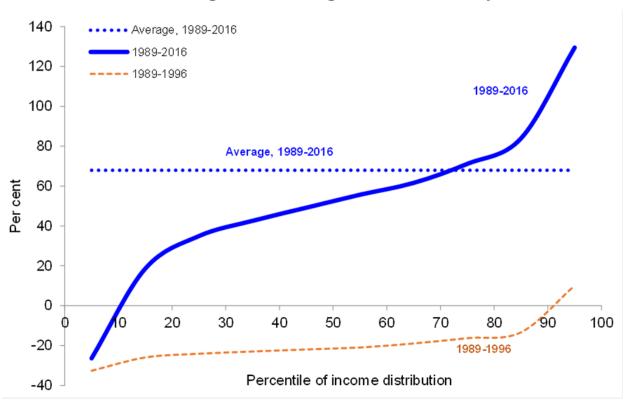
### % of firms by change in employment, 2002-13



# Middle-income transition used to be possible without social safety nets – but this will change

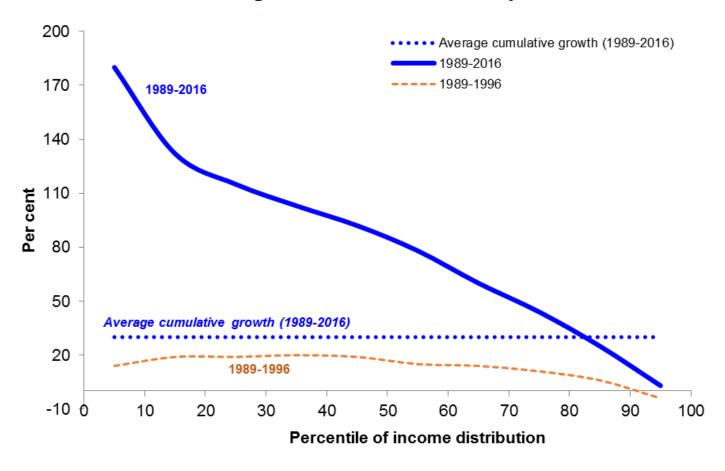
In the past, convergence successes by and large tended to lift all boats Transition experience shows it need not always be the case

#### Cumulative income growth in Bulgaria since 1989 by income decile



# In Latin America, more favourable dynamics but very high initial levels of inequality

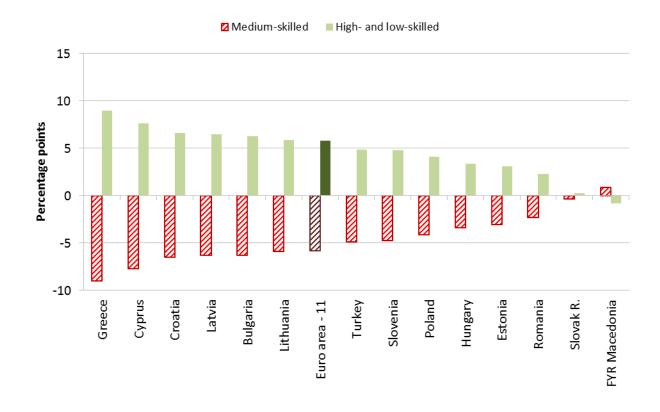
#### Cumulative income growth in Brazil since 1989 by income decile



# Technology may hollow out the middle-income jobs in emerging markets

And at the same time reverse offshoring of jobs from advanced economies

#### Change in the share of employment by skill level, 2006-16, percentage points

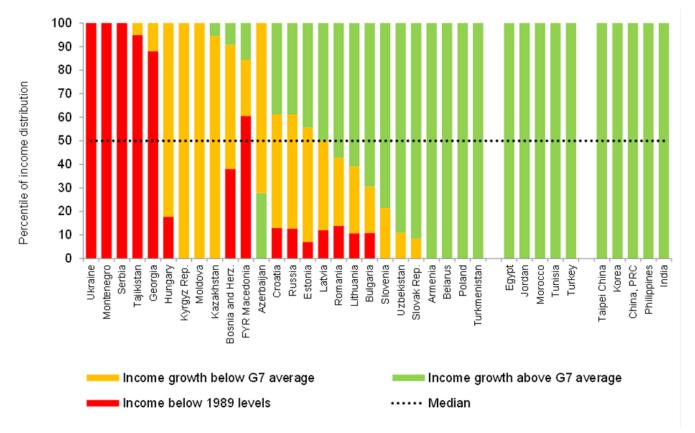


Sources: OECD, Eurostat and authors' calculations. Jobs are classified under the ISCO-08 major groups. High-skilled occupations comprise managers, professionals (groups 1-3). Medium-skilled occupations comprise clerks, craft and related trades workers, and plant and machine operators and assemblers (groups 4, 7 and 8). Low-skilled occupations comprise service and sales workers (group 5) and elementary occupations (group 9). Agriculture and armed forces are excluded (groups 0 and 6). Euro area average is based on 19 countries.

# Giving rise to populism / short-termism, jeopardising institutions underpinning long-term growth

With lower growth further feeding populism

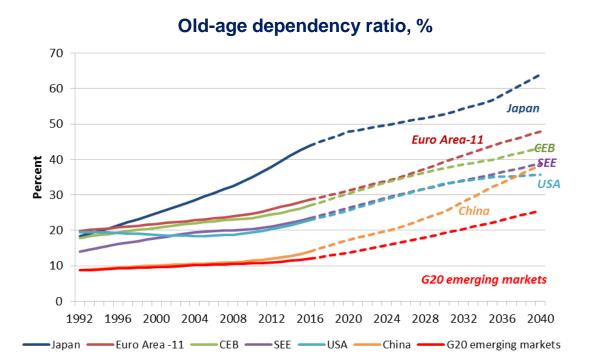
Percentiles of the population with income growth above/below the G7 average, 1989-2016



### Many emerging markets may grow old before they grow rich – strengthening incentives for automation

Policymakers will need to respond: full portability of pensions; greater labour force participation among older workers; some degree of universal basic income; reskilling mid-career

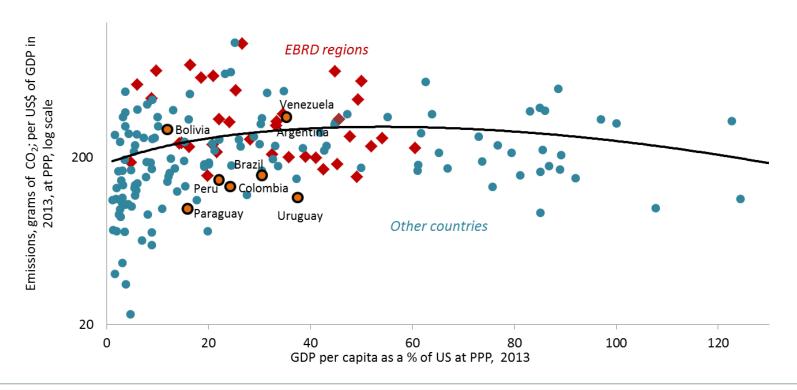
New technologies can help create fiscal space: transparency of (cashless) payments; strengthened tax administration and exchange of information



### Another aspect of middle-income trap: Least green production ("the environmental Kuznets curve")

Middle-income countries have higher level of pollution per unit of GDP than poorer peers (that have not yet built polluting industries) and advanced economies (that moved on to develop post-industrial, greener sectors)

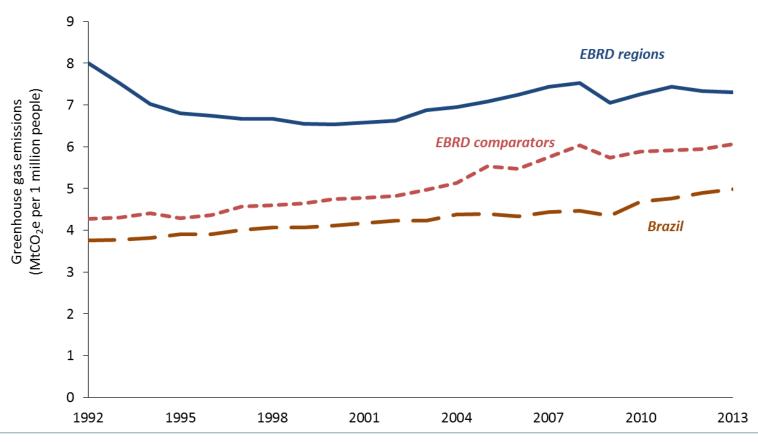
### GDP per capita and emissions per unit of GDP in 2013



# **Especially salient issue in transition countries** that inherited a very polluting industrial base

Despite major improvements, economies remain ~ 25% more polluting than comparators

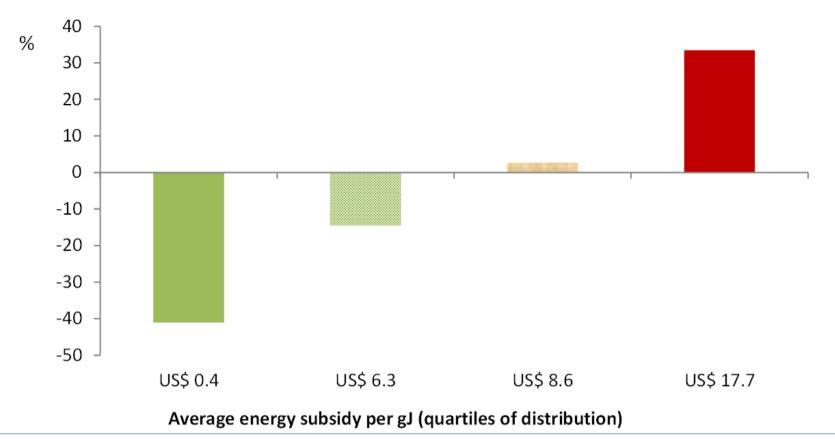
### Greenhouse gas emissions per US dollar of GDP



# Good management improves environmental performance only if incentives are right

When energy subsidies are high, better-managed-firms are more energy intensive

### Change in energy use in response to better management practices



# Concluding remarks: Middle-income transitions are challenging, require rethinking the development model

- Investing simultaneously in old and new capabilities
- A number of successful examples such as Korea's.
- Technology changes parts of "old recipes"
  - Knowledge-intensive services can be tradeable while manufacturing employs fewer workers
  - Social safety nets and the green economy become more important
- But other factors remain the same, gain in importance: investment is a key determinants of success, itself a function of governance, skills