

NBP

Narodowy Bank Polski

Anna Kosior, Economic Analysis Department

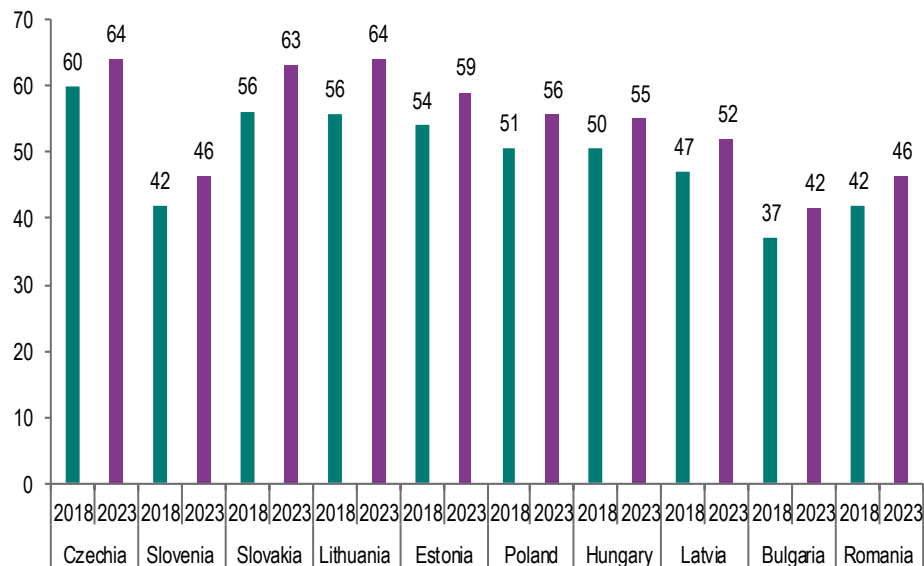
Will Central and Eastern Europe run out of steam?



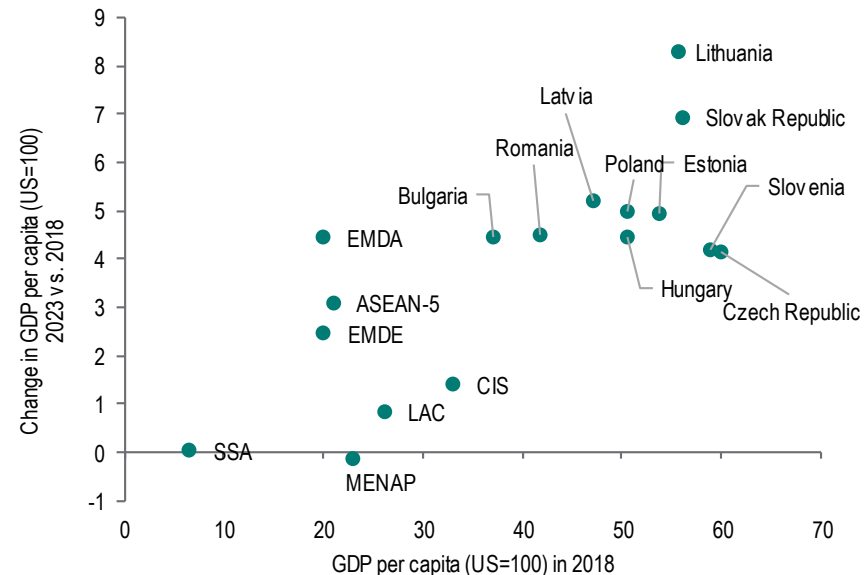
„Opinie wyrażone w niniejszej publikacji są opiniami autorów i nie przedstawiają stanowiska organów Narodowego Banku Polskiego”.

Under the baseline scenario CEE economies are projected to continue closing the gap in GDP per capita

GDP per capita (US=100)



Convergence is not universal



Source: World Economic Outlook Database, October 2018.

Can we bet on a more vigorous growth or should we fear getting stuck in a low gear?

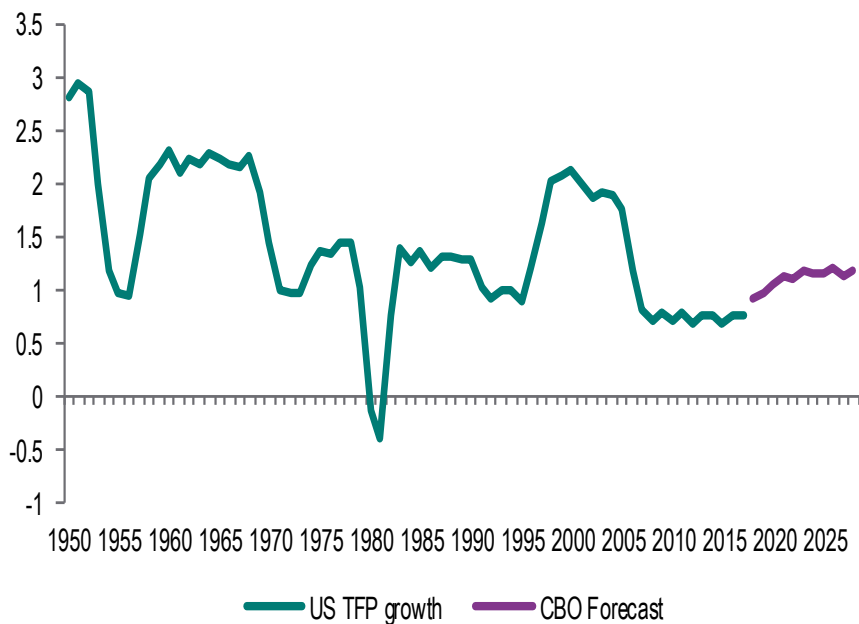
	TFP slowdowns	TFP accelerations
GDP per capita (log)	9.51*** [2.63]	-20.74*** [5.24]
Share of services in value added (%)	0.10 [0.11]	-0.10 [0.14]
Human capital index	-8.80* [5.16]	20.55*** [6.83]
Old age dependancy ratio	-0.23 [0.25]	-0.80*** [0.03]
Young age dependancy ratio	-0.11 [0.16]	0.03 [0.18]
Financial openness (Chinn-Ito)	0.05 [0.89]	3.47*** [1.19]
Financial openness (Chinn-Ito), squared	0.72** [0.35]	-1.62*** [0.52]
Freedom to trade	-23.52* [12.32]	-4.82 [0.27]
Freedom to trade, squared	1.45* [0.77]	0.27 [0.22]
Polity4	0.11 [0.38]	0.41 [0.35]
Rule of law	0.01 [0.67]	-1.11 [1.22]
Regulation	1.11 [0.73]	1.96* [1.05]
FDI (% of GDP, 5-year average)	-0.01 [0.10]	0.01 [0.07]
Investment rate (% of GDP)	-2.40 [10.03]	2.01 [12.80]
Change in investment rate (t vs. t-5)	24.81*** [9.03]	-18.07* [-9.45]
GDP volatility (standard deviation of growth in t-5 to t-1)	0.82*** [0.29]	-0.30 [0.29]
Banking crisis	0.66 [1.00]	1.35 [1.53]
Change in average US TFP growth	0.58 [0.40]	2.44*** [0.69]
Oil prices (USD per barrel)	0.01 [0.02]	0.10*** [0.03]
LIBOR (% per annum)	-0.09 [0.12]	-0.44** [0.21]
N-obs	313	227

Source: Own calculations; PWT 9.0, World Development Indicators, FRED, Fraser Institute, World Economic Outlook database.

Identification of TFP slowdowns/accelerations in line with Eichengreen, Park, Shin (2017), ie. successive 5 year periods are considered and episodes where the growth rate of TFP was at least 1.0 per cent lower/higher on average in the second period than the first are identified. Chow test is used to single out the slowdown/acceleration episode if the applied filter yields consecutive points as a set of slowdowns/accelerations. The dependent variable is a dummy that takes the value of 1 for the three years centered on the year when an identified slowdown/acceleration begins. Reported results come from the panel logit regression model with country fixed effects, estimated on data for a group of countries, whose GDP per capita exceeded US 2011 constant 10,000 dollars. Observations for years t+1 to t+4 following a slowdown/acceleration episode are removed from the sample. ***, **, * - statistically significant at respectively 1%, 5%, 10% level.

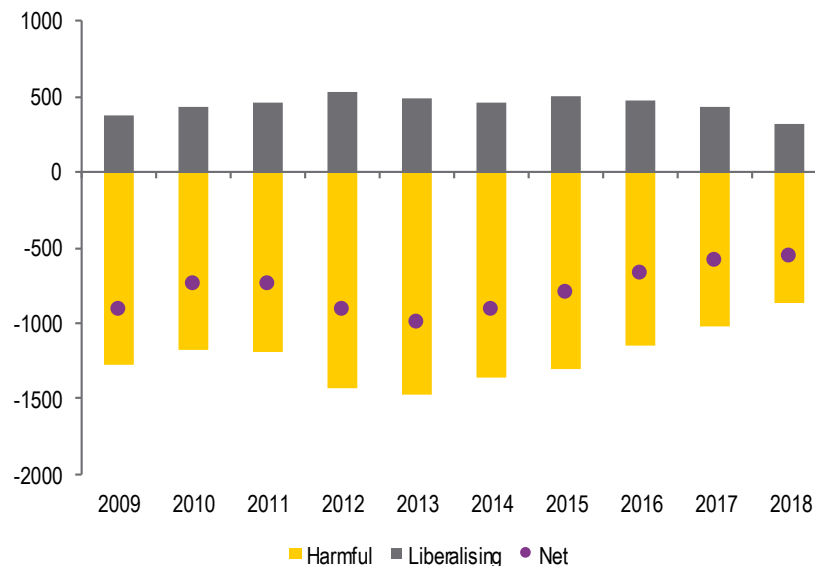
Developments at the global frontier do not appear likely to provide a big push to TFP growth elsewhere

Projected TFP growth in the US economy



Source: CBO data.

State interventions affecting trade in goods and services, FDI and migration, implemented worldwide

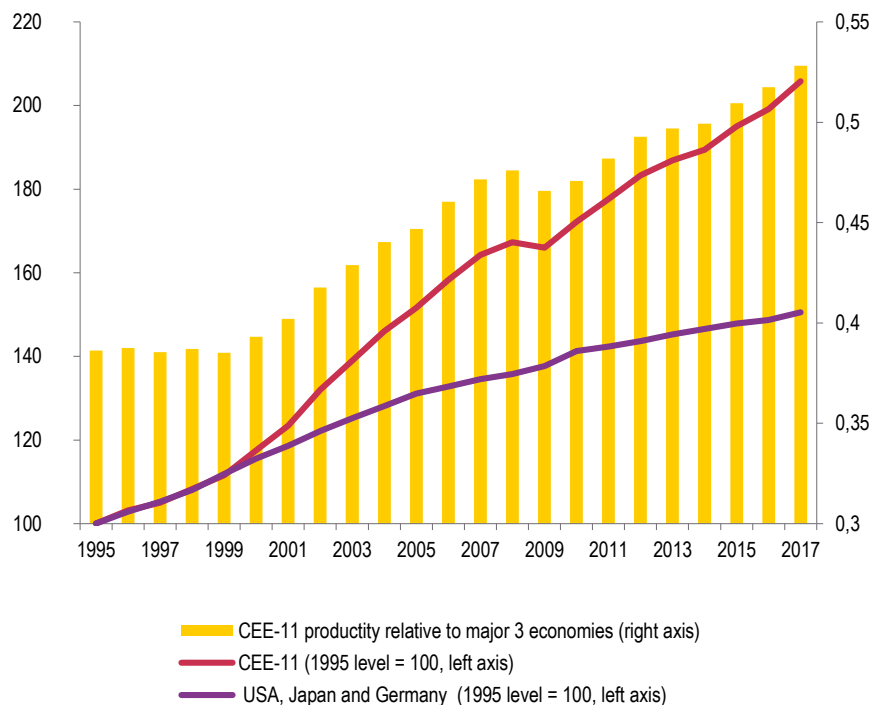


Source: Global Trade Alert database.

This puts greater burden on domestic determinants of TFP growth

- The bulk of global growth is driven by local adaption of existing technologies and not by genuine innovation
- Given their productivity gap towards the advanced counterparts, CEE economies still have ample room for improvement through more efficient absorption of technologies and processes from the frontier and more efficient allocation of resources

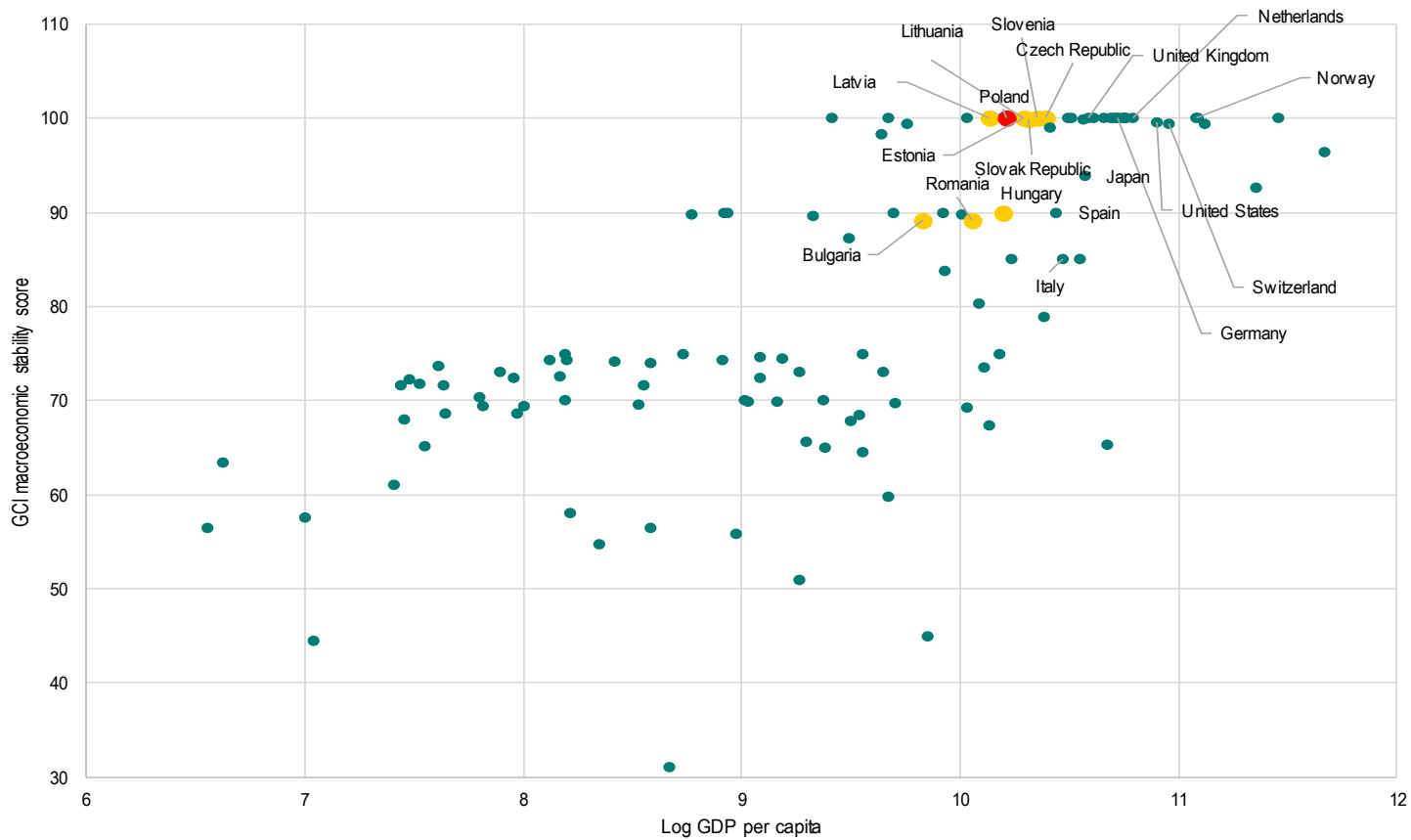
Productivity level in the CEE region and three major advanced economies (US, Japan, Germany)



Source: PWT 9.0.

Macroeconomic stability – essential for securing productivity growth – is very high in most CEE economies

Pack (2006): The benefits from adopting new technologies are best realized in the environment of low inflation, stable exchange rates, sustainable government finances, and positive income growth

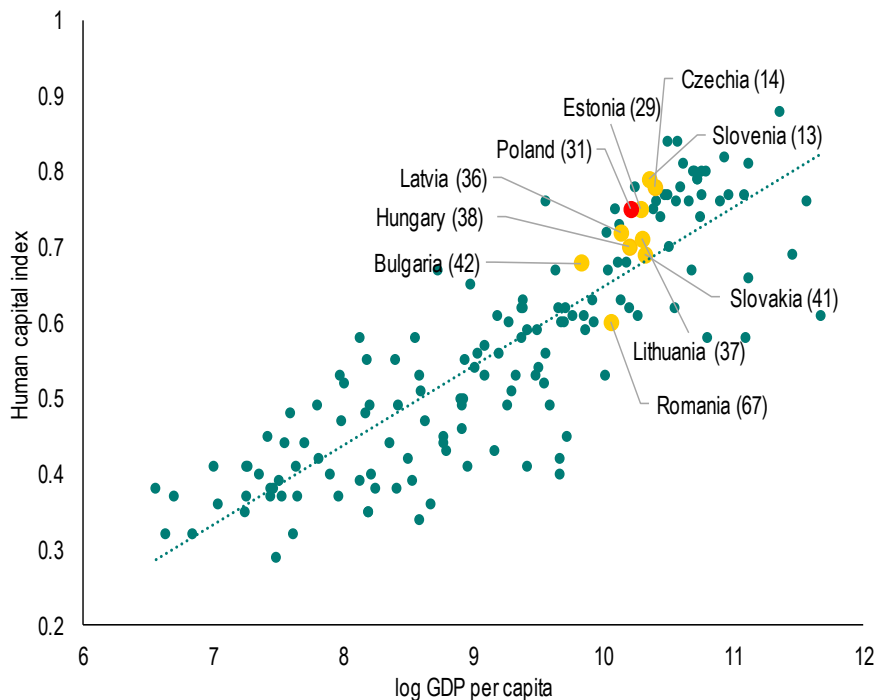


Source: Global Competitiveness Report 2018 data.

High level of human capital bodes well for productivity developments in the CEE region

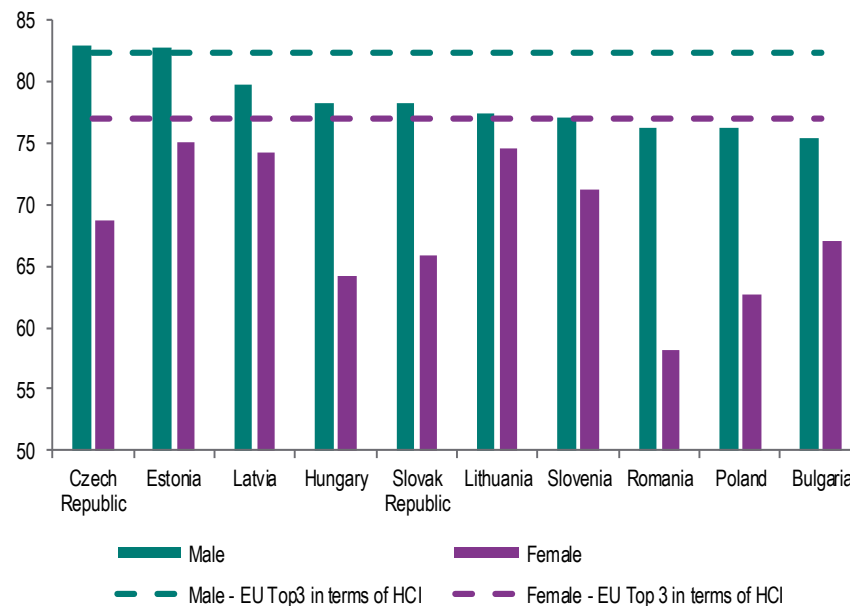
CEE countries rank high in terms of the amount of human capital (skills, health, knowledge, resilience) that a child born today can acquire by the age of 18

Educational dividend that will continue to support productivity developments in the CEE region could be further increased by more efficient use of the existing human capital



Source: World Bank, Human Capital Project data.

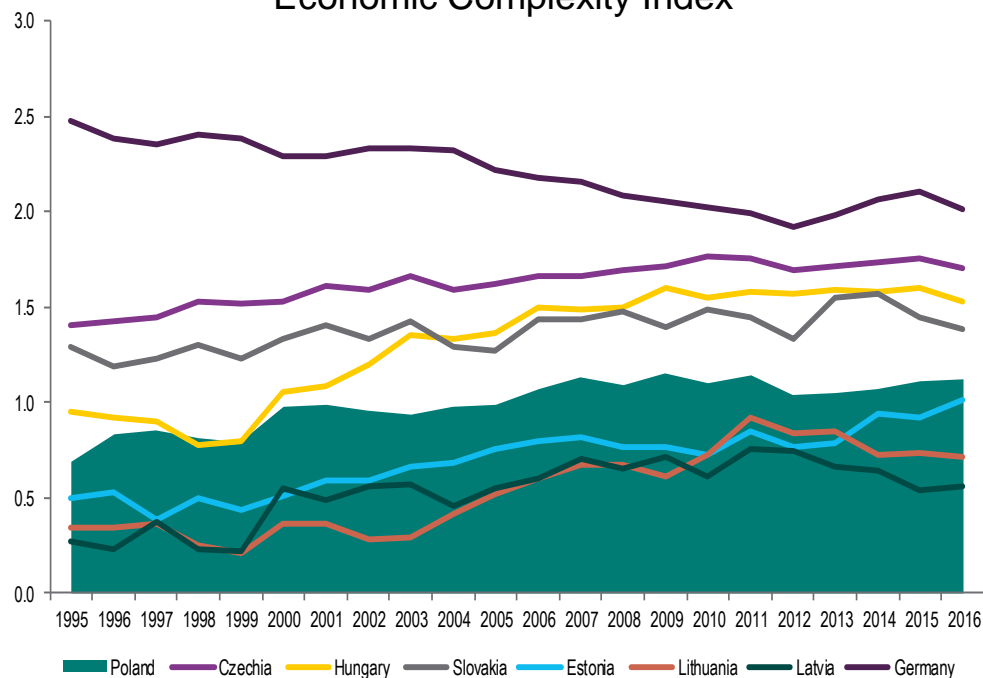
Labour force participation (%)



Source: Eurostat data.

To generate improvements in productive capacity progress on institutional and regulatory frontiers is needed

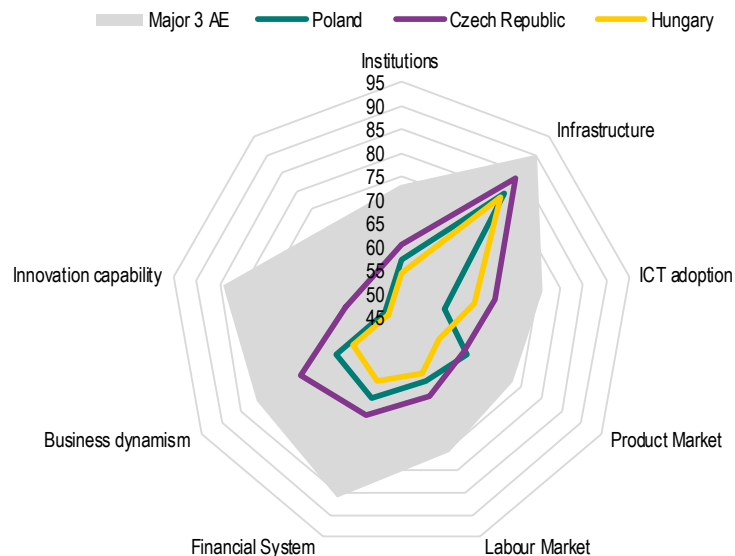
Economic Complexity Index*



Source: The Atlas of Economic Complexity data, Center for International Development at Harvard University.

*ECI is calculated based on the diversity of exports a country produces and their ubiquity, or the number of the countries able to produce them (and those countries' complexity).

Global Competitiveness Index 2018



Source: Global Competitiveness Report 2018, World Economic Forum.

To sum up

- Large productivity gap of the CEE region to the frontier economies points to the ample room for further productivity catch up through absorption of technologies and processes from the frontier
- Reduced opportunities for technology diffusion through GVC expansion suggest bigger role of domestic determinants of technology absorption:
 - macroeconomic stability,
 - human capital,
 - investment in ICT and R&D,
 - regulatory and institutional environment
- Improvements in regulations and institutions could raise the pace of convergence of the CEE countries beyond the currently projected level

We protect the value of money