CEE SPECIAL REPORT: 20 YEARS AFTER EU'S 2004 ENLARGEMENT

Strong growth in CEE economies over past two decades

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April 23, 2024

EU membership offered CEE countries a chance for dynamic development. Over the past 20 years, they have successfully used that opportunity.

Key benefits

- In most CEE countries that joined in 2004, their level of GDP per capita is higher by 16 to 19 percent than it would be compared to the alternative scenario of non-membership.
- Citizens are wealthier on average. GDP per capita doubled in Romania and Poland over the last two decades. Nominal wages grew at least twice as fast as the EU27 average since 2008.
- The CEE region is a net recipient of EU funds. CEE7 (Czechia, Hungary, Poland, Romania, Slovakia, Slovenia and Croatia) has received in total EUR 205bn since the EU membership of respective countries.
- Apart from monetary benefits, the EU offers harmonized regulations and a stable political and economic environment for businesses. Deepening integration assures checks and balances that prevent the region from drifting too far away from Western values and democratic status.
- The pillars of the single market (free flow of goods, services, people and capital) benefit everyday lives. For example, online purchases from other EU countries are on the rise, data roaming consumption has been increasing in Europe, membership in the Schengen Area saves time when crossing the border, euro banknotes in wallets make holidays carefree across Europe, providing some stabilization on the business side as well.

Key challenges and opportunities

- Integration has deepened since 2004. Slovakia and Slovenia, both of which joined the EU 20 years ago, are already fully integrated. Later joiner Croatia (in EU since 2013) has moverd quickly and is only missing OECD membership to become fully integrated.
- The elephant in the room: Eurozone enlargement. Czechia, Hungary, Romania and Poland are not membership of Euro Area.
- Euro adoption has brought much stronger stability of the exchange rate and improved predictability and transparency in setting prices.
- While fulfilling Maastricht criteria may prove to be challenging shortly after the series of shocks (pandemic and the war in Ukraine), a glance at the stage of development and level of income and price convergence looks encouraging. Czechia, Hungary, Poland and Romania are already more developed than most of the countries at their point of entry to ERM II.
- The European Union still offers development opportunities for the region. Green transition and digital transformation are key areas in which the region can benefit from generous EU funding and support.

The benefits of EU enlargement differ depending on the initial stage of development, but also country-specific policies implemented after joining the EU.

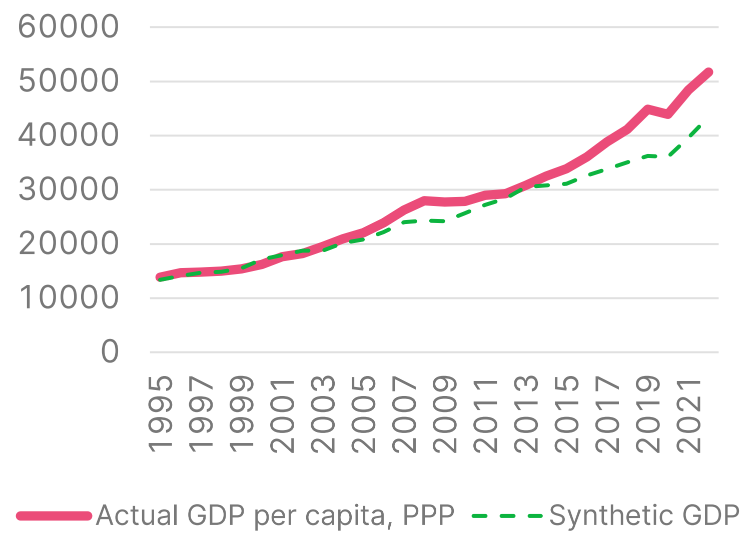
EU's CEE states are significantly wealthier than if they had not joined. Impact of EU membership on GDP per capita in CEE countries that joined in 2004 using the Synthetic Control Method estimations.

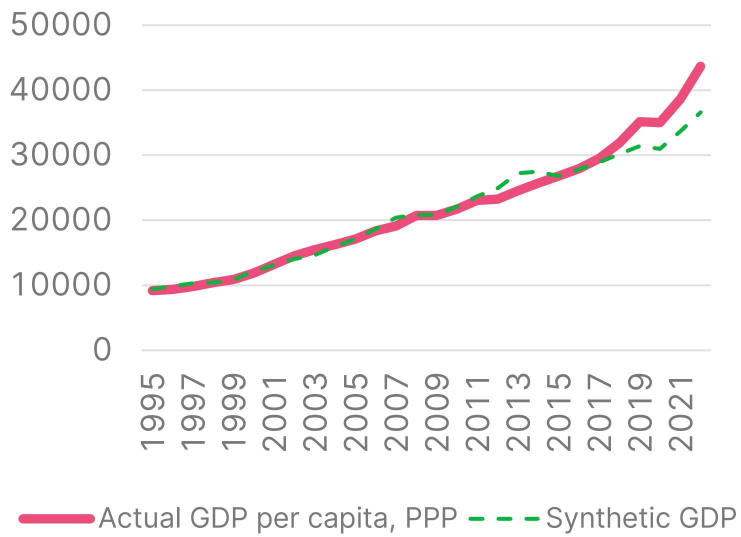
Czechia	Hungary	Poland	Slovakia	Slovenia
+19.0 percent higher GDP per capita	+19.4 percent higher GDP per capita	+40.7 percent higher GDP per capita	+16.2 percent higher GDP per capita	+5.2 percent higher GDP per capita

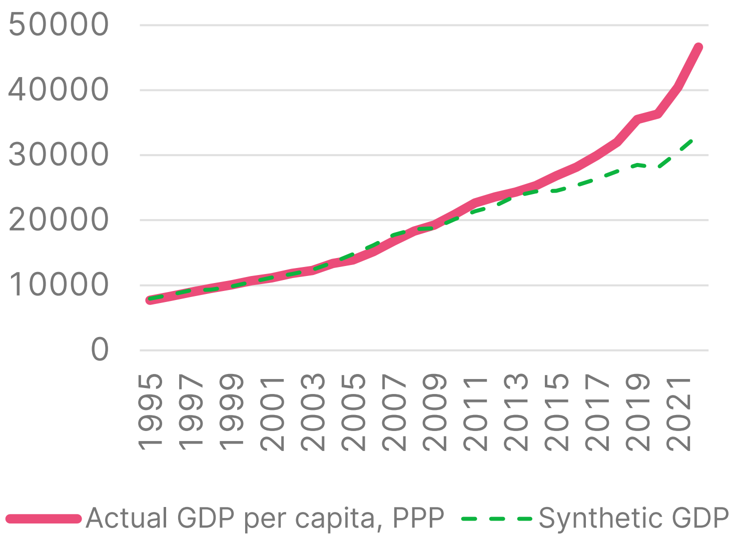
Using a synthetic control method, we mimic the country's GDP per capita prior to EU enlargement, so that synthetic GDP and actual GDP follow the same path. We consider the synthetic GDP (i.e. estimated one) as an "if what" development. In this case, it means GDP development in the case of no EU membership. Based on these estimates, we treat the difference between synthetic GDP and actual GDP per capita as gains attributed to the EU enlargement. For estimation details, see the Appendix.

Source: Erste Group Research

Countries have benefited from EU membership to different extents. Poland has outperformed Czechia and Hungary.







Czechia

Gains from EU membership are estimated to reach 19%. Although Czechia was the most developed from the region in 2004, the convergence has been solid since then.

Hungary

Hungary gained 19.4%, similar to Czechia.

Poland

Poland outperformed the peers who joined the EU in 2004. The difference between actual GDP and synthetic GDP was as high as 40% in 2023.

Source: Erste Group Research
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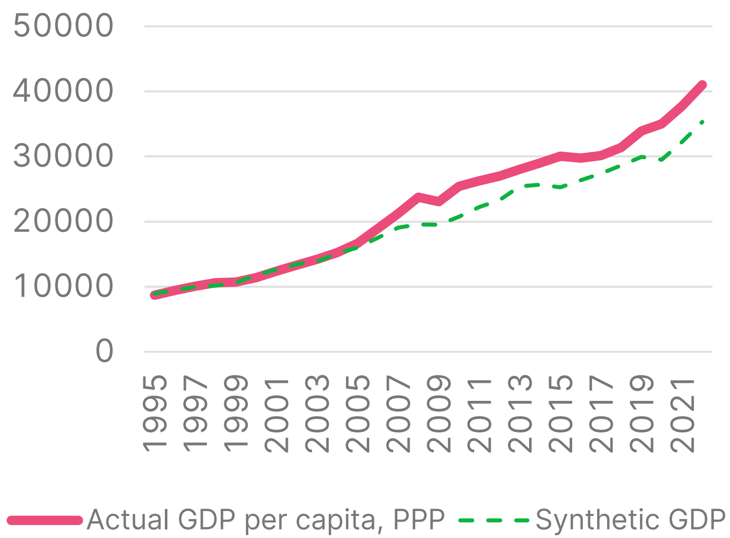
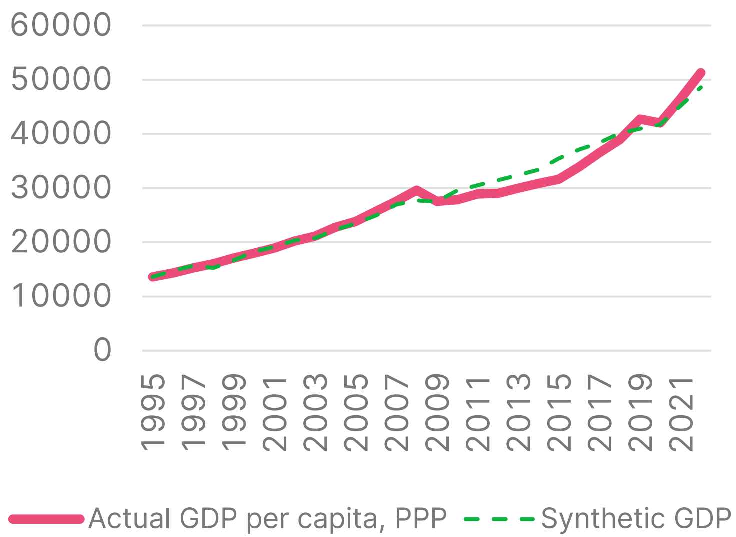
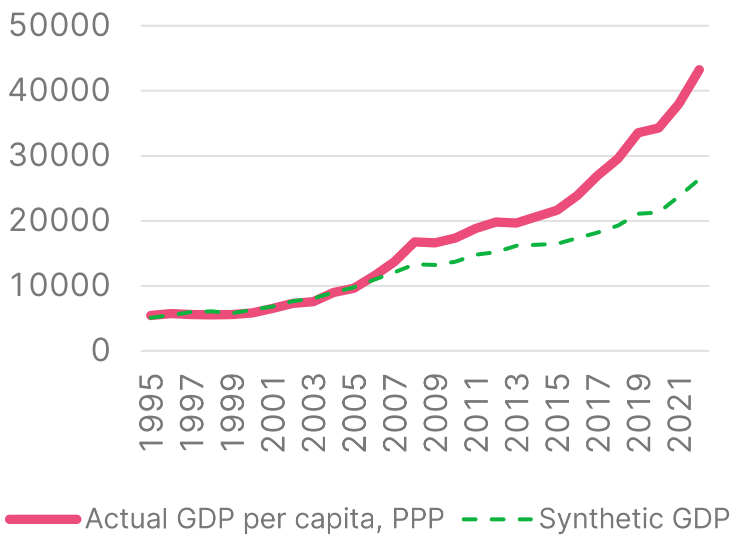
Romania joined in 2007, but has seen the biggest gains within the region since then.







Slovakia

Slovakia‘s gains from EU membership mix with the benefits of the common currency area. We see actual GDP per capita higher by 16.2%

Slovenia

Slovenia, as one of the most developed countries at the moment of EU enlargement, posted the most modest gains (5.2%).

Romania

We report on Romania as it is part of our region, although it joined the EU in 2007. Its development has been dynamic, as gains are estimated at 64%.

Source: Erste Group Research
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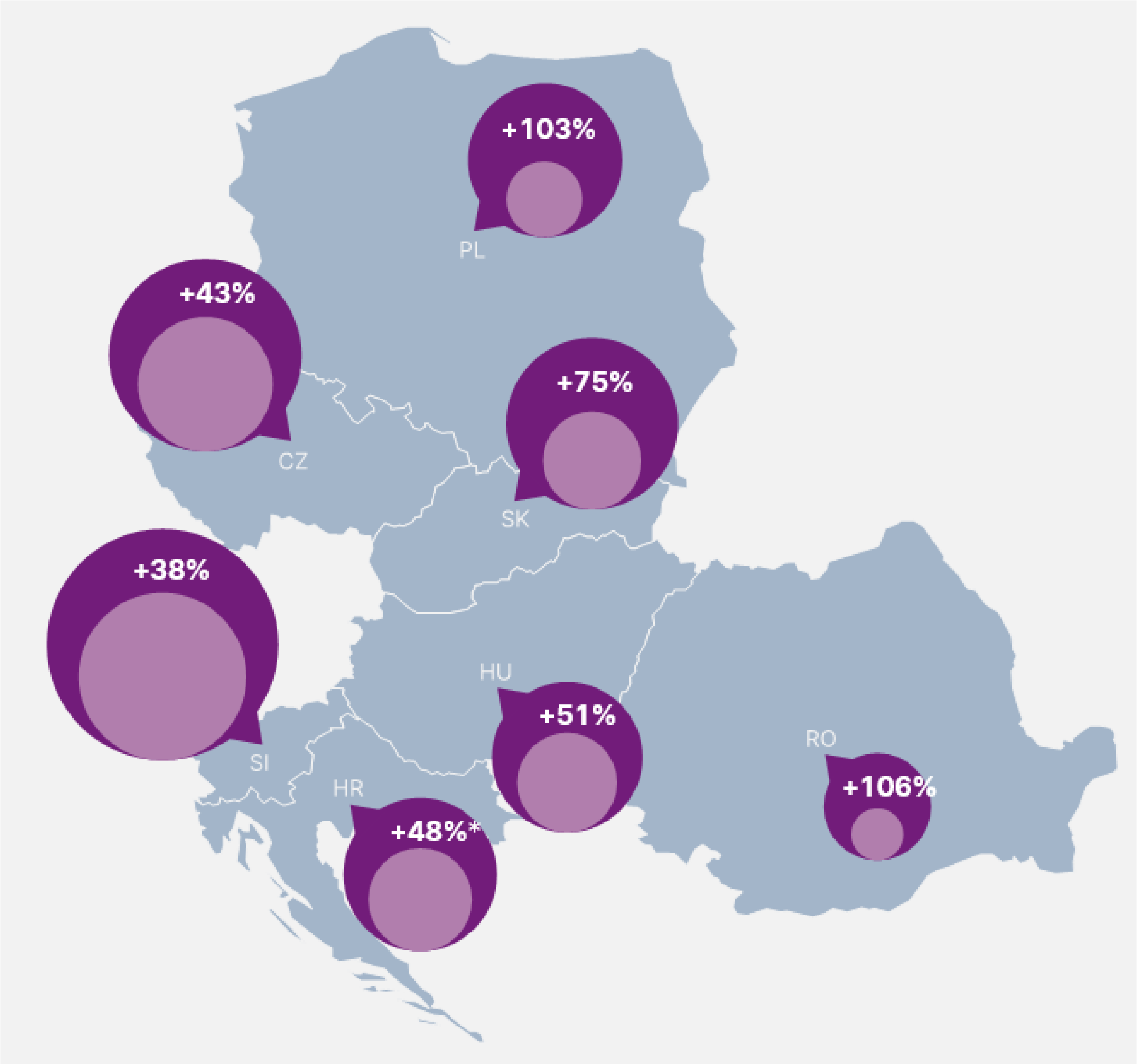
GDP PER CAPITA, 2023 VS. 2004 CHANGE, CHAIN LINKED VOLUMES IN EURO



20 YEARS AFTER EU'S 2004 ENLARGEMENT

CEE citizens are between 40% and 100% wealthier.

Poland and Romania outperformed and are twice as rich as they were in 2004 as measured by real GDP per capita (chain linked volumes, 2010 in euro).

Slovakia also reached an outstanding performance, as GDP per capita is 75% higher compared to 2004.

Slovenia and Czechia gained 40%, but their starting points were the highest within the region.

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Source: Erste Group Research
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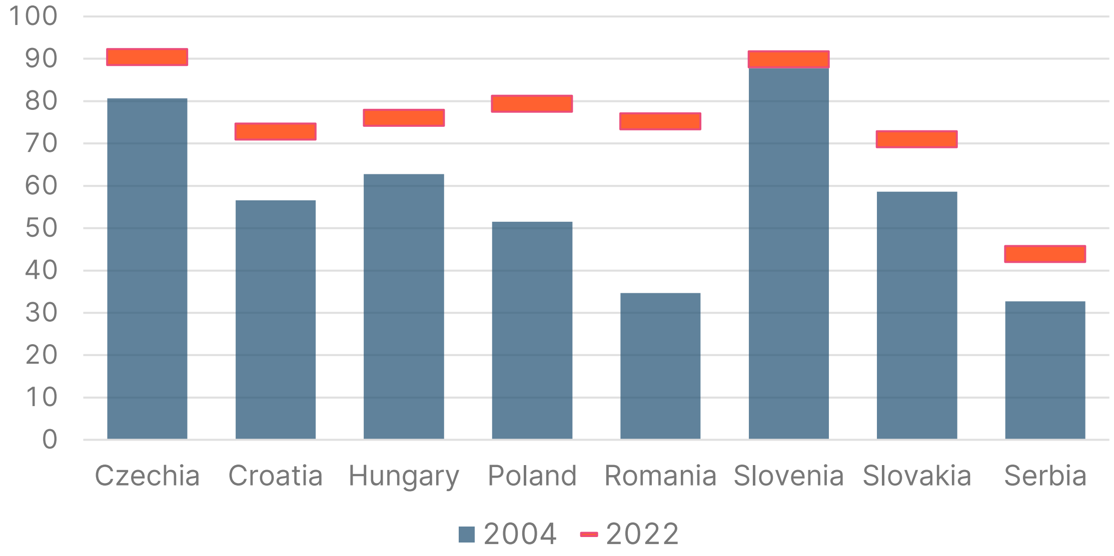
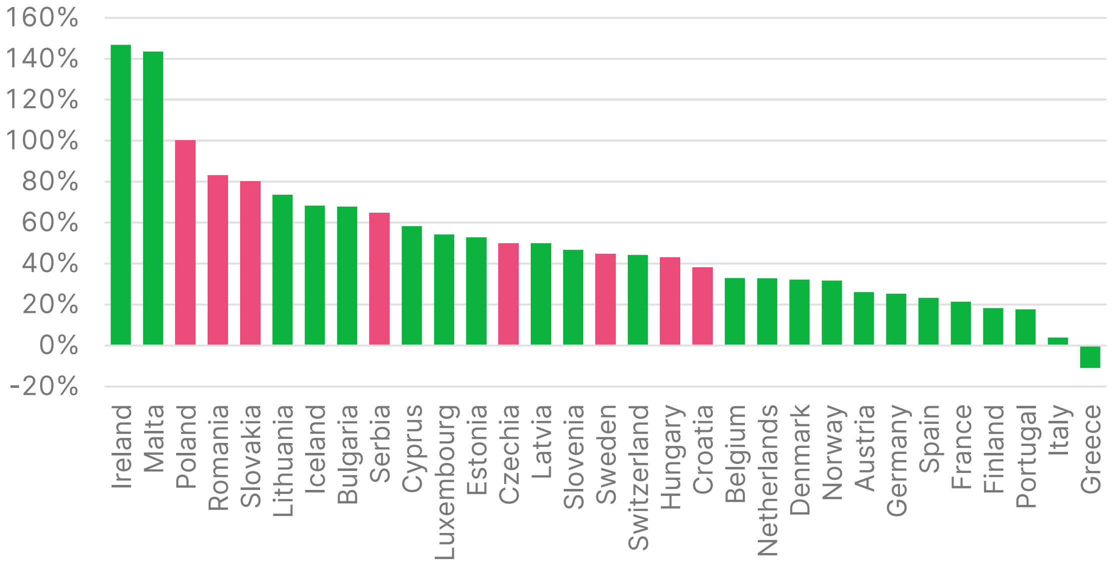
GDP converged. Poland doubled its real GDP. Hungary gained "only" 40%.



GDP per capita, PPP percentage of EU27 average

All CEE countries that are EU members have reached at least 70% of the EU27 average.



Real GDP growth between 2004 and 2023, in %

Poland, Romania and Slovakia caught up the most since 2004. Poland doubled its real GDP. On the other hand, Czechia and Hungary experienced much slower progress, with Hungarian real GDP growing by 40% over the last two decades.

Source: Erste Group Research
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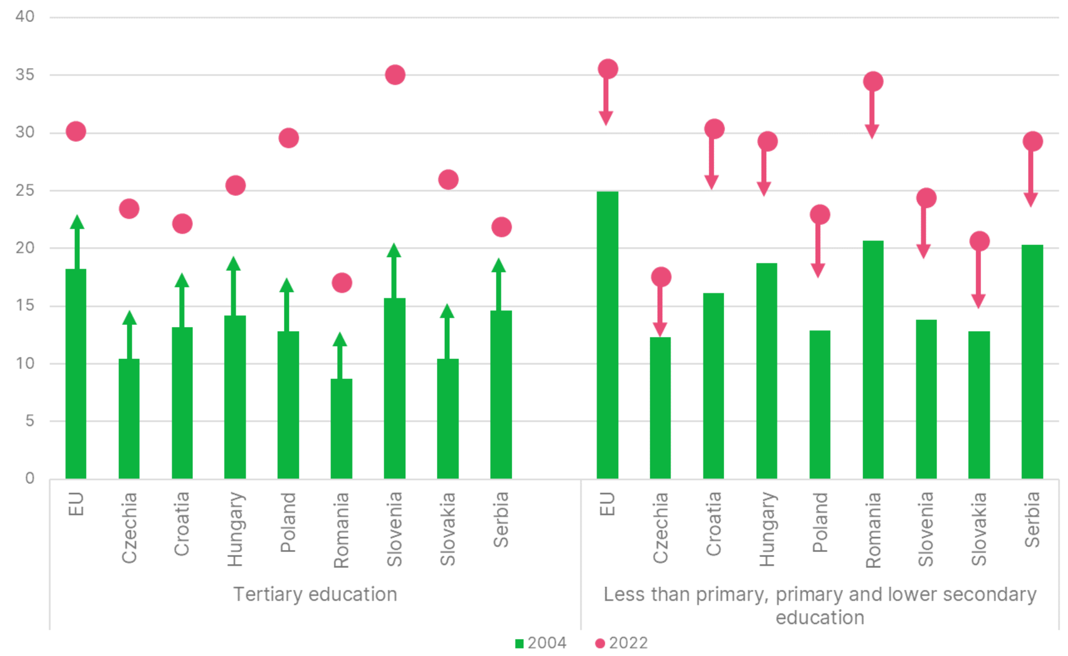
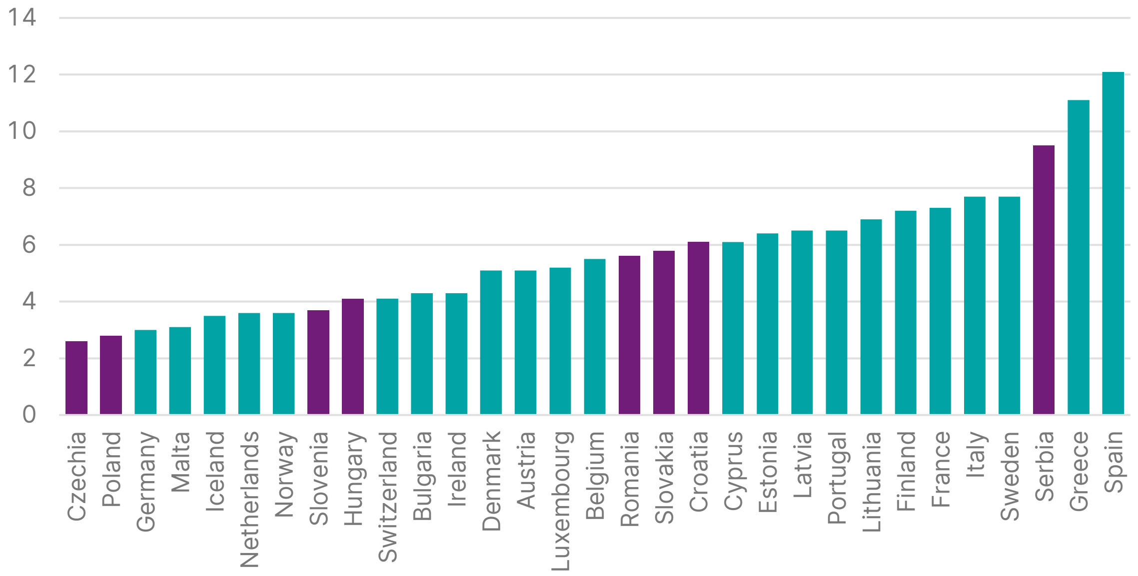
CEE is not only richer, but also more educated. Unemployment rates in CEE are among the lowest in the EU.



Share of population 15-64 with tertiary and primary education

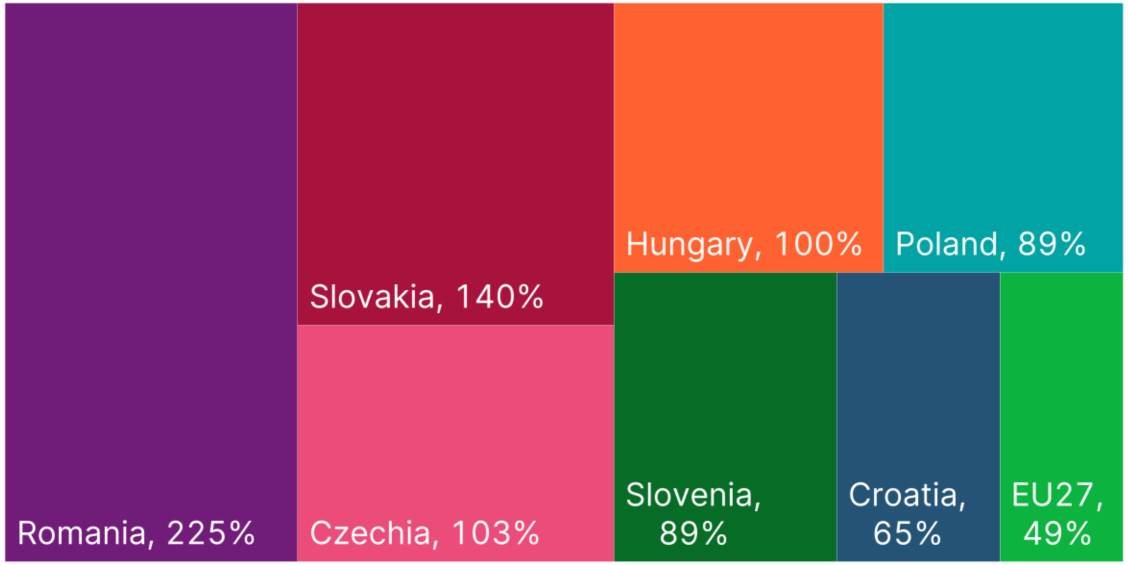
Improvement in educational attainment is outstanding as well.



Unemployment rate, percent

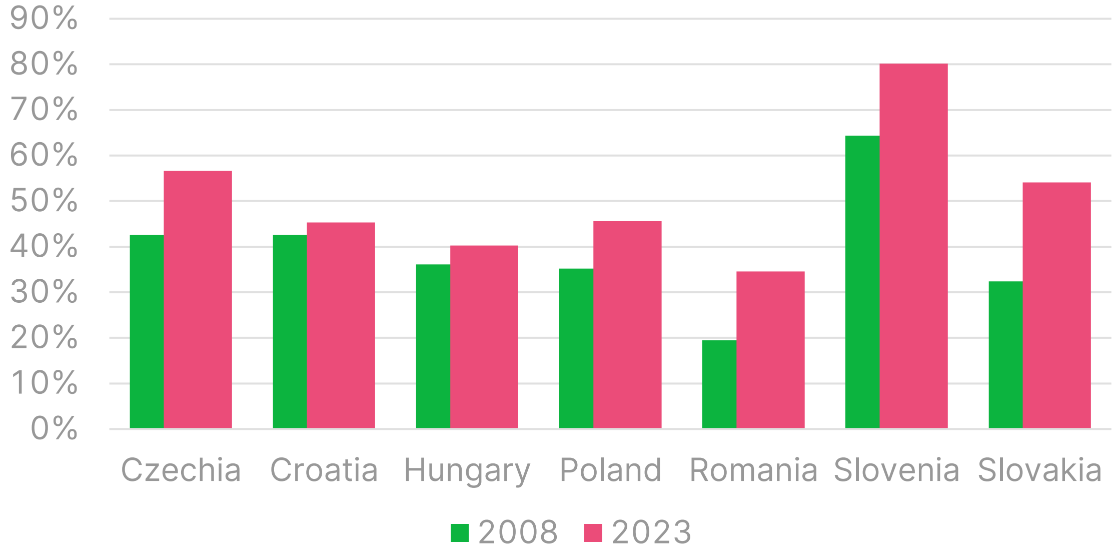
Czechia and Poland had the lowest unemployment rates in the whole EU. In 2023, most CEE countries had unemployment rates below the EU average of 6%.

Nominal wages in the region grew faster than in the EU27, allowing for a closing of the wage gap.



Nominal wages and salaries in the region grew much faster than the EU average since 2008 (cumulative %)

Nominal wages almost doubled in Poland and Slovenia. It is also twice as high in Czechia and Hungary compared to 2008 (earliest available data).



Nominal labor costs, % of EU27 average

Slovenia, followed by Czechia and Slovakia, has the highest nominal wage compared to the EU27.

NATIONAL CONTRIBUTIONS VS. EU PAYMENTS, EUR BILLION

20 YEARS AFTER EU'S 2004 ENLARGEMENT

CEE region received more from EU than it paid in contributions.

EU funds played a vital role in CEE development, as the region has been a net recipient of EU funds.

The CEE region has received EUR 205bn in total since the EU membership of the respective countries.

All CEE countries, regardless of the timing of their EU membership, have received more from the EU than they paid in national contributions.

Source: Erste Group Research
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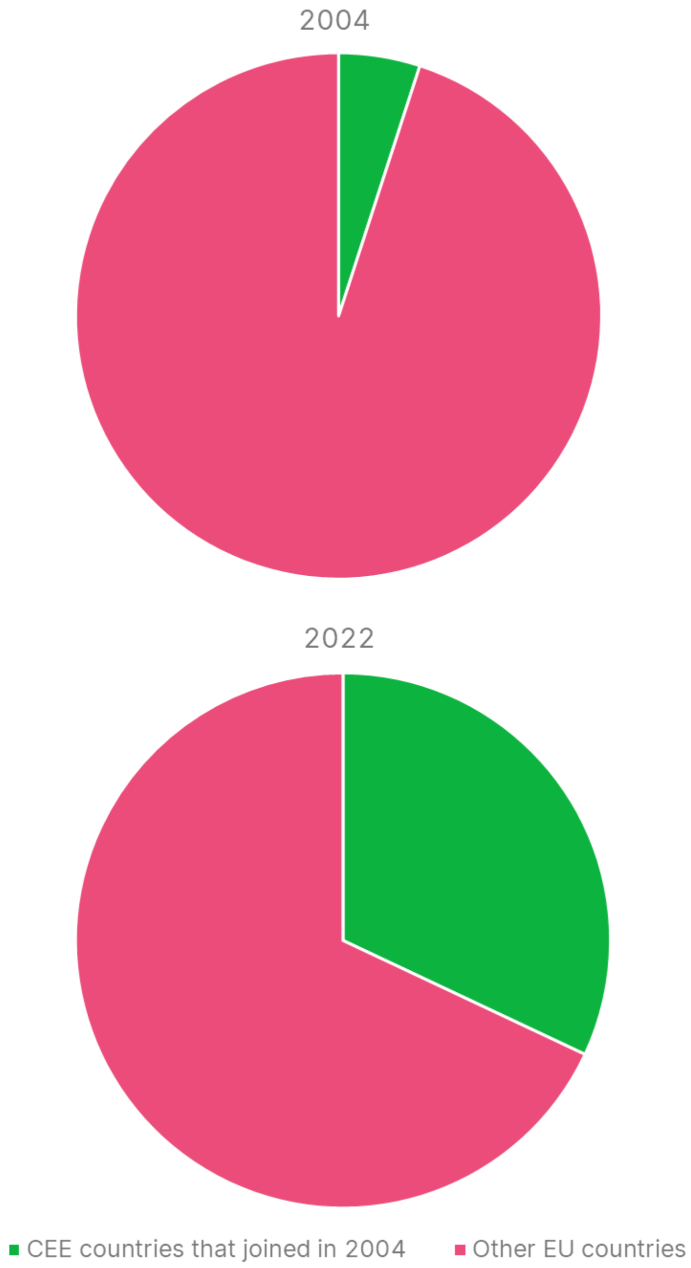
SHARE OF EU FUNDS FLOWING TO CEE, PERCENT OF TOTAL



20 YEARS AFTER EU'S 2004 ENLARGEMENT

Increasing slice of EU funds pie

The share of EU funds flowing into the region have increased over the years.

Countries that joined in 2004 received only 5% of total EU payments in 2004, while in 2022 that share stood at 32%. Together with other CEE countries that joined later, this share stood at 41%.

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Source: Erste Group Research
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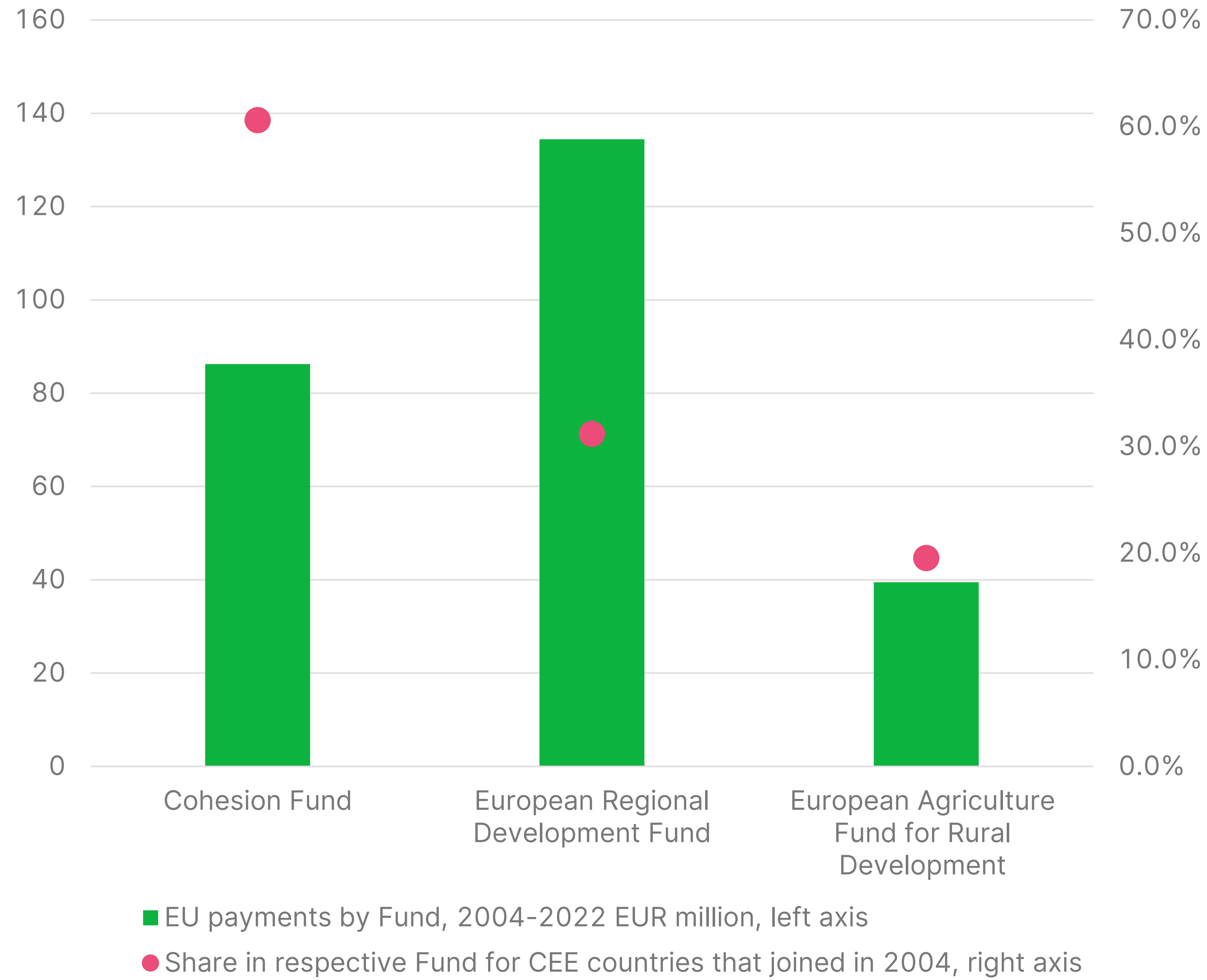
EU PAYMENTS BY FUND, EUR BILLION



20 YEARS AFTER EU'S 2004 ENLARGEMENT

The biggest share of EU funds targeted at regional development.

CEE countries that joined in 2004 received since then EUR 86.2bn from the Cohesion Fund, more than 60% of the total value of that fund.

The amount of money the CEE countries received within the European Regional Development Fund is even higher, as it reached EUR 134.5bn between 2004 and 2022.

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Source: Erste Group Research
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The everyday lives of CEE citizens benefit from the pillars of the single market: free flow of goods, services, people and capital.

Flow of goods: online purchases from EU have increased.

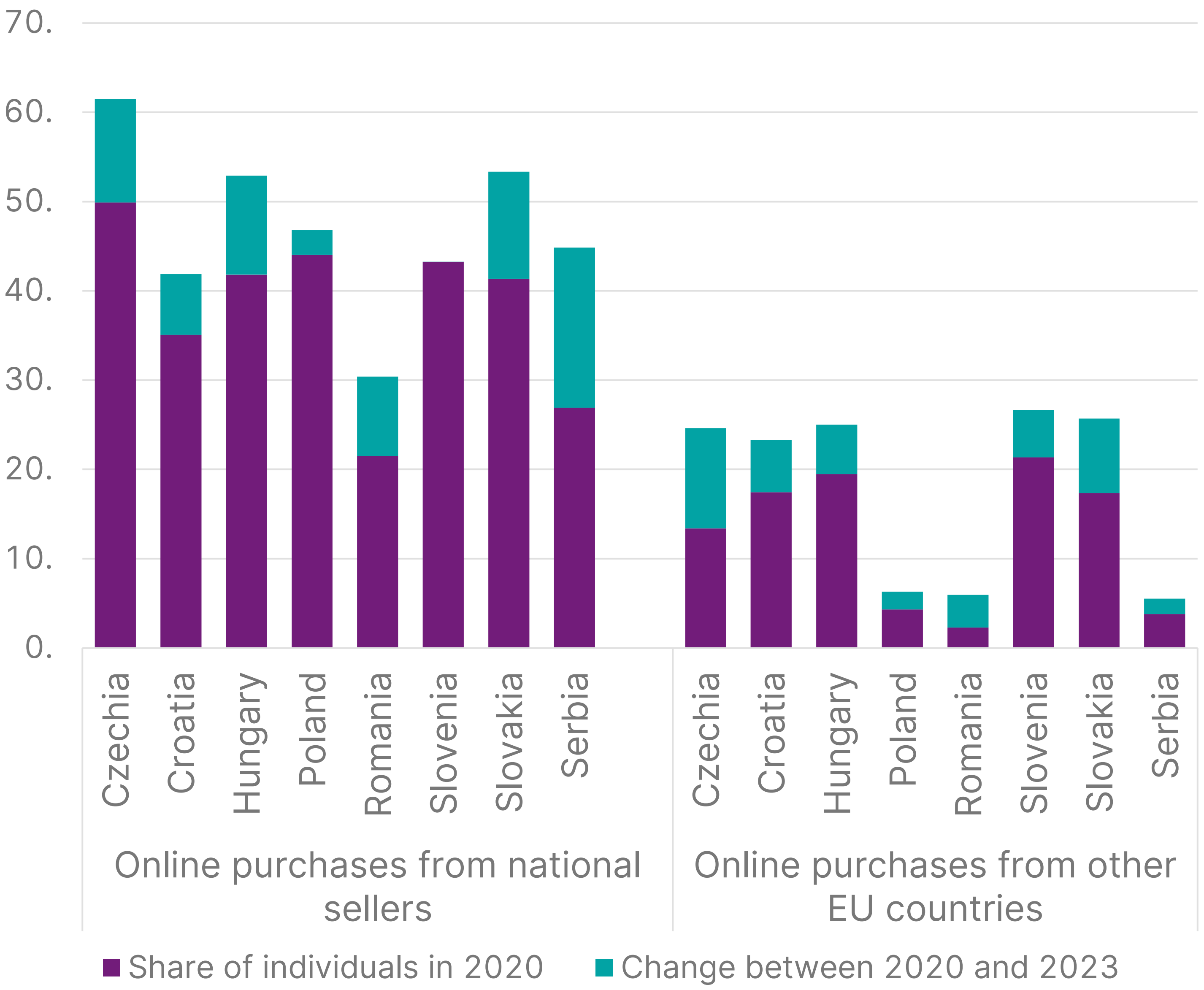
The benefits of trade without barriers are obvious and, for the CEE region, other European countries are key destinations.

One of the key pillars of the common market seems to be working in practice very well, as evidenced by the growing share of individuals that make online purchases in other EU countries.

Although data is available only as of 2020, the direction of change is obvious.

Roughly 25% of individuals made online purchases from other EU countries in Czechia, Croatia, Hungary, Slovenia and Slovakia.

ONLINE PURCHASES FROM NATIONAL VS. OTHER EU SELLERS



Source: Erste Group Research
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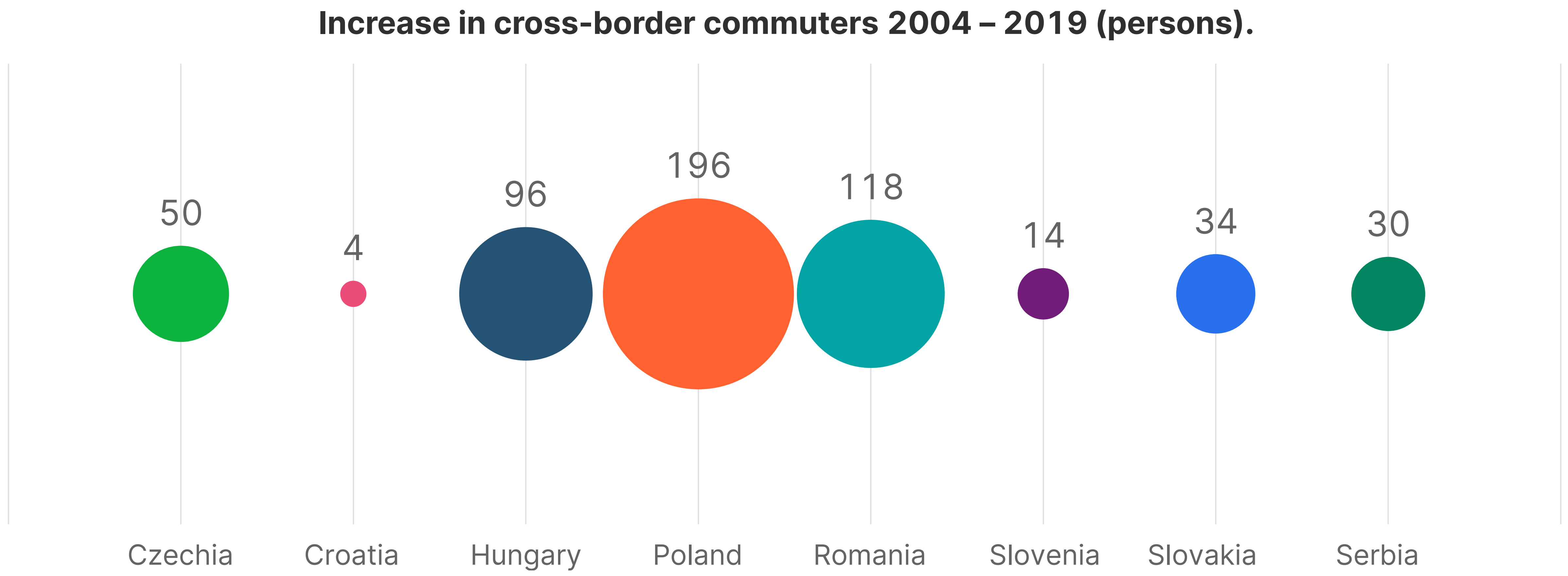
Flow of people: cross-border commuters have increased.

The number of CEE inhabitants crossing borders for work has increased since 2004, as EU citizens do not require work permits and take jobs within the EU without major barriers. Here a look at the change until 2019, to avoid the Covid pandemic's impact on work arrangements and regulation.



Source: Erste Group Research

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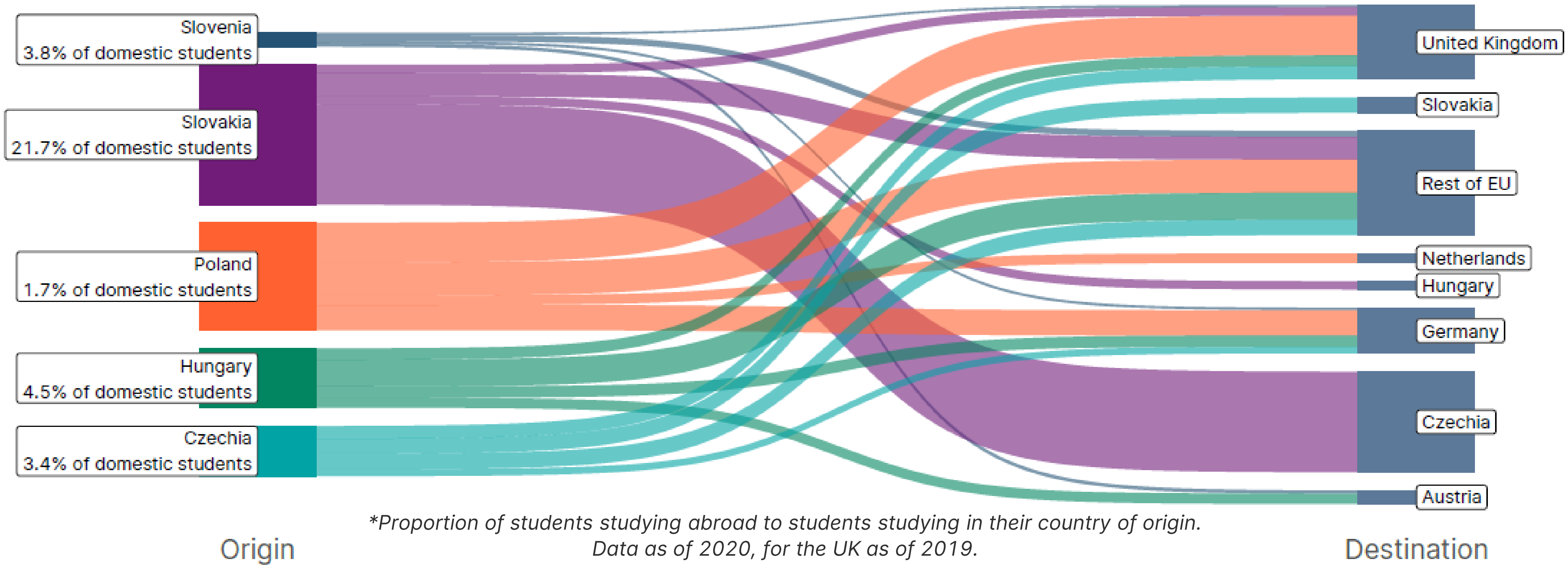
Flow of people: Slovak students migrate the most.

The number of students studying abroad is significant, especially in the case of Slovakia, where the proportion of Slovaks studying abroad to domestic students is more than 20%. Of Slovaks studying abroad, a vast majority are in Czechia, as they are can study there in their mother tongue. The UK had been a popular destination for CEE students before Brexit, but this has changed dramatically since. Other popular destinations are Denmark, the Netherlands and Ireland.

Student movement and share* of students studying abroad



*Proportion of students studying abroad to students studying in their country of origin. Data as of 2020, for the UK as of 2019.

Source: Erste Group Research
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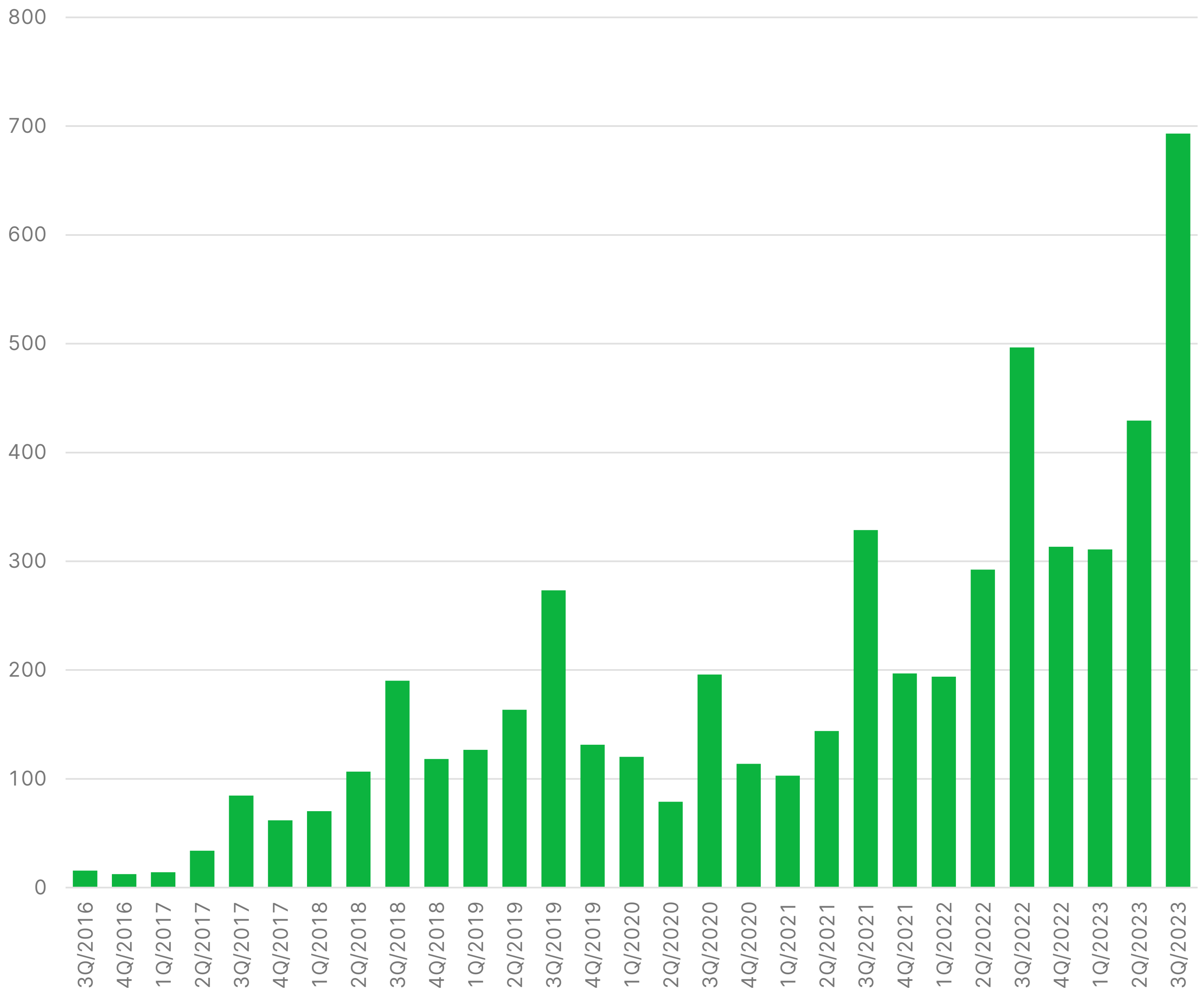
Flow of services: roaming is being used heavily.

When traveling outside your home country to another EU country, you do not have to pay any additional charges to use your mobile phone. Consequently, the total number of gigabytes used while roaming has been steadily increasing over the last couple of years.

Setting as the emergency number 112 is one of the examples of a common service available to all EU citizens regardless of their location.

TOTAL NUMBER OF GB WHILE ROAMING IN THE EEA



Source: Erste Group Research
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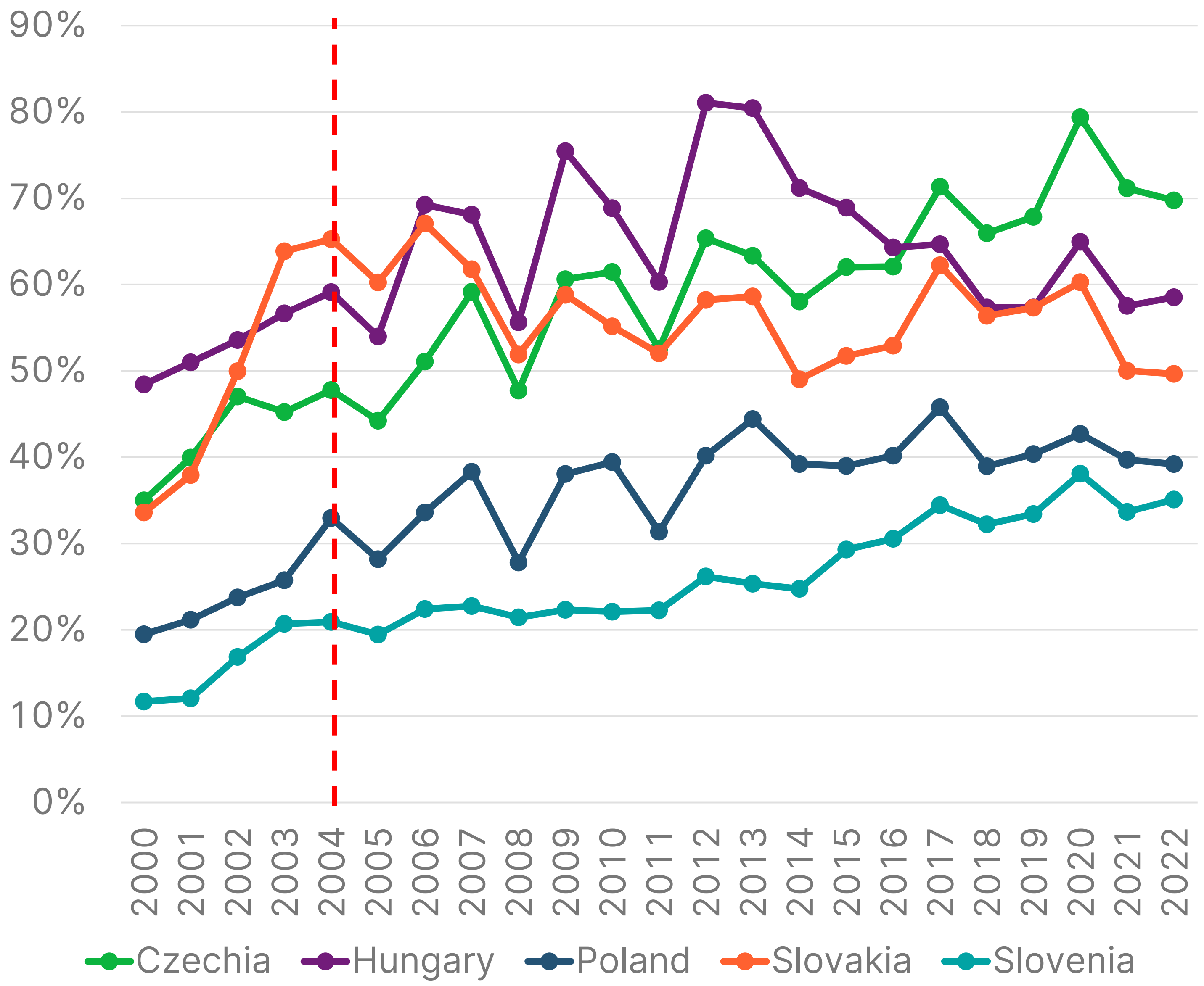
Flow of capital: inward FDI stock

The inward FDI stock is the value of foreign investors' equity and net loans to enterprises resident in the reporting economy. It measures the total level of direct investment in the reporting economy at the end of the year.

EU membership has helped to attract FDI to the region by creating a single market of consumers, providing access to funding, harmonizing regulations, and creating a stable political and economic environment for businesses.

FDI stock as % GDP has declined in all countries since 2020, yet it remains higher compared to 2000.

INWARD FDI STOCK AS % OF GDP



Source: Erste Group Research
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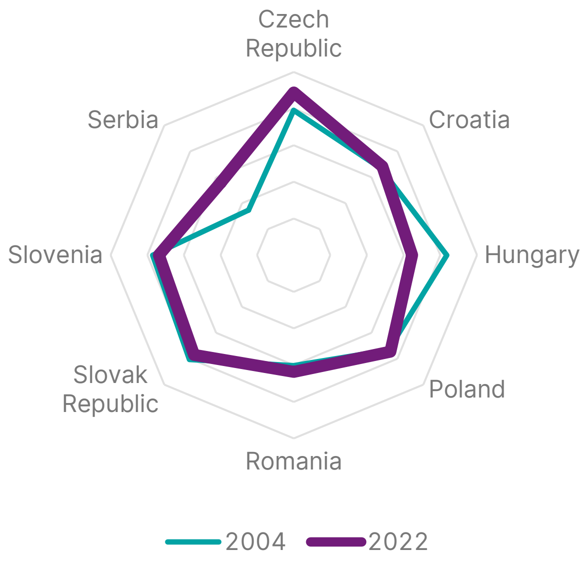
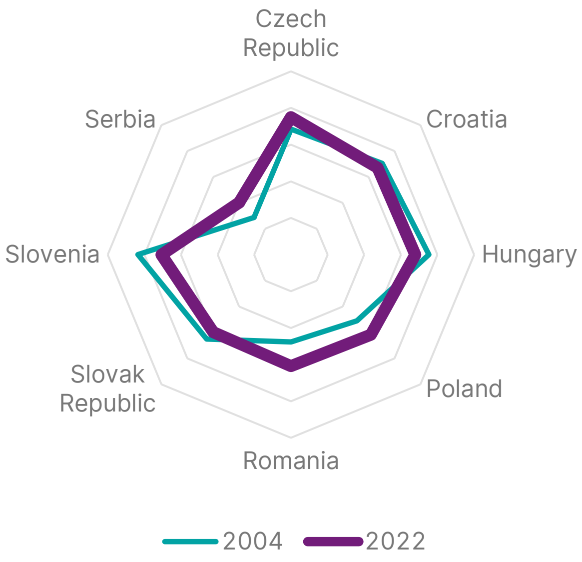
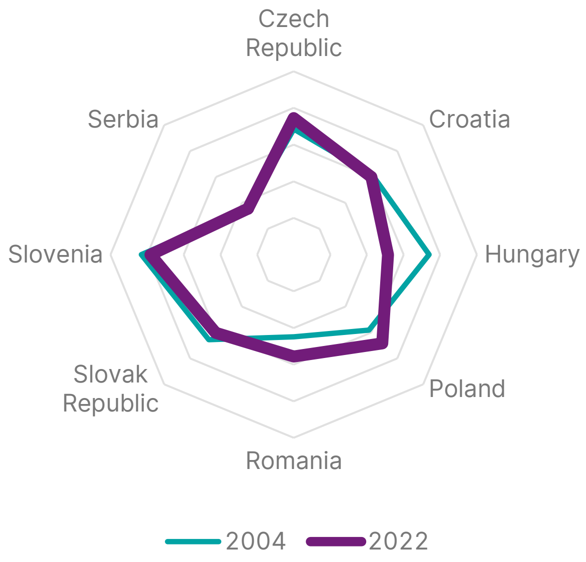
How has the political and regulatory environment changed in CEE?



Regulatory Quality



Political stability / No violence



Control of corruption

Looking at the World Bank's World Governance Indicators post-EU accession, we recognize their strong dependance on the individual country’s internal political climate. While the EU's influence may act as an anchor and mitigate the decline of these indices, Hungary's situation is concerning, with declines in Regulatory Quality and Control of Corruption since 2004. Conversely, Serbia has markedly enhanced regulations for the private sector, driven by an increased desire to draw foreign investment over time.

The EU provides the system of checks and balances to assure that democratic values and rules are respected, stabilizing the economic and political landscape.

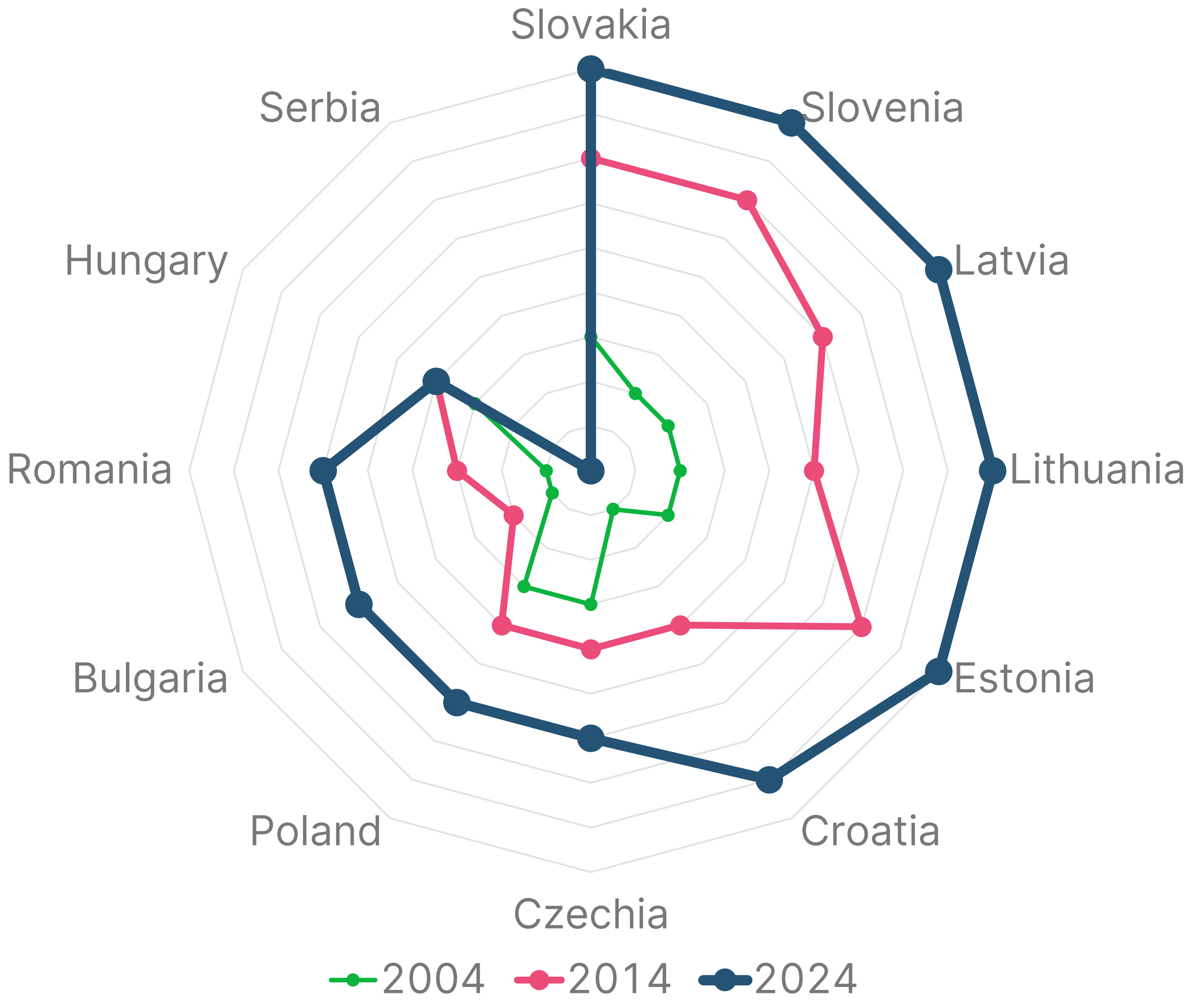
Slovakia and Slovenia are fully integrated. Croatia is on fast-track.

Since 2004, the CEE countries have continued with the integration process to different extents (list in Appendix).

Slovakia, Slovenia, as well as the Baltic countries, have become fully integrated: these countries are members of OECD, NATO, EU and EA and the Schengen Area, and also belong to the Fiscal Compact, Banking Union, EPPO and NGEU.

Croatia, which joined the EU only in 2013, has already overtaken Czechia and Poland.

On the other side of the spectrum is Hungary, that (at the top of OECD, NATO and EU) joined only the Schengen Area in 2007.



Source: Erste Group Research
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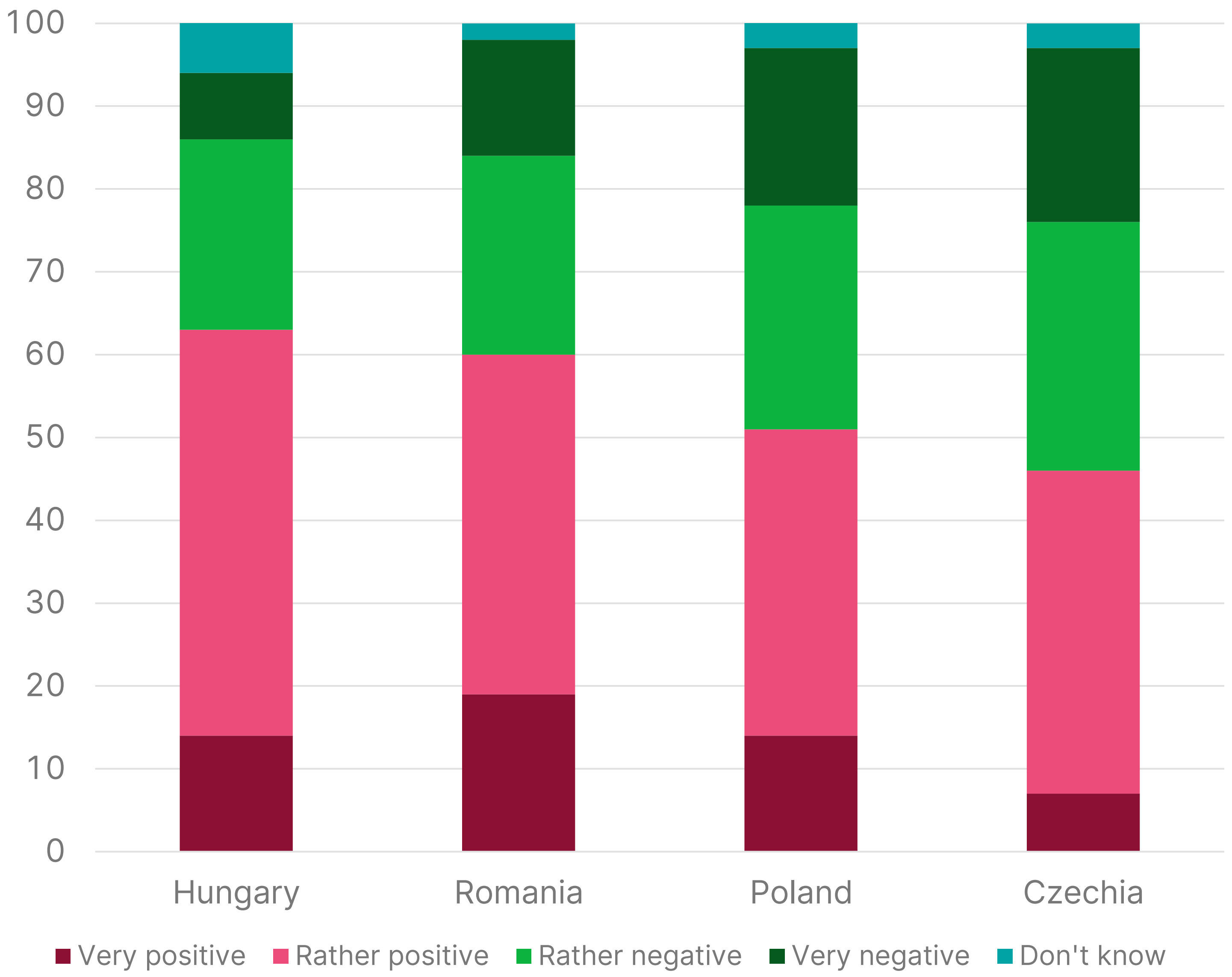
Hungary's population the most positive about euro adoption.

Although their country lags behind in terms of integration, the Hungarian people are the most positive as far as the consequences of euro adoption are concerned: 63% support it. The Hungarian forint has been the most volatile currency within the region over recent years, however.

On the other hand, a higher share of the public in Czechia believes euro adoption would have negative consequences.

EURO ADOPTION WOULD HAVE POSITIVE OR NEGATIVE CONSEQUENCES FOR YOUR COUNTRY



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Source: Erste Group Research
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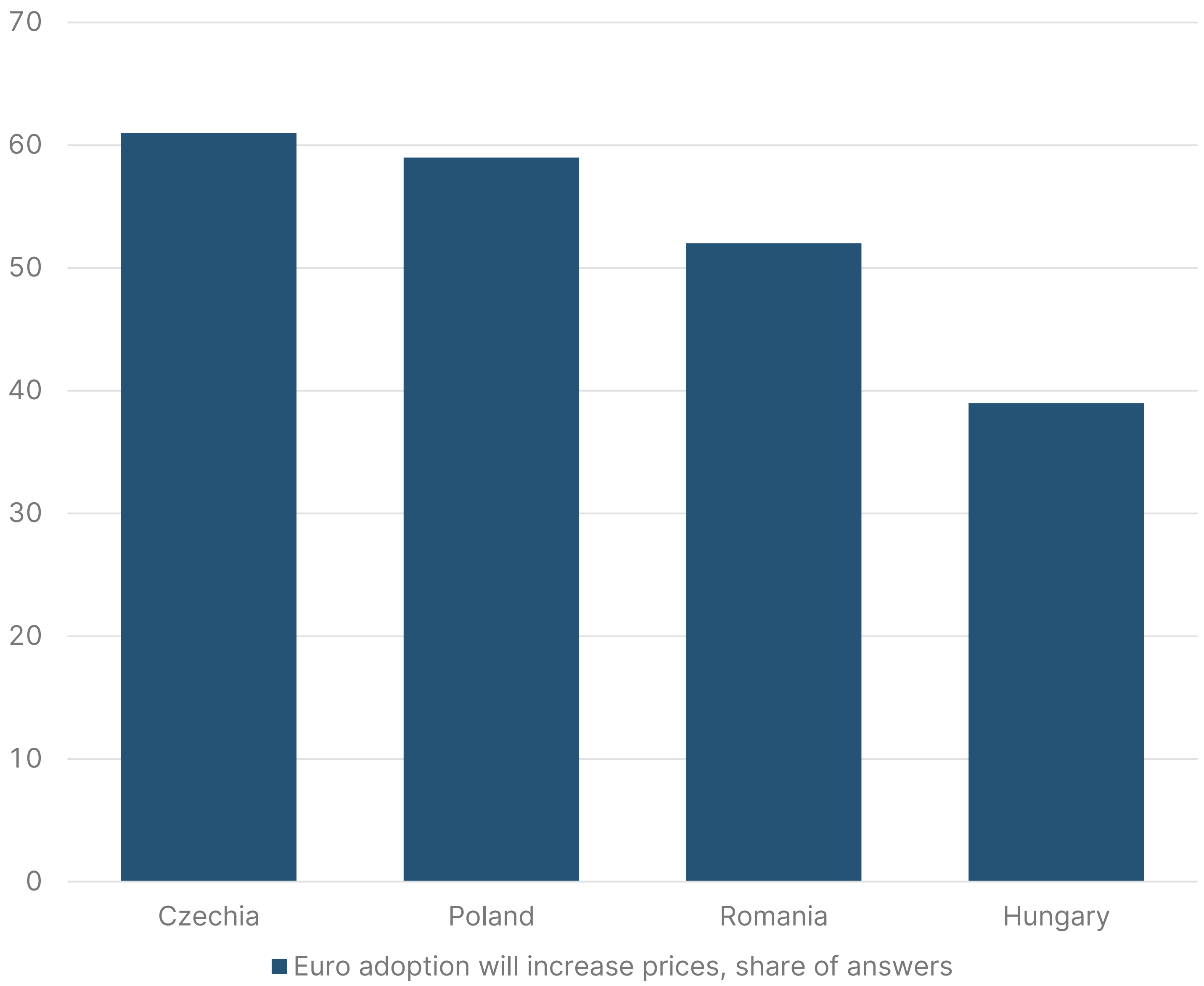
Price increases remain the biggest fear.

More than 61% of Czechs fear that euro adoption will result in price increases. A very similar share of Polish people is of a similar opinion. In Hungary, on the contrary, only 39% of people are afraid of price increases after euro adoption.

EXPECTED VISIBLE IMPACT OF EURO ADOPTION ON PRICES



Source: Erste Group Research
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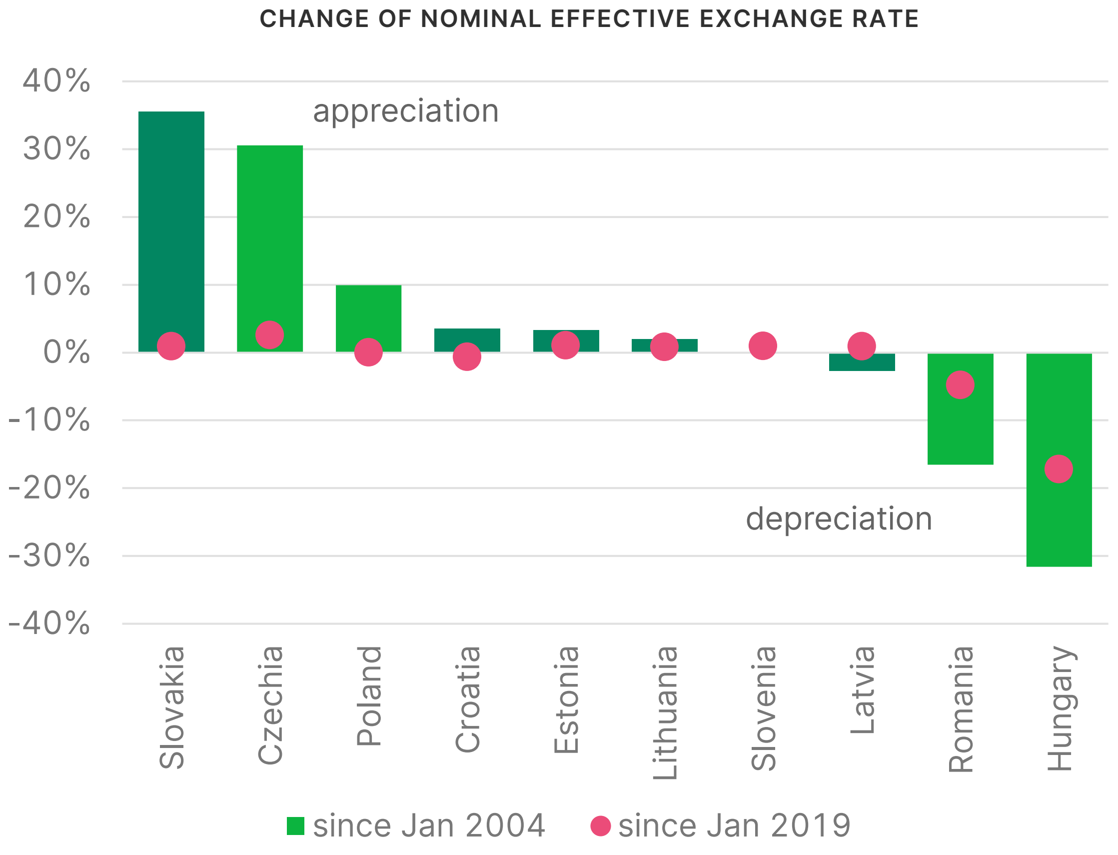
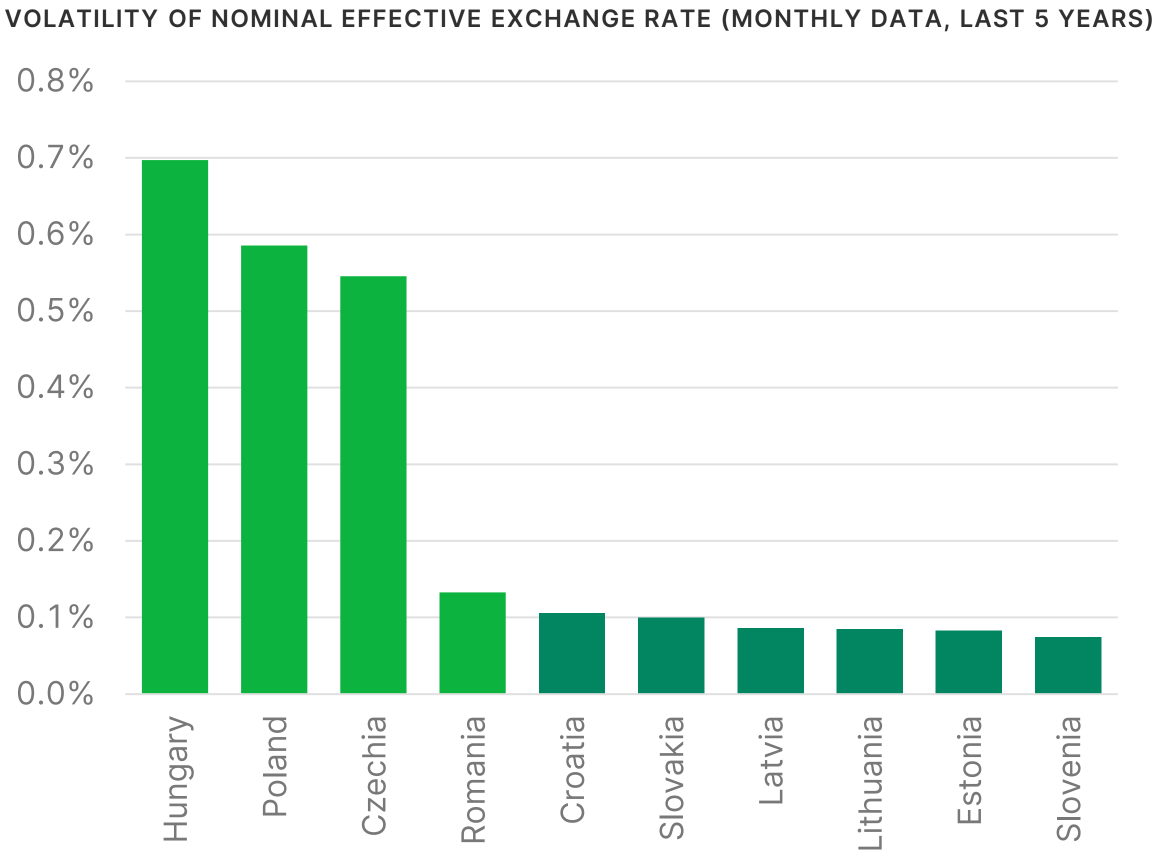
Euro adoption has brought much stronger exchange rate stability and improved predictability and transparency in setting prices.





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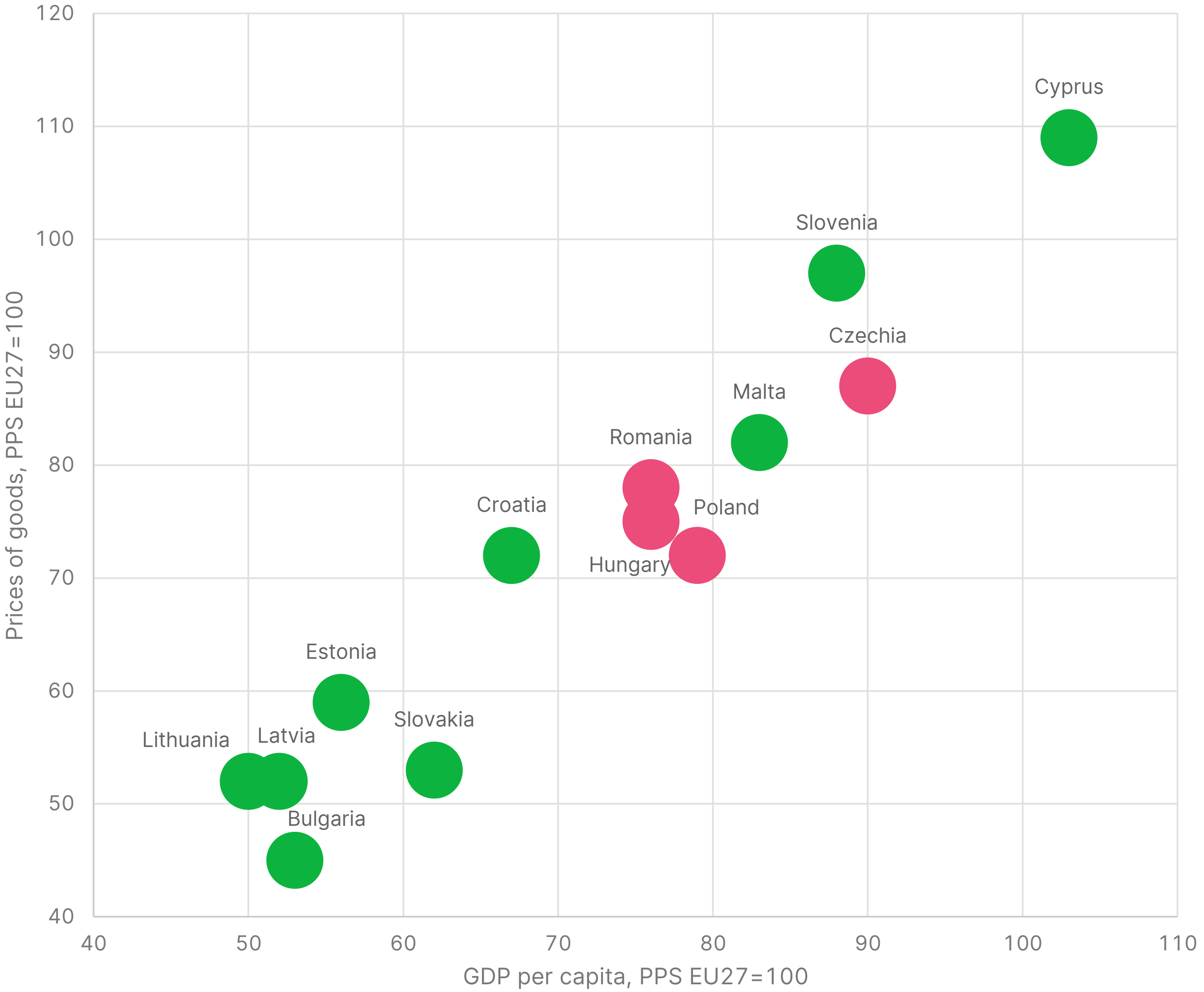
20 YEARS AFTER EU'S 2004 ENLARGEMENT

Will Czechia, Hungary and Poland take the next step?

While fulfilling Maastricht criteria may prove to be challenging shortly after the series of shocks (pandemic and the war in Ukraine), a glance at the stage of development and level of income and price convergence looks encouraging for Czechia especially. Compared to the current state of Czechia's development, only Slovenia and Cyprus had higher levels of convergence at the time they joined the Exchange Rate Mechanism (ERM II).

Hungary, Poland and Romania are also more developed than most ERM II countries were at the point of their entry into the mechanism.

INCOME AND PRICE LEVEL CONVERGENCE AT TIME OF ENTERING ERM-II



Source: Erste Group Research
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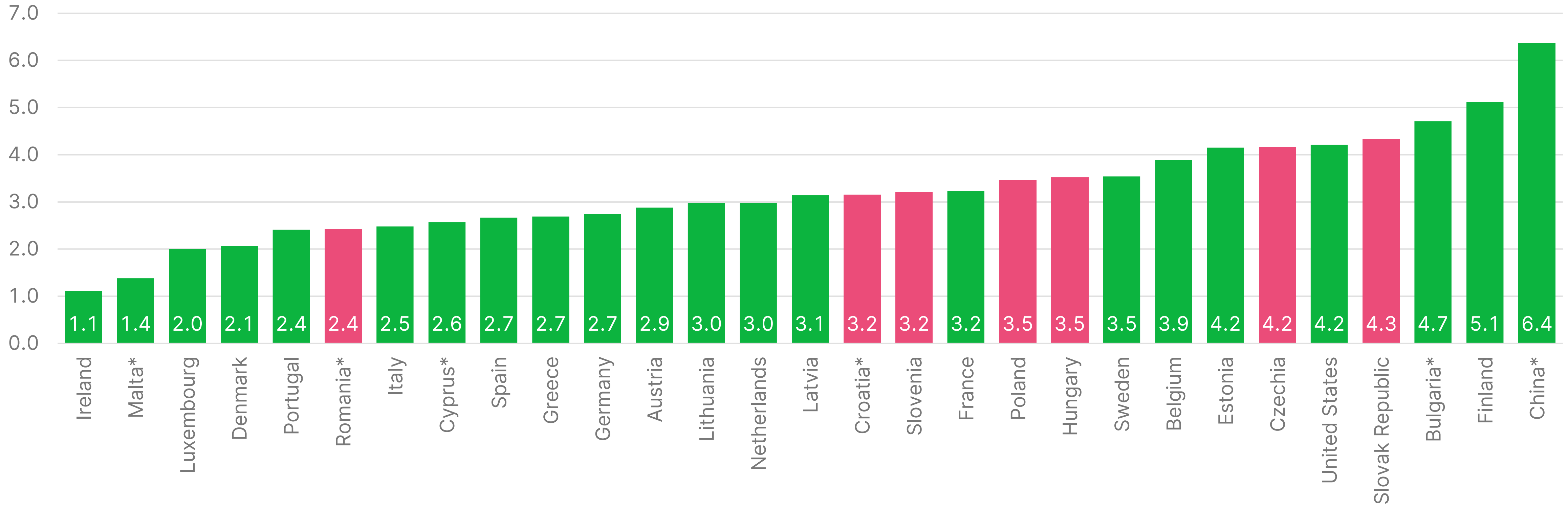
The European Union still offers opportunities for the region. The Just Transition Mechanism is a key tool to ensure that the transition towards a climate-neutral economy happens in a fair way. Digitalization is another important pillar.

CEE economies remain energy-intensive.

Energy intensity will depend on the types of industries and activities that drive economic growth, as well as the availability and relative cost of different sources of energy. High energy intensities indicate a high price or cost of converting energy into GDP.

Energy intensity level of primary energy (MJ/$2017 PPP GDP)



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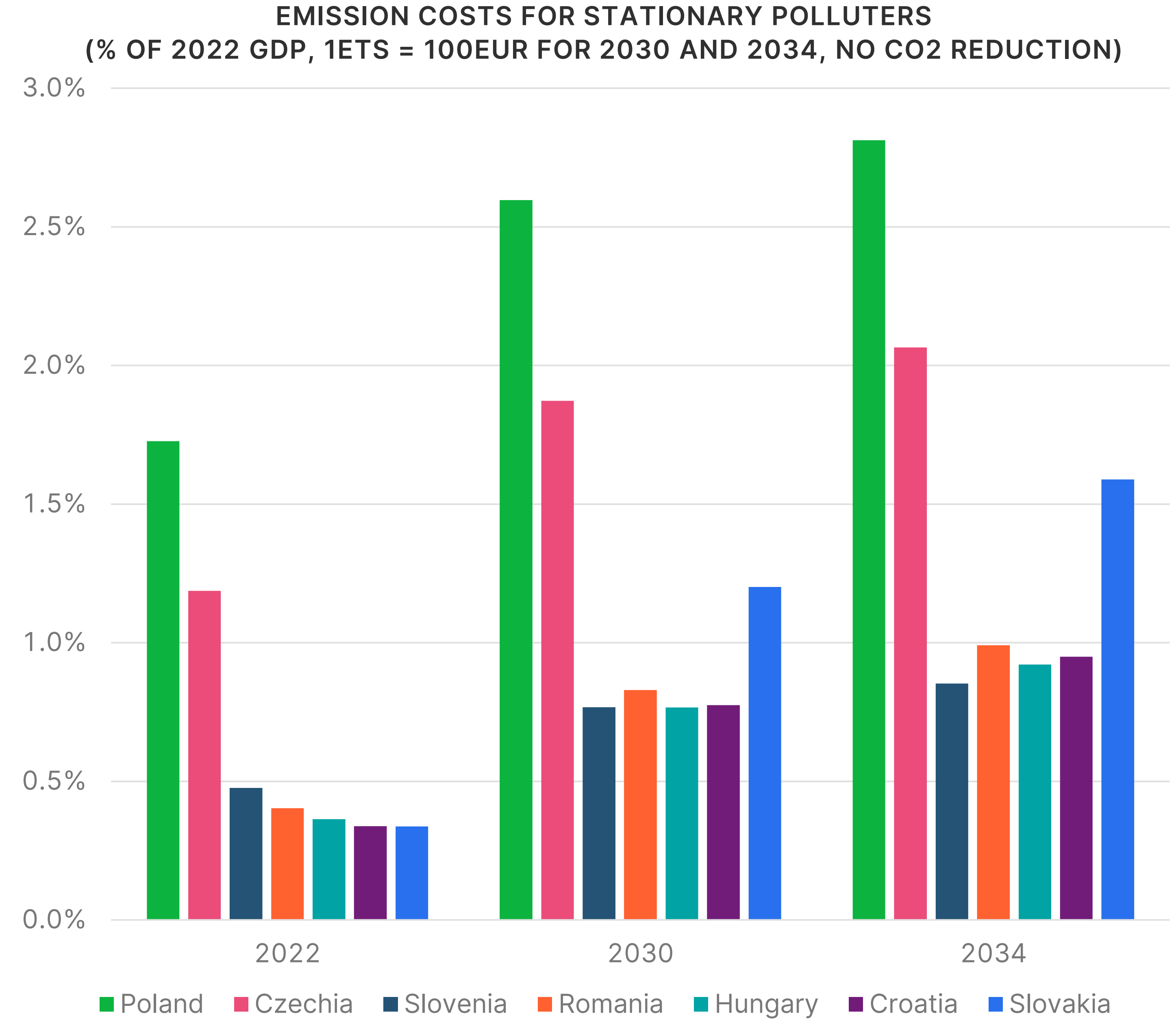


Source: Erste Group Research

Emissions will become costly.

As free allowances are phased-out starting from 2026, the costs for emission-producing enterprises will grow. Currently, the price for one allowance is around EUR 70, while a potential fine for one ton of uncovered emissions sits at EUR 100. Therefore, for future prices, we decided to use the higher value as a benchmark.

Assuming no reduction of GHG emissions, polluters in CEE will have to pay between 0.6% and 1.7% of GDP more to keep their production at current levels.

While the costs will burden the industries, the EU is rolling out the CBAM program, which imposes a carbon price on imports from outside of the EU. This measure is intended to keep EU industry competitive.

Just Transition Mechanism

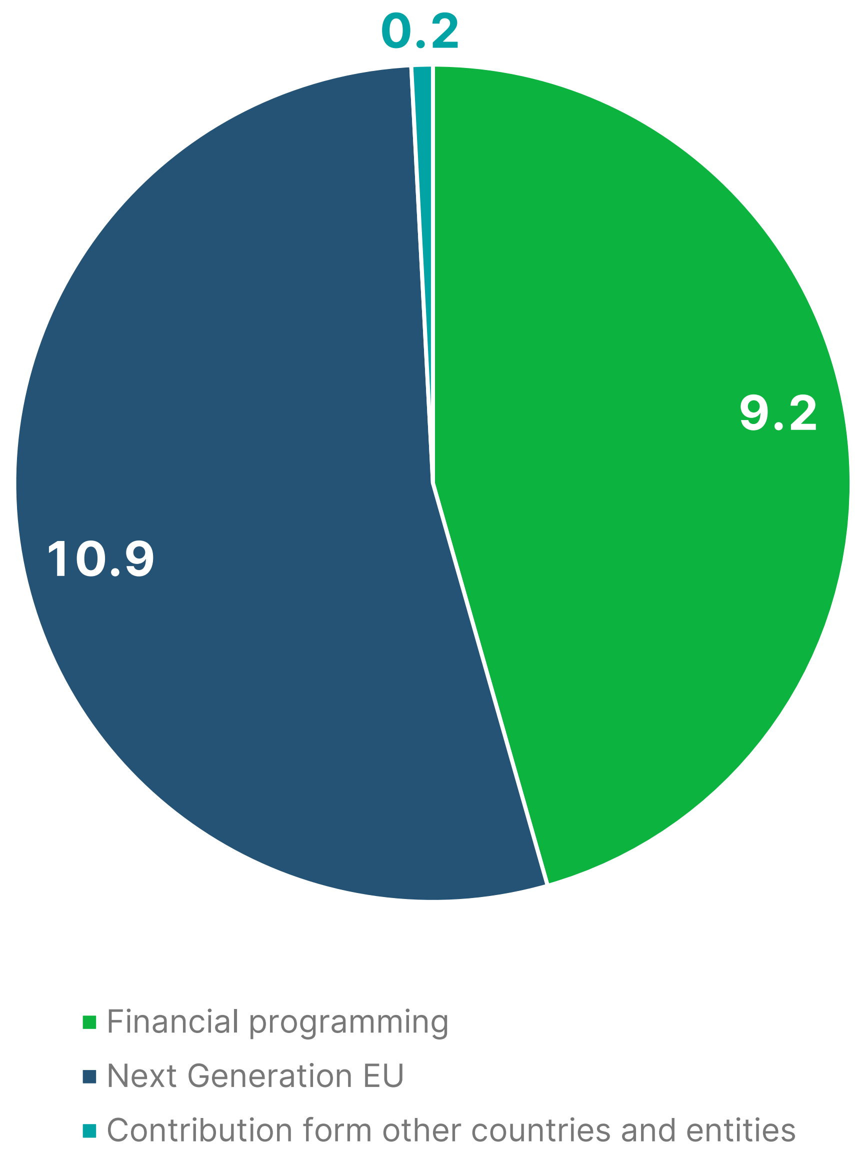
In line with the objective of achieving EU climate neutrality, the European Green Deal proposed a Just Transition Mechanism.

Three possible funding sources are available under the Just Transition Mechanism: the Just Transition Fund, a dedicated InvestEU scheme, and the Public Sector Loan Facility.

The Just Transition Mechanism is equipped with a total budget of around EUR 20bn, while InvestEU offers EU budget guarantees (roughly EUR 20bn).

This should help CEE economies by alleviating the impact of climate transition, supporting local economic diversification, the reskilling of workers and jobseekers, as job losses are likely to be an inevitable part of the green transition.

JUST TRANSITION FUND BUDGET FOR 2021-2027, EUR BILLION



Source: Erste Group Research

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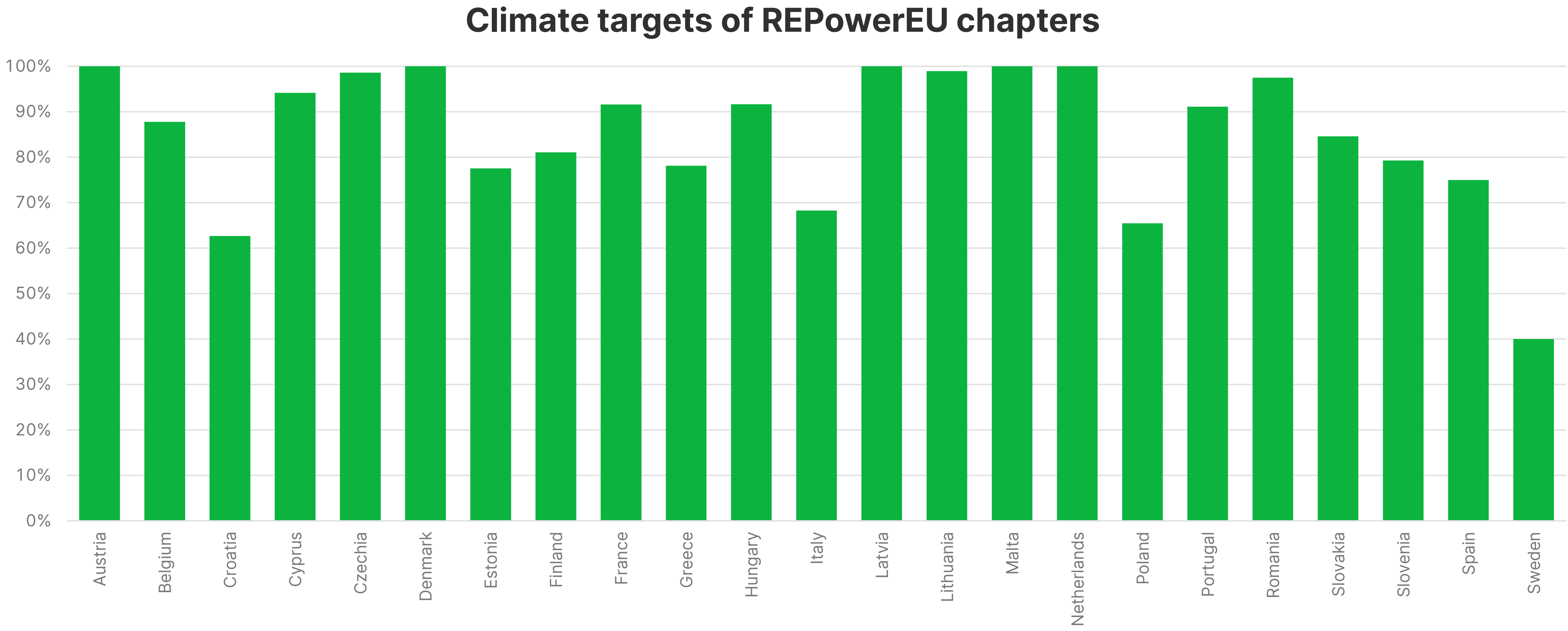
Each recovery and resilience plan has to dedicate at least 37% of the plan's total allocation to climate objectives.



Source: Erste Group Research
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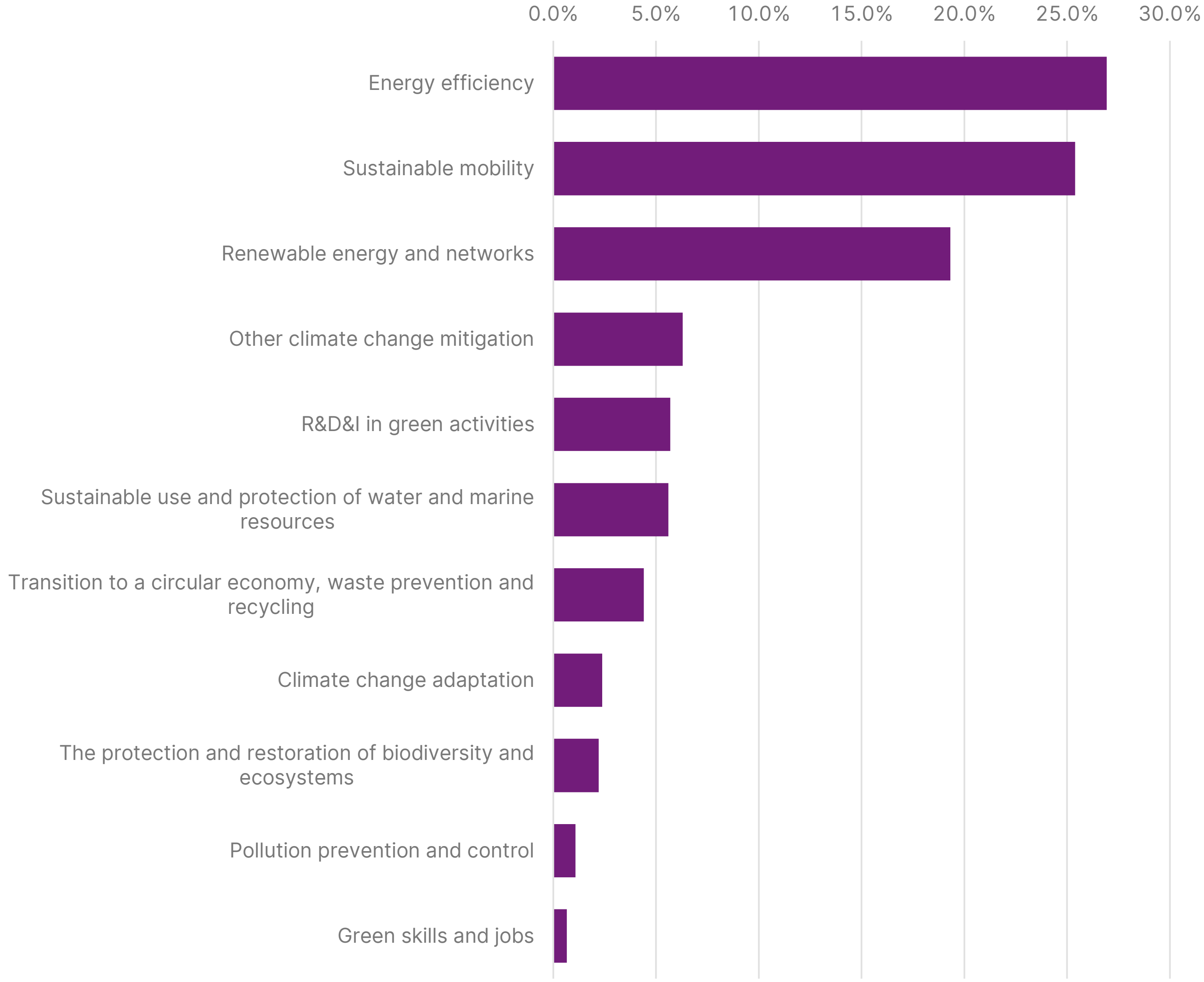
Energy efficiency and sustainable mobility are top priorities

Energy efficiency is a broad category that includes improvement of energy efficiency of buildings, installing heat pumps, cogeneration of heat and power as well as product labeling and eco-design rules to promote energy efficiency products.

For transport to become sustainable, it requires boosting the uptake of zero-emission vehicles, vessels and planes, renewable & low-carbon fuels and related infrastructure (installing 3mn public charging points by 2030 or creating zero-emission airports and ports).

GREEN TRANSITION PILLAR: BREAKDOWN OF EXPENDITURE FOR THE EU



Source: Erste Group Research
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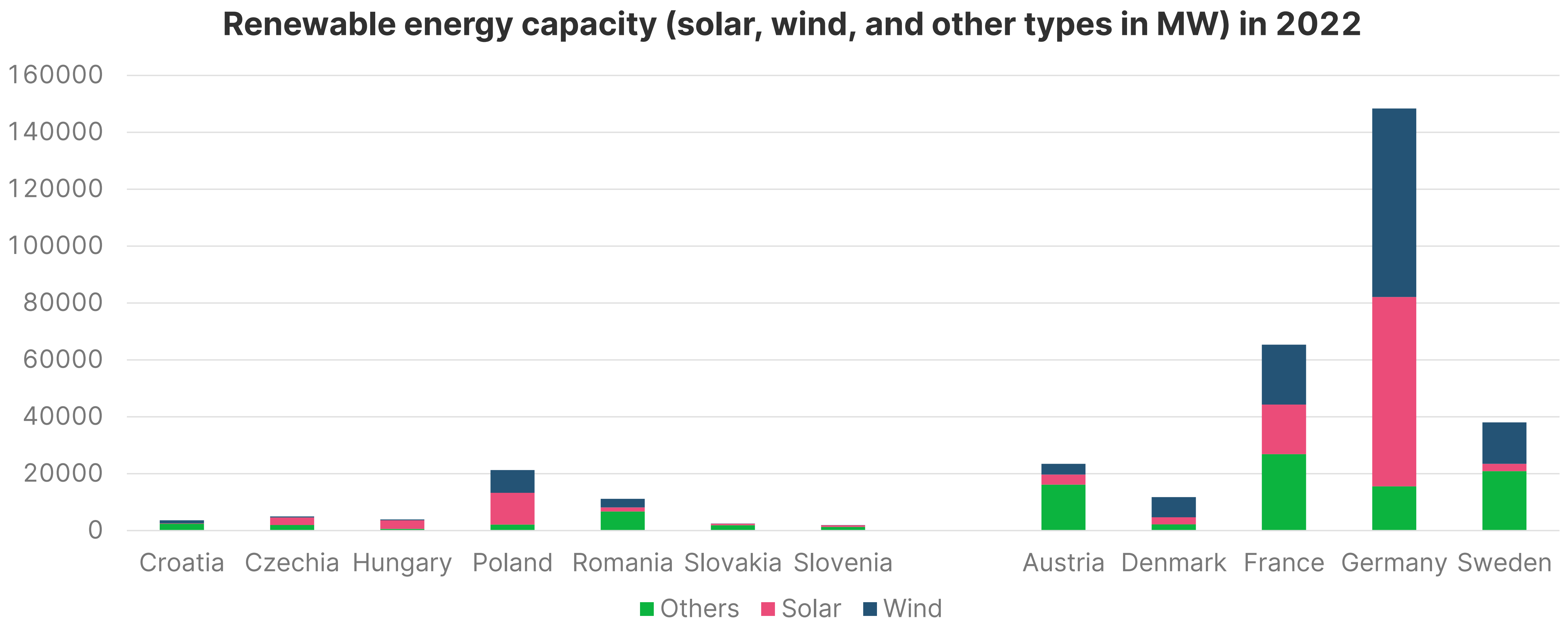
REPowerEU should support the diversification of energy supplies and accelerate the transition to clean energy.



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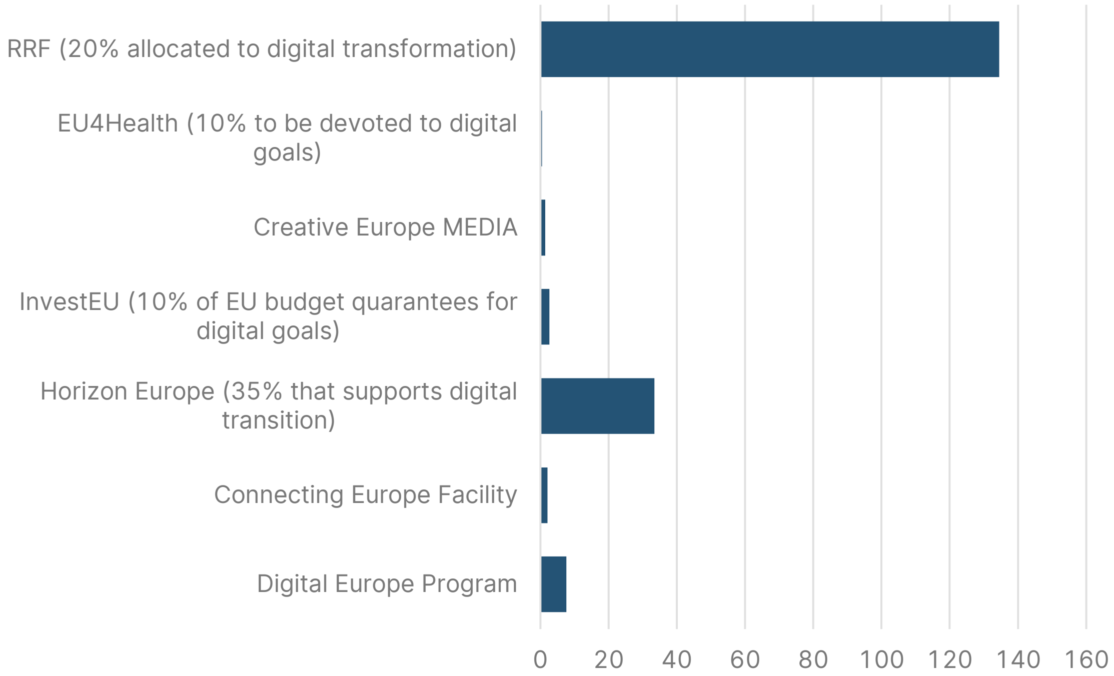
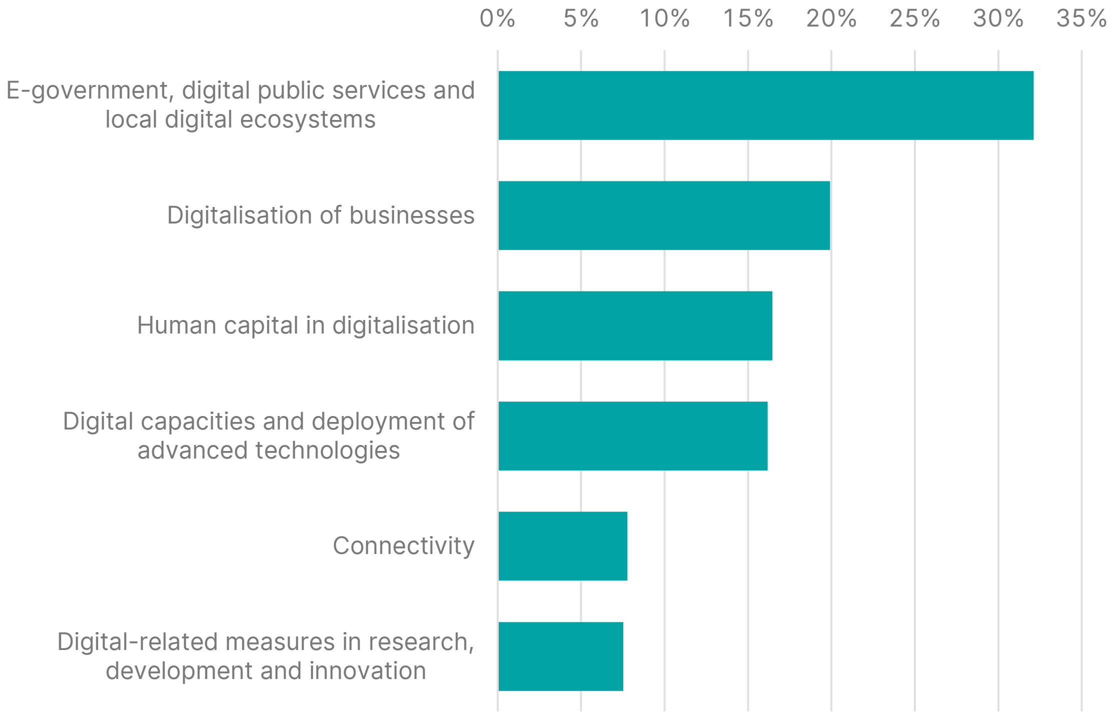
Digital transformation, alongside green transition, is another area with strong support from European institutions.

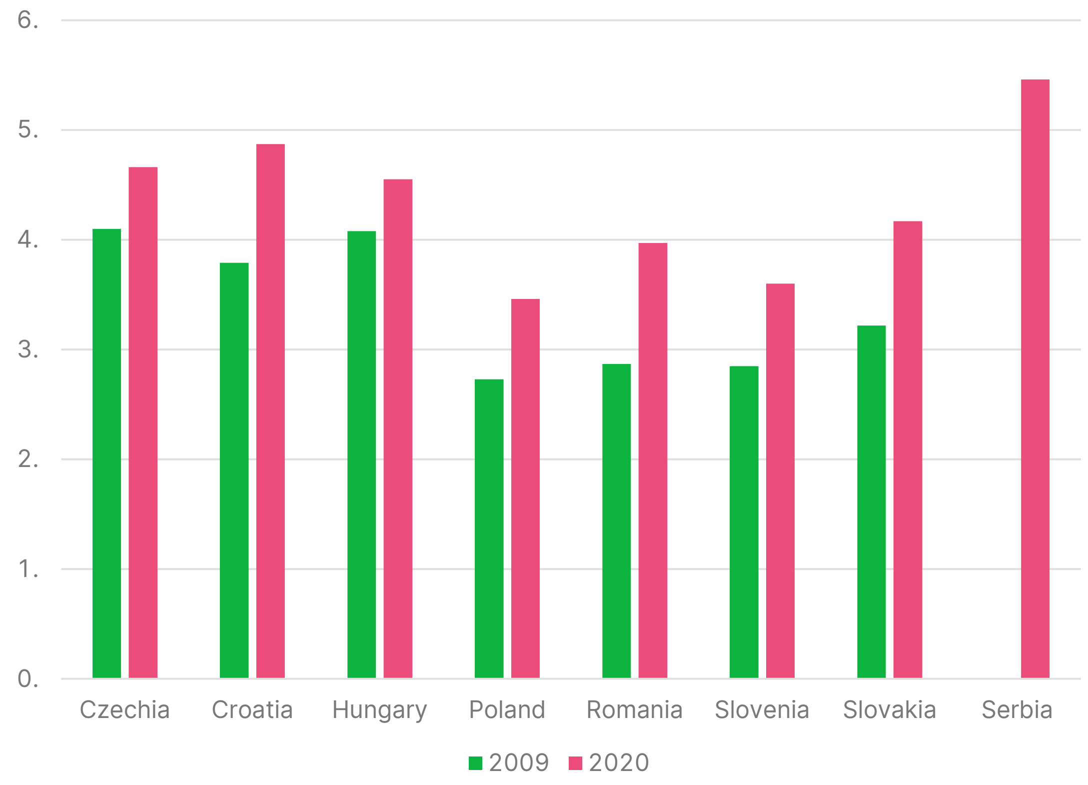


Seven main EU budget programs for Europe for digital transformation, EUR billion

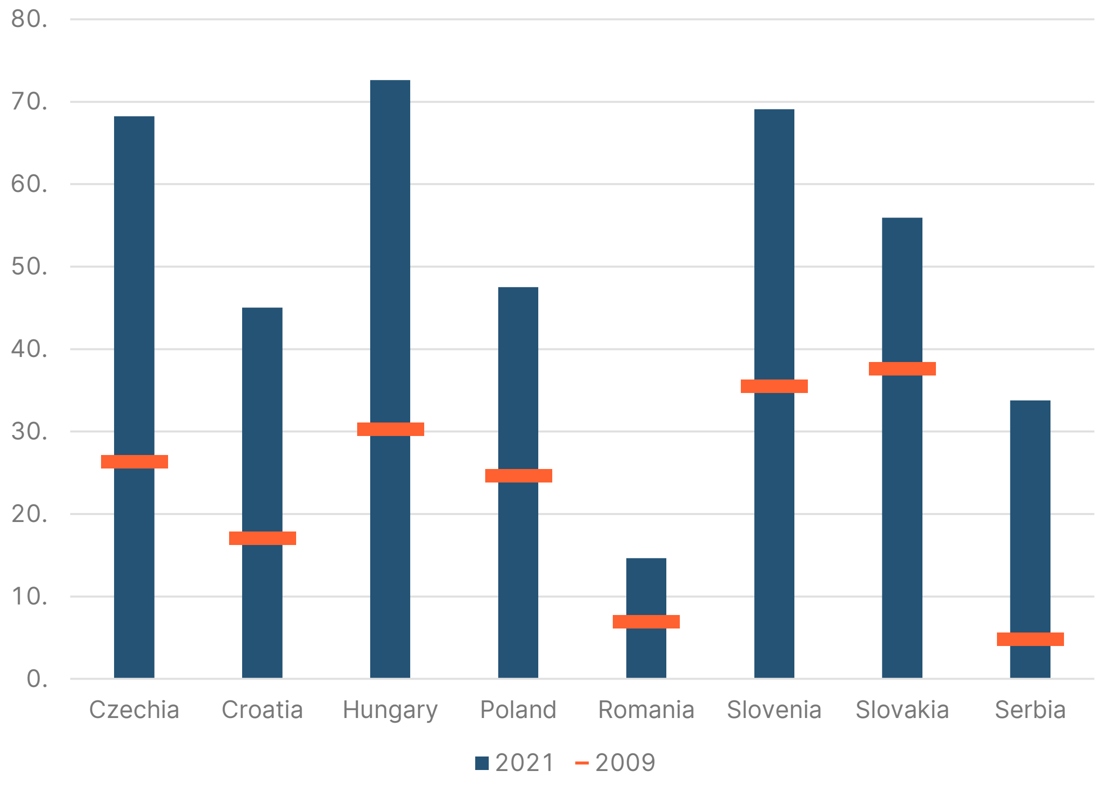


Digital transformation pillar: Breakdown of expenditure within recovery and resilience plans for Europe

Digital skills are growing in importance. The ICT services sector’s share in overall GDP is growing.



Percentage of ICT service sector in GDP, percent



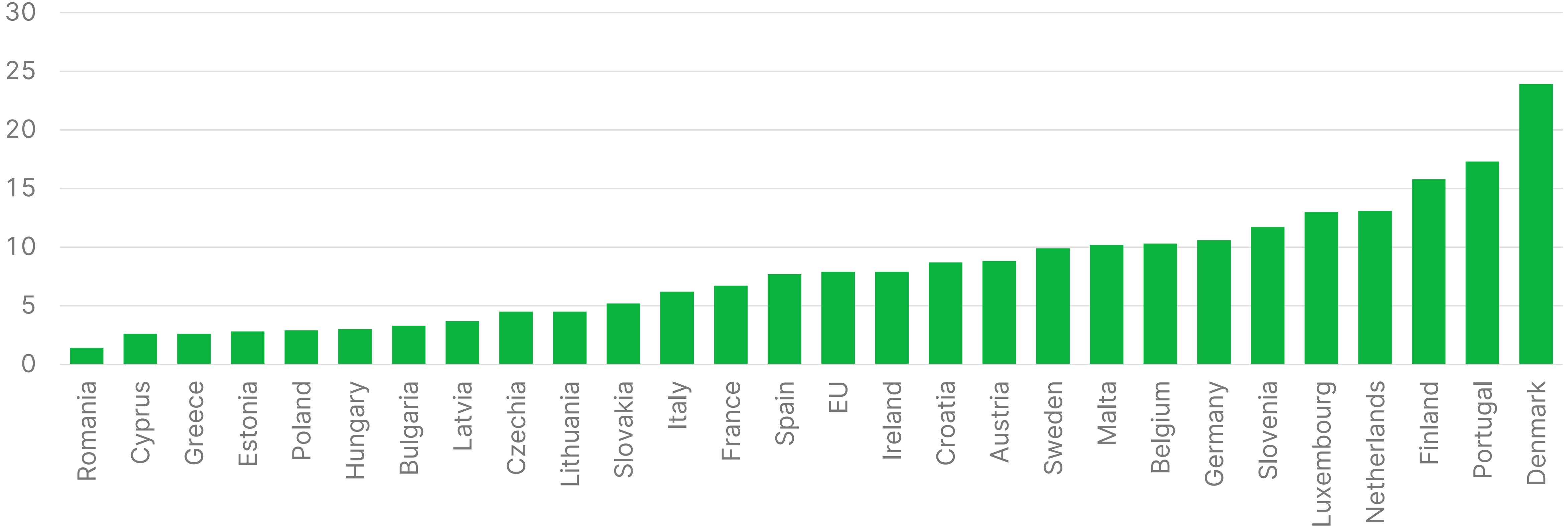
E-government activities of individuals via websites, interaction with public authorities over last 12 months, percent of all individuals

Source: Erste Group Research
April 23, 2024

20 YEARS AFTER EU'S 2004 ENLARGEMENT

The competitiveness of Europe's economy will depend on the advancement of digital networks and digital services, allowing for fast deployment of new technologies.

Enterprises using any AI technology, percent of enterprises in 2023



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Source: Erste Group Research

April 23, 2024

Appendix: The Synthetic Control Method

The Synthetic Control Method (SCM) is a statistical approach used to evaluate the treatment effect in comparative case studies. An SCM estimates the effect of the treatment or intervention of interest by comparing the evolution of an outcome variable for a unit affected by the treatment to the evolution of the same outcome variable for a synthetic control group.

Data

The time range considered goes from 1995 to 2022 and only annual observations were used. All the data was retrieved from the World Bank Open website. The countries we included to estimate synthetic GDP per capita are Albania, Bulgaria, Bosnia and Herzegovina, Serbia, Turkey, Israel, Kazakhstan, Uruguay, South Africa and South Korea. The variables used in the model are GDP per capita PPP (expressed in current international $), which is the variable of primary interest. We use another set of control variables, such as: trade (sum of exports and imports of goods and services measured as a share of GDP), inflation (CPI), secondary school enrollment ratio (ratio of number of students enrolled in secondary education regardless of age by the population of the age group which officially corresponds to secondary education, and multiplying by 100), and industrialization as percentage of GDP (value added in mining, manufacturing, construction, electricity, water, and gas).

Appendix: The Synthetic Control Method

Methodology and Results

The synthetic control group is created by searching for a weighted combination of control units chosen to approximate the unit affected by the treatment in terms of predictor variables. The evolution of the outcome variable for the resulting synthetic control group is an estimate of the counterfactual of what would have been observed for the affected unit in the absence of the treatment. We estimate the counterfactual of the GDP per capita by minimizing the mean squared prediction error of

$$\sum_{m=1}^{k} v_m (X_{1m} - X_{0m} W)^2,$$

Where $X_1 - X_0 W$ represents the difference between the "real" GDP and the synthetic one. The weights assigned by the algorithm to each country (weights w∗) are:

	Slovakia	Poland	Czechia	Hungary	Romania	Slovenia
Albania	0.0002	0.0000	0.0000	0.0001	0.0000	0.0000
Bulgaria	0.0002	0.0000	0.0000	0.0001	0.0148	0.0000
Bosnia and Herzegovina	0.1353	0.0866	0.0000	0.0002	0.0577	0.0000
Serbia	0.0001	0.0000	0.0000	0.0001	0.7431	0.0000
Turkey	0.0003	0.0000	0.0000	0.0001	0.0498	0.0000
Kazakhstan	0.5894	0.3822	0.4031	0.7279	0.1345	0.0000
Israel	0.2219	0.0000	0.4173	0.2036	0.0000	0.1102
Uruguay	0.0001	0.3244	0.0000	0.0000	0.0000	0.1367
South Africa	0.0002	0.0144	0.0000	0.0001	0.0000	0.0000
South Korea	0.05257	0.1925	0.1795	0.0680	0.0000	0.7531

Appendix: Integration

In assessing the level of integration, we look at the membership of the following European institutions:

	OECD	NATO	EU	Schengen	EA	Fiscal Compact	Banking Union	EPPO	NGEU	**Overall Index**
Slovenia	2010	2004	2004	2007	2007	2013	2014	2017	2021	**9**
Slovakia	2000	2004	2004	2007	2009	2013	2014	2017	2021	**9**
Latvia	2016	2004	2004	2007	2014	2013	2014	2017	2021	**9**
Lithuania	2018	2004	2004	2007	2015	2013	2014	2017	2021	**9**
Estonia	2010	2004	2004	2007	2011	2013	2014	2017	2021	**9**
Croatia		2009	2013	2023	2023	2013	2020	2017	2021	**8**
Czechia	1995	1999	2004	2007				2017	2021	**6**
Poland	1996	1999	2004	2007				2024	2022	**6**
Romania		2004	2007	2024		2013		2017	2021	**6**
Bulgaria		2004	2007	2024			2020	2017	2021	**6**
Hungary	1996	1999	2004	2007						**4**
Serbia										**0**

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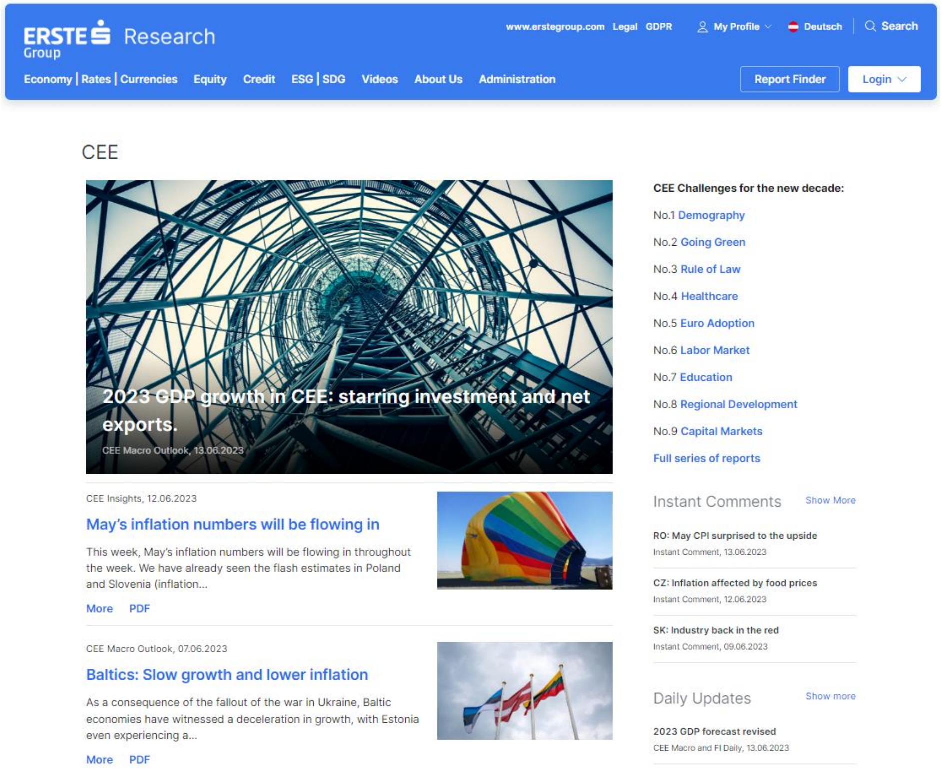

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