Polish Economic Institute

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▶ Production in CEE has stagnated. The industrial sector in most of the countries is contracting. The weak performance is linked to the lower consumer demand in the Eurozone. Some branches of manufacturing are also suffering due to the energy crisis. We expect a modest expansion of 0.4% in industry in Poland in 2023 and a contraction in the other CEE states. More in the section: *Manufacturing is contracting in CEE*.

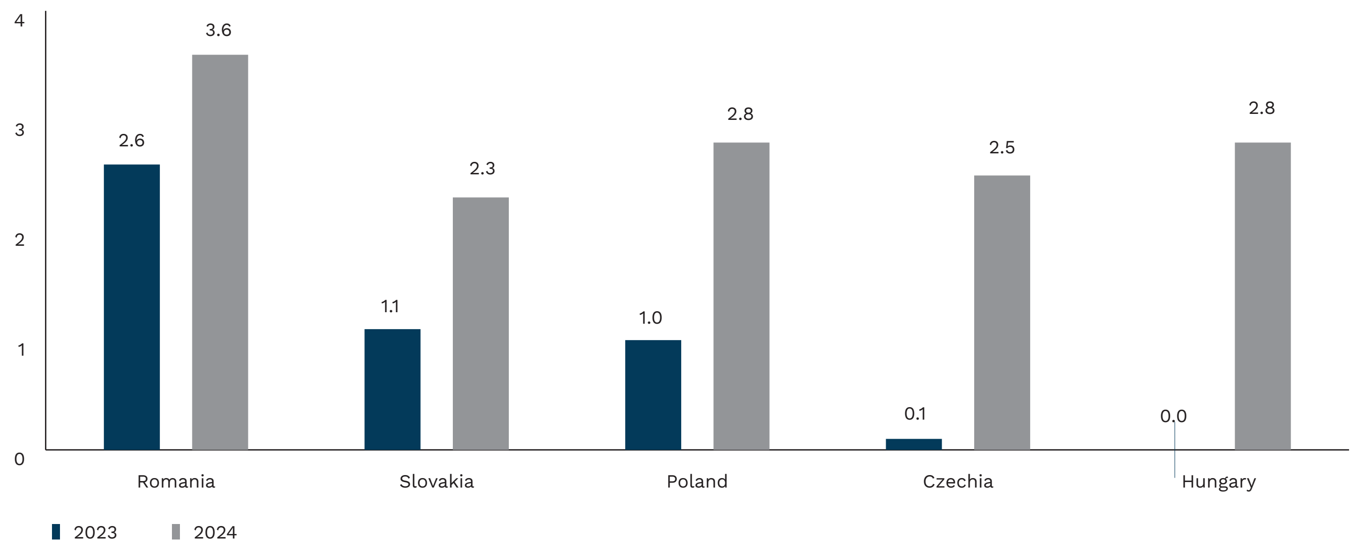
▶ Automotive companies are shifting car production to CEE. After the COVID-19 pandemic, car production volumes in CEE have returned to the pre-crisis level. Poland remains the leader in the region, followed by Czechia. We present the outlook in the section *The automotive sector in CEE*.

▶ Despite the proximity of the war in Ukraine, FDI inflows to the CEE countries remain stable. The OECD indicates that the recent results in Poland and Hungary are the highest since their first year of EU membership. At the same time, we are observing an outflow of FDI in the EU. We discuss the issue in the section *High FDI inflows in CEE*.

▶ The electric vehicle sector aimed to help achieve climate targets. This increased demand for car batteries worldwide. Producers invested, hoping for high revenues from the rapidly-growing market. However, the EV battery industry shifted to oversupply in 2022. We present the market prospects in the section *Is there an oversupply of EV batteries?*

▶ The move towards EVs will change the structure of automotive production in CEE. Slovakia is the most vulnerable, as the automotive industry accounted for 25% of value added in manufacturing in 2019 and the country is not involved in battery production. More in the section *Discussion: The energy transition and workplaces in CEE*.

GDP growth in CEE (%)



Source: Focus Economics – forecast consensus.

Manufacturing is contracting in CEE

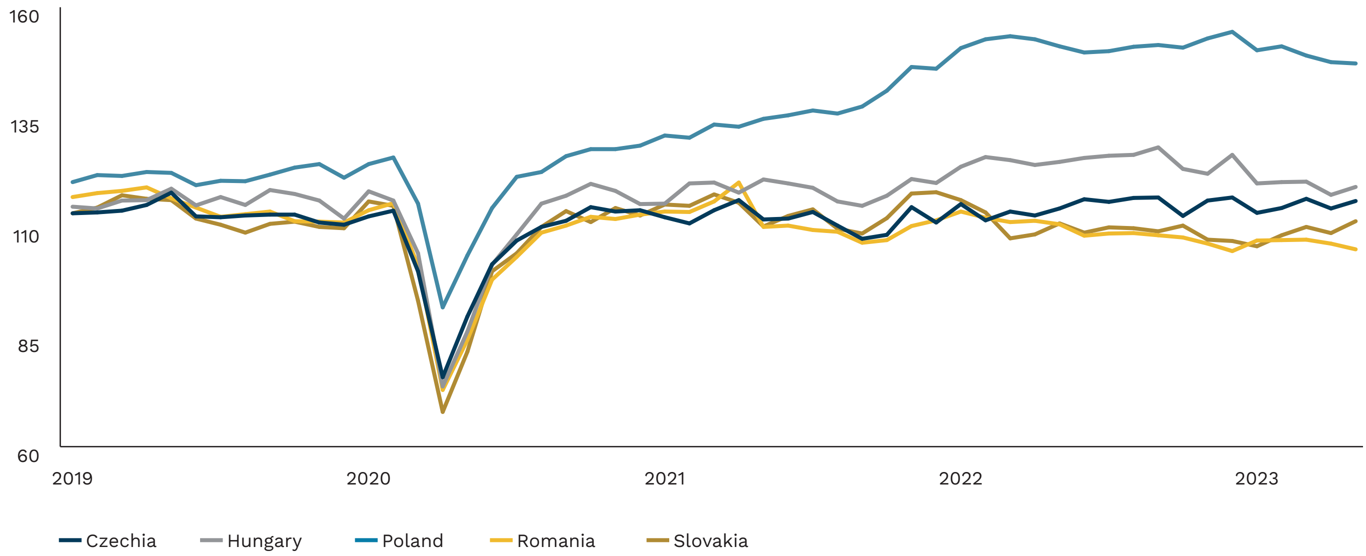
3.9%

increase in industrial production in Czechia in May (%YoY)

▶ Production in CEE has stagnated. The industrial sector in most of the countries is contracting. The weak performance is linked to the lower consumer demand in the Eurozone. Some branches of manufacturing are also suffering due to the energy crisis. We expect a modest expansion of 0.4% in industry in Poland in 2023 and a contraction in other CEE states.

▶ **Industrial production is declining in the region.** Weak performance in manufacturing is widespread in Europe. Czechia and Slovakia are the only countries where manufacturing output increased in May, by 1.5% and 0.5% YoY respectively. The rest of CEE has performed weakly; output was down by 2.6% YoY in Poland, by 4.6% in Hungary and by 5.2% in Romania.

Fig. 1.1. Manufacturing (index 2015=100, seasonally adjusted)

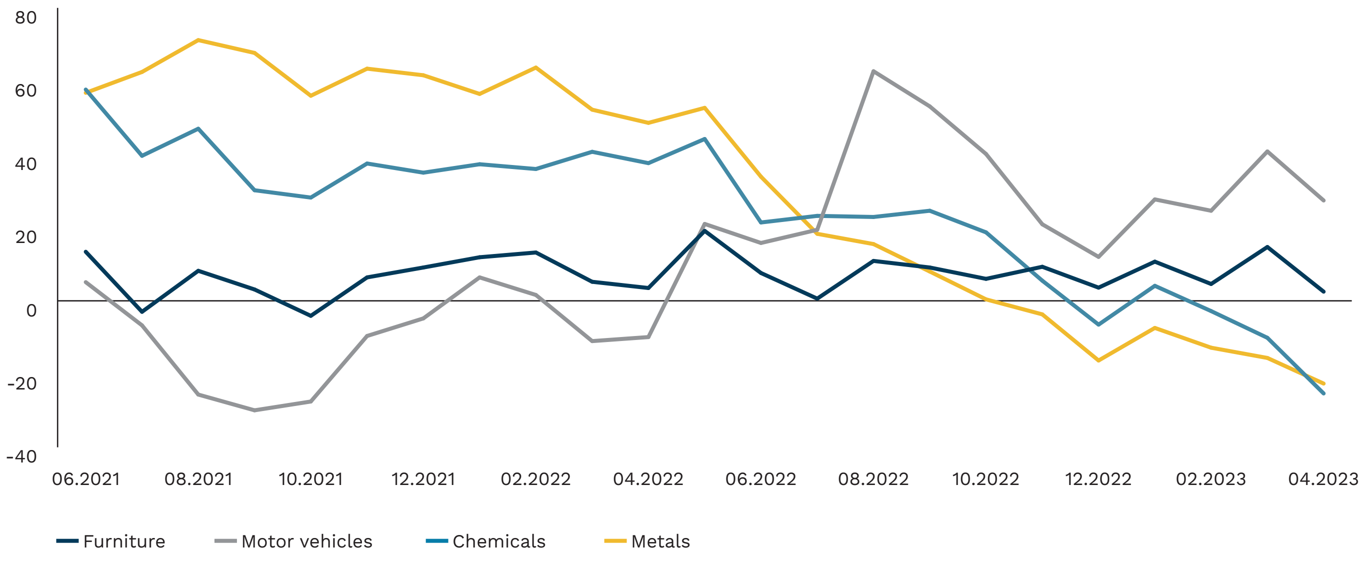


Source: Eurostat.

▶ **The weak production results from the weak economic activity in the CEE and the Eurozone.** The biggest contraction is visible in energy-intensive industries. Exports of metal products and chemicals contracted by 22.6% and 25.3% YoY respectively. Consumer demand in the EU is also weakening, leaving limited opportunities for expansion. Still, the value of furniture exports is comparable to last year (+3.5%) and, in the case of motor vehicles and semi-trailers, we are seeing a strong expansion of nearly 27.5%. However, this is linked to the finalisation of orders accumulated during the microchip shortage. The number of new orders in Germany and the CEE economies has been contracting for several months.

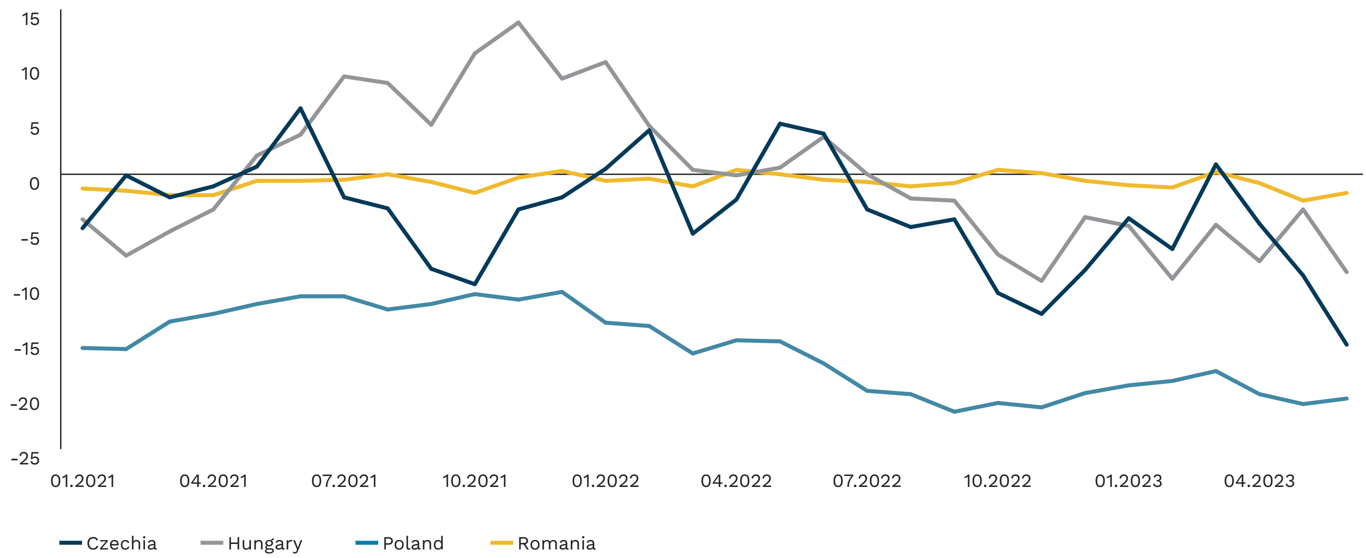
▶ **The European Commission business sentiment survey suggests weaker performance in the coming quarters,** especially in Czechia and Slovakia. The number of companies pessimistic about the economic outlook increased in Q2. Manufacturing companies are reporting weak orders and current activity, while the long-term prospects tend to improve. The change in employment indicators has been rather small.

Fig. 1.2. Exports from Poland, Czechia, Hungary and Romania to Eurozone (EUR, %YoY)



Source: Eurostat.

Fig. 1.3. Sentiment in industry



Source: European Commission.

▶ All in all, **industrial production will be weak this year.** Analysts surveyed by FocusEconomics forecast a decline in production in nearly all the CEE countries in 2023 – except Poland, where it will increase by 0.7%. We expect a slightly lower figure (0.4 %YoY). The largest drop in production should occur in the Baltic States (-3.4%). Industrial production in Czechia should fall slightly, by just 0.2%. In Hungary and Slovakia, the decrease is likely to exceed 1%. Next year should bring a rebound: industrial production in CEE is expected to grow by 3.5% in 2024.

The automotive sector in CEE

41%

Increase in cars production in CEE countries since 2015

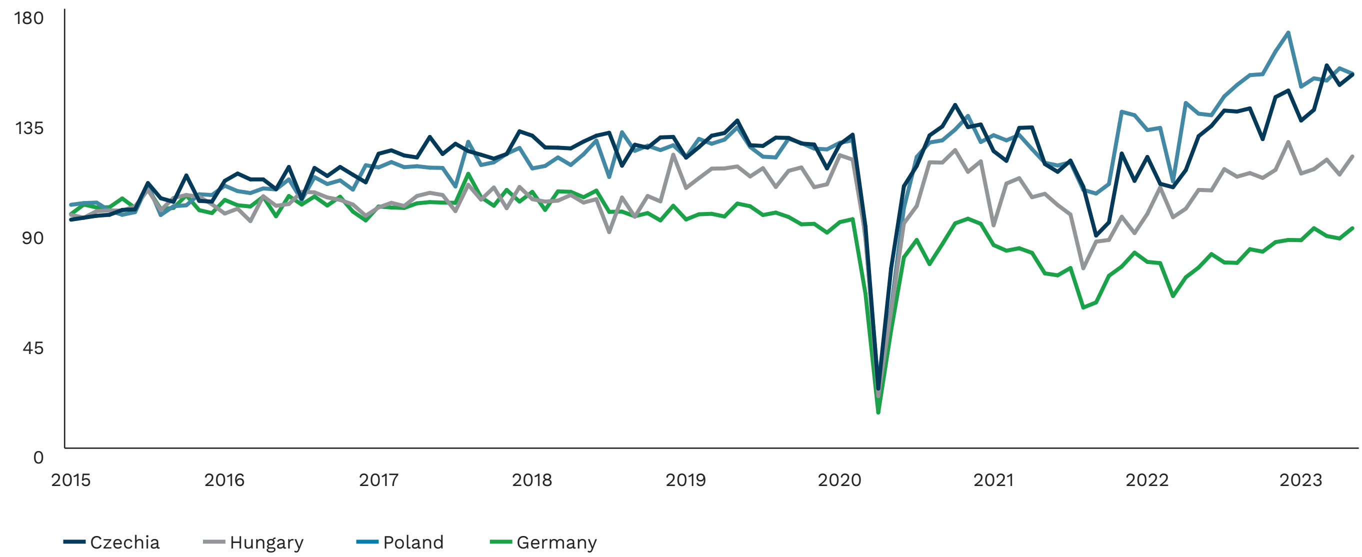
23%

Increase in new car registrations in CEE countries since 2015

▶ **Automotive companies are shifting car production to CEE countries.** After the shocks caused by the COVID-19 pandemic and Russia's invasion of Ukraine, car production volumes in CEE have returned to the pre-crisis level. Poland remains the leader in the region, followed by Czechia. Eurostat data shows that car production has increased by almost 50% over the past eight years. The automotive sector is driving industry in the CEE countries. The construction of additional factories is having a positive impact on industrial production in Poland and Czechia, in terms of FDI inflows.

▶ **Car production is close to 2019 levels, but registrations are less frequent.** The number of new car registrations has been falling steadily since the start of the pandemic. In all the countries in the region, new registrations are significantly lower than in 2020. In Germany and Czechia, the number of car registrations is 14.1% and 1.2% lower, respectively. The lower demand is a result of greater maintenance costs; that is, higher taxes, policies aimed at limiting car use in big cities, and additional restrictions on the purchase of cars with combustion engines.

Fig. 2.1. Motor vehicle and semi-trailer production in the CEE countries and Germany (index 2015=100)



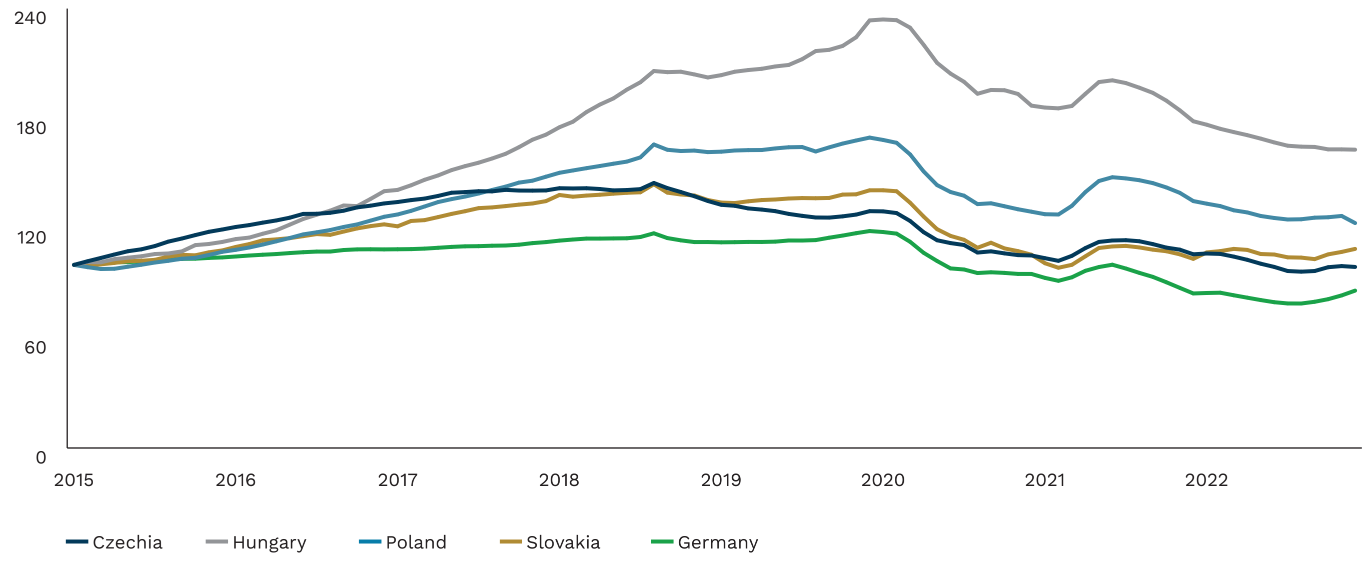
Source: Eurostat.

▶ **Car production is shifting towards electric vehicles.** The share of electric cars is increasing year on year; in 2022, it accounted for 25% of the EU car market. The leading exporter is Czechia: exports amounted to EUR 363 billion in April 2023, compared to 70 million at the end of 2017, an increase of more than 5000%. However, factories in Czechia are making mainly the final assembly. Meanwhile, major components — such as batteries — are produced in Poland and Hungary.

▶ **The main export destinations are EU countries, expect Slovakia.** Around 75% of car exports from CEE countries go to EU countries. Among the countries analysed, only Germany exports more than 40% of its production outside Europe. Taking 2015 as the base year, the leaders when it comes to export growth are Czechia and Slovenia; the index amounts to

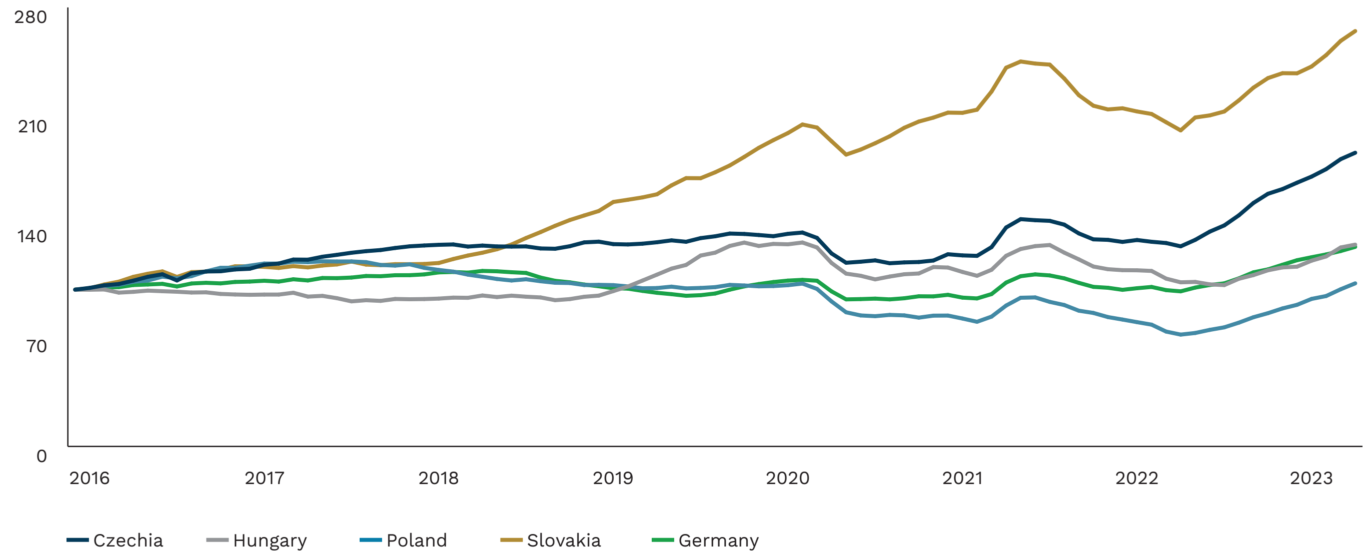
183 and 231, respectively. Slovenia has seen a huge increase in car exports outside the EU. In May 2023, the value of its exports to the rest of the world was 250% higher than in 2015 — a record increase.

Fig. 2.2. New car registrations (index 2015=100)



Source: ECB.

Fig. 2.3. Export of motor vehicles (index 2015=100)



Source: Eurostat.

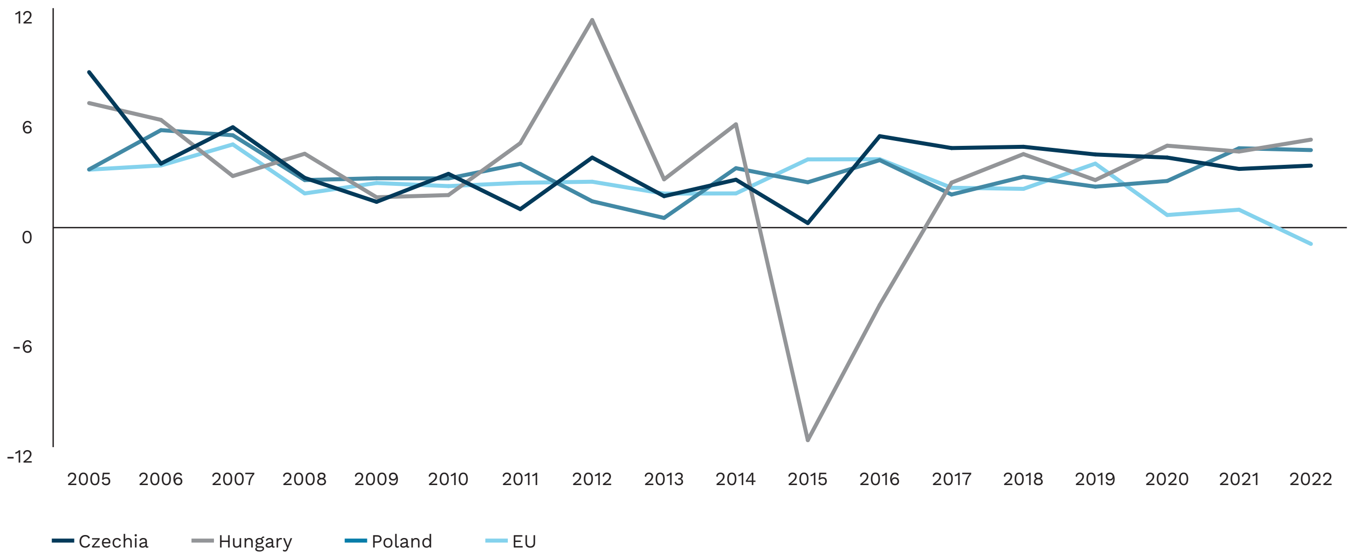
High FDI inflows in CEE

4.8

FDI inflows in Hungary in 2022 (% GDP)

▶ Despite the proximity of the war in Ukraine, inflows of foreign direct investments (FDI) to CEE countries remain stable. The OECD indicates that the recent results in Poland and Hungary are the highest since their first year of EU membership. In 2022, FDI inflows amounted to 4.2% and 4.8% of GDP, respectively. CEE is benefiting from reshoring by EU companies. At the same time, we are observing an outflow of FDI in the EU, with the biggest drop in countries usually used as a transit location for capital; that is, Luxembourg (-390% of GDP) and the Netherlands (-6%).

Fig 3.1. Inflow of Foreign Direct Investments in the selected countries (% of GDP)

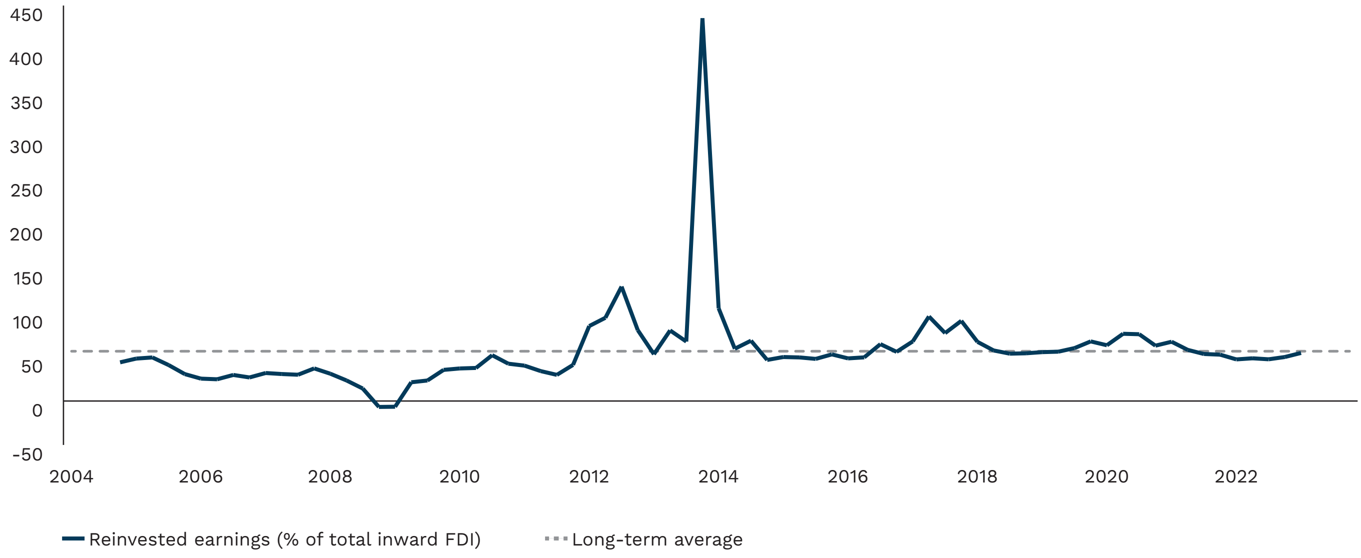


Source: Calculated by PEI based on OECD data.

▶ **The decent performance is likely to continue despite the economic slowdown.** Balance of payment data shows a stable inflow of FDI of 3.6% of GDP in Czechia. In Poland, it has slowed down by 1pp; the 12-month rolling sum has dropped from 5% to 4.1% of GDP. The values presented by the National Bank of Poland (NBP) for the last two years have been systematically higher than the OECD estimates. Similar tendencies are present in Hungary; according to the Hungarian Central Statistical Office and Eurostat data, the value of investments has shrink by 1.4pp — from 6.7% to 5.3% of GDP.

▶ The structure of aggregates is very similar across the three countries. Firstly, the biggest share of the inflows is linked to reinvested earnings; this varies from 55% of the overall amount in Poland to nearly 85% in Czechia. These shares do not deviate from the long-term averages and indicate that most of the inflows are linked to the organic growth of enterprises with foreign capital. Their weaker financial performance suggests that the share will fall in the coming quarters. Secondly, we are seeing an increase in corporate debt financing. Detailed data suggests these are mainly transactions between entities in capital groups; therefore financing is rather stable. Finally, we are seeing a modest increase in equity investments – they are close to 0% of GDP in Czechia and lower than 1% of GDP in Poland. This suggests rather moderate interest in the case of new investors from, for example, the US or Asia.

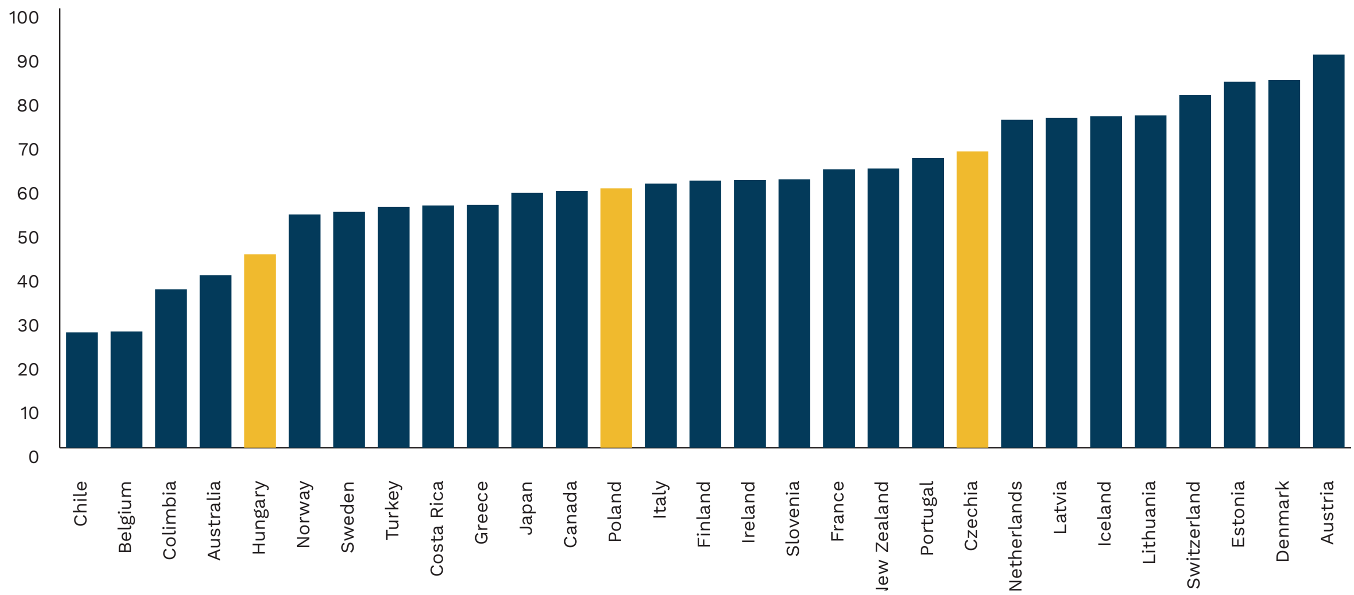
Fig 3.2. Reinvested earnings as a percent of FDI inflows in Poland (%)



Source: Calculated by PEI based on NBP data.

▶ **CEE should bolster the inflow of FDI related to digital services.** So far, the region is benefiting from manufacturing activity. According to Maersk and Reuters, Poland is the number one location for reshoring activities in the EU, with Czechia and Hungary close to the top ten. Both point to relatively sound prospects for industry. Still, given the challenges linked to the shrinking labour force, a greater share of value added should be generated by modern, knowledge-intensive services. So far, the progress in this category has not been impressive. The share of FDI in service in the total stock is close to the OECD median in Poland and Czechia, and surprisingly low in Hungary.

Fig 3.3. Share of FDI in services (% of total stock)



Source: Calculated by PEI based on OECD data.

Is there an oversupply of EV batteries?

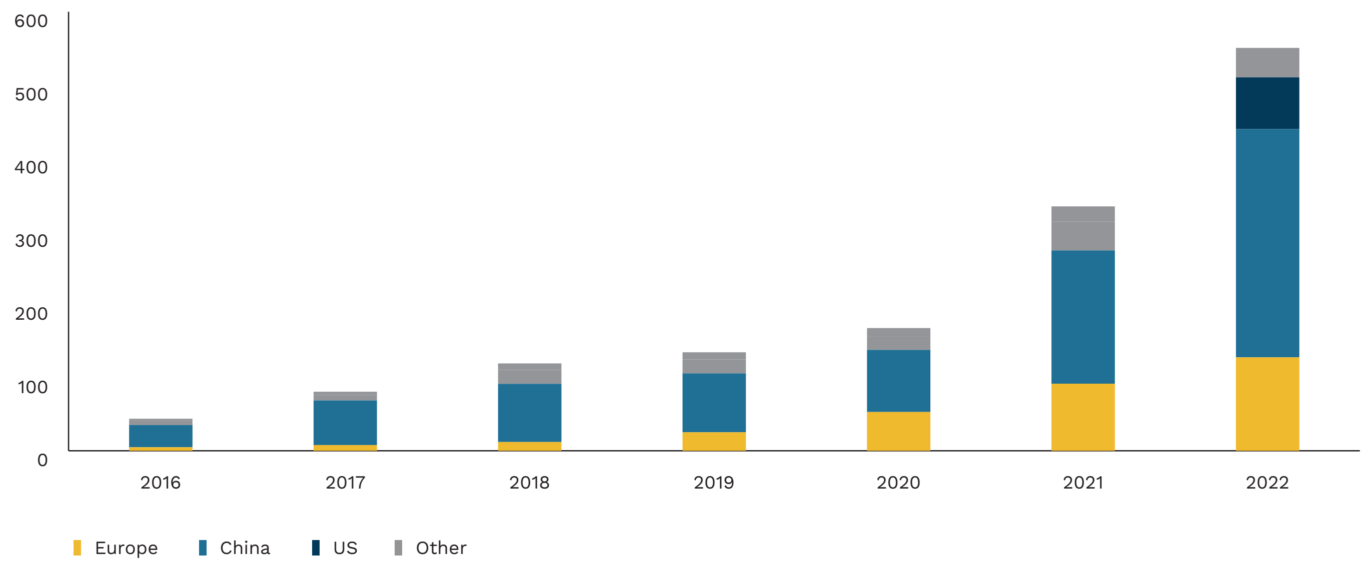
54%

share of EV batteries produced in China in 2022 that were installed in EVs

▶ The electric vehicle (EV) sector aims to help achieve climate targets. This has increased demand for car batteries worldwide. Producers, especially in China, have invested significant amounts hoping for high revenues from the rapidly-growing market. However, the EV battery industry quickly shifted from tight supply in 2021 to oversupply in 2022 due to the low barriers to entry. In the section below, we analyse the current oversupply in the EV battery market and discuss the projections for the next decade.

▶ **In 2022, China accounted for 64% of global EV production (6.7 million) and for 59% of EVs sales (6.2 million).** The demand in the world's largest market was overestimated. The China Alliance for Electric Vehicles (CAEV) reports that battery production in China in 2022 amounted to around 545.9 GWh, but that only 294.6 GWh were installed in EVs. In January-May 2023, this trend continued: only 119.2 of the 233.5 GWh produced were installed in EVs. The battery oversupply is partly caused by slowing EV sales, as China phases out cash subsidies and consumers are concerned about a weak economy, but also by the rush into battery production.

Chart 4.1: Battery demand by region, 2016-2022 (GWh/year)



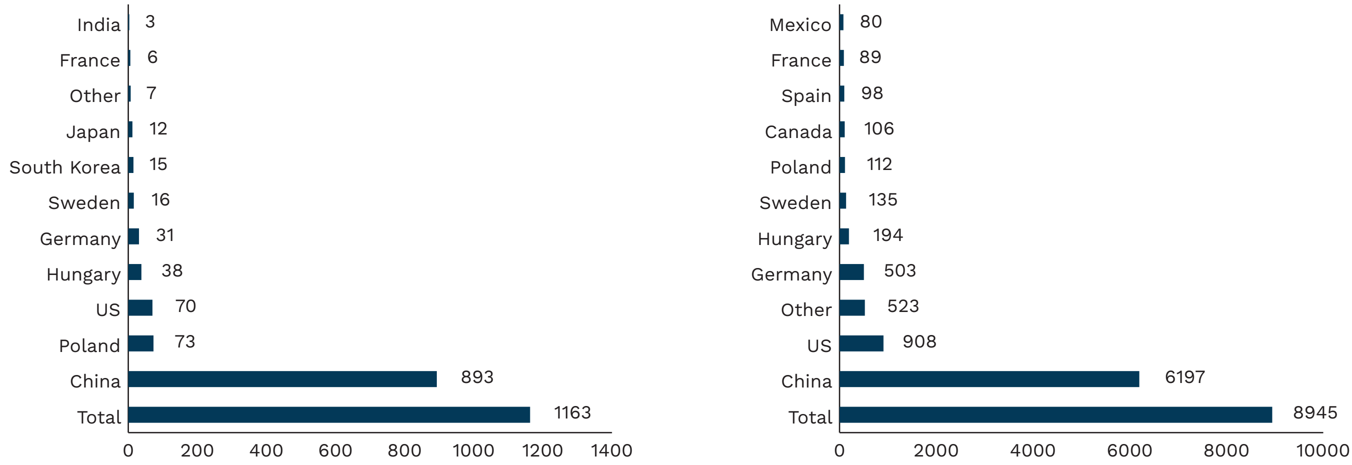
Source: IEA.

40%

– the potential share of used battery production capacity in 2025 in China

▶ **BloombergNEF estimates that battery production capacity in China may increase almost six-fold, from 893 to 6197 GWh, in 2022-2027.** The Chinese Academy of Sciences forecasts that, by 2025, the country's battery production capacity may rise from around 0.9 TWh in 2022 to 3 TWh, while sales are expected to tally only 1.2 TWh. Since 2022 to first quarters of 2023, Chinese battery companies announced USD 200 billion in investments in production capacity. This should be enough to produce 30 million EVs. However, the sales growth rate is slower: in 2023, EV sales in China are projected to below 10 million units. At the same time, the market will increase globally, and international institutions point to the risks for global EV supply chains. EV batteries consist mainly of lithium, the extraction of which could reverse the situation when it comes to oversupply.

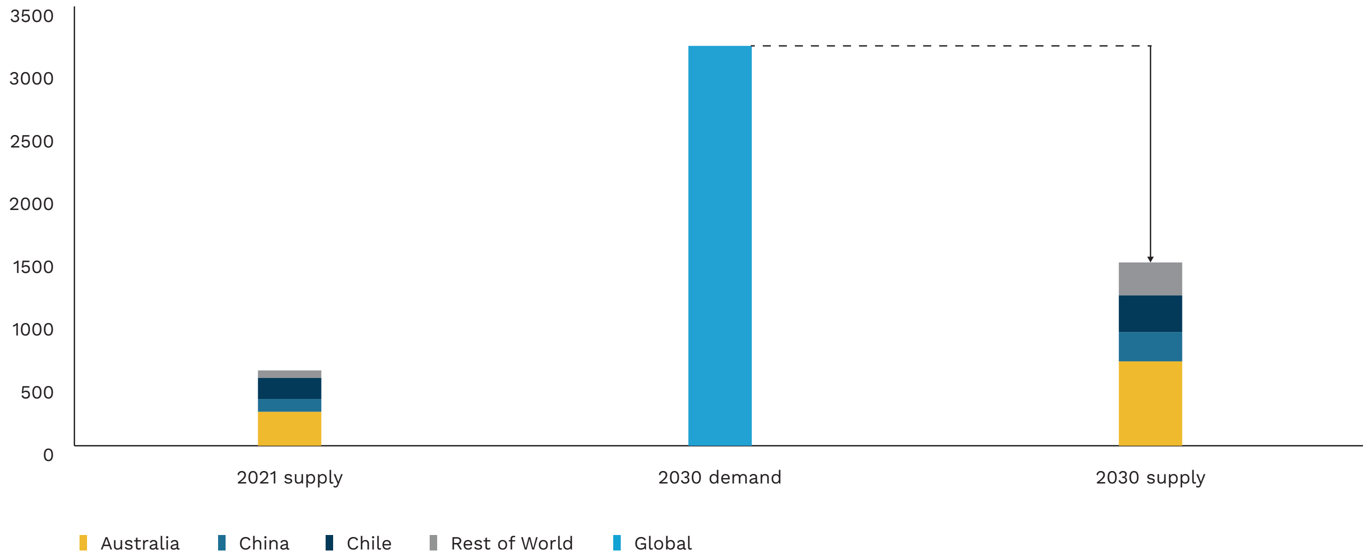
Chart 4.2: EV battery production capacity in 2022 and 2027 (GWh)



Source: BloombergNEF.

▶ **Currently, almost 60% of lithium is mined for battery-related applications; this could reach as much as 95% by 2030.** In theory, there are enough lithium reserves to cover battery demand, but most of the deposits are in Australia, Chile and China. According to McKinsey, there will be a huge supply-demand gap in 2030. Considering more than 3 TWh lithium carbonate demand in 2030, supply may be 55% lower than needed. BloombergNEF projects 2-3 TWh demand for lithium-ion battery for passenger electric vehicles in China, the US and Europe by 2030. With current technological shifts toward more lithium-heavy batteries, lithium mining will need to increase significantly. Alternatively, shift to other technologies, such as sodium-ion battery, could reduce demand for lithium.

Chart 4.3: Global demand for lithium carbonate in 2030, supply in 2021 and 2030, by country (kt)

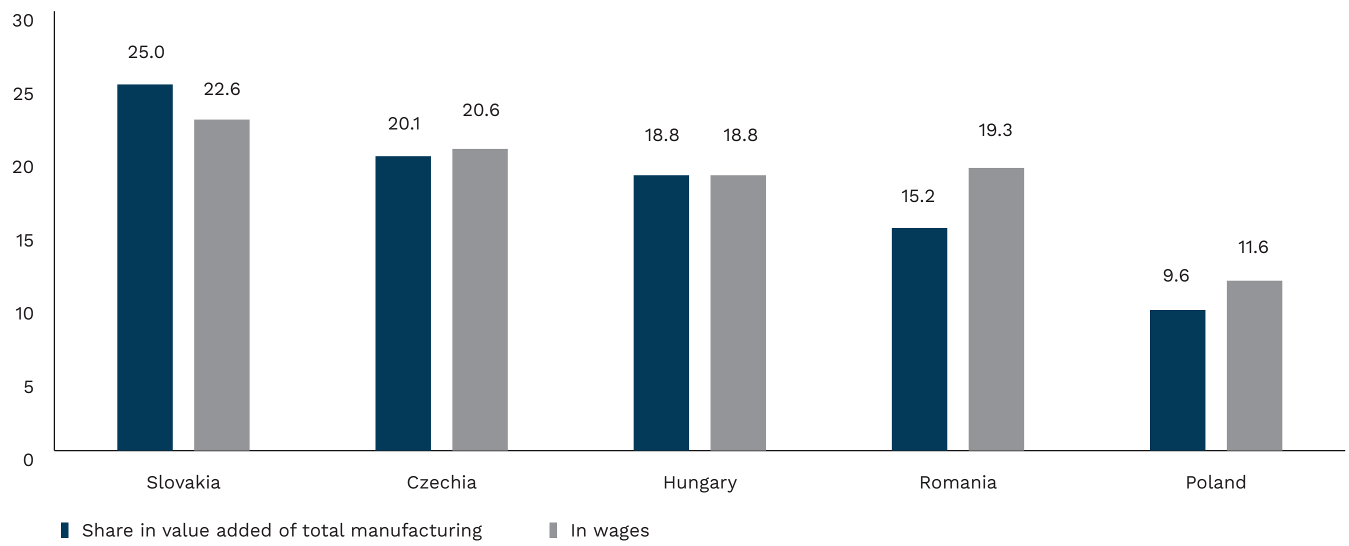


Source: McKinsey MineSpans.

Discussion: The energy transition and workplaces in CEE

▶ **The automotive industry makes up a significant share of industry in CEE** — changes in the structure of production will naturally affect the region's competitiveness and performance. Eurostat indicates that, in 2019, the industry was most important for Slovakia, where it accounted for 25.0% of value added in manufacturing. Poland is in the least dependent; industry in the country is diversified and does not rely strongly on the business climate in one particular sector.

Chart 5.1: Importance of the automotive sector in CEE (% of total manufacturing, 2019)



Source: Eurostat.

▶ **The development of electric cars means less production of mechanical parts.** The Automotive Policy Research Centre indicates that the transition from internal combustion engines (ICEs) to EVs will remove about 100 components from the production process; mainly the engine and its parts, fuel rods and the cooling system. At the same time, EVs will use up to 40 new parts, but these will mainly be batteries and other electric or electronic parts.

▶ **The largest gains will be in battery production and other electronics.** Today, the lithium-ion battery alone accounts for about 50% of the value of an EV car. PwC therefore estimates that as EVs become more widespread, electric components' share in the average car's value will increase from 44% in 2015 to 52% in 2025. The main winners will be the electrical, electronics and battery manufacturing industries. The losers will be traditional metal industries, such as car-body manufacturers.

▶ **Poland and Hungary have the greatest potential for battery production.** PSPA indicates that, in 2022, Poland had the capacity to produce 73 GWh of batteries per year — the second-highest result globally, after China. Hungary had almost half that capacity (38 GWh). However, new investments by Chinese CATL and EVE, as well as Korean SK, are currently underway in Hungary, which is likely to overtake Poland in terms of production capacity in the coming years. In Czechia and Slovakia, there are no large-scale investments in battery production, which is likely to further weigh on economic growth, especially in Slovakia, which is heavily dependent on the automotive industry.

▶ **Electric cars will require additional investment in infrastructure.** According to the IEA, the number of publicly-available charging stations for EVs in Europe has increased from 67,000 in 2015 to 356,000 in 2021; 14% of them are fast-charging stations. The development of electromobility will require not only the construction of enough charging stations, but also additional investment in electricity grids to connect chargers to power sources. In practice, this will mean additional costs and greater demand for specialised construction work.

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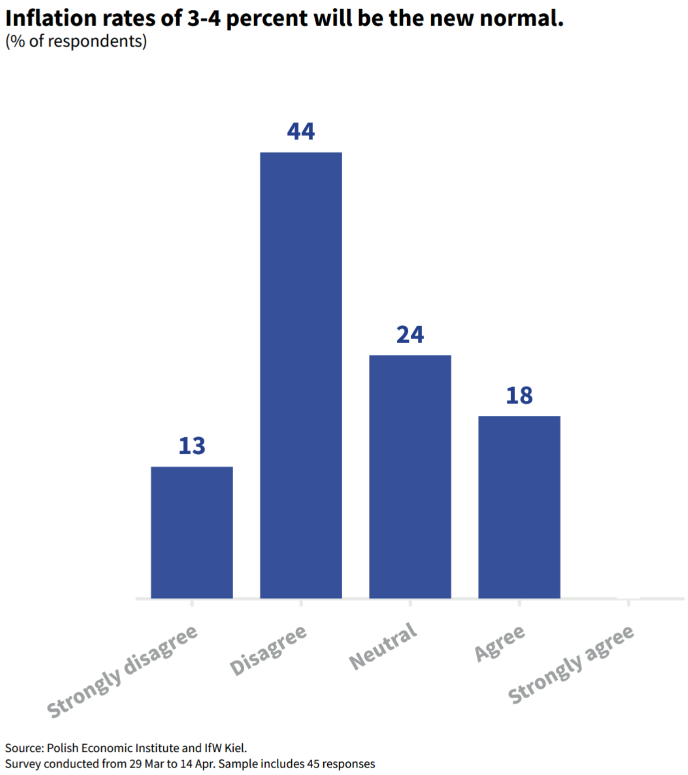

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