



INFLATION REPORT



2022
DECEMBER

'... wise is the man who can put purpose to his desires.'

Miklós Zrínyi: The Life of Matthias Corvinus



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Pursuant to Act CXXXIX of 2013 on the Magyar Nemzeti Bank, the primary objective of Hungary's central bank is to achieve and maintain price stability. Low inflation ensures higher long-term economic growth and a more predictable economic environment, and moderates the cyclical fluctuations that impact both households and companies.

In the inflation targeting system in use since August 2005, the Bank has sought to attain price stability by ensuring an inflation rate near the 3-percent medium-term target. The Monetary Council, the supreme decision-making body of the Magyar Nemzeti Bank, performs a comprehensive review of expected developments in inflation every three months, in order to establish the monetary conditions consistent with achieving the inflation target. The Council's decision is the result of careful consideration of a wide range of factors, including an assessment of prospective economic developments, the inflation outlook, financial and capital market trends and risks to stability.

In order to provide the public with a clear insight into how monetary policy works and to enhance transparency, the Bank publishes the information available at the time of making its monetary policy decisions. The Report presents the inflation forecasts prepared by the Directorate Economic Forecast and Analysis, the Directorate Monetary Policy and Financial Market Analysis, the Directorate for Fiscal and Competitiveness Analysis and the Directorate Financial System Analysis, as well as the macroeconomic developments underlying these forecasts. The forecast is based on the assumption of endogenous monetary policy. In respect of economic variables exogenous to monetary policy, the forecasting rules used in previous issues of the Report are applied.

The analyses in this Report were prepared under the general direction of the acting director responsible for economic analyses and competitiveness. The Report was prepared by staff at the MNB's Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate for Fiscal and Competitiveness Analysis, Directorate Financial System Analysis and Directorate for International Monetary Policy Analysis and Training of Economic Sciences. The Report was approved for publication by Barnabás Virág, Deputy Governor responsible for monetary policy and financial stability.

The Report incorporates valuable input from other areas of the MNB and the Monetary Council's comments.

The projections are based on information available for the period ending 15 December 2022.

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The Monetary Council's key findings related to the Inflation report

The primary objective of the Magyar Nemzeti Bank (MNB) is to achieve and maintain price stability. Without prejudice to its primary objective, the Magyar Nemzeti Bank preserves financial stability and supports the Government's economic policy, as well as its policy on environmental sustainability.

Over the third quarter of 2022, global economic growth has slowed, and GDP has already declined in several countries. The prolonged Russia-Ukraine war and the energy crisis in Europe fundamentally determine risk developments.

In 2022 Q3, economic growth rate exceeded analysts' expectations in the world's major economies. The EU, the euro area and the USA recorded year-on-year growth rates of 2.5 percent, 2.3 percent and 1.9 percent, respectively, while that in China stood at 3.9 percent. Economic growth in Germany, Hungary's most important export market, also exceeded expectations significantly in the third quarter, and recession will certainly be avoided this year. However, as a result of the prolonged Russia-Ukraine war, high inflation and still elevated energy prices as the heating season started, consumer confidence continued to deteriorate.

Inflation continues to be at historically high levels around the world, but global developments point to an easing of price pressures. Global inflation started to moderate slowly in an increasing number of countries.

The slowdown in the global economy, weakening demand, falling global energy and commodity prices, as well as lower international freight costs and the easing of difficulties in production chains, point to a continued deceleration in global price increases from 2023. Inflation rate in the United States has been slowing on an annual basis since July. Inflation in the euro area amounted to 10.1 percent in November. In the CEE region, prices rose at double-digit rates: in Hungary by 22.5 percent, in Poland by 17.5 percent and in the Czech Republic by 16.2 percent, according to data supplied by national statistical offices.

In the past quarter, the world's leading central banks continued to tighten monetary conditions, while central banks in the region decelerated or stopped their cycles of interest rate hikes that had been launched much earlier.

Following the 75-basis-point increase in November, the Federal Reserve raised the target band of its policy rate by 50 basis points to 4.25–4.50 percent at its December policy meeting. In addition, the monthly dynamics of balance sheet tightening, started in June 2022, reached the maximum level of previous announcements. In December, the European Central Bank also raised the policy rate by 50 basis points, to a smaller extent than previously. From March, the amount of assets purchased under its asset purchase programme (APP) are declining by an average of EUR 15 billion a month until the end of 2023 Q2. The central bank also tightened the conditions of its TLTRO III programme.

At its policy meetings in November and December, the Polish central bank left its policy rate unchanged at 6.75 percent. In its communication, the central bank indicated that for the time being the cycle of interest rate hikes is not terminated, just suspended. At its November policy meeting, the Czech central bank left the benchmark rate at 7.00 percent. As the statement following the decision suggests, the central bank will continue to prevent excessive fluctuations of the exchange rate of the Czech koruna. The Romanian central bank raised the base rate by 75 basis points in October and by 50 basis points to 6.75 percent in November. In September 2022, the Magyar Nemzeti Bank raised the interest rate on its key policy instrument by 125 basis points to 13.00 percent. In addition, the MNB introduced one-day deposit quick tenders with an interest rate of 18.00 and a one-day FX swap instrument in October in order to ensure financial market stability.

Financial market tension rose significantly at the end of September, followed by a gradual improvement in market sentiment from mid-October, amid high volatility. Developments in the Russia-Ukraine war continue to create significant uncertainties in the CEE region.

Several factors led to a significant deterioration in market sentiment in the first half of the past quarter. Asset prices were driven by the news regarding the Russia–Ukraine war and the related sanctions, expectations for the path of interest rate

increases by the world's leading central banks, changes in inflation, growing fears of recession and developments in the coronavirus pandemic which have led to lockdowns in China. At the same time, a slowdown in the US consumer price index reduced the expectations for the path of interest rate increases by the Fed, which, along with favourable macroeconomic data, resulted in a decline of recession fears. Starting from mid-October, these factors contributed to a gradual improvement in market sentiment. The increasing risk appetite caused a depreciation of the dollar, a rise in international stock exchange price indices and a decline in developed market yields.

Compared to previous years, commodity and energy prices remained at high levels, but declined considerably from the end of August as fears of recession increased and as a result of the high levels of reserves in European gas storage facilities and the milder weather which also affected gas prices. The dollar's performance against emerging market currencies was mixed, while it depreciated against the currencies of the CEE region and major developed market currencies from October. Long-term bond yields in developed markets declined, while international stock exchange price indices rose.

Overall, interbank yields in Hungary rose, while government securities market yields generally declined while the forint exchange rate was volatile against the euro.

In the past quarter, the middle and long sections of the government securities market yield curve shifted downwards, with the greatest decline seen in the middle section. On the whole, interbank rates and foreign exchange swap yields increased as the policy rate rose mainly after the MNB's steps, taken in mid-October. The forint exchange rate was volatile in the period, although it also appreciated against the euro and the dollar compared to the end of September.

Inflation in Hungary is still expected to rise in the winter months. Then, throughout 2023, the downward pressure on prices arising from the tight monetary policy, a decline in global commodity prices and domestic consumption will become increasingly pronounced. The decline in domestic inflation is expected to pick up in the second half of 2023 and may reach a single-digit level by the end of the year. The consumer price index is expected to return to the central bank tolerance band in 2024.

So far this year, high energy, commodity and food prices have raised inflation to an extent similar to regional trends. Food prices have accounted for over half of the increase in inflation since the summer, which is explained by global developments and the efficiency and productivity problems faced by the food industry in Hungary. In addition, a major increase in corporate profits also contributed to the rise in prices, i.e. a pick-up in inflation does not only reflect an increase in costs. In the autumn months, a rise in residential energy prices caused an additional inflationary effect, raising inflation by 2.5-3.0 percentage points for one year from September 2022. Moreover, the price cap on fuels was terminated on 7 December. This change contributes to an increase in inflation in December 2022, but the base effect in the price index is expected to be negative in December 2023. Inflation may average around 14.5–14.7 percent in 2022.

From the beginning of 2023, the slowdown in inflation will be supported by both external and domestic factors. The expected moderation in global energy and commodity prices, as well as international freight costs, easing tensions in value chains, and the slowdown in global economic activity are likely to moderate external inflation further. Regarding internal factors, the fading of the base effects of tax measures and the moderating effect on pricing arising from the fall in domestic demand will support a decline in domestic inflation as well. Tight monetary conditions contribute to avoiding second-round inflationary effects and anchoring inflation expectations. Domestic inflation is expected to decrease slowly in the first half of 2023, and then more significantly from the middle of the year. The consumer price index will return to the central bank tolerance band in 2024. Inflation may be in the range of 15.0–19.5 percent in 2023 and between 2.3–4.5 percent from 2024 onwards.

Looking ahead, economic growth is likely to slow primarily as a result of the fall in domestic demand. To this, the declining real income and the rise in corporate costs also contribute, as net exports is expected to support growth despite a deteriorating external economic activity.

Hungarian economy grew at a declining pace in the third quarter of 2022; gross domestic product grew by 4.0 percent year-on-year. Due to industrial production, incoming data exceeded previous expectations, but high-frequency data point to a further slowdown in GDP growth towards the end of the year. Components of domestic demand, particularly household

consumption, are the main contributors to growth this year. The impact of net exports is moderate. Overall, annual growth in 2022 has been more favourable than earlier expected.

Growth next year is likely to be slowed by both domestic and external demand factors. The decline in real incomes, rising corporate costs, restrained public investment and the stricter interest rate environment all have a restraining impact on domestic demand. The difficulties affecting international production chains have eased further in recent months; however, the war continues to create considerable uncertainty. Despite subdued global economic activity, an increase in Hungary's foreign market share and an improvement in net exports are expected, due to growing domestic export capacities, which is also supported by the dynamic expansion of battery production. The investment rate is expected to stabilise at around 29 percent over the forecast horizon due to high price dynamics. Hungary's GDP is expected to grow by 4.5–5.0 percent in 2022, by 0.5–1.5 percent in 2023, by 3.5–4.5 percent in 2024, and by 3.0–4.0 percent in 2025.

The private sector's credit expansion may continue to decelerate due to growing lending rates and a worsening economic outlook.

The annual growth rate of corporate loans outstanding of the whole financial intermediary system accelerated by 0.7 percentage points compared to the previous quarter and reached 16.5 percent in September, while an annual growth of 13 percent was observed in the SME segment. 84 percent of corporate loans were realised on market terms and conditions, representing a major increase compared to the previous quarter. According to responses of the Lending Survey, banks tightened lending standards in the third quarter, and looking ahead, further tightening is expected. There was a rise in the demand for short-term loans, but the vast majority of banks saw declines in the demand for long-term (typically investment) loans in 2022 Q3 and looking ahead, they expect this diverging trend to strengthen. Due to rising lending rates and the uncertain real economic environment, on the whole, the annual growth rate of outstanding corporate loans may slow to 7 percent by the end of 2023, and the increase may return to above 8 percent only from the second half of 2024.

In the third quarter of 2022, slowing by 3.3 percentage points relative to the previous quarter, the annual growth rate of the outstanding household loans was 6.3 percent. The volume of housing loans and prenatal baby support loans fell short of the same period a year earlier by 30 percent and 27 percent, respectively. In the responses of the Lending Survey, banks reported a declining demand for consumer and housing loans, and looking ahead, the vast majority of the banks expect declines in the demand and a tightening of lending standards in both market segments. Due to rising lending rates and an uncertain real economic environment, on the whole, growth in household loan dynamics may decelerate to 2 percent by mid-2023, but may return to around 10 percent by the second half of 2024.

The current account deficit is expected to decrease from 2023.

Due to a worsening energy balance resulting from soaring energy prices, the current account deficit is temporarily rising in 2022, before declining steadily from 2023. Initially, the improvement is attributable to a pick-up in exports and a fall in the expansion in imports on account of a slowdown in investment and consumption dynamics. The improvement also arises from a gradual decline in the energy balance. With the normalising global economic environment and terms of trade, as well as with the utilisation of new export capacities built recently, the trade balance will improve significantly in 2024, resulting in a further reduction in the current account deficit. The agreement on the Hungarian Recovery and Resilience Facility has significantly reduced uncertainties related to EU funds.

The Government has set deficit targets of 6.1 percent and 3.5 percent for 2022 and 2023, respectively, while 2.5 percent is projected for 2024 and 1.5 percent for 2025. In 2022, the achievement of a balance corresponding to the increased deficit target is supported by high tax revenues collected so far, the expenditure-reducing and revenue-increasing measures announced in parallel with the preparation of the 2023 Budget Act and in the second half of the year, as well as by changes related to regulated energy prices. Nevertheless, starting from 2023, tight fiscal management and saving some of the higher-than-expected additional revenues will be required to achieve the deficit targets. As a result of a strong nominal GDP growth, the government debt-to-GDP ratio is expected to decline from 76.8 percent at the end of the previous year to nearly 74 percent by the end of 2022, before falling to below 70 percent by the end of the forecast horizon.

Inflation risks and the outlook for growth are balanced.

The Monetary Council highlighted two alternative scenarios around the baseline projection in the December Inflation Report. The risk scenario with decelerating global economic activity assumes lower growth and inflation than in the baseline scenario. The scenario that presents the strengthening risk of second-round inflationary effects presumes a higher inflation and slightly higher growth path compared to the baseline scenario. In addition to the highlighted scenarios, the Monetary Council discussed paths that presume renewed increases in energy and commodity prices, lower commodity and energy prices, capital withdrawal from emerging markets as well as faster improvement in productivity and energy efficiency as alternative scenarios.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy)

	2021	2022	2023	2024	2025
	Actual		Projection		
Inflation (annual average)¹					
Core inflation	3.9	15.4 -15.9	14.9 -17.4	3.2 -5.5	3.0 -3.6
Core inflation excluding indirect tax effects	3.9	15.4 -15.9	14.9 -17.4	3.2 -5.5	3.0 -3.6
Inflation	5.1	14.5 - 14.7	15.0 - 19.5	2.3 - 4.5	2.5 - 3.5
Economic growth					
Household consumption expenditure	5.0	6.4 - 6.5	(-2.1) - (-1.4)	2.1 - 3.0	2.3 - 3.4
Government final consumption expenditure ⁶	2.0	1.2 - 1.4	0.1 - 1.2	0.4 - 1.5	0.6 - 1.7
Gross fixed capital formation	5.2	4.3 - 4.6	(-4.1) - (-1.9)	2.8 - 5.6	2.5 - 5.5
Domestic absorption	6.2	4.1 - 4.2	(-2.0) - (-1.2)	2.0 - 3.2	2.1 - 3.3
Exports	10.3	9.0 - 9.3	4.4 - 5.9	5.2 - 7.1	3.6 - 5.4
Imports	9.1	8.3 - 8.6	1.3 - 2.9	3.6 - 5.6	2.7 - 4.7
GDP	7.1	4.5 - 5.0	0.5 - 1.5	3.5 - 4.5	3.0 - 4.0
Labour productivity ⁵	6.0	2.9 - 3.0	0.7 - 1.6	2.8 - 4.1	2.2 - 3.7
External balance²					
Current account balance	-4.2	(-7.6) - (-6.6)	(-5.4) - (-4.2)	(-2.8) - (-1.4)	(-2.1) - (-0.7)
Net lending	-1.6	(-6.0) - (-5.0)	(-3.4) - (-2.2)	(-1.2) - (0.2)	(-1.0) - (0.4)
Government balance					
ESA balance	-7.1	-6.1	-3.5	-2.5	-1.5
Labour market					
Whole-economy gross average earnings ³	8.7	17.5 - 17.7	9.8 - 10.8	7.3 - 8.6	6.3 - 7.6
Whole-economy employment	0.7	1.3 - 1.4	(-0.4) - 0.0	0.1 - 0.7	0.0 - 0.7
Private sector gross average earnings ³	7.8	15.6 - 15.7	11.8 - 12.7	7.6 - 8.7	6.5 - 7.7
Private sector employment	0.5	2.1	(-0.2) - 0.1	0.3 - 0.8	0.1 - 0.6
Unemployment rate	4.1	3.6	3.6 - 3.8	3.1 - 3.6	2.9 - 3.7
Private sector nominal unit labour costs	-0.6	8.9 - 9.2	5.9 - 7.3	4.4 - 6.1	2.1 - 3.9
Household real income ⁴	2.3	4.6 - 4.8	(-1.6) - (-0.6)	2.3 - 3.5	2.2 - 3.4

¹ Based on seasonally unadjusted data.

² GDP-proportionate values, partly based on forecast.

³ For full-time employees.

⁴ MNB estimate.

⁵ Whole economy, based on national accounts data.

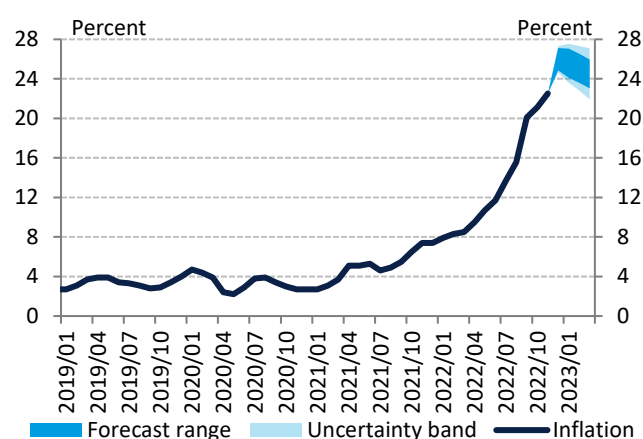
⁶ Includes government consumption and the transfers from government and non-profit institutions.

1. Inflation and real economy outlook

1.1 Inflation forecast

Consumer prices increased at a year-on-year rate of 22.5 percent in November. This high price increase was mainly attributable to the significant rise in prices of food products, but as a general phenomenon companies repriced their products and services this year to a much larger degree than the average for previous years. Rising energy, commodity and food prices also fuelled domestic inflation from the expenditure side, but corporate profitability also increased sharply as a result of the price rises. From September 2022, the increase in household energy prices will add 2.5–3.0 percentage points to inflation over the course of one year. Our near-term inflation forecast is also increased by the removal of the fuel price cap. The average rate of inflation may be between 14.5–14.7 percent in 2022. In the first half of 2023, global factors and weaker domestic demand will have an increasingly strong disinflationary effect, and from the middle of next year base effects will also contribute to a faster decline in the consumer price index. The decrease in the Hungarian consumer price index will accelerate starting from 2023 H2 and return to the central bank tolerance band in 2024. According to our forecast, the consumer price index will be 15.0–19.5 percent in 2023 and 2.3–4.5 percent in 2024.

Chart 1-1: Monthly evolution of the near-term inflation forecast



Note: Annual change. The uncertainty band shows the uncertainty around the forecast range with regards to the root mean squared error of previous years' near-term forecasts.

Source: HCSO, MNB

Inflation rose to 22.5 percent year-on-year in November.

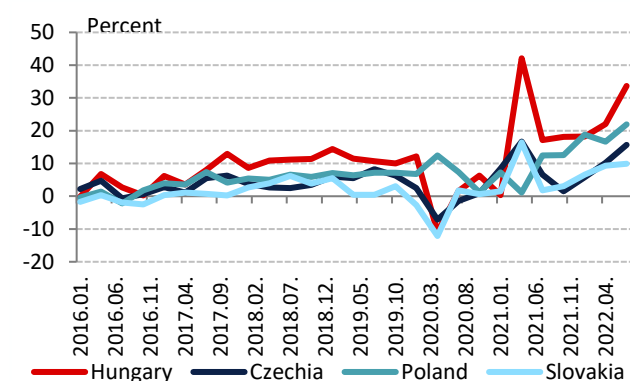
To a large extent, the high inflation seen in the past period was explained by the significant increases in food prices. In addition to this, due to higher energy and commodity prices, companies repriced their products and services to a much larger degree this year compared to the average of previous years. A significant rise in corporate profits also contributed to the increase in prices, and thus the acceleration of inflation does not only reflect higher costs (Chart 1-2). Annual change in gross operating surplus exceeded 50 percent in industry, delivery, storage and manufacturing sectors in Q3. The increase in corporate profits can be observed in a wide range of sectors, thus the high repricing is supported not only by the cost side pressures but also by rising profit rates (Chart 1-3).

Producer price inflation continued to rise, quickly followed by consumer prices. As a result of this, we expect to see inflation accelerate further during the winter months. At the global level, however, more and more countries are reporting falling rates of inflation. While global energy and commodity prices remain at historically high levels, a correction was observed in recent months.

More than one half of the increase in inflation registered since the summer is related to food prices, which – in addition to global developments – is also explained by efficiency and productivity problems in the Hungarian food industry.

The inflation path is fundamentally influenced by the price-cap measures and the amendment of regulated utility prices. As no information is available on the measures affecting household energy prices and food products after 31 December 2022 and 30 April 2023, respectively, we applied the technical assumption that

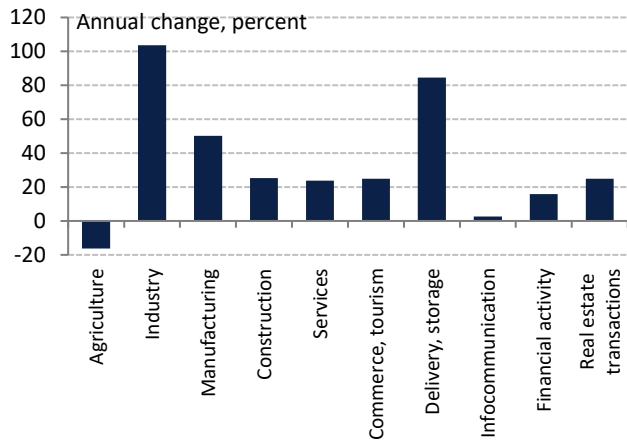
Chart 1-2: Gross operating surplus and mixed income in the region



Note: Nominal data. Annual change, percent.

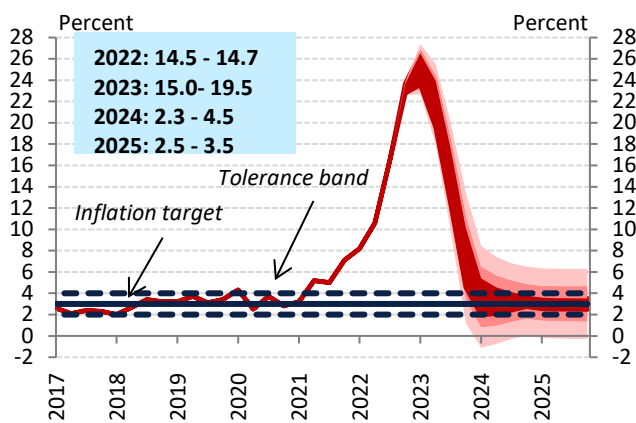
Source: Eurostat

Chart 1-3: Annual change in gross operating profit by sector in the third quarter



Note: Based on nominal data. Annual change, percent.
Source: HCSO.

Chart 1-4: Fan chart of the inflation forecast



Note: Based on seasonally unadjusted data.
Source: HCSO, MNB.

these measures will remain in force in unchanged form over the entire forecast horizon. Our forecast takes account of the cancellation of the fuel price cap on 7 December 2022, which may boost inflation by 1.5–2.0 percentage points in December. According to our estimate, starting from September 2022 the increase in household energy prices adds 2.5–3.0 percentage points to monthly inflation over the course of one year.

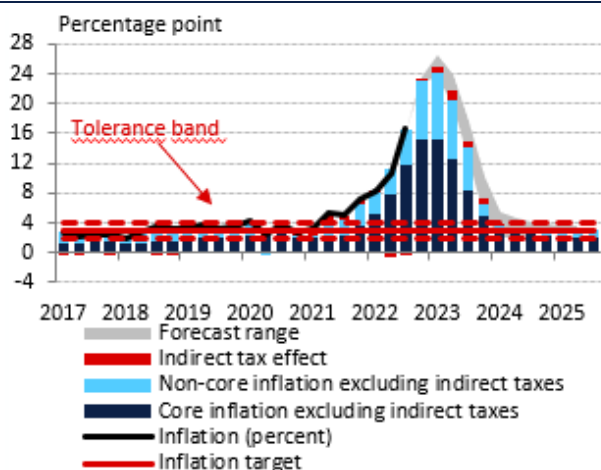
According to our projection, disinflation will accelerate from 2023 H2. Domestic inflation is expected to continue rising during the winter months, but in 2023 the disinflationary effect of tight monetary policy, lower global commodity prices and weaker domestic consumption will become more and more pronounced. Starting from 2023, disinflation should gain momentum due to the slowdown in domestic economic activity, the central bank measures taken in past quarters and the strong base effects.

Inflation is projected to return to the central bank’s tolerance band in 2024. According to our forecast, inflation may be 14.5–14.7 percent in 2022, 15.0–19.5 percent in 2023 and 2.3–4.5 percent in 2024 (Chart 1-4). As the effects of the proactive central bank measures take hold, core inflation excluding indirect taxes will embark on a downward path starting from the beginning of next year. Our forecast estimates core inflation excluding indirect tax effects at 15.4–15.9 percent in 2022, 14.9–17.4 percent in 2023 and 3.2–5.5 percent in 2024.

Tax changes contribute to the temporary increase in inflation, before fading out completely from 2024 Q2 (Chart 1-5). The inflationary impact of the July increase in the public health product tax was incorporated by August, in the case of processed food and non-alcoholic soft drinks. The effect of the excise tax hike on alcohol and tobacco products was seen by October. Further increase in excise tax on tobacco products and in other surtaxes are expected in 2023, which may influence the development of the price index next year. Tax measures are expected to take effect until 2024 Q2.

In the case of non-core inflation items, substantial increases are expected in the prices of fuel, unprocessed food and regulated-price products and services. Fuel prices will increase next year as a result of cancellation of the price cap. Unprocessed food inflation may be in the double-digit range this year and next year, at around 25 percent, which is higher than our previous expectation. While global food commodity prices have corrected in recent months, they still exceed the levels seen one year ago in the case of several products. For alcohol and tobacco products, inflation may be around 10–12 percent this year and next

Chart 1-5: Decomposition of our inflation forecast



Note: The decomposition is based on the midpoint for the forecast range.

Source: HCSO, MNB

year (mainly due to excise tax hikes), before declining to the historically average level starting from 2024. According to our forecast, as a result of the amendment of regulated utility prices, the inflation of regulated energy prices will be close to 20 percent in 2022 and may be in the double-digit range in 2023 as well due to carry-over effects, while we expect price dynamics for non-energy regulated prices to be around 6 percent this year and next year. On the whole, after the cost effects have faded out, the price dynamics of non-core inflation items will moderate to around 3 percent at the end of the forecast horizon (Table 1-1).

Table 1-1: Details of the inflation forecast

		2022	2023	2024
Core inflation excluding indirect tax effects		15.6	16.1	4.4
Core inflation		15.7	16.2	4.4
Non-core inflation	Unprocessed food	24.9	28.4	5.4
	Fuel and market energy	12.2	23.5	0.1
	Regulated prices	9.8	18.4	2.2
	Alcohol and tobacco	10.1	11.8	3.1
Total		12.8	18.1	2.6
Inflation		14.6	17.2	3.4

Note: Percent. Based on seasonally unadjusted data. The table is based on the midpoint of the forecast range.

Source: MNB

Box 1-1: Assumptions applied in our forecast

Hungary is a small, open economy, and as such our forecasts for the most important macroeconomic variables are fundamentally influenced by developments in external factors. The purpose of this brief presentation of the changes in external assumptions is to make our forecasts more transparent (Table 1-2).

Table 1-2: Main external assumptions of our forecast

Technical assumptions	2022		2023		2024		2025	Change		
	Previous	Current	Previous	Current	Previous	Current		2022	2023	2024
EUR/USD	1.05	1.05	1.00	1.04	1.00	1.04	1.04	0.3%	4.3%	4.3%
Oil (USD/barrel)	100.8	100.2	85.2	84.2	80.1	80.6	80.4	-0.6%	-1.1%	0.7%
Oil (EUR/barrel)	96.0	95.3	84.9	80.8	79.9	77.3	77.1	-0.7%	-4.8%	-3.2%
Gas (EUR/MWh)	153.4	133.9	191.5	139.8	159.3	105.6	95.2	-12.7%	-27.0%	-33.7%
Euro area inflation (%)	8.1	8.4	5.5	6.3	2.3	3.4	2.3	0.3 pp.	0.8 pp.	1.1 pp.
Euro area real GDP (%)	3.1	3.4	0.9	0.5	1.9	1.9	1.8	0.3 pp.	-0.4 pp.	0.0 pp.
GDP growth of Hungary's main export partners* (%)	2.3 - 2.8	2.2 - 2.3	2.4 - 3.3	0.0 - 0.8	2.4 - 3.3	2.4 - 3.3	1.9 - 2.7	(-0.5) - (-0.1) pp.	(-2.5) - (-2.4) pp.	0.0 pp.

Note: Annual average in the case of oil prices. * Growth rate of Hungary's 21 most important export partners, weighted by share in exports.

Source: Bloomberg, Consensus Economics, MNB, ECB

At the international level, economic growth was better than expected in 2022 Q3. Of the major economies, year-on-year GDP growth amounted to 1.9 percent in the USA and 3.9 percent in China. In 2022 Q3, the economy of the European Union and of the euro area expanded by 2.5 percent and 2.3 percent, respectively, in seasonally adjusted, year-on-year terms. Economic output exceeded the pre-coronavirus crisis level in 25 of the EU-27 countries in the third quarter. However, Germany, which is Hungary's most important trading partner, remains close to the bottom of the European ranking in terms of recovery, which affects the other countries in the region as well due to their embeddedness in production chains. The growth prospects of Hungary's export markets for 2023 deteriorated considerably compared to September. Short- and medium-term developments in international economic activity are determined by the protracted war, the stabilisation of energy prices at higher levels than before as well as by energy supply risks.

Compared to the September forecast, the ECB expects lower growth and higher inflation in the euro area for 2023. Based on the ECB's new forecast, inflation in the euro area may be 8.4 percent in 2022, 6.3 percent in 2023 and 3.4 percent in 2024. GDP growth in the euro area will be more favourable this year, but may be weaker than previously expected in 2023; it is projected to amount to 3.4 percent in 2022, 0.5 percent in 2023 and 1.9 percent in 2024.

From a level of nearly USD 125 in June, the price of Brent crude moved on a downward path. In line with the prospects of recession, oil prices continued to decrease in the autumn as well, and Brent prices are now close to USD 80. The decline observed in the price of oil is primarily the result of the worsening international economic sentiment, which restrains demand for oil. On the supply side, one important development was the production cut amounting to 2 million barrels a day announced at the OPEC+ meeting in October. This, however, did not result in any major change in the downward trend of the price of oil. In December, the G7 countries introduced a USD 60 oil price cap for Russian oil, although the price of Urals crude had already been close to the USD 60 level in the weeks preceding the price cap.

In 2023, EUR-denominated Brent oil prices, which determine changes in fuel prices in Hungary, may be lower than our September assumption, owing to the recent USD depreciation, in addition to the decline in the price of Brent. The difference between the quoted prices of Russian Urals crude, which is important for the domestic energy sector, and Western Brent, persisted. The government cancelled the price cap on fuel on 7 December 2022, and thus the prices of petrol and diesel rose to market levels from the previous, administrative price of HUF 480.

Following the adjustment in October, the TTF gas price was significantly lower, than the peak in August. Changes in domestic and European gas prices follow the Dutch TTF gas price, which showed high volatility starting from mid-2021 and reached its historical high in August 2022. Changes in gas prices also affect the price of electricity via the natural gas-fired power plants, and co-movement was observed in the recent period as well. After the end of August, natural gas and electricity prices dropped considerably, and the TTF gas price also came near to the level of EUR 100 at end-October. Electricity and gas prices rose in November, primarily in view of the colder weather. The TTF gas price was around 110-130 euros in mid-December, which is significantly lower than the peak in August.

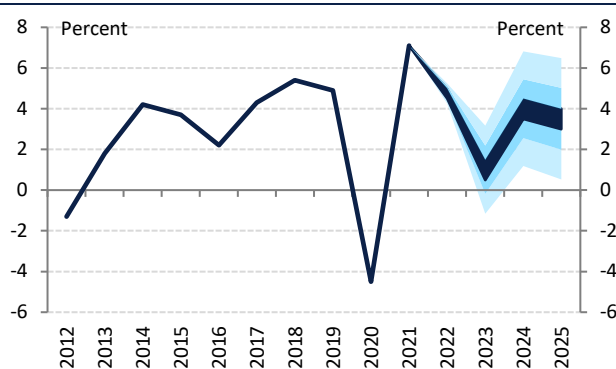
Deficit targets of 6.1 percent and 3.5 percent are set in the budgets for 2022 and 2023, respectively, with 2.5 percent projected for 2024 and 1.5 percent for 2025. In 2022, achieving a balance that is in line with the deficit target is supported by the high tax revenues, the expenditure-reducing and revenue-increasing measures announced in parallel with the preparation of the 2023 Budget Act and in the second half of the year by the amendments related to regulated energy prices. Nevertheless, starting from 2023, tight fiscal management and the saving of some of the higher-than-expected additional revenues will be needed in order to achieve the deficit targets. The 2023 budget is expected to be amended at end-December, and thus details were still unknown to us when preparing the forecast. According to our forecast, as a result of the significant nominal GDP growth, the government debt ratio will fall from 76.8 percent at the end of the previous year to roughly 74 percent of GDP by end-2022 and may then decline continuously over the forecast horizon.

According to our expectations, following adoption of the Recovery and Resilience Plan as well as the Partnership Agreement and the operational programmes, drawdown of the funds for the 2021–2027 cycle may begin. After approval of the Hungarian Recovery and Resilience Plan, the uncertainty about the future of the EU funds eased considerably. Nevertheless, utilisation of the recovery and cohesion funds is still surrounded by high uncertainty. If funds are not lost for good, the 55-percent suspension of the three operational programmes of the 2021–2027 EU cycle will not significantly affect next years' fund inflows.

1.2 Real economy forecast

Exceeding our expectations, the Hungarian economy grew at a year-on-year rate of 4.0 percent in 2022 Q3, although output declined on a quarterly basis. We project that GDP will continue to moderate until Q1 2023, but economic performance may grow more dynamic starting from the middle of next year. Household consumption will expand on average in 2022, but next year the high inflation will result in a decline in consumption via the fall in real income. Investment growth in 2022 may be stronger compared to our September expectations, but we anticipate a more significant decline in 2023. The investment rate will stabilise at a high level of close to 29 percent over the forecast horizon, but this is attributable to the rapid price increases for investments. The contributions of the corporate and household sectors to aggregate investment growth may remain positive in 2022, but we expect the volume of corporate, household and government investment to shrink in 2023. In line with the worsening external economic outlook and strong recession fears in Europe, expectations concerning the growth prospects of Hungary's trading partners in 2023 were also revised significantly lower. Nevertheless, the industrial outlook and production are favourable. Accordingly, Hungary's export market share is expected to grow considerably in 2022 and 2023. In 2023, import growth will decline more sharply, primarily due to a slowdown in domestic demand items, and thus the overall growth contribution of net exports will be positive starting from 2023. In 2022, Hungarian GDP may expand more strongly than we expected in September, increasing by 4.5–5.0 percent. Economic growth is projected to be 0.5–1.5 percent in 2023 and 3.5–4.5 percent in 2024. In 2025, GDP growth may approach its long-term trend, thus increasing by 3.0–4.0 percent.

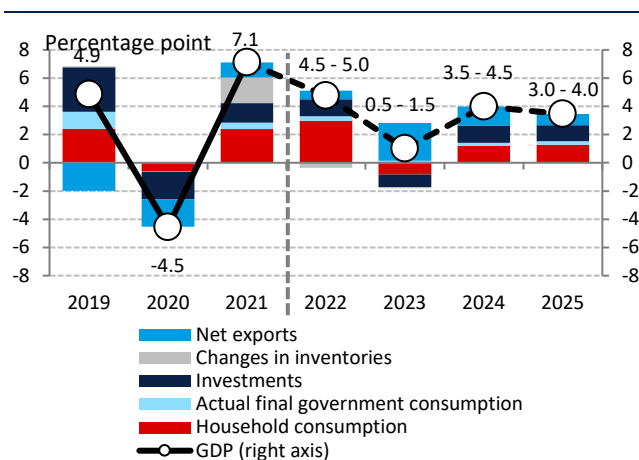
Chart 1-6: Fan chart of the GDP forecast



Note: Based on unadjusted data.

Source: HCSO, MNB

Chart 1-7: Expenditure-side decomposition and forecast of GDP



Note: The values represent the middle of the forecast range. Actual final government consumption includes government consumption and the transfers from government and non-profit institutions.

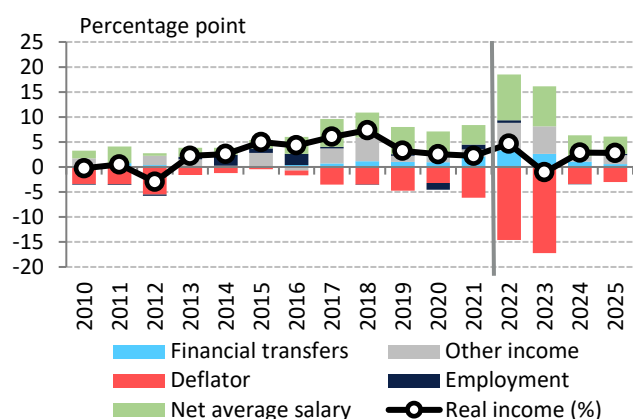
Source: HCSO, MNB

Exceeding our expectations, Hungarian GDP expanded by 4.0 percent year-on-year in 2022 Q3, but output declined on a quarterly basis. Market services and industry were the main contributors to annual economic growth from the production side, while agriculture hampered GDP growth due to the extraordinary drought.

Looking ahead, the growth rate of the economy is expected to slow down at the end of the year and in early 2023, in line with weakening domestic demand and rising corporate costs. On a quarterly basis, the decline in GDP may continue until the first quarter of 2023. Next year's growth is surrounded by downside risks. The war between Russia and Ukraine continues to result considerable uncertainty, and rising energy prices have added to corporate operating costs, which may lead to a decline in output. Difficulties affecting international production chains continued to ease in recent months, contributing to an upswing in foreign trade. In parallel with subdued global business activity, as a result of increasing domestic export capacities, Hungary's export market share is expected to increase. High inflation results in lower real incomes, leading to a decrease in consumption. The reduction of public investment and rising corporate costs also have a negative effect on domestic demand. Economic performance may become more dynamic from the middle of next year. Hungarian GDP may expand by 4.5-5.0 percent in 2022, 0.5–1.5 percent in 2023 and 3.5–4.5 percent in 2024 (Chart 1-6). In 2025, Hungary's GDP may approach its long-term growth trend, possibly expanding at a rate of 3.0-4.0 percent (Chart 1-7).

Despite the temporary slowdown, the growth surplus of the Hungarian economy compared to the euro area may

Chart 1-8: Evolution of household disposable income



Note: Based on the mean of the forecast band.

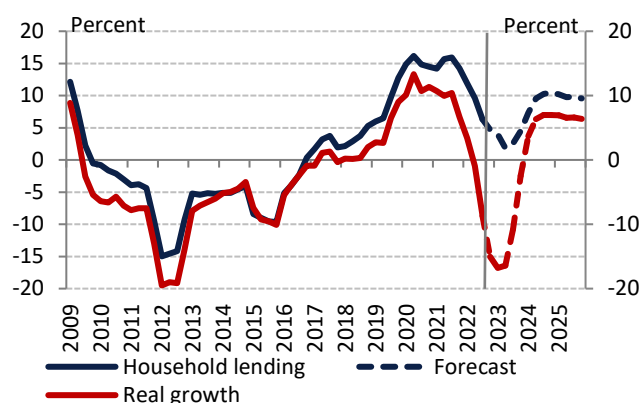
Source: HCSO, MNB

be maintained. Hungary’s growth surplus is expected to average 1.4 percentage points between 2022 and 2025, returning to around 2 percentage points by the end of the forecast horizon.

The deterioration in income conditions is primarily caused by the rising inflation which result in a fall in the purchasing power of wages. Following the turnaround in growth in 2013, households’ income increased every year on annual average, but is already declining in the final quarter of this year, and this decline is expected to continue until the last quarter of next year (Chart 1-8).

The growth rate of household loans outstanding may decelerate further due to the higher interest rate environment. As reflected by actual Q3 data, lending to households was slightly below our previous expectation. Looking ahead, the growth rate of household loans outstanding may be lower than our previous expectations; the inflationary and real economy effect of the Russia–Ukraine conflict and the sanctions imposed in response, as well as the increasing interest rate environment and tightening credit conditions, may all reduce households’ propensity to borrow. Household loan dynamics may decelerate to 2 percent by mid-2023, but then return to around 10 percent from 2024 H2. **In real terms, this means a decline in household loans outstanding looking one year ahead, and the real growth rate may become positive again from the beginning of 2024** (Chart 1-9).

Chart 1-9: Annual changes in lending to households

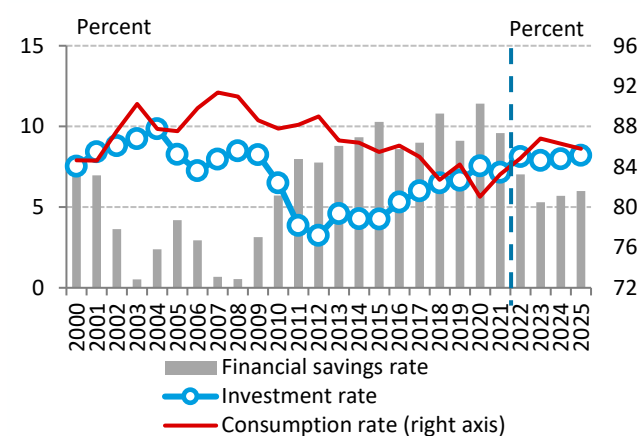


Note: Transaction-based, year-on-year data. Q3 2019 data adjusted for transactions of lombard loans. The real growth rate has been calculated based on the CPI.

Source: MNB

Next year, the rise in nominal consumption expenditures due to high inflation will mostly be reflected in a decline in the savings rate. This is because, with the exception of the lowest income decile, thanks to the increase in real wages in recent years, households in the lower income deciles have also become net savers. Accordingly, they are expected to finance the increase in consumption expenditures through a stronger reduction of their savings. The households’ investment rate is also projected to decline moderately. With easing in inflation, households’ consumption expenditures will also decline at the end of the forecast period. In parallel with this, the savings rate will increase, while the investment rate will remain stable (Chart 1-10).

Chart 1-10: Evolution of households' consumption, investment and financial savings rates as a percentage of disposable income



Source: HCSO, MNB

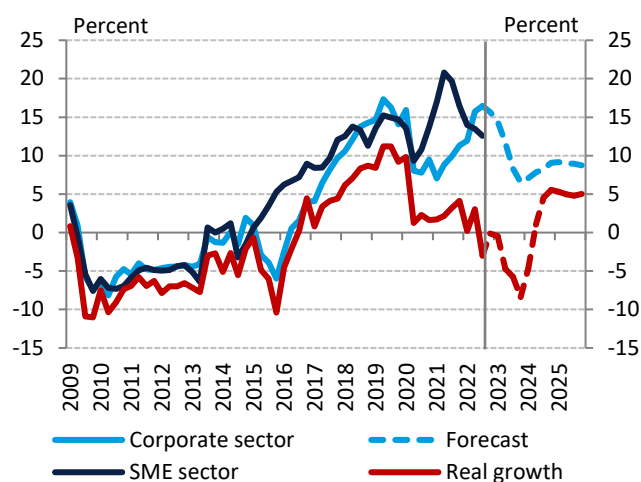
The expansion in investment may exceed our September expectations in 2022, but we project a decline in 2023 (Table 1-3). The higher growth rate in 2022 is primarily explained by favourable incoming data for Q3. Investment by the corporate and household sectors contribute to growth this year, whereas a downturn is already expected to materialise with regard to government, household and corporate investment in 2023. The investment rate will

Table 1-3: Evolution of gross fixed capital formation and investment rate

	2022	2023	2024	2025
	Forecast			
Gross fixed capital formation	4.5	-3.0	4.2	4.0
Government investments	-11.1	-3.3	-2.1	-1.1
Private investments	6.6	-2.9	5.5	5.0
Investment rate	29.3	29.0	28.9	29.4

Note: The values represent the middle of the forecast range. Year-on-year growth for gross fixed capital formation and investment rate as proportion of GDP.

Source: MNB

Chart 1-11: Annual changes in lending to non-financial corporations and SMEs

Note: Transaction-based, year-on-year data. The SME sector does not include the self-employed. The growth rate of the overall corporate sector is based on the total amount of outstanding credit to the entire financial intermediary system. The real growth rate has been calculated based on the GDP deflator.

Source: MNB

stabilise at around 29 percent over the forecast horizon, but this is due to a shift in relative prices.

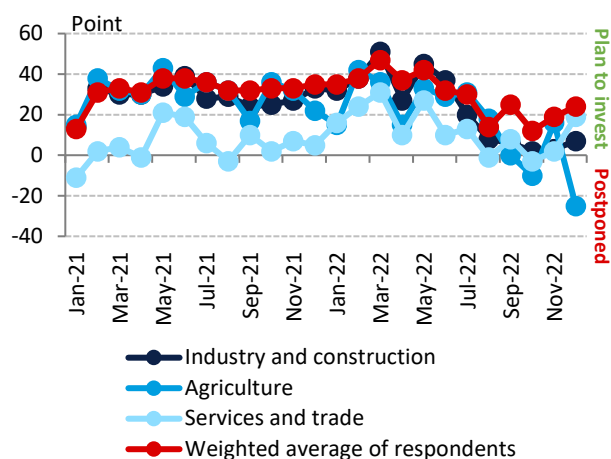
The growth rate of corporate loans outstanding may slow significantly due to the higher interest rate environment. Corporate lending growth already shows a decline in real terms, and a decrease is expected looking ahead as well.

According to actual data for Q3, the annual growth rate of corporate loans outstanding was higher than our previous expectation. Large transactions exceeding HUF 5 billion, banks' lending capacities and demand for working capital loans arising due to the increasing prices helped to maintain the high nominal corporate loan growth (Chart 1-11). The share of market-based loans within new corporate loan contracts increased considerably in 2022 Q3, in parallel with closure of the Széchenyi Card Programme Go! and gradual roll-out of the latest SCP Max scheme. Corporate demand for working capital loans may strengthen in the period ahead, due to rising energy and commodity prices, but according to our estimate, overall corporate loan dynamics may decelerate to 7 percent in the uncertain environment by the end of 2023, and the growth rate may only return to a level above 8 percent from 2024 H2. In real terms, this means a decline in corporate loans outstanding looking one year ahead, and the real growth rate may become positive again from the beginning of 2024.

In light of the incoming Q3 data, corporate investment activity in 2022 may be above our previous expectations, but we expect a decline in 2023. According to investment statistics for 2022 Q3, developments in corporate investment were favourable. Domestic business confidence indices typically fell in the past period, while investment expectations showed a mixed picture according to the MNB's November survey of corporate business activity (Chart 1-12). Corporate investment is expected to decline in 2023, primarily as a result of elevated energy prices and operating costs. Nevertheless, looking ahead, the launch of the announced large investment projects will contribute to corporate investment.

We expect a decrease in household investment in 2023. The rural HPS has been extended until the end of 2022, supporting an increase in household investment. At the same time, the issuance of housing loans in the third quarter was down 30 percent on the same quarter of 2021. Looking to 2023, we expect household investment to decrease, in line with deteriorating income trends. The reduction of government investment may free up capacity

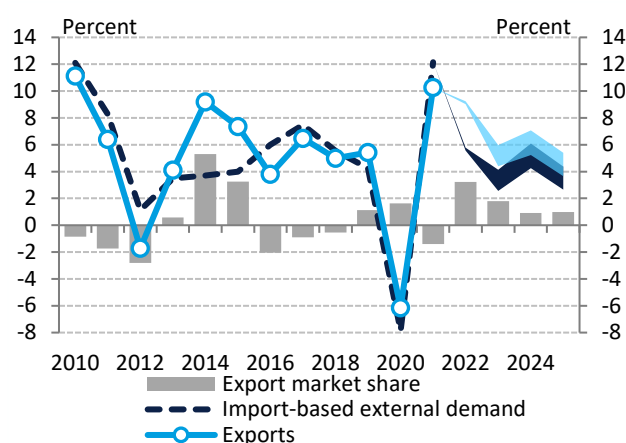
Chart 1-12: Difference between the proportions of those planning investments and those postponing planned investments in the next three months



Note: The index is a difference of the shares of positive and negative answers.

Source: MNB

Chart 1-13: Changes in export market share



Note: Export market share based on the average of the forecast range.

Source: HCSO, MNB

in the construction industry, supporting housing construction from the supply side.

In annual terms, the volume of public investments will contract more sharply in 2022 and more moderately thereafter. In line with the available information, the volume of investment implemented by the state may fall by 11.1 percent in 2022, with the announced rescheduling of government capital expenditures playing a role in the lower volumes. The volume of public investments may shrink by 3.3 percent in 2023 and 2.1 percent in 2024.

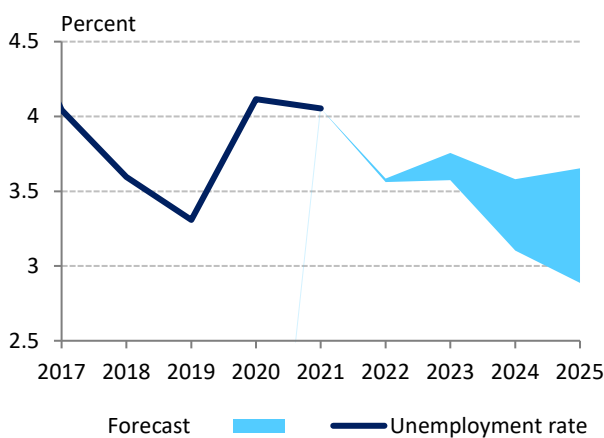
Short-term and medium-term developments in Hungary’s foreign trade continue to be primarily affected by the Russia–Ukraine war and the historically high energy prices. Based on the favourable data for 2022 Q3, our forecast for the growth of Hungary’s trading partners has shifted slightly upwards for 2022, but in line with further deterioration in prospects for external economic activity, our forecast for 2023 has dropped considerably. The more subdued growth in Hungary’s external market partners and the decline in their purchasing power due to higher inflation also undercuts their import demand. The uncertainty and the decreasing purchasing power may restrain international tourism as well.

Starting from 2023, exports may constitute the main pillar of domestic growth in spite of deteriorating external demand factors. Exports in 2022 Q3 exceeded our expectations, and thus our forecast for the expansion in exports in 2022 and 2023 has been revised significantly upwards. Despite weaker external demand, Hungary’s exports prove to be crisis resistant, with the upturn in battery production as a contributor. In the first half of this year, the expansion in investment and the upswing in consumption as a result of extra funds received by households fuelled a significant temporary rise in import growth, which mostly offsets the favourable export performance. Accordingly, net exports are likely to have a moderate impact on GDP in 2022. Mainly due to deceleration in domestic demand items, the import growth dynamics will weaken significantly in 2023, while exports will show stable growth. Accordingly, net exports may be the primary contributor to domestic growth in 2023. Hungary’s export market share is expected to expand significantly in 2022 and 2023 as a result of high exports despite weaker economic activity (Chart 1-13). Our forecast is surrounded by high uncertainty due to the persistent geopolitical tensions and volatile energy prices.

1.3 Labour market forecast

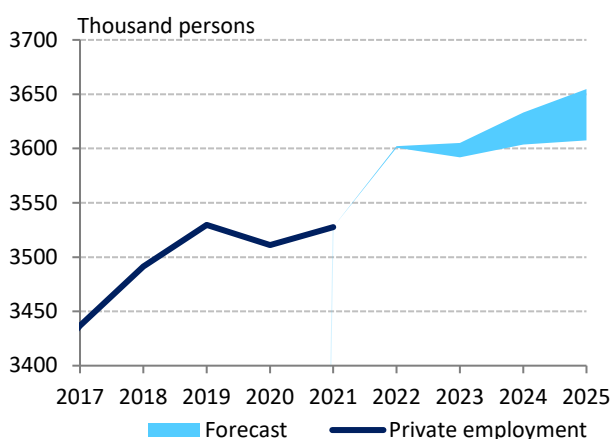
Despite a quarter-on-quarter decline in economic output, employment has not fallen in the recent months and thus remains at a historically high level. Employment expectations, however, already show a negative trend, reflecting the deterioration in economic performance. A moderate, temporary rise in the unemployment rate may be seen in 2023, due to higher corporate costs from the end of the year because of rising energy and commodity prices, as well as the downturn in external and domestic business activity. The number of employed in the private sector is expected to rise by 2.1 percent in 2022 and stagnate in 2023. Employment growth is expected to resume in 2024 in parallel with the recovery in economic activity. Wages in the competitive sector are growing at a dynamic pace this year, driven by the minimum wage increase early in the year and the historically tight labour market. With the temporary easing of labour market tightness we project a slowdown in wage growth next year.

Chart 1-14: Change in the unemployment rate



Source: HCSO, MNB

Chart 1-15: Change in employment in the private sector



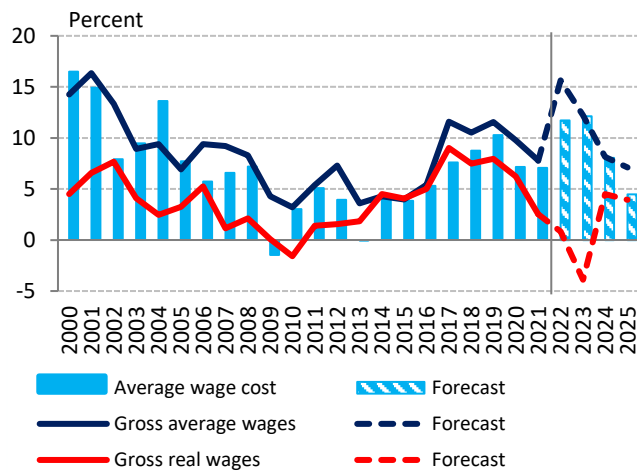
Source: HCSO, MNB

Labour demand has not yet reacted strongly to the economic slowdown and remains stable; at the same time, employment expectations already reflect the change in economic activity. According to the November ESI survey monitoring employment prospects, among the key sectors, companies in construction, industry and services are planning reductions in headcount in the coming months.

The unemployment rate will rise slightly due to the economic slowdown, before starting to decline from 2023 Q2. Overall-economy employment remains at a historically high level, and labour market tightness is around the pre-pandemic level. The seasonally adjusted unemployment rate was at 3.7 percent in 2022 Q3, an increase compared to the previous quarter and the historically low level of the period prior to the coronavirus pandemic, but it is still low in international comparison. At the same time, as a result of the economic slowdown, a rise in the unemployment rate is expected at the end of this year and in 2023 Q1 in parallel with a small decline in employment. According to our forecast, the unemployment rate may be 3.6 percent in 2022, followed by a rate of 3.6–3.8 percent in 2023 (Chart 1-14).

Headcount in the private sector is expected to stagnate next year. Considering that the labour market typically reacts to weakening economic performance with a delay, the increase in corporate costs due to the high commodity and energy prices and weaker demand may result in an increase in the number of lay-offs at the end of the year and even more in early 2023. The number of employed is expected to fall in 2022 Q4, but the headcount will expand for 2022 on the whole. Following that, stagnation or a slight drop is expected on average in 2023 (Chart 1-15). Rapid real economy adjustment is expected to evolve in the second half of next year, leading to normalisation in the labour market in 2023, entailing the resumption of employment growth and a decline in the unemployment rate in 2024.

Chart 1-16: Annual change in gross average wages and average labour cost in the private sector



Source: HCSO, MNB

The strong private sector wage growth will decelerate next year. Pay rises at the beginning of the year were determined by the significant minimum wage hike, and subsequently the historically tight labour market contributed to the strengthening of wage dynamics, which may accelerate to around 18 percent in the fourth quarter. Our forecast suggests that annual wage growth may amount to 15.6–15.7 percent in the private sector in 2022. Looking ahead, we expect slower wage dynamics, in line with the deceleration in GDP growth and easing labour market tightness. In 2023, wage growth is projected to be 11.8–12.7 percent (Chart 1-16).

Table 1-4: Changes in projections compared to the previous Inflation Report

	2021	2022		2023		2024		2025
	Actual	Previous	Current	Previous	Current	Previous	Current	Current
Inflation (annual average)¹								
Core inflation	3.9	15.0 - 15.5	15.4 - 15.9	10.6 - 12.9	14.9 - 17.4	2.6 - 3.5	3.2 - 5.5	3.0 - 3.6
Core inflation excluding indirect tax effects	3.9	15.0 - 15.5	15.4 - 15.9	10.6 - 12.9	14.9 - 17.4	2.6 - 3.5	3.2 - 5.5	3.0 - 3.6
Inflation	5.1	13.5 - 14.5	14.5 - 14.7	11.5 - 14.0	15.0 - 19.5	2.5 - 4.0	2.3 - 4.5	2.5 - 3.5
Economic growth								
Household consumer expenditure	5.0	6.0 - 6.1	6.4 - 6.5	(-1.3) - (-0.5)	(-2.1) - (-1.4)	2.2 - 3.2	2.1 - 3.0	2.3 - 3.4
Government final consumption expenditure ⁶	2.0	2.3 - 2.7	1.2 - 1.4	0.2 - 1.3	0.1 - 1.2	0.5 - 1.6	0.4 - 1.5	0.6 - 1.7
Gross fixed capital formation	5.2	3.0 - 3.6	4.3 - 4.6	(-2.8) - (-0.2)	(-4.1) - (-1.9)	2.6 - 5.6	2.8 - 5.6	2.5 - 5.5
Domestic absorption	6.2	4.0 - 4.2	4.1 - 4.2	(-1.1) - (-0.2)	(-2.0) - (-1.2)	2.0 - 3.2	2.0 - 3.2	2.1 - 3.3
Exports	10.3	4.7 - 5.3	9.0 - 9.3	2.7 - 4.5	4.4 - 5.9	5.6 - 7.4	5.2 - 7.1	3.6 - 5.4
Imports	9.1	5.4 - 6.0	8.3 - 8.6	0.7 - 2.5	1.3 - 2.9	3.8 - 5.8	3.6 - 5.6	2.7 - 4.7
GDP	7.1	3.0 - 4.0	4.5 - 5.0	0.5 - 1.5	0.5 - 1.5	3.5 - 4.5	3.5 - 4.5	3.0 - 4.0
Labour productivity ⁵	6.0	1.7 - 1.9	2.9 - 3.0	0.5 - 1.5	0.7 - 1.6	2.5 - 3.9	2.8 - 4.1	2.2 - 3.7
External balance²								
Current account balance	-4.2	(-8.7) - (-7.7)	(-7.6) - (-6.6)	(-7.0) - (-5.8)	(-5.4) - (-4.2)	(-3.7) - (-2.3)	(-2.8) - (-1.4)	(-2.1) - (-0.7)
Net lending	-1.6	(-7.0) - (-6.0)	(-6.0) - (-5.0)	(-4.7) - (-3.5)	(-3.4) - (-2.2)	(-2.0) - (-0.6)	(-1.2) - (0.2)	(-1.0) - (0.4)
Government balance								
ESA balance	-7.1	-6.1	-6.1	-3.5	-3.5	-2.5	-2.5	-1.5
Labour market								
Whole-economy gross average earnings ³	8.7	16.6 - 16.9	17.5 - 17.7	7.5 - 8.6	9.8 - 10.8	7.1 - 8.3	7.3 - 8.6	6.3 - 7.6
Whole-economy employment	0.7	1.2 - 1.3	1.3 - 1.4	(-0.3) - 0.3	(-0.4) - 0.0	0.5 - 1.2	0.1 - 0.7	0.0 - 0.7
Private sector gross average earnings ³	7.8	14.1 - 14.5	15.6 - 15.7	9.3 - 10.3	11.8 - 12.7	7.4 - 8.5	7.6 - 8.7	6.5 - 7.7
Private sector employment	0.5	1.8 - 1.9	2.1	(-0.3) - 0.1	(-0.2) - 0.1	0.7 - 1.3	0.3 - 0.8	0.1 - 0.6
Unemployment rate	4.1	3.5	3.6	3.5 - 3.7	3.6 - 3.8	3.0 - 3.6	3.1 - 3.6	2.9 - 3.7
Private sector nominal unit labour cost	-0.6	8.7 - 9.3	8.9 - 9.2	1.1 - 2.6	5.9 - 7.3	4.8 - 6.5	4.4 - 6.1	2.1 - 3.9
Household real income ⁴	2.3	3.6 - 3.8	4.6 - 4.8	(-3.7) - (-2.7)	(-1.6) - (-0.6)	2.5 - 3.7	2.3 - 3.5	2.2 - 3.4

¹ Based on seasonally unadjusted data.

² GDP proportionate values, partly based on forecast.

³ For full-time employees.

⁴ MNB estimate.

⁵ Whole economy, based on national accounts data.

⁶ Includes government consumption and the transfers from government and non-profit institutions.

Table 1-5: Changes in projections compared to the previous Inflation report (percent)

	2022	2023	2024	2025
Consumer Price Index (annual average growth rate, %)				
MNB (December 2022)	14.5 - 14.7	15.0 - 19.5	2.3 - 4.5	2.5 - 3.5
Consensus Economics (December 2022) ¹	12.7 - 14.3 - 16.0	9.1 - 16.0 - 19.0		
European Commission (November 2022) ²	14.8	15.7		
IMF (October 2022)	13.9	13.3	5.6	4.0
OECD (November 2022)	13.5	12.7	5.2	
Reuters survey (November 2022) ¹	14.0 - 14.3 - 14.5	14.5 - 16.1 - 18.5	3.6 - 5.5 - 10.0	
GDP (annual growth rate, %)				
MNB (December 2022)	4.5 - 5.0	0.5 - 1.5	3.5 - 4.5	3.0 - 4.0
Consensus Economics (December 2022) ¹	4.2 - 4.9 - 5.5	(-1.3) - 0.0 - 1.4		
European Commission (November 2022) ²	5.5	0.1		
IMF (October 2022)	5.7	1.8	2.8	3.0
OECD (November 2022)	6.0	1.5	2.1	
Reuters survey (November 2022) ¹	4.5 - 5.0 - 5.8	(-2.0) - 0.1 - 1.0	1.7 - 3.0 - 4.3	
Current account balance³				
MNB (December 2022)	(-7.6) - (-6.6)	(-5.4) - (-4.2)	(-2.8) - (-1.4)	(-2.1) - (-0.7)
European Commission (November 2022) ²	-7.6	-6.3		
IMF (October 2022)	-6.7	-3.0	-2.1	-0.9
OECD (November 2022)	-5.6	-4.6	-4.6	
Budget balance (ESA 2010 method)³				
MNB (December 2022)	-6.1	-3.5	-2.5	-1.5
Consensus Economics (December 2022) ¹	(-6.5) - (-5.8) - (-4.4)	(-6.0) - (-4.3) - (-3.3)		
European Commission (November 2022) ²	-6.2	-4.4		
IMF (October 2022)	-4.9	-3.1	-2.6	-1.6
OECD (November 2022)	-6.2	-5.6	-5.3	
Reuters survey (November 2022) ¹	(-6.5) - (-5.9) - (-5.0)	(-5.0) - (-4.1) - (-3.3)	(-3.2) - (-2.9) - (-2.5)	
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)				
MNB (December 2022)	2.2 - 2.3	0.0 - 0.8	2.4 - 3.3	1.9 - 2.7
ECB (December 2022)	3.4	0.5	1.9	1.8
Consensus Economics (December 2022) ¹	1.5	0.2		
European Commission (November 2022) ²	2.3	0.0		
IMF (October 2022) ²	1.7	0.6	2.0	2.2
OECD (November 2022) ²	2.8	0.2	1.5	

¹ For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies, we also indicate the lowest and the highest values to illustrate the distribution of the data.

² Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Certain institutions do not prepare forecast for all partner countries.

³ As a percentage of GDP.

Source: Consensus Economics, ECB, European Commission, IMF, OECD, Reuters poll, MNB

2. Effects of alternative scenarios on our forecast

The Monetary Council highlighted two alternative scenarios around the baseline projection in the December Inflation Report. The risk scenario featuring decelerating global economic activity presumes growth and inflation paths that are lower than the baseline scenario. The scenario presenting an increase in the risk of second-round inflationary effects presumes a higher inflation path and a somewhat higher growth path compared to the baseline scenario. In addition to the highlighted scenarios, the Monetary Council discussed paths that presume renewed increases in energy and commodity prices, lower commodity and energy prices, capital withdrawal from emerging markets as well as faster improvement in productivity and energy efficiency as alternative scenarios.

Decelerating global economic activity

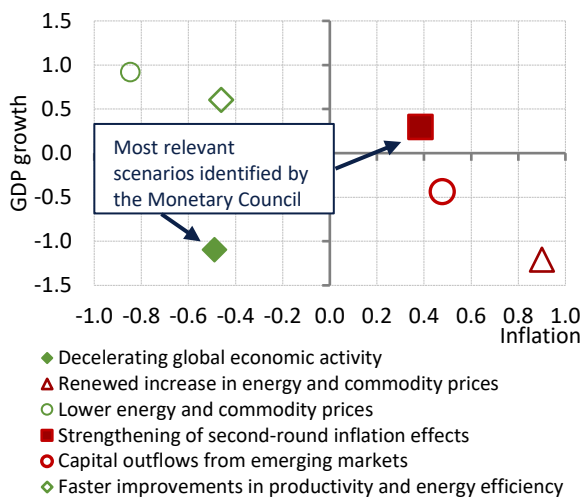
Global GDP growth generally slowed down in 2022 Q3. At the same time, it exceeded analysts' expectations in most European countries. **The US economy grew at a year-on-year rate of 1.9 percent, and thus GDP growth was unchanged compared to the previous quarter.** **The Chinese economy expanded by 3.9 percent year-on-year,** while according to detailed data, the economy of Germany, which is Hungary's main trading partner, grew by 1.1 percent in 2022 Q3.

Both global and regional growth expectations for 2023 continued to deteriorate in the past quarter. According to Bloomberg analyst expectations, the world economy may grow by 2.1 percent next year, as opposed to the 2.5 percent expected in September. A mild, 0.1-percent recession is now projected for the European Union, which is nearly 1.0 percentage point lower than previous expectations. Instead of a GDP expansion of 0.9 percent, the US economy may grow by 0.4 percent, while growth of 4.9 percent is expected in China, compared to the previously forecast 5.2 percent.

The protracted Russia–Ukraine war, the existing energy supply risks and persistent disruptions in supply chains add to the risk of recession in the global economy. Forward-looking confidence indicators showed a mixed picture in November. In the euro area, both the ESI (Economic Sentiment Indicator) and the PMI (Purchasing Managers' Index) improved slightly compared to the October low. The Consumer Confidence Index also improved modestly by November, following its historically low level in October. Compared to the previous month, the US Purchasing Managers' Index fell further in November and continues to show a value below the threshold (50 points).

In the risk scenario that features decelerating global economic activity, the slowdown in global growth exceeds the assumption in the baseline scenario. The deceleration in

Chart 2-1: Risk map: effect of alternative scenarios on the baseline forecast



Note: The risk map presents the average difference between the inflation and growth path of the alternative scenarios and the baseline forecast over the monetary policy horizon. The red markers represent tighter and the green markers represent looser monetary policy than in the baseline forecast.

Source: MNB

the performance of developed economies, including Germany, which is Hungary's main trading partner, points to deterioration in export performance and a decline in Hungary's GDP growth rate. In addition, a lower inflation path materialises compared to the baseline scenario, warranting looser monetary conditions.

Rise in the risk of second-round inflation effects

In the past months, domestic inflation exceeded 20 percent, in which the acceleration of food price increases played an important role. Inflation expectations remain at high levels.

Owing to rising energy and raw material prices, companies repriced their products and services significantly more than the average seen in previous years, which has contributed to the increase in inflation this year. In addition, the price increase was also caused by a significant rise in corporate profits. If profit growth continues, it will further increase the risk of rising inflation.

Labour market tightness continued to increase and was at a historically high level. In 2022 Q2, there were 71,000 non-subsidised job vacancies in the private sector, i.e. 38 percent more than in the same period of the previous year, already exceeding the pre-pandemic level as well by 31.4 percent. In the tight labour market environment, against the background of high inflation, the corporate sector may carry out further dynamic wage increases as a result of rising domestic inflation expectations and employees' strengthening bargaining positions. The persistently high wage dynamics add to the risk of a rise in underlying inflation.

Despite the incoming headcount data, high-frequency data project an easing of labour market tightness. Based on high-frequency data and households' unemployment expectations, labour market developments are expected to ease to some extent.

Wage growth remained in the double-digit range in Hungary. During the summer months, the growth rates of both bonus payments and regular earnings were higher than usual, indicating further pressure to change wages during the year. Growth in gross average wages is strong, but the rate of inflation is expected to exceed that in the autumn months, thus exerting further pressure on wage-setting developments.

In the alternative scenario, the risk of second-round inflationary effects increases: the result of high inflation expectations in the tight labour market environment is that wage dynamics rise faster than the baseline assumption, companies' repricing dynamics and profit growth remain strong, and the savings rate declines with the expansion in

consumption, pointing to a further rise in inflation and warranting tighter monetary conditions.

Other risks

In addition to the scenarios highlighted above, the Monetary Council considered four other alternative scenarios. In the alternative scenario assuming further increases in energy and commodity prices, we anticipate **renewed strengthening in global supply problems and a prolonged military conflict.** Commodity market disturbances and the realisation of risks pointing to the persistence of renewed rises in energy prices exert upward pressure on global inflation. If this alternative path materialises, the external inflation environment will be higher than expected, which will feed through into domestic prices. In the event of this scenario, tighter monetary conditions may be justified compared to the baseline scenario. By contrast, in the alternative scenario **that presumes lower commodity and energy prices,** globally strengthening fears of recession, the easing of supply disruptions, lower military tensions and a relative decrease in demand compared to supply in view of certain structural measures contribute to a decline in commodity and energy prices.

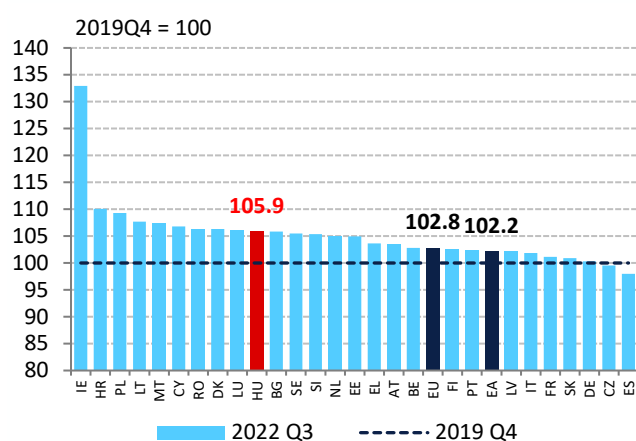
In the alternative path presuming **capital withdrawal from the emerging markets,** we expect that risk aversion vis-à-vis the emerging markets rises more persistently and strongly compared to the baseline scenario. Capital withdrawal jeopardises the economies that have external balance problems in particular. If the alternative scenario materialises, capital outflows result in a further increase in inflation, and thus achieving the inflation target is consistent with tighter monetary policy than in the baseline scenario. In the scenario that presents **a faster improvement in productivity and energy efficiency,** the improvement primarily stimulates the Hungarian economy from the supply side. Productivity may improve to a greater degree, and the energy transition may take place faster compared to the assumption in the baseline scenario if further recommendations are implemented out of the 330 steps presented by the Magyar Nemzeti Bank for improving competitiveness, and the implementation of the 144 points of the essay entitled 'Sustainable Balance and Convergence' commences. Implementation of the targeted measures leads to a significant increase in productivity, resulting in a lower cyclical position in the domestic economy. This is consistent with a lower inflation path and higher economic output.

3. Macroeconomic overview

3.1. Assessment of macroeconomic trends

During the third quarter, economic growth in most major economies exceeded analysts' expectations. However, energy prices – which remain high by historical standards – and the permanently tense geopolitical atmosphere further impaired short-term growth prospects. In 25 of the countries of the European Union, output already exceeded the level seen prior to the COVID crisis, but the economy of Germany, which is Hungary's most important trading partner, only reached the GDP level recorded in the final quarter of 2019 during the third quarter of this year. In the past quarter, the world's major central banks continued to tighten monetary conditions in response to intense inflationary pressure. The Federal Reserve increased the target band of the policy rate further, and the monthly pace of balance sheet reduction reached the previously announced highest rate. The European Central Bank also continued its interest rate hike cycle, tightened the conditions of its TLTRO III programme and announced that it will start reducing its balance sheet from March 2023. In the region, the Romanian central bank continued its interest rate hike cycle, while the Czech and Polish central banks have left their respective base rates unchanged since June and September, respectively.

Chart 3-1: Development of GDP level



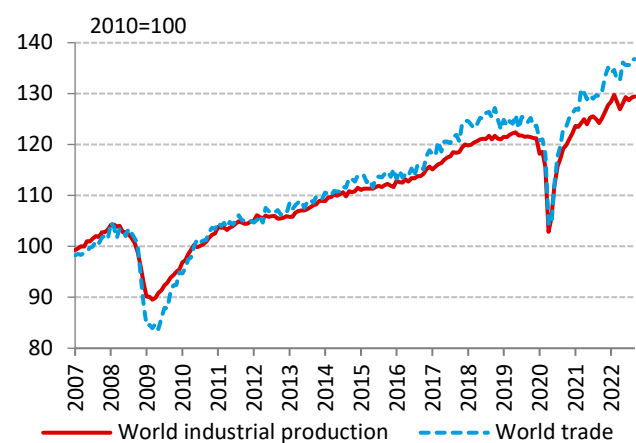
Note: Based on seasonally and working day adjusted data.

Source: Eurostat, Trading Economics

3.1.1. International economic trends

In 2022 Q3, economic growth varied across the main economies, but growth rates mostly exceeded analysts' preliminary expectations. The US economy grew by 1.9 percent in the third quarter, whereas on a quarterly basis it expanded by 2.9 percent, following a decline in the previous two quarters. GDP also expanded in China compared to the previous quarter, registering year-on-year growth of 3.9 percent. In 2022 Q3, the economy of the EU and of the euro area grew by 2.5 percent and 2.3 percent, respectively, in year-on-year terms. Economic activity exceeded the pre-COVID level in 25 of the EU-27 countries. In the third quarter of this year, the economy of Germany, which is Hungary's most important trading partner, reached the output level seen in the final quarter of 2019 (Chart 3-1).

Chart 3-2: Development of global industrial production and global trade

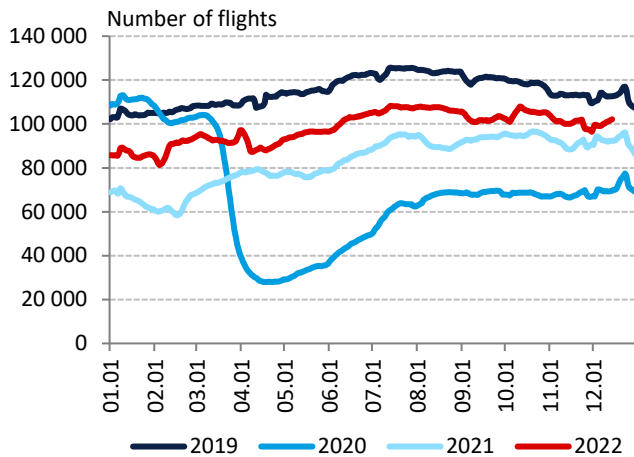


Note: Based on seasonally adjusted data.

Source: CPB

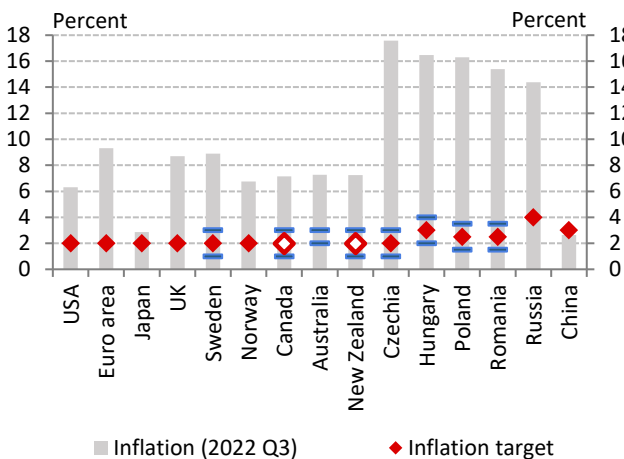
Developments in international economic activity (and especially in the European economic outlook) continue to be primarily affected by the Russia–Ukraine war and the historically high energy prices. Global industrial production and global trade both started to grow again at the end of 2021, showing strong dynamics before the war. The Russia–Ukraine war and the ensuing sanction policies temporarily reduced industrial production and foreign trade, although growth was observed in 2022 Q2 again and continued in the third quarter (Chart 3-2). As a result of the favourable autumn weather and the rapid filling of gas storage facilities, the short-term risks to the security of energy supply have declined since the September Inflation Report, but global and European growth prospects have deteriorated considerably due to higher inflation paths and unfavourable inflation expectations, while domestic and

Chart 3-3: Total number of global commercial flights



Note: The index is based on 7-day moving averages.
Source: Flightradar24

Chart 3-4: Inflation targets of central banks and actual inflation



Note: The blue lines represent the inflation control range in Australia, Canada and New Zealand, while in other countries they mark a permissible fluctuation band. In Canada and New Zealand, the mid-point of the target band is accentuated, which is marked by empty diamonds.

Source: OECD, FRED, National Institute of Statistics Romania

international sentiment indices foreshadow an expected downturn in industrial production.

In the area of services, tourism is still the most affected by the global turbulence. In conjunction with the prevailing restrictions in some regions, international tourism has only strengthened gradually, but the prospects – particularly in the CEE region – are now overshadowed again by the war. In the third quarter, the number of daily commercial flights exceeded 100,000 per day, which remains well below the 2019 figure (Chart 3-3).

3.1.2. International monetary policy, inflation and financial market trends

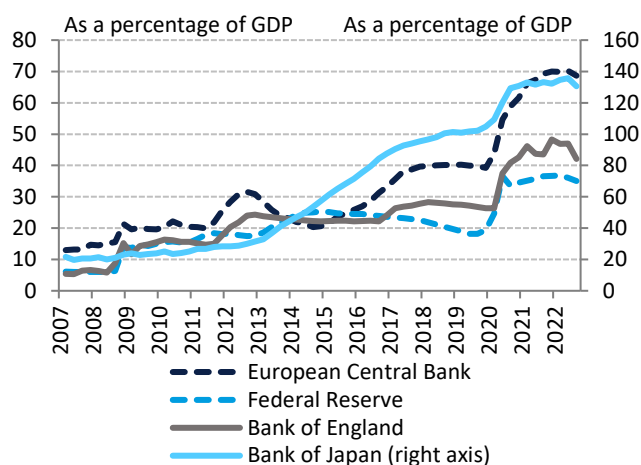
Global inflation continued to rise in recent months. In the past period, the rate of inflation was well above central bank targets in most advanced economies (Chart 3-4). Reacting to that, the world’s leading central banks continued to tighten monetary conditions, while in the region the Czech and Polish central banks left their respective base rates unchanged at their latest rate-setting meetings.

In the USA, the Fed continued its interest rate hike cycle, and the monthly pace of balance sheet tightening, which started in June 2022, reached the previously announced highest rate. At its most recent, December 2022 rate-setting meeting, the central bank raised the target band of the key policy rate, at slower pace than before, by 50 basis points to 4.25–4.50 percent. From 1 September, the FOMC increased the monthly pace of its balance sheet reduction to USD 60 billion per month for treasury securities and USD 35 billion per month for mortgage-backed securities. In his speech, Jerome Powell confirmed that it is no longer the size of further rate hikes that is important, but the top of the interest rate path and how long the policy rate is kept at a restrictive level. December’s economic forecasts suggest that economic growth could be significantly lower in 2023 than previously expected, while inflation may be on a higher trajectory. Policymakers expect the policy rate to be 5.1 percent at the end of 2023, 0.5 percentage point higher than the latest forecast.

In the USA, CPI inflation dropped from 8.2 percent in September to 7.7 percent in October and 7.1 percent in November. Core inflation fell from 6.6 percent in September to 6.3 percent in October and 6 percent in November. The Fed’s balance sheet total amounted to USD 8,633 billion (34 percent of GDP) at the beginning of December 2022 (Chart 3-5).

The ECB continued its tightening cycle and announced that it will start reducing its balance sheet from March 2023. At its most recent meeting in December, the central bank

Chart 3-5: Central bank balance sheet totals in developed countries



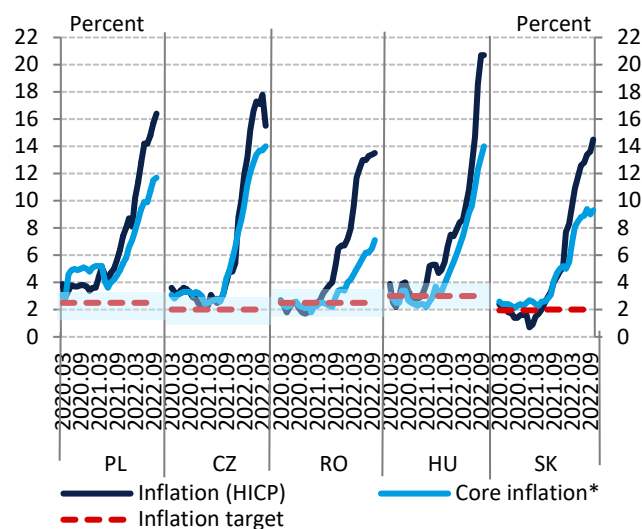
Source: Databases of central banks, Eurostat, FRED

raised interest rates by 50 basis points, less than the 75-basis point hikes seen in September and November. The Governing Council deems that interest rates will still have to rise significantly at a steady pace to reach levels that are sufficiently restrictive to ensure a timely return of inflation to the 2-percent medium-term target. APP assets will be reduced by an average of EUR 15 billion per month from March 2023 until the end of the second quarter of next year, with a decision on the pace of the subsequent reduction to be taken later. The ECB will reinvest securities maturing under the PEPP until at least the end of 2024. From 23 November, the central bank tightened the conditions of the TLTRO III programme, and determined three additional prepayment dates as well. During the first prepayment, banks prepaid EUR 296.3 billion, which was below analysts' expectations. The interest paid on minimum reserves will also change. In order for the interest rate on minimum reserves to move more closely together with money market interest rates, the ECB decided that it would pay an interest rate on the minimum reserves deposited by banks that corresponds to the deposit rate. Until now, the ECB paid the current main refinancing operation rate (MRO). The change will enter into force as of 21 December 2022.

In the euro area, according to the preliminary data, inflation dropped from 10.6 to 10 percent in November. Core inflation stood at 5 percent in November. In addition, inflationary pressure is increasingly present in the economy, due to which the central bank revised up its inflation forecast to a significant degree. According to the new forecast, inflation may be 8.4 percent this year and 6.3 percent next year. Economic growth is expected to decelerate strongly: the euro area economy may expand by a mere 0.5 percent next year. The ECB's balance sheet total amounted to EUR 8,480 billion (65.1 percent of GDP) at the beginning of December 2022 (Chart 3-5).

At its October 2022 rate-setting meeting, the Bank of Japan left unchanged its 0-percent target applicable to the 10-year government securities market yield and the -0.1 percent interest rate charged on excess reserves. The Bank of Japan is continuing its asset purchase programme and noted that, with a view to maintaining the yield target, it offers to purchase government bonds in an unlimited volume at a fixed rate of 0.25 percent, which is also the upper bound of the central bank's yield target. In order to strengthen the exchange rate of the yen, the Japanese government intervened in the FX market in September and October as well. The central bank's balance sheet total-to-GDP ratio amounted to 126.3 percent at the beginning of December 2022 (Chart 3-5).

Chart 3-6: Inflation and core inflation in the region



Note: Annual change, percent. *In the case of core inflation, we use the definition of the Eurostat (inflation excluding energy, food, alcohol and tobacco). The blue area indicates the tolerance band around the inflation targets.

Source: Eurostat

The Chinese central bank did not change the 3.65 percent and 4.30 percent levels of the one-year and five-year benchmark lending rates, respectively. The central bank encourages commercial banks to increase lending to property developers. In October, the central bank eased the conditions of mortgage loans in order to support the real estate sector. In addition, through the Pledged Supplementary Lending tool which was reactivated in October, the central bank provided liquidity – with long maturity – to the banking sector in an amount exceeding that maturing in the medium-term lending facility. Inflation rose from 2.5 percent in August to 2.8 percent in September, before declining to 2.1 percent in October, while the producer price index continued to fall. After the announcement of a 25-basis point decrease in November, the weighted average of the minimum reserve requirement ratio declined to 7.8 percent in December.

The Polish central bank has left its policy rate at an unchanged level of 6.75 percent since September. Governor Adam Glapinski indicated that the interest rate hike cycle had not ended yet, but was only suspended, and for the time being it was hard to predict when interest rates might decline. According to the preliminary data, inflation decreased to 17.4 percent in November from 17.9 percent in October, but is expected to reach its peak at the beginning of next year. The Harmonised Index of Consumer Prices was 16.4 percent (Chart 3-6). According to the Polish central bank, in view of the shocks to inflation, the latter will remain at an elevated level for a while, and its decline will be gradual.

At its November rate-setting meeting, the Czech central bank left its policy rate at 7.0 percent. According to the statement following the decision, the central bank will continue to prevent excessive fluctuations of the exchange rate of the Czech koruna. In September, the Czech central bank intervened in a value of USD 2.5 billion in the FX market in order to prevent weakening of the koruna. The cumulative amount of the interventions in the May–September period was USD 26.1 billion, corresponding to some 15 percent of the total FX reserves. In November, the price level increased by 16.2 percent year-on-year. Inflation thus rose again after falling from 18 percent in September to 15.1 percent in October. The Harmonised Index of Consumer Prices was 15.5 percent in October. The sharp deceleration of inflation in October was primarily attributable to the significant fall in the dynamics of administered prices, as a result of the supportive government measures due to the high energy prices. The central bank forecast suggests that inflation could reach 19 percent in the winter and average around 15.8 percent

this year, and will fall to around 2.1 percent in the second half of 2024.

In November, the Romanian central bank raised the policy rate by 50 basis points to 6.75 percent. Inflation increased to 16.8 percent in November, after falling to 15.3 percent in October from 15.9 percent in September. The harmonised consumer price index was to 13.4 percent in September and 13.5 percent in October (Chart 3-6). According to the central bank's inflation forecast, inflation will still rise slightly until end-2022, before taking a gradually declining path and falling into single-digit territory by 2024 H1. Nevertheless, at the end of the forecast period the indicator may still be slightly above the tolerance band.

Global financial market sentiment improved slightly in the past quarter, although commodity prices remain at high levels. Prices in developed and emerging stock exchanges also increased as a result of the improving sentiment. During the period, the deceleration in US inflation, the disclosure of more favourable than expected growth data as well as the decline in commodity prices resulted in a weakening of developed market interest rate hike expectations, and thus the dollar depreciated against the major currencies, international stock exchange price indices rose, while developed market yields decreased.

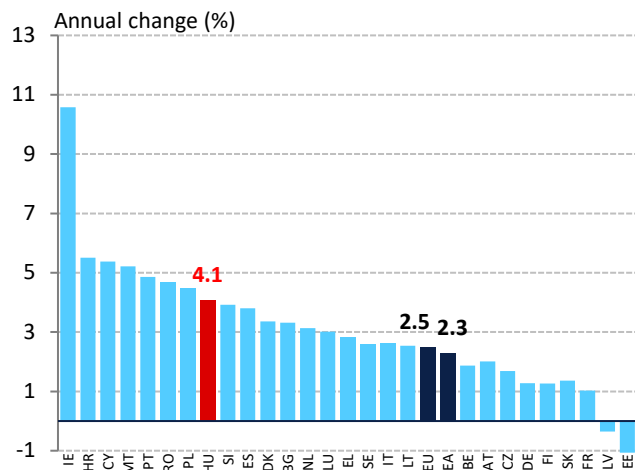
European stock exchange price indices increased considerably, by 8–15 percent, while US indices dropped following the Fed's December decision, and thus, on the whole, they rose only slightly. Stock exchanges in emerging countries were up by 10 percent on average. The US dollar weakened versus developed and emerging currencies, including the currencies of the narrower region, depreciating by 5 and 8 percent against the Japanese yen and the euro respectively, and by 9 percent against the pound sterling. Developed market long-term bond yields typically declined, with the 10-year US government security yield falling to 3.49 percent.

Both the Fed and the ECB continued the interest rate hikes, while market expectations related to the increasing of developed market interest rates strengthened. Based on market pricing, closing of the interest rate hike cycle next year is expected in the case of the Fed and the ECB alike, but at the same time the interest rate level priced for next year increased during the period. In the case of the Fed, the interest rate level priced for the middle of next year rose from 4.45 percent to 4.89 percent during the period under review, while the interest rate level priced for next year was up from 4.25 percent to 4.43 percent. In the case of the ECB, the interest rate level expected for the middle of next year increased from 2.85 percent to 3.13 percent.

3.2. Analysis of the production and expenditure side of GDP

Growth in the Hungarian economy slowed in 2022 Q3: gross domestic product expanded by 4.1 percent year-on-year, but output declined by 0.4 percent versus the previous quarter. Hungarian economic output exceeded its pre-pandemic level by 5.9 percent. Corporate sector investments grew in the third quarter, while investments by budgetary organisations decreased. In the third quarter, the goods trade balance remained in deficit. The terms of trade deteriorated significantly on an annual basis, due to the rising price of mineral fuels.

Chart 3-7: Annual GDP change in EU countries in 2022 Q3



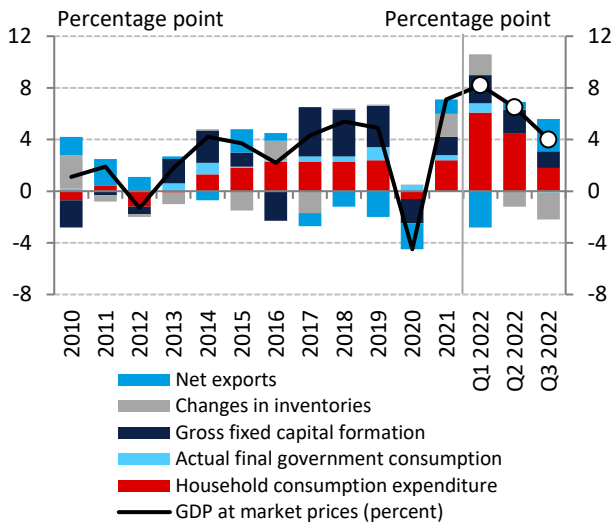
Note: Based on seasonally and calendar adjusted data.

Source: Eurostat

Following successful economic reopening, growth in the Hungarian economy slowed. In 2022 Q3, Hungary's gross domestic product expanded by 4.1 percent in year-on-year terms based on seasonally and calendar adjusted data but declined on quarter-on-quarter basis. The economies of the euro area and the EU-27 countries expanded at year-on-year rates of 2.3 percent and 2.5 percent, respectively (Chart 3-7). Hungary's growth surplus compared to the European Union was 1.6 percentage points in 2022 Q3.

On the expenditure side, the contributions of most items to annual GDP growth were positive. Households' consumption expenditures rose by 4.1 percent in year-on-year terms. The highest growth was registered in semi-durable goods (+7.0 percent). Actual final government consumption rose by 2.0 percent on an annual basis. In-kind social transfers received from the government and in-kind benefits from the non-profit sector increased by 5.0 percent and 3.8 percent, respectively, while government consumption was 0.5 percent lower versus the same period of the previous year.

Chart 3-8: Contribution to annual GDP growth



Note: Actual final government consumption includes social transfers in kind from government and NPISHs. Changes in inventories includes acquisitions less disposals of valuables.

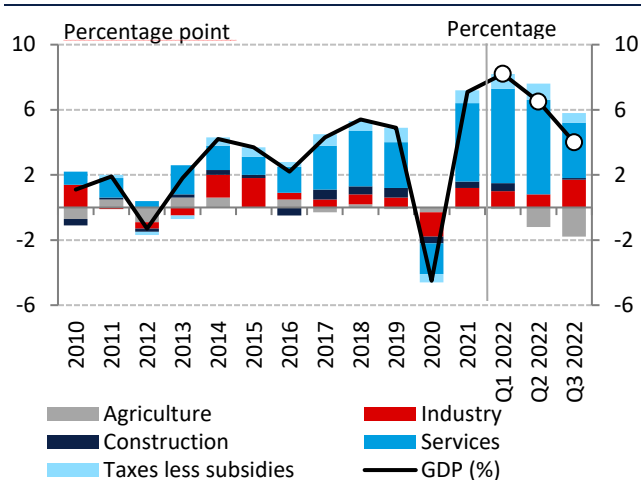
Source: HCSO

Value added of gross fixed capital formation increased by 4.1 percent compared to the same prior-year period. However, the growth contribution of changes in inventories was negative, as in the second quarter. The volume of construction investment expanded to a larger degree than that of investment in machinery and equipment. The investment rate was 28.5 percent (Chart 3-8).

Growth in the volume of exports (+14.1 percent) was higher than that in imports (+10.6 percent). Goods exports grew by 13.7 percent, while services exports rose by 16.4 percent in year-on-year terms. Net exports contributed 2.5 percentage points to Q3 GDP growth.

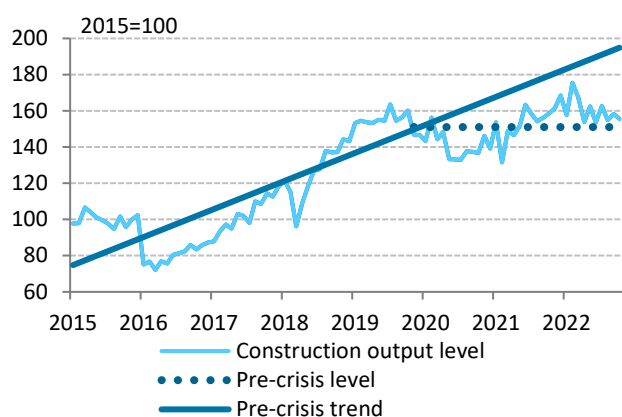
The performance of all main sectors of the economy, excluding agriculture, grew in year-on-year terms (Chart 3-9). Industrial output rose 9.6 percent compared to the same period of the previous year. Of the manufacturing sectors, the strongest contributors to the annual industrial growth were the manufacture of vehicle and electrical equipment. Construction industry's value-added increased by 1.8 percent. In view of the serious loss

Chart 3-9: Decomposition of changes in production-side GDP



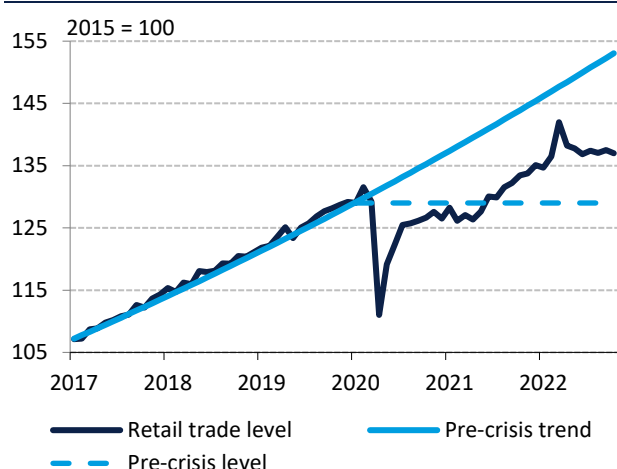
Source: HCSO

Chart 3-10: Evolution of construction output and pre-crisis trend



Source: HCSO, MNB

Chart 3-11: Evolution of retail trade and pre-crisis trend



Note: Seasonally and calendar adjusted data. The pre-crisis trend is an extension of the trend from January 2017 to January 2020.

Source: HCSO, MNB

caused by the drought, agricultural output fell 39.3 percent in year-on-year terms. Services' value added, taken together, rose by 5.6 percent. The strongest growth took place in the transportation and storage (11.5 percent), as well as the professional, scientific, technical and administrative activities (10.6 percent) sectors of the national economy. The performance of government-related services (public administration, defence, mandatory social insurance; education; human health, social care) increased by a total 2.6 percent year on year. Health care expanded by an annual 6.9 percent. The volume of public administration, defence; social insurance shrank by 0.2 percent, while that of education increased by 2.8 percent.

The growth rate of retail sales continued to decelerate in 2022 Q3

(Chart 3-10). In October 2022, the sales volume of retail shops rose 0.6 percent year-on-year, based on calendar adjusted data. However, excluding fuel trade, turnover declined by 3.5 percent year on year; excluding the turnover of petrol stations, retail sales have been declining steadily since July. The recovery of services has slowed down. According to the NTCA's online cash register data, retail sales dynamics declined further, showing stagnation in year-on-year terms, based on the November data received so far.

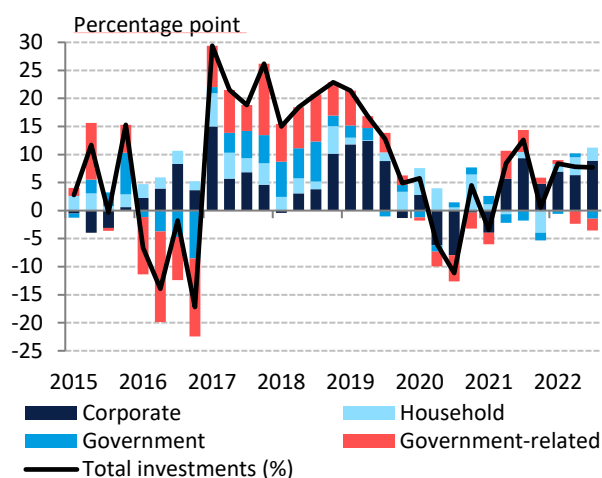
In 2022 Q3, the volume of whole-economy investment rose at a year-on-year rate of 7.7 percent based on investment statistics (Chart 3-11), while the seasonally adjusted increase was 1.9 percent compared to the previous quarter.

In year-on-year terms, investments increased by 3.3 percent in machinery and equipment and by 10.5 percent in construction. Budgetary organisations' investment volume shrank by 10.5 percent. According to HCSO information, central institutions' investment declined significantly, while local governments boosted their tangible asset purchases compared to the base period. Investment in the sectors producing for external markets increased by 23.0 percent in 2022 Q3, and by 7.4 percent year on year in the sector producing and providing services for the domestic market. Investment in manufacturing, which represents the highest weight, increased by 30.6 percent. In 2022 Q3, 4,484 new homes were completed, which is an increase of 57.5 percent in an annual comparison.

In the third quarter, the number of new contracts declined in the household loan market, and the expansion in loans outstanding decelerated compared to previous periods.

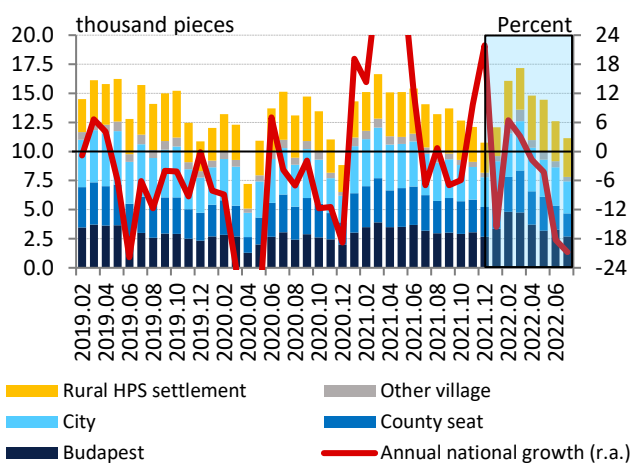
In 2022 Q3, after deceleration of 3.3 percentage points compared to the previous quarter,

Chart 3-12: Decomposition of the annual change in investments



Source: HCSO

Chart 3-13: Number of residential transactions carried out by real estate agents by month



Note: Only taking into account 50-percent and 100-percent private acquisitions. From July 2020 to September 2021, the data of the NAV fee database are adjusted based on the estimation of the level of processing by type of settlement. Based on transactions and estimated market share of real estate agents in the highlighted months.

Source: NAV, MNB, housing market intermediary database.

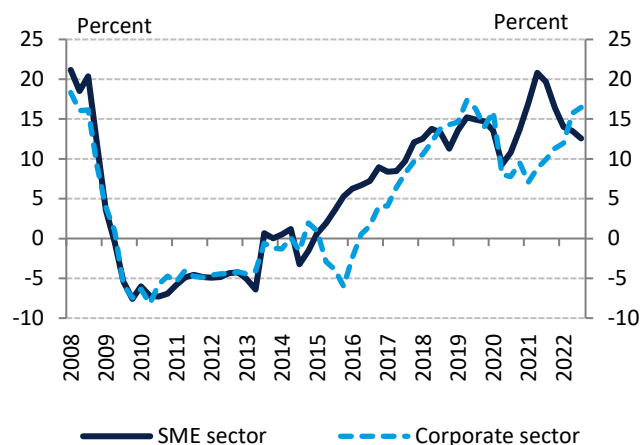
the annual growth rate of the whole financial intermediary system's household loans outstanding was 6.3 percent at end-September.¹ The volume of housing loans granted by credit institutions in 2022 Q3 was 30 percent smaller than in the same period of the previous year, while the disbursement of personal loans was 4 percent lower. In 2022 Q3, young married couples concluded prenatal baby support loan contracts worth HUF 101 billion, which is 27 percent less than in the same period of the previous year. According to responses to the Lending Survey, 29 percent and 92 percent of banks in net terms reported falling demand for consumer and housing loans, respectively, during the quarter, and looking ahead (in 2022 Q4 and 2023 Q1), the vast majority of banks expect a further decrease in demand and tightening of credit standards in both market segments.

In 2022 Q3, construction output increased by 1.9 percent in year-on-year terms. Construction of buildings was up by 3.4 percent, while other construction decreased by 1.1 percent year-on-year. Based on data adjusted for seasonal and calendar effects, the volume of construction output continued to be above the pre-crisis production level between July and September (Chart 3-12), however, construction output in 2022 Q3 remains significantly below the pre-crisis trend.

In 2022 Q3, the number of housing market transactions decreased considerably in all types of settlements. According to our estimate, in the third quarter, the number of transactions fell by 16.5 percent in settlements eligible for rural HPS, by 16.9 percent in Budapest, by 30.0 percent in county seats, by 25.9 percent in other towns and by 36.9 percent in other villages, in year-on-year terms. At the national level, the Q3 number of housing market sales and purchases may have amounted to 32,300 in total, which is 22.6 percent lower than the transaction number of 41,700 in the same period of the previous year. The last time the number of sales and purchases in the third quarter was this low was in 2013, at the time of the turnaround in the housing market cycle. The downtrend continued in October 2022, with 32 percent fewer sales and purchases in Hungary than in October 2021. According to the MNB house price index, nominal house prices increased by 7.6 percent at the national level, including 7.1 percent in Budapest, 8.9 percent in cities outside Budapest and by 5.5 percent in villages in 2022 Q2. Based on the preliminary data, in

¹ The annual growth rate is net of the statistical effect due to Sberbank's loans returning in August. For producing the estimated growth rate, the repayments to Sberbank between March 2022 and August 2022 were also taken into account.

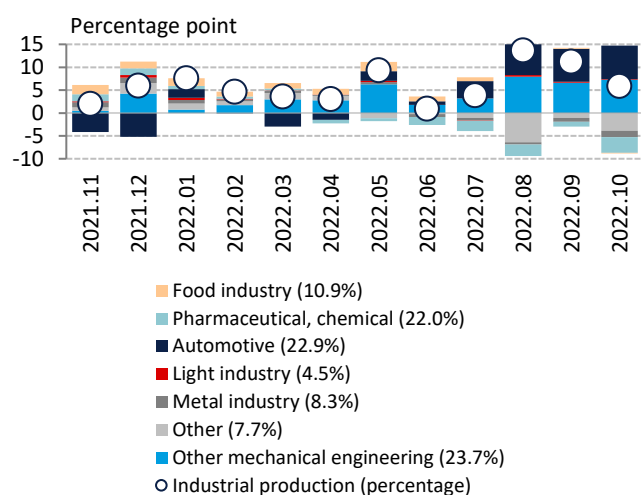
Chart 3-14: Annual changes in lending to non-financial corporates and SMEs



Note: Data for the corporate sector are based on transactions with the total financial intermediary system. The SME sector does not include the self-employed.

Source: MNB

Chart 3-15: Sectoral breakdown of annual change in domestic industrial production



Note: The weight of the sectors in industrial production is given in brackets. Without water and waste management industry.

Source: HCSO

line with the major fall in housing market activity, the growth rate of house prices decelerated considerably in 2022 Q3, with real estate prices thus increasing by 1.0 percent nationwide and 2.8 percent in Budapest in a quarter.

Corporate loans outstanding expanded by more than 16 percent in the third quarter, although in real terms this practically means stagnation. Regarding the financial intermediary system as a whole, corporate loans outstanding increased by 16.5 percent in 2022 Q3 versus the previous quarter (Chart 3-14), accelerating by 0.7 percentage point. Also taking into account the corporate bonds subscribed by banks, credit institutions' loans and bonds outstanding vis-à-vis the non-financial corporate sector grew by around 20 percent in the year to September 2022. Within corporate lending, the annual growth rate of SME loans outstanding was 13 percent at the end of 2022 Q3.² In that quarter, 84 percent of new corporate loans were contracts concluded on a market³ basis, with this ratio coming in much higher than the previous quarter's 60 percent. According to responses to the Lending Survey, in net terms 29 percent of banks tightened credit standards in the third quarter and looking ahead a net 71 percent of them expect further tightening. As for credit demand, a net 26 percent of banks experienced a pick-up in demand for short-term loans in 2022 Q3, while four tenths of banks experienced a fall in the demand for long-term loans; this diverging trend is expected to accelerate in the future.

In the third quarter, Hungary's industrial production rose by 9.6 percent year-on-year (Chart 3-15). Within the industrial sub-sectors, battery manufacturing continued its dynamic expansion. As a result of the low base, vehicle manufacturing expanded significantly, in parallel with weaker performance in pharmaceuticals, chemicals and metals. In 2022 Q3, the goods trade balance remained in deficit. In September, the terms of trade worsened considerably, by 8.3 percent year on year, with the price rise of mineral fuels as the main contributor, the effect of which resulted in an 11.1-percentage point deterioration in the terms of trade.

² The annual growth rates are net of the statistical effect due to Sberbank's loans returning in August. See previous footnote.

³ When calculating the ratio of market-based loans, we examined the ratio of non-overdraft type loans, not classified as "Normal market", within the new contracts of credit institutions excluding the Hungarian Development Bank and Eximbank.

Box 3-1: Economic growth exceeded expectations in the third quarter

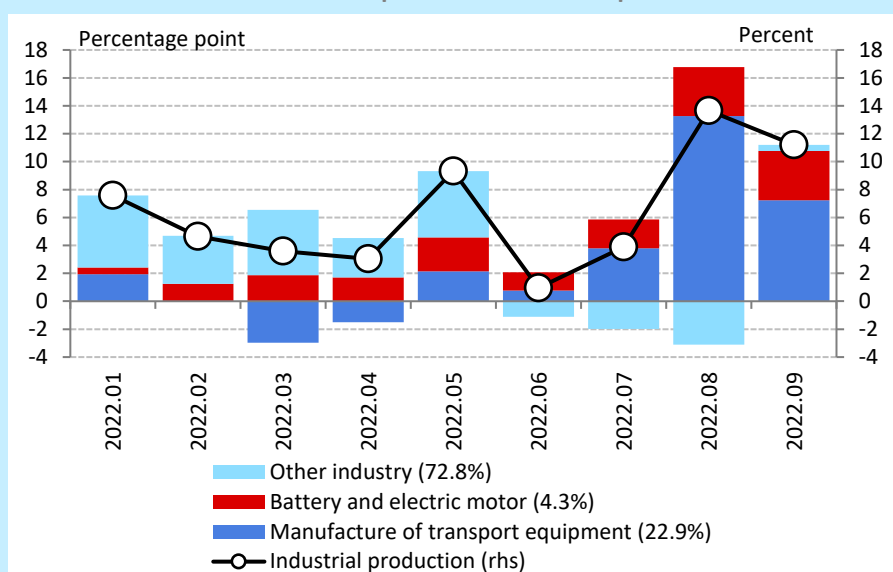
Economic growth exceeded analysts' expectations throughout Europe in 2022 Q3 (Table 3-1). GDP also rose in the largest economies compared to the previous quarter. Based on the latest data, the euro area economy expanded by 0.3 percent quarter-on-quarter, and thus the currency area will not sink into recession this year.

Table 3-1: GDP expectations and actual rates for 2022 Q3

Annual change in GDP (percent)	Expectation	Actual data
EU	2.0	2.4
Euro area	1.9	2.3
Austria	1	1.7
Belgium	1.2	1.9
Czechia	1.2	1.7
France	1.0	1.0
Poland	3.0	4.4
Germany	0.7	1.2
Italy	2.0	2.4
Portugal	4.4	4.8
Spain	3.9	4.2

Source: Bloomberg, Eurostat

Domestic economic performance was more favourable as expected in the third quarter. The annual growth of 4.0 percent was primarily supported by the expansion in industry and market services. Industrial production showed a double-digit increase in both August and September. The largest contributor to the favourable industrial performance was the vehicle and battery manufacturing sector (Chart 3-16). The upswing in battery production is primarily attributable to Asian companies located in Hungary (Samsung SDI, SK Innovation). Hungary may play a leading role in the vehicle industry and battery production in the future as well. The country's position is strengthened by ongoing development projects as well as new investments. The Chinese firm CATL, the largest battery manufacturer in the world, announced in the summer that it will spend almost HUF 3,000 billion building a factory with a capacity of 100 GWh in Debrecen, which is the largest greenfield investment in Hungary's history. In addition, BMW's project, which is also in Debrecen, is expanding as well, thus exceeding HUF 800 billion. Annual GDP growth was favourable, but the quarter-on-quarter performance of the economy declined. The currently ongoing investment projects will be important contributors to economic growth when they start producing and exporting.

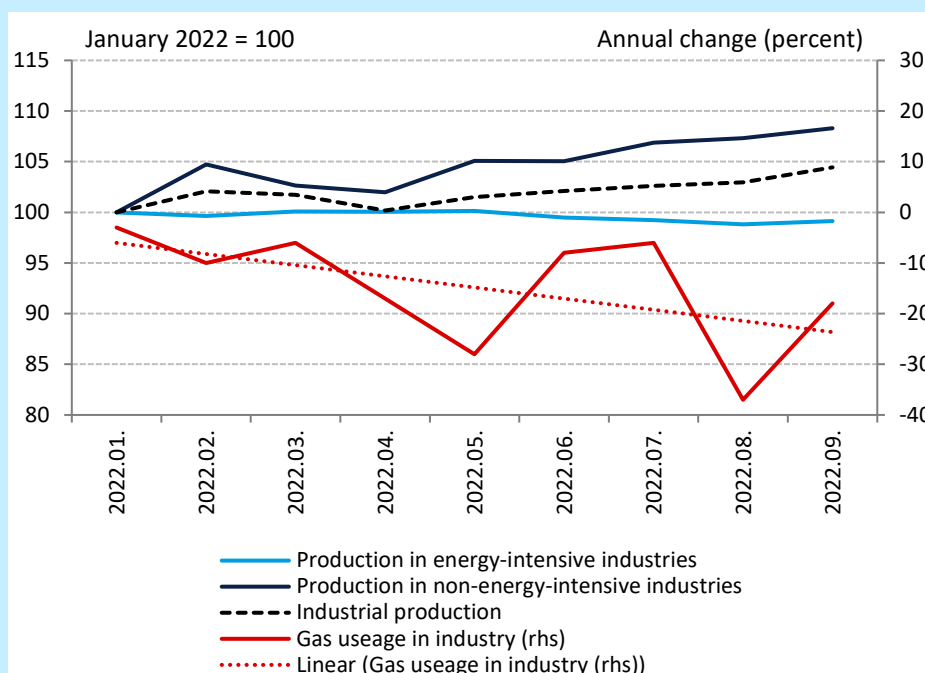
Chart 3-16: Decomposition of industrial production

Note: The weight of the sectors is given in brackets based on 2021 data.

Source: HCSO

Industrial production expanded in parallel with a decline in gas consumption, i.e. an improvement in energy efficiency (Chart 3-17). Based on energy consumption data, four energy-intensive sectors can be identified in industry (chemical industry, food industry, manufacture of non-metallic mineral products and machine production), which accounted for about 70 percent of industrial energy consumption in the past years. As a result of high prices, industrial gas consumption has been declining since January in year-on-year terms. At the same time, the fall in consumption did not entail any major decline in the production of the energy-intensive sectors. A modest drop in output was observed, while the volume of production rose considerably in the non-energy-intensive sectors. Nearly 70 percent of industrial output is realised in the non-energy-intensive sectors, and thus industrial production as a whole also expanded in the past months.

Chart 3-17: Industrial production and gas consumption trends

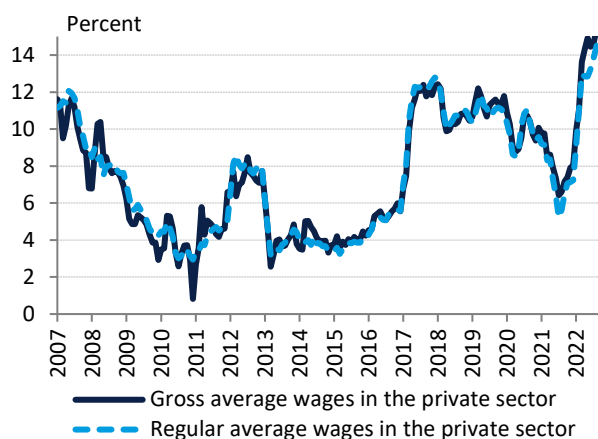


Source: HCSO., Hungarian Energy and Public Utility Regulatory Authority (MEKH)

3.3. Labour market

The number of employees in the overall economy remains near the highest figures measured in the market economy era. Employment continued to expand in year-on-year terms in the third quarter, due to the headcount increase in the private sector. The unemployment rate is still low in an international comparison, and the number of job vacancies matches the pre-crisis figures; thus the tightness of the labour market has not declined significantly. As a result of this tightness and a large increase in the minimum wage and one-off benefits, gross average earnings in the private sector in September 2022 rose 16.8 percent year-on-year.

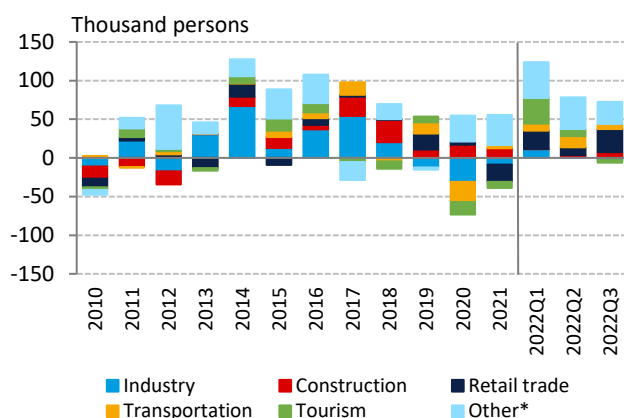
Chart 3-18: Annual change in gross average wages in the private sector



Note: Quarterly moving averages.

Source: HCSO

Chart 3-19: Decomposition of annual changes in private sector employment



Note: *Agriculture, other industry and market sector branches.

Source: HCSO

3.3.1. Wages

Wage developments continue to be strong. In September 2022, gross average earnings in the private sector rose 16.8 percent in year-on-year terms (Chart 3-18). Average gross regular earnings rose by 16.7 percent compared to September of last year, while bonus disbursements were higher than previous years' average.

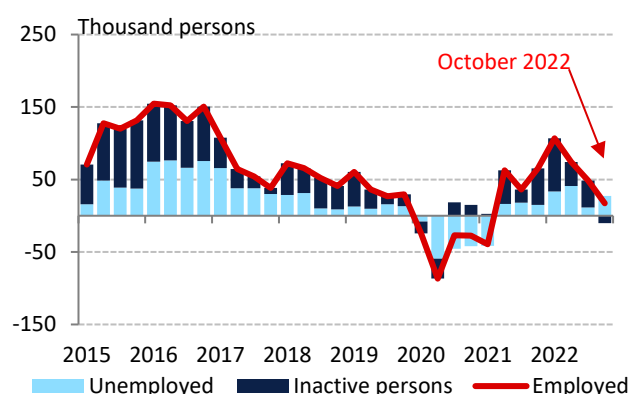
Of the countries of the region, wage dynamics were highest in Hungary in September. Taking into account part-time employees as well, wage growth amounted to 17.8 percent in September in Hungary. By contrast, in annual terms wages rose by 14.5 percent in Poland, and by 12.6 percent and 8.5 percent in Romania and Slovakia, respectively.

3.3.2. Employment and unemployment

The number of employees in the overall economy remains high. In October 2022, the average number of employees aged 15-74 years was 4,705,000. Compared to the same period last year, employment expanded by 37,000 in the period between August and October 2022 (Chart 3-19). According to seasonally adjusted data, there was a slight increase in the level of employment compared to the previous month. In parallel, the seasonally adjusted unemployment rate was 3.7 percent in the third quarter and 3.5 percent in October. The unemployment rate in Hungary can still be considered low in an international comparison.

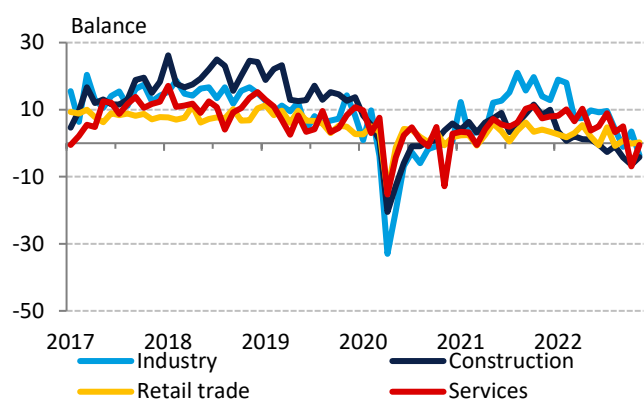
The private sector was the biggest contributor to the expansion in employment. In the third quarter, the rise in headcount was mostly attributable to the primary labour market. The number of fostered workers declined by 16,000, while those employed at local units abroad increased by 10,000 year-on-year. Private sector employment expanded by 66,000 in year-on-year terms. The number of hours worked increased slightly, and thus the full-time equivalent (FTE) headcount rose by 3.5 percent year-on-year. According to detailed quarterly sectoral data, major increases in headcount took place primarily in market services sectors (such as trade, real estate transactions, financial services, professional,

Chart 3-20: Decomposition of annual changes in whole-economy employment



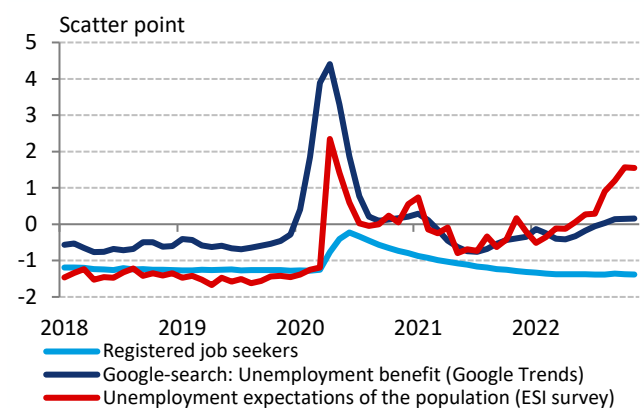
Note: Instead of Q4 2022, monthly data for October is available. Changes in the number of unemployed and economically inactive have the opposite sign.
Source: HCSO

Chart 3-21: Employment expectations in the ESI business survey



Note: The balance is positive (negative), if the majority of companies plans to hire (lay off). Seasonally adjusted data.
Source: European Commission

Chart 3-22: Indicators capturing the short-term evolution of unemployment



Note: Standardised values. Source: NES, ESI, Google

scientific and technical activities, transportation), while the number of employees fell versus the prior year in education and health services. Employment increased slightly in construction, while remaining practically unchanged in manufacturing (Chart 3-20).

According to the ESI business survey, which monitors economic sentiment, companies' expectations regarding employment were mixed in November. The majority of companies plan reductions in headcount in construction, manufacturing and – to a lesser degree – in services sectors for the next three months, while sentiment became slightly more optimistic in retail trade by November (Chart 3-21).

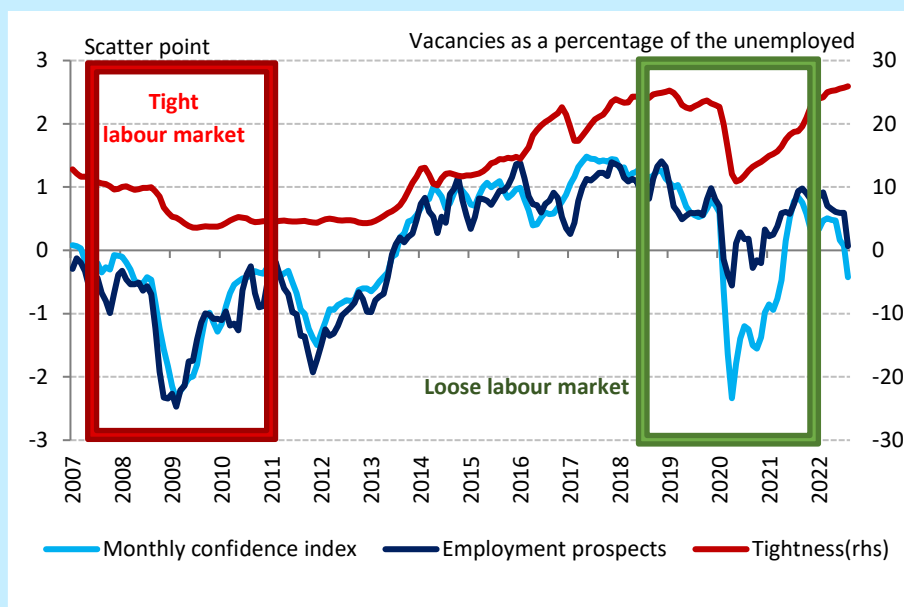
Indicators capturing the short-term evolution of unemployment show a mixed picture (Chart 3-22). The number of registered unemployed was 234,000 in November, showing no significant change compared with the figures observed since the spring, and still low in European comparison. The Google Trends indicator concerning unemployment benefits has been on a downward trend since April, and is higher than the figures observed prior to the COVID crisis. According to the ESI consumer survey, households' fear of unemployment increased significantly in recent months, and is already close to the highest value measured during the pandemic in April 2020.

Box 3-2: Wage-setting and labour market trends

The labour market typically reacts to real economy events with delays of several months. In the past period, global and European recession risks increased, and their effect may reach the labour market as well. Typically, the risks around economic activity are first reflected in the deterioration of (corporate and household) employment expectations, and labour demand reacts only after that, i.e. companies start to reduce the number of new vacancies advertised only then. Firms may also react by reductions of bonus payments. Extensive-side adjustment, i.e. an increase in unemployment as a result of layoffs, only starts after all the above.

The tightness of the domestic labour market remains historically high. The number of employees exceeds 4.7 million, while the unemployment rate is a mere 3.7 percent, which strengthens resilience to crisis. In the case of a loose labour market, in parallel with a worsening economic activity and employment prospects, the level of employment also declines significantly. By contrast, if the labour market is tight, companies strive to retain their employees by all means, and those who lose their jobs can quickly find another one. The labour market proved to be resistant already at the time of the COVID crisis, and the decline in employment was moderate (Chart 3-23).

Chart 3-23: Labour market tightness, sectoral expectations (confidence index) and employment prospects among service provider companies (ESI survey)

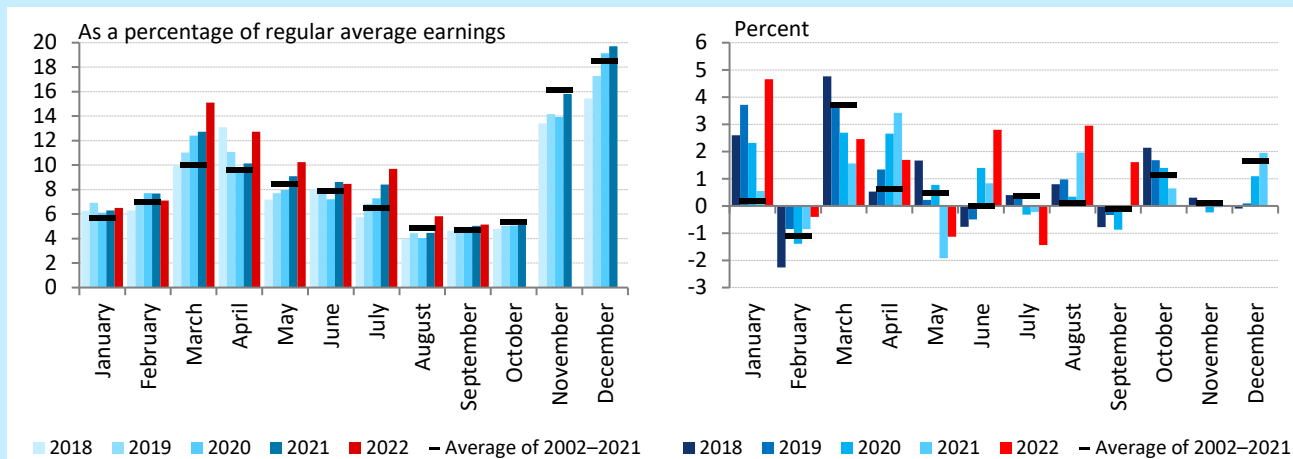


Note: Seasonally adjusted data, three-month moving average.

Source: HCSO, National Employment Service, European Commission

Employers respond to the increase in the costs of living and to households' inflation expectations by one-off bonus disbursements, but as a result of pay rises during the year, in addition to bonuses, the growth in regular earnings is also above the historical average (Chart 3-24). In the private sector, the degree of bonus payments exceeded the historical average every month this year, by nearly 2 percentage points on average. The high ratio of bonus disbursements in 2022 H2 is strongly attributable to the fact that, with reference to the rising energy prices, some companies paid one-off utility cost compensations to their employees. In addition to the bonuses, the monthly dynamics of regular average earnings is also outstanding. In the first nine months of 2022, regular average earnings increased by 1.5 percent on average, which is three times higher than the historical average.

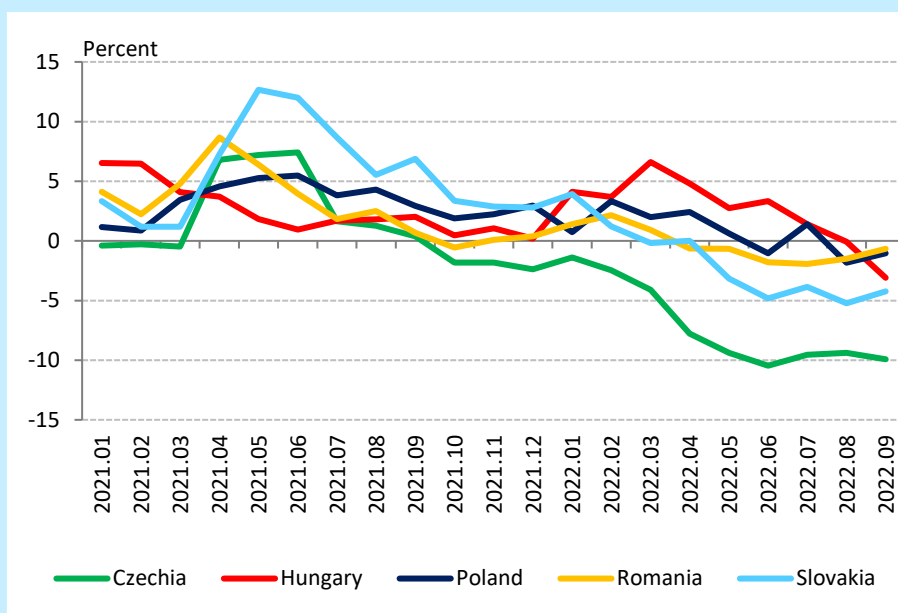
Chart 3-24: Changes in bonus payments (left panel) and regular average earnings (right panel)



Source: HCSO, MNB

Hungary is one of the countries in the region where real wages have declined only slightly during recent months. In Czechia, real wages have already been decreasing since the beginning of the year, and the fall exceeded 10 percent in the past months. In Poland and Slovakia, where the developments in real wages are the most similar to those in Hungary, the decline in real wages amounts to 1.0 percent and 4.5 percent, respectively (Chart 3-25). In the coming months, increases in consumer prices are expected to be higher than the growth rate of wages in all of the countries in the region, and thus the fall in real wages will continue.

Chart 3-25: Dynamics of gross real earnings in the region

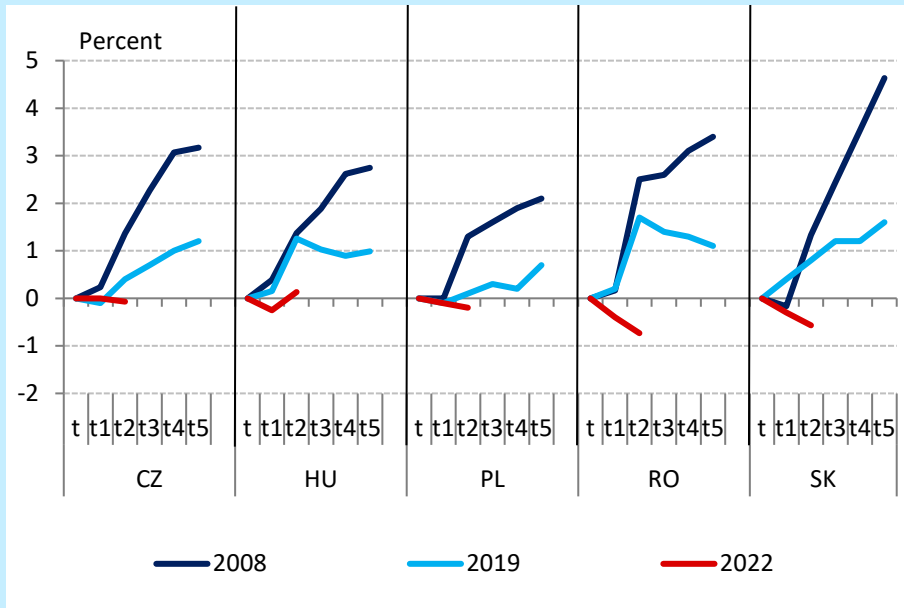


Note: Seasonally adjusted monthly data, quarterly for Czechia, private sector in the case of Poland.

Source: National statistical offices, HCSO

As a result of the tight labour market, the unemployment rate has not increased significantly compared to previous crisis periods. During the 2008 financial crisis, in a loose labour market environment, the unemployment rate in all countries of the region rose significantly, by an average of 3.2 percentage points, compared to the period before the crisis. On the other hand, as a result of the tight labour market before the COVID crisis, an average increase of just 1.3 percentage points was observed in the regional countries. The effects of this year’s economic slowdown are not visible in the unemployment data of the surrounding countries, which is largely due to labour market tightness close to the level that preceded the COVID crisis.

Chart 3-26: Changes in the unemployment rate during the crises of the past period



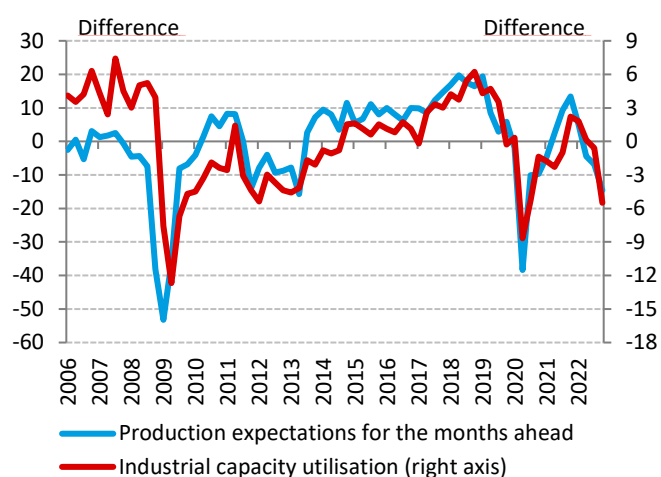
Note: Seasonally adjusted quarterly data.

Source: Eurostat, HSCO

3.4. Cyclical position of the economy

Hungarian economic output expanded in year-on-year terms in 2022 Q3, but already slightly declined compared to the previous quarter. The cyclical position of the economy this year is characterised by duality. The cyclical position of the economy improved in the first half of the year, with output exceeding its potential level. The buoyant demand observed in the first half and the easing of frictions in supply chains resulted in an inflationary cyclical position. In parallel with decelerating economic growth in Q3, the cyclical position of the economy started to close. Looking ahead, the slowdown in demand and the expected unwinding of supply-side constraints will have disinflationary effects. Both the capacity utilisation and production expectations of manufacturing companies declined in recent months, falling short of their historical averages.

Chart 3-27: Capacity utilisation and production expectations in manufacturing



Note: Deviation from historical average.

Source: MNB based on ESI

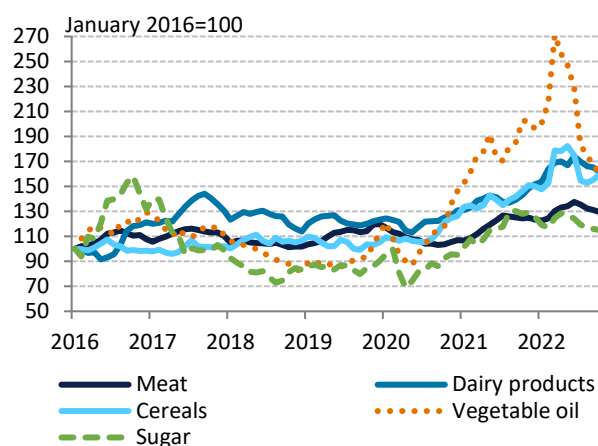
According to our estimation, the cyclical position of the economy improved in the first half of the year, with output exceeding its potential level, but then started to close in parallel with decelerating economic growth in the third quarter. Consumption was the main contributor to economic growth in the first half of the year, supported by significant government transfers at the beginning of the year as well. The buoyant demand observed in the first half and the easing of frictions in supply chains resulted in an inflationary cyclical position. In parallel with the decelerating economic growth in Q3, the cyclical position of the economy started to close. Looking ahead, the slowdown in demand and the expected unwinding of supply-side constraints will have disinflationary effects.

According to questionnaire-based surveys, the capacity utilisation of manufacturing companies declined in recent months and thus dropped below the historical average (Chart 3-27). Production expectations for the coming months also deteriorated and remained below the historical average level.

3.5. Costs and inflation

The annual growth rate of consumer prices amounted to 22.5 percent in November. The underlying reasons for the significant increase in inflation observed in recent months primarily include the rise in food and household energy price indices. The feed-through of high energy prices via different channels and the geopolitical tensions continue to exert pressure on consumer prices. Rising costs affect a wide range of items in the consumer basket, resulting in historically high inflation, which exceeds analysts' expectations around the world. Core inflation excluding indirect taxes advanced to 23.8 percent in November. Of the sub-components of core inflation, the changes in processed food prices contributed the most to the rise in core inflation in the past period. Inflation of processed food has accelerated to above 50 percent, while inflation of industrial goods has risen to over 18 percent. The indicators capturing longer-term inflationary trends have increased in recent months.

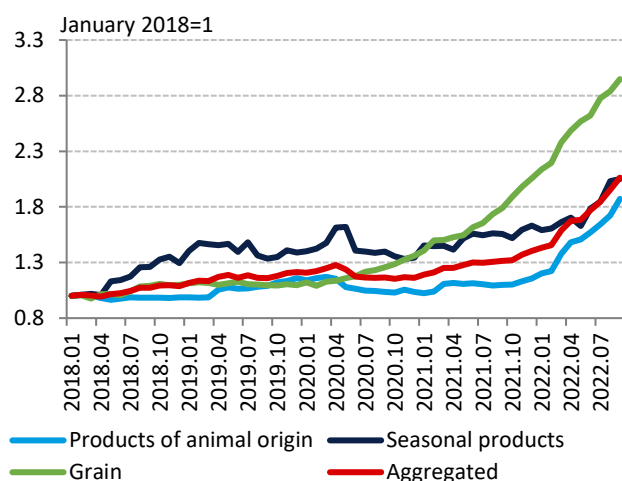
Chart 3-28: Development of world market prices of food



Note: Real price indices.

Source: FAO

Chart 3-29: Development of agricultural prices



Note: Based on seasonally adjusted data.

Source: HCSO

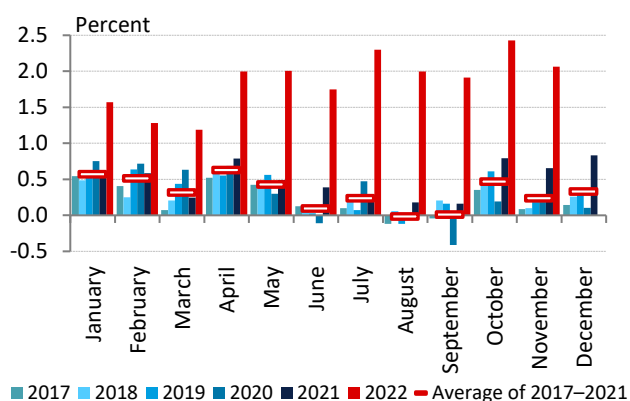
3.5.1. Producer prices

In terms of the changes in global food prices, the previously seen significant increase stopped, and declines in the prices of food commodities were observed in recent months. Except for cereals, the price indices for all items declined gradually in the autumn months. With regard to cereals, the price of wheat increased mainly due to the uncertainty about the shipping of cereals on the Black Sea, while in the case of maize the price rise was caused by the worsening prospects concerning global crop yields. The continued adjustment of the prices of oil crops was supported by an expansion in global supply (Chart 3-28).

Compared to the previous quarter, domestic agricultural producer prices rose further, showing a year-on-year increase of almost 50 percent in 2022 Q3. The largest increase can still be observed in grain prices, which rose more than 65 percent year-on-year in 2022 Q3. The prices of products of animal origin also increased considerably compared to 2022 Q2, with prices of pork and milk rising the most. In October, the prices of seasonal products and potato increased by 48 percent and 56 percent, respectively, in year on year terms. (Chart 3-29).

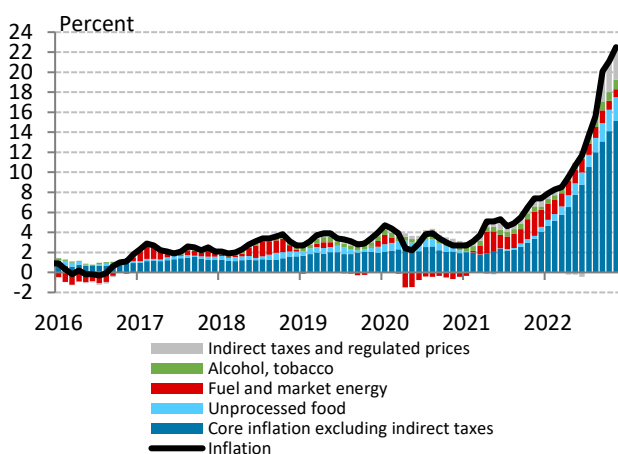
In the case of consumer goods, the rise in domestic industrial producer prices exceeded the historical average by several times. By October 2022, price dynamics increased to close to 39 percent year-on-year. In the past months, the domestic sales prices of industry as a whole rose to close to 68 percent year-on-year, with the energy producing sectors and the increase in base material prices as the main contributors; this rise is significantly higher than the historical average. The annual price increase of around 130 percent in the energy producing sectors reflects the rise in European energy prices, with the surge in gas prices as a result of the decline in gas supply from Russia playing a major role in this regard.

Chart 3-30: Monthly price changes of consumer prices excluding fuel and regulated prices



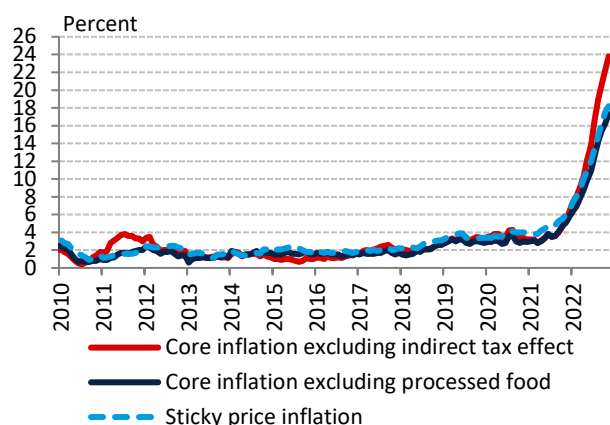
Note: Tax-adjusted, seasonally unadjusted monthly change.
Source: MNB calculation based on HCSO data

Chart 3-31: Decomposition of inflation



Source: MNB calculation

Chart 3-32: Underlying inflation indicators



Note: Core inflation excluding processed food, is unchanged from previous demand-sensitive inflation. The reason for the new name is that, during periods of significant cost shocks that are generally effective, the previous name may be misleading.

Source: MNB calculation based on HCSO data

3.5.2. Consumer prices

The annual growth rate of consumer prices amounted to **22.5 percent in November** (Chart 3-30). In November, the monthly price change of the basket excluding fuels and administered prices was **2.1 percent**. The monthly value of core inflation, which better reflects market developments and excludes processed food, was 1.6 percent; this was on par with the repricing registered in October, but lower than the average of the summer months. The underlying reasons for the significant increase in inflation observed in recent months primarily include the rise in the price indices of food as well as regulated-price products and services (Chart 3-31). In the case of the latter, in September most of the significant rise was related to the amendment of utility prices for households (prices of gas and electricity), which contributed to the acceleration in the consumer price index by 2.8 percentage points.

Core inflation excluding indirect taxes advanced to 23.8 percent in November. Of the sub-components of core inflation, changes in processed food prices contributed the most to the rise in core inflation in the past period. The indicators capturing longer-term inflationary trends have been rising in the past period (Chart 3-32).

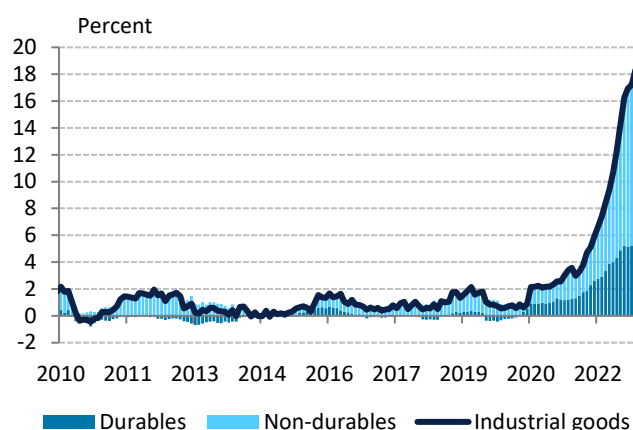
Industrial goods inflation exceeded 18 percent in the past months. The increase in the price of industrial goods is substantially larger than the average recorded for previous years. Within this product group, inflation of durable goods advanced to 14.4 percent in November, while inflation of non-durables stood at 20.7 percent (Chart 3-33 and Chart 3-34).

Market services inflation continued to accelerate in the autumn, rising to above 14 percent. The rate of monthly repricing of services remained above 1 percent, affecting a wide range of services. Similarly to previous periods, prices of food-related services (restaurant and catering services) accelerated further (Chart 3-35).

Prices of alcohol and tobacco products showed double-digit increases in the past months, with inflation in this product group at 13.8 percent in November. The annual price index of this product group was shaped by the excise tax increase in July, the feed-through of which was observed until October. The effect of the excise tax hike on this product group was felt by October, although lower feed-through was observed compared to previous experiences.

Food inflation rose to 48.7 percent in November, well above the historical average for this product group.

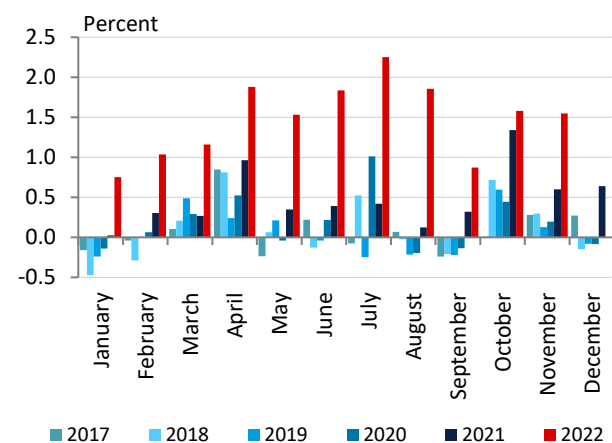
Chart 3-33: Inflation of industrial goods



Note: Annual change, excluding the effect of indirect taxes.

Source: MNB calculation based on HCSO data

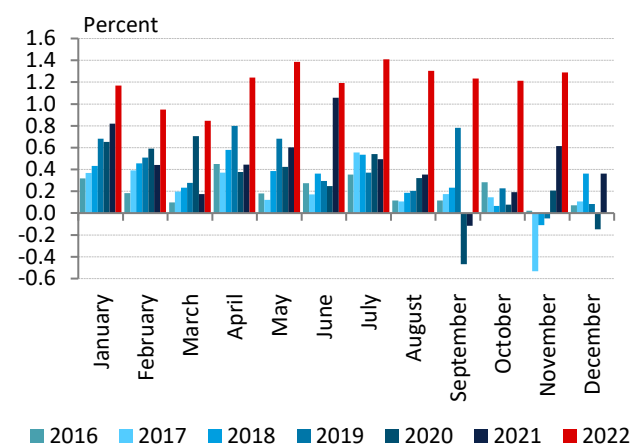
Chart 3-34: Monthly price changes of traded goods



Note: Seasonally non-adjusted, tax adjusted monthly change.

Source: MNB calculation based on HCSO data

Chart 3-35: Monthly price change of market services



Note: Not seasonally adjusted monthly price changes excluding indirect tax effects. Source: HCSO, MNB

Inflation rates for unprocessed food and processed food accelerated to 42.2 percent and 51.7 percent, respectively. In recent months, price increases were typical for a wide range of unprocessed food. In the case of processed food, the price increases were primarily related to the price changes of milk, dairy products and bread. The food price increase in Hungary is high by international comparison, despite the fact that government measures fixed the prices of certain basic food products (granulated sugar, wheat flour, sunflower oil, pork leg, 2.8% UHT milk, chicken breast and chicken backs) at last October's level. Pursuant to the latest government measure, from 10 November 2022 the range of food products subject to price caps was extended to fresh eggs and late-season potatoes, with their gross retail prices fixed at the level of 30 September 2022.

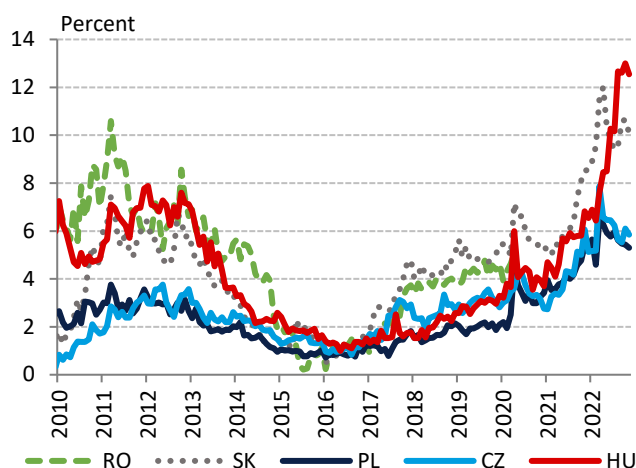
Consumer prices of motor fuels were recently shaped by government measures. As a result of the base effect of the significant price rise in the autumn of last year, fuel inflation declined to -1.4 percent by October. The price cap in force since 15 November 2021 mitigated the inflationary effect of the world market oil price increase on fuel prices, maximising the price at HUF 480 for domestic consumers. Cancellation of the fuel price cap from 7 December 2022 may raise inflation in December by 1.5–2.0 percentage points.

Looking at the data of the past months, inflation was in line with the forecast range of the September Inflation Report, but was in the upper part of the range.

3.5.3. Inflation expectations

In Hungary, households' inflation expectations rose, and the indicator remains more volatile than usual. In the countries of the CEE region, inflation expectations increased on the whole compared to the beginning of the year, in line with the recent rise in inflation. Within the region, compared to September, households' inflation expectations remained almost unchanged in Hungary and Poland, declined slightly in Slovakia, and increased to some extent in Czechia (Chart 3-36).

Chart 3-36: Inflation expectations in the region



Note: No data are available for Romania since May 2020.

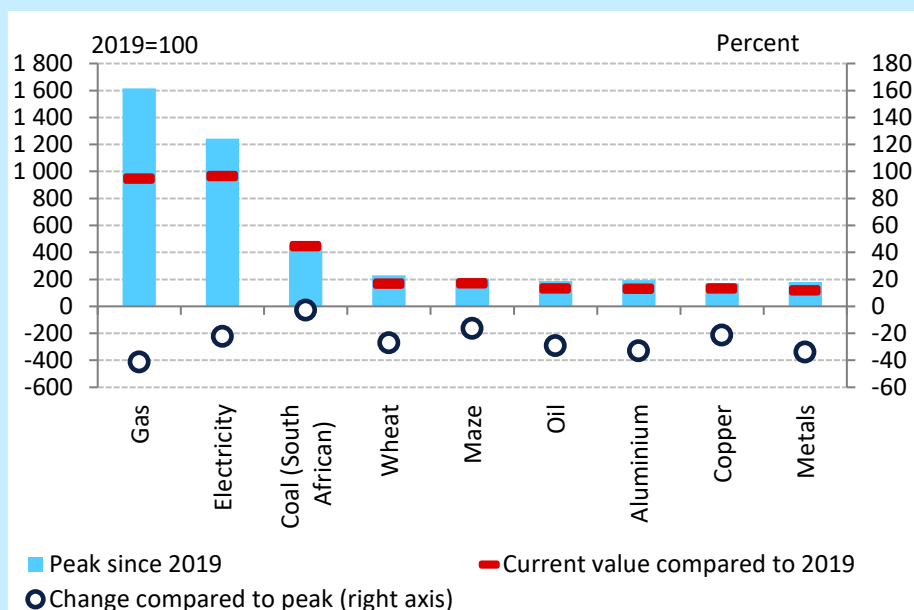
Source: MNB calculations based on European Commission data

Box 3-3: Signs of a turnaround in global inflation

A wave of inflation unprecedented in the last 50 years has swept the world, with inflation rates at high levels unseen for decades at the global level. Since the middle of last year, the global economy has been hit by a series of price shocks. The coronavirus pandemic, disruptions in supply chains, massive rises in energy and commodity prices and the outbreak of the Russia–Ukraine war caused major, often double-digit increases in consumer prices. High inflation is a global phenomenon, primarily explained by commodity, energy and food prices advancing to elevated levels. Cost shocks also passed through into consumer prices in Hungary. Accordingly, a large part of the price increase in Hungary is explained by external factors.

Signs of an imminent turnaround in inflation have appeared in various areas. Mounting risks of a global recession typically impact the commodity markets first. In recent months, there has been a broad-based decline in the world market prices of energy and commodities. For example, prices of industrial metals, aluminium and copper are already 20–30 percent below their peaks. The European exchange prices of electricity and gas have also corrected significantly. By end-November, despite the rises in previous weeks, the quoted prices of gas and electricity fell by nearly two thirds from the historical highs observed in August (Chart 3-37). One contributor to a further decline in prices may also be that, based on electricity and gas consumption data, signs are already being seen that European households and companies are adjusting to higher energy prices. Falling commodity prices may speed up disinflation starting from 2023.

Chart 3-37: Price changes of key commodity and energy market products



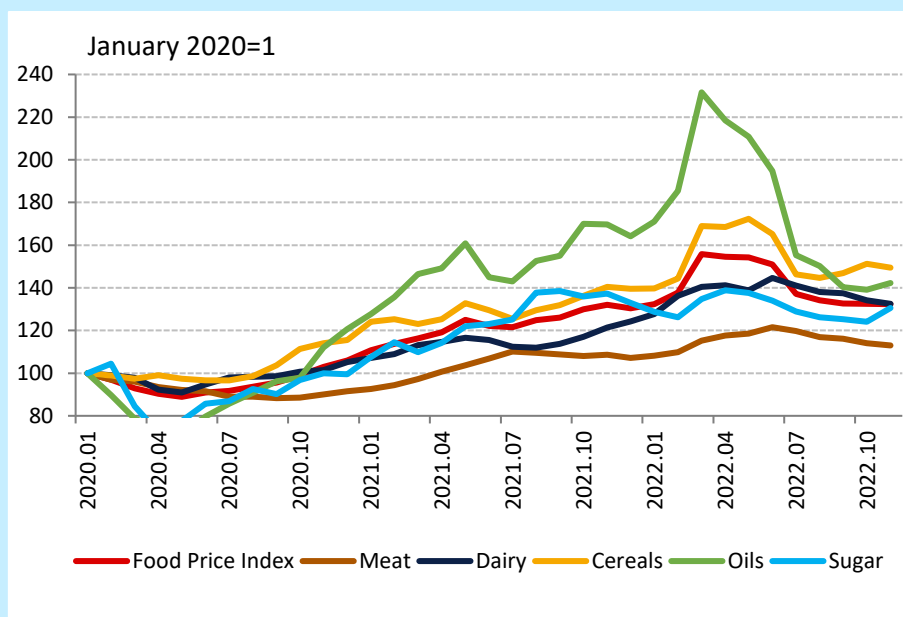
Note: Daily frequency data were examined in the case of gas, electricity and oil, while monthly data are available for other commodities.

Source: MNB calculation based on Bloomberg and World Bank data

According to the November data, inflation has stopped or declined in 19 of the 27 EU countries. After reaching a 40-year peak in June (at 9.1 percent), inflation in the USA is declining gradually, with a year-on-year price increase of 7.1 percent recorded in November. In addition to actual international data, regional inflation expectations also declined in the past period. At the global level as well, declining inflation has been observed in many countries: according to data for 103 countries, compared to the previous month, inflation decelerated or remained unchanged in 48 countries in October 2022. This also affects households' inflation expectations. According to the European Commission's latest, November survey of households' inflation expectations, compared to October, the share of respondents that expect inflation to increase faster than at present declined in all the countries of the Visegrad region.

Prices of food commodities also fell considerably compared to the highs observed in the spring. The coronavirus crisis resulted in supply chain disruptions and an imbalance of global demand and supply. The rapid recovery following the crisis caused a nearly 80 percent increase in food commodity prices between 2019 and the spring of 2022. The highest rises were observed in the prices of vegetable oils and cereals, which – according to the data of the Food and Agriculture Organization of the United Nations (FAO) – are still more than 50 percent higher than before the coronavirus crisis, in spite of the past months' price correction. Prices of wheat and maize have declined by more than 10 percent since May of this year (Chart 3-37). In November, global food prices had already been falling for eight consecutive months, with the largest declines seen for vegetable oils, while prices of sugar, meat and dairy products also tended to decrease (Chart 3-38).

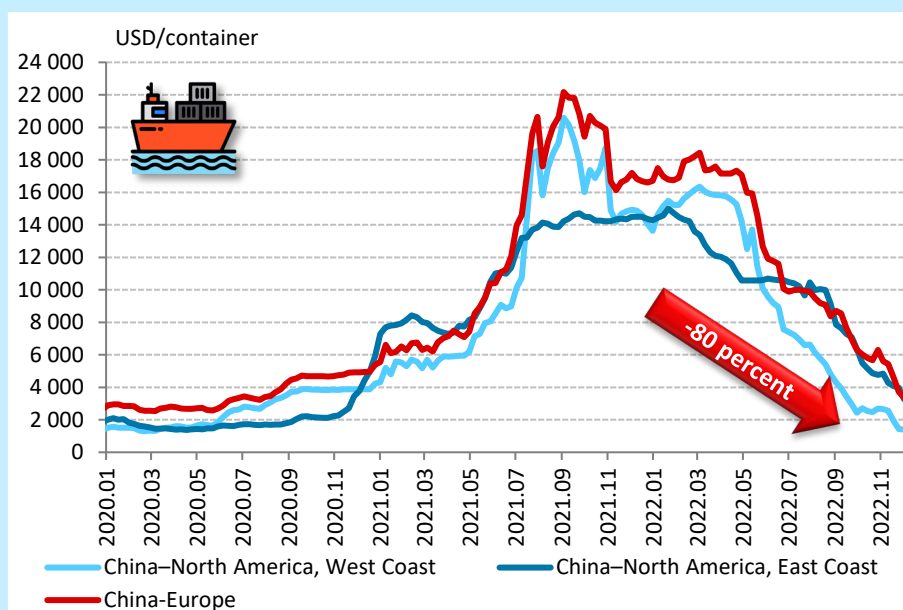
Chart 3-38: Annual change in the FAO Food Price Index



Source: FAO

Tensions in global value chains have eased in the past half year. In recent months, supply chain frictions declined considerably from the historical high seen at end-2021, which is also reflected in the sharp fall in global transportation costs. A clear-cut trend reversal can be identified in transportation costs since the beginning of the year. In respect of shipments from China to North America, charges are already close to pre-COVID levels, while transportation costs declined by 80 percent for European routes, which may entail a decline in cost-side inflationary effects (Chart 3-39). In addition, according to the latest, October data, semiconductor (chip) prices, which had surged due to supply chain disruptions and transportation difficulties, fell from a level of around USD 20/4GB observed in mid-2021 to less than USD 13, i.e. to pre-crisis levels.

Chart 3-39: Changes in the Freightos Baltic Index for shipments from China



Note: The Freightos Baltic Index (FBX) is based on aggregate, anonymised real-time business data from global carriers of goods and forwarding agents that use the WebCargo by Freightos freight rate management platform. The FBX global index is the weighted average of the twelve underlying regional route indices. In the index, each commercial route is represented by the 5–7 main ports of the individual regions.

Source: Bloomberg

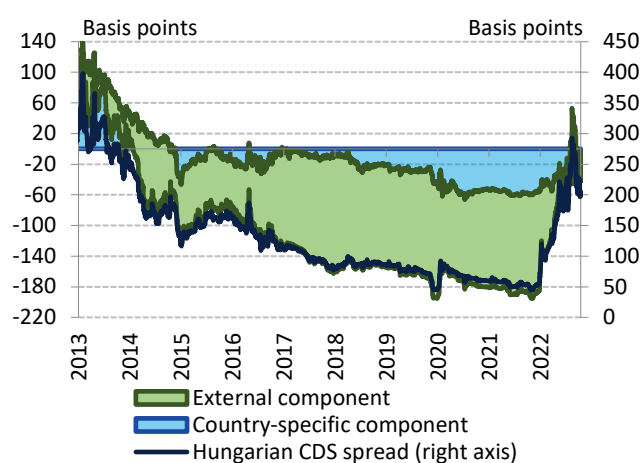
In the coming months, inflation in Hungary may be around its current high level, but both domestic and international trends point to a decline in domestic inflation for 2023. Inflation in the coming months may be around its current high level as a result of the feed-through of the high energy prices. In 2023, however, a turnaround in inflation is expected, as the cost shocks have moderated, global demand is decelerating, and the tight monetary conditions help the avoidance of second-round inflationary effects.

4. Financial markets and interest rates

4.1. Domestic financial market developments

Overall, sentiment on the developed and emerging financial and capital markets improved in the past quarter. In parallel with lower energy prices, from mid-October the decelerating US consumer price index and the better-than-expected growth data had a favourable impact on financial and capital market sentiment and developments. The weakening of the US dollar, the rise in international stock indices and the decline in developed market yields lowered Hungarian government securities yields as well, but on the whole domestic interbank yields increased at the same time. Amidst high volatility, the forint appreciated against the euro in line with regional currencies. Overall, the forint strengthened by 2.6 percent against the euro, while the Czech koruna appreciated less, gaining 1.0 percent, and the Polish zloty appreciated more, gaining 3.5 percent over the past three months.

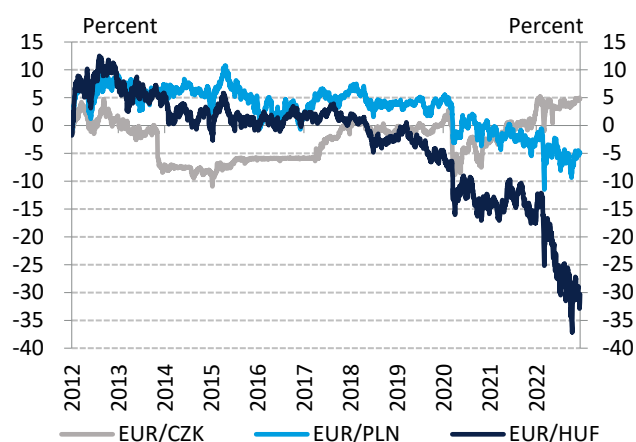
Chart 4-1: Components of 5-year Hungarian CDS spread



Note: The decomposition method used can be found in the MNB Bulletin: Variance decomposition of sovereign CDS spreads, Kocsis-Nagy (2011).

Source: Bloomberg

Chart 4-2: Exchange rates in the region



Note: Changes compared to beginning of 2012. Positive values represent appreciation of the currency.

Source: Bloomberg

4.1.1. Risk assessment of Hungary

Hungary's credit risk spread increased slightly in the first half of the period, before declining from mid-October. Overall, it decreased during the period (Chart 4-1). The CDS spread, which is now at 198 basis points, was reduced by country-specific factors at the beginning of the period and international factors in December.

4.1.2. Developments in foreign exchange markets

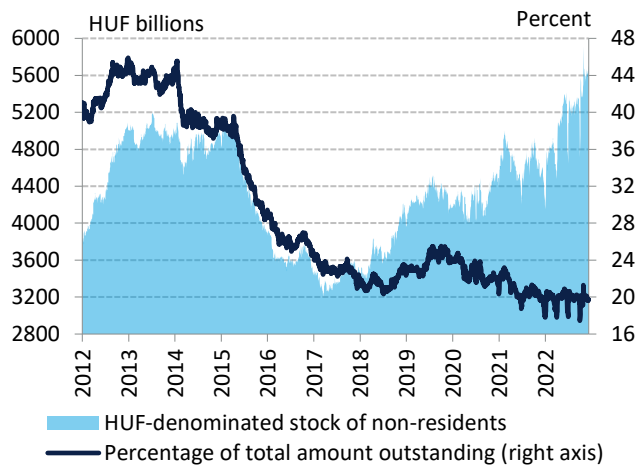
Amidst high volatility, the forint strengthened by 2.6 percent against the euro, while the Czech koruna appreciated less and the Polish zloty more. Within the region, the Polish zloty appreciated by 3.5 percent and the Czech koruna by 1.0 percent by the end of the period (Chart 4-2). The exchange rate trends for the currencies of the region were mainly affected by commodity market developments as well as the monetary policy steps of the region's central banks. The forint appreciated 10.2 percent against the US dollar, while of the currencies in the region the zloty and the Czech koruna strengthened against the US currency, by 10.9 percent and 8.6 percent, respectively.

4.1.3. Government securities market and changes in yields

Non-residents' HUF-denominated government securities holdings rose substantially in the past quarter (Chart 4-3). Non-residents' forint government securities holdings expanded significantly, growing by nearly HUF 900 billion to HUF 5,701 billion in the past three months. The ownership share within HUF-denominated government securities also increased to around 20 percent.

For most of the period, the Debt Management Agency accepted offers for higher amounts than announced at the government bond auctions, although in some cases lower-than-announced issuances also took place. In line with the secondary market yield level, average auction yields typically increased at short maturities and declined at longer maturities in the past quarter. Average auction yields

Chart 4-3: HUF-denominated government securities held by non-residents

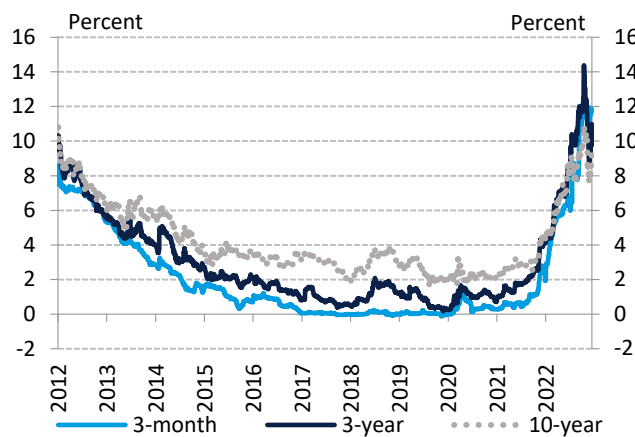


Note: The chart shows the stock of T-bills and T-bonds.
Source: MNB

rose by 195 basis points at the 3-month discount treasury bill auction, while at the 10-year auction they declined by 158 basis points. Accordingly, average auction yields were at 13.87 percent and 8.21 percent, respectively, at the end of the period.

Yields generally increased on the short end of the government securities market yield curve and declined on the medium and long sections. Medium- and long-term yields typically declined from mid-October (Chart 4-4). On the whole, during the quarter, 3-year and 10-year yields declined by 193 and 128 basis points, respectively, with contributions from the deceleration in the US consumer price index and the decline in expectations concerning the global interest rate hike path. Of the interbank yields, the 3-month BUBOR rose by 303 basis points to 16.29 percent.

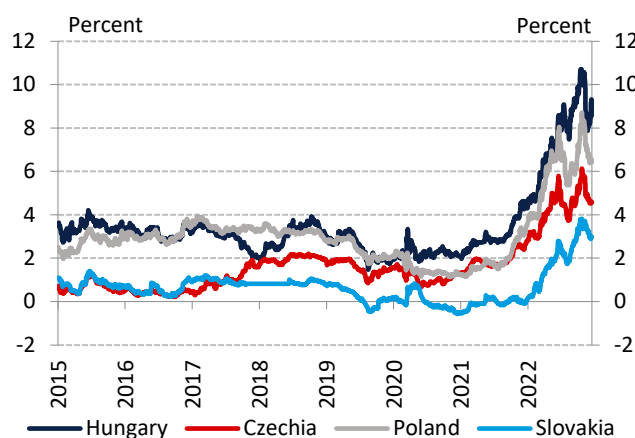
Chart 4-4: Yields of benchmark government securities



Source: Government Debt Management Agency (ÁKK)

Most long-term reference yields in the region declined during the period (Chart 4-5). The 10-year Polish yield fell 82 basis points, while the 10-year Czech yield dropped 77 basis points versus the end of the previous quarter. The Slovak (euro) yields fell by 37 basis points.

Chart 4-5: 10-year government benchmark yields in CEE countries

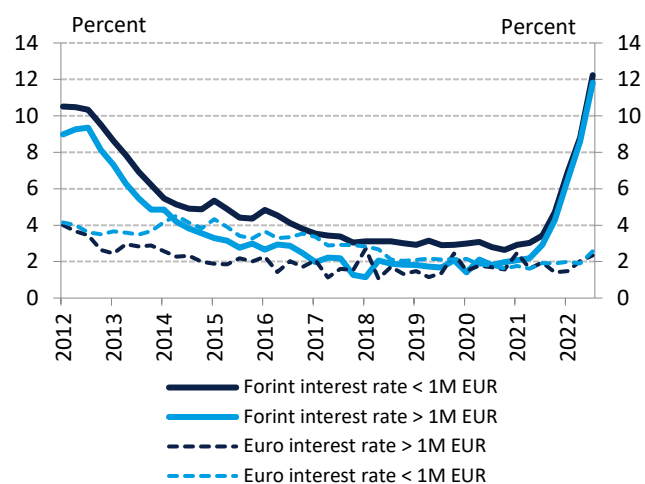


Source: Bloomberg

4.2. Credit conditions of the financial intermediary system

Corporate credit conditions tightened in 2022 Q3 in the case of small and large companies as well as commercial real estate lending. Banks indicated further tightening of credit standards looking ahead to the last quarter of 2022 and the first quarter of 2023 as well. In the case of housing loans and consumer loans, 32 percent and 60 percent of banks in net terms tightened standards, and further tightening is expected in both segments in the next half year as well. The average cost of funds of newly contracted corporate HUF-denominated loans and the average APR on newly contracted long-term fixed-rate housing loans increased during the period under review. 61 percent of the housing loan contracts concluded during the quarter with interest rate fixation of at least 5 years were certified consumer-friendly housing loans (CCHL), ensuring long-term predictability of the instalments.

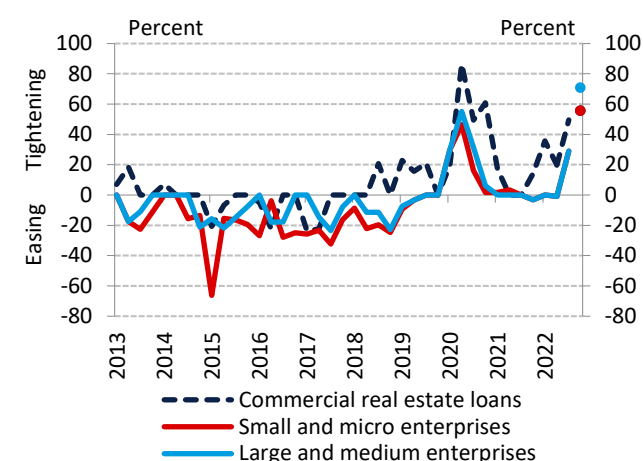
Chart 4-6: Interest rates on new corporate loans



Note: Loans with variable interest rate or with up to 1-year initial rate fixation. From 2015, based on data net of money market loans exceeding EUR 1 million.

Source: MNB

Chart 4-7: Changes in credit conditions in corporate sub-segments



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share. Forecast for 2022 Q4 and 2023 Q1.

Source: MNB, based on banks' responses

4.2.1. Corporate credit conditions

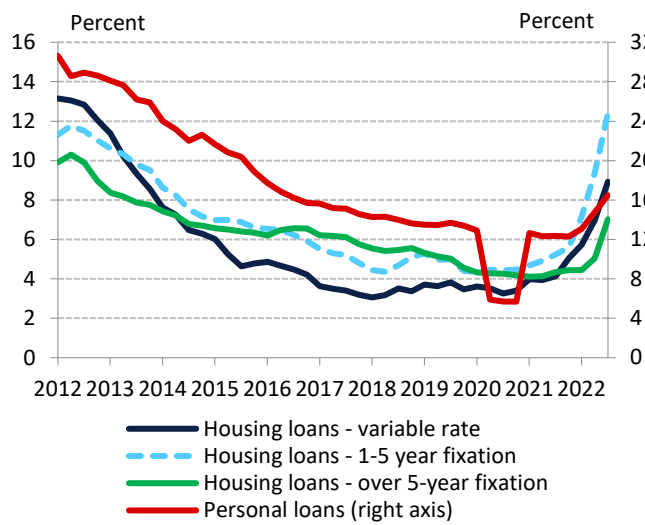
In 2022 Q3, the average interest rate on corporate forint loans continued to increase, in parallel with a rise in the interest rate environment. The smoothed average interest rate level on new corporate HUF loans with interest rates variable within one year (largely market-based loans) – excluding money market transactions – rose by 343 basis points in the case of low-amount loans and 323 basis points in the case of high-amount loans compared to the previous quarter (Chart 4-6). Accordingly, within loans the interest rate of which is variable within one year, the average interest rate on forint loans amounted to 12 percent in September. During the quarter, the interest rate level on low-amount euro loans increased by 67 basis points, while for high-amount euro loans it rose by 32 basis points, and thus the average cost of funds of euro loans stood at 2.4 percent at end-September. The significant rise in corporate forint interest rates is attributable to the rapid pass-through of the rise in interbank rates into bank lending rates.

Standards tightened in both company size categories during the quarter, and tightening is expected in the future as well. In 2022 Q3, the banks participating in the Lending Survey tightened conditions of access to loans in both company size categories as well as in the segment of commercial real estate lending. Looking ahead to the next half year, corporate credit conditions are expected to tighten further: a net 56 percent, 71 percent and 55 percent of banks plan tightening for commercial property financing, for large and medium-sized enterprises and for small and micro enterprises, respectively (Chart 4-7). Looking ahead, in both company size categories banks intend to tighten the data provision requirements vis-à-vis customers, as well as coverage requirements and premiums on riskier loans.

4.2.1. Household credit conditions

The average interest rates on housing loans increased significantly during the quarter. The average APR level of housing loan contracts concluded in 2022 Q3 stood at

Chart 4-8: Annual percentage rate of charge on new household loans

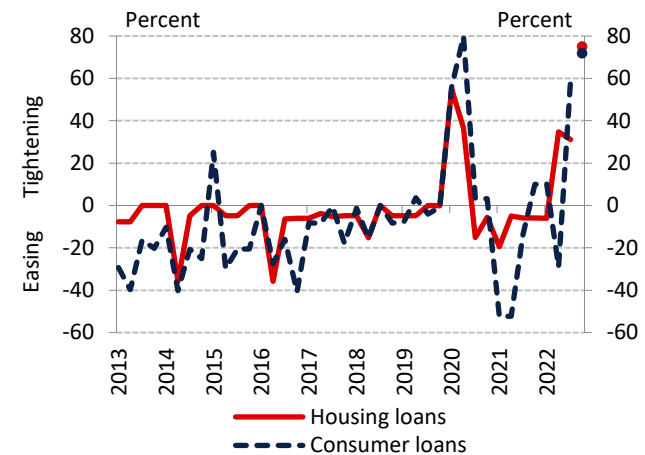


Note: Quarterly average of lending rates on newly disbursed loans.
Source: MNB

12.4 percent, after a rise of 300 basis points in the case of loans with interest rate fixation for 1–5 years (many of which are subsidised-rate loans related to the Home Purchase Subsidy Scheme for Families), while in the case of loans with interest rate fixation for more than 5 years the increase was 197 basis points, and thus the average APR reached 7 percent during the quarter (Chart 4-8). In 2022 Q3, the volume of certified consumer-friendly housing loans available with an at least 5-year interest rate period accounted for 61 percent of the quarterly new housing loan issuance (excluding Green Home Programme contracts). Increasing by 175 basis points, the average smoothed APR on personal loans reached 16.5 percent by the end of the period under review.

Housing loan standards tightened in the quarter, and further tightening is expected in the future. According to responses to the Lending Survey, in net terms 31 percent of banks tightened standards for housing loans in 2022 Q3, but concerning partial conditions, more than half of the responding institutions indicated reductions of spreads. Looking ahead to 2022 Q4 and 2023 Q1, a net 75 percent of the banks plan to further tighten housing loan conditions, and as regards partial conditions, a net 46 percent of the banks already anticipated raising the spread between the loan interest rate and cost of funds (Chart 4-9). As far as consumer loans are concerned, a net 60 percent of credit institutions tightened conditions of access to loans in the third quarter. Looking ahead to the next half year, a net 72 percent of the banks plan further tightening of standards in the market of consumer loans.

Chart 4-9: Changes in credit conditions in the household sector



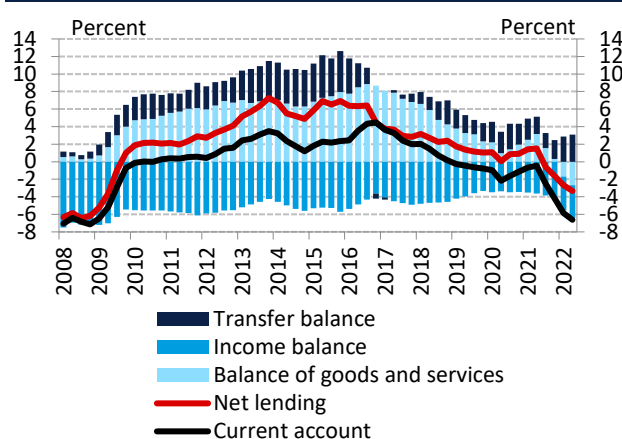
Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share. Forecast for 2022 Q4 and 2023 Q1.
Source: MNB, based on banks' responses

5. Balance position of the economy

5.1. External balance and financing

In 2022 Q2, the current account deficit increased to 6.6 percent of GDP, while net borrowing of the economy also rose. The continued decline in the trade balance is related to the surge in energy prices. In 2022 H1, net FDI and portfolio investments showed outflows on the financing side, while debt inflows took place. The country's external debt-to-GDP ratios decreased slightly by end-June 2022: the effect of borrowing was offset by the revaluation of outstanding debt and the expansion of GDP. According to preliminary monthly data, Hungary's external balance position continued to deteriorate due to increasing energy imports as a result of the high energy prices, but at the same time significant foreign direct investment took place, and debt inflows decelerated in parallel with that.

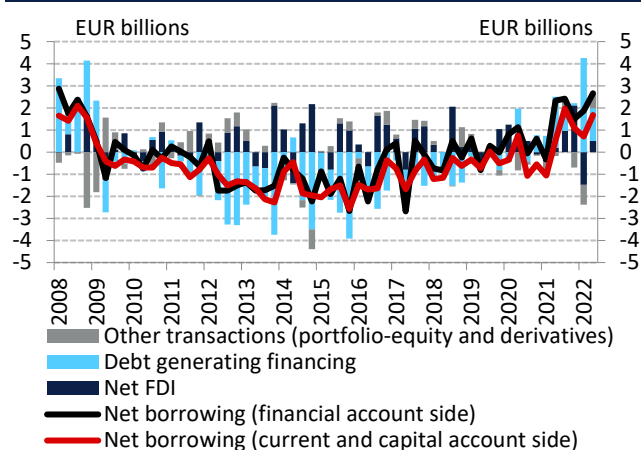
Chart 5-1: Changes in net lending and its components



Note: Cumulated four-quarter values, as a percentage of GDP.

Source: MNB

Chart 5-2: Structure of net lending



Note: The net lending from the financial account side corresponds to the sum of current account, capital account and the BOP balance of statistical errors and omissions. From an economic point of view, fundamental developments in the dynamics of debt ratios are not affected by the switch between gold bullion and unallocated gold accounts so this technical effect is excluded from time series.

Source: MNB

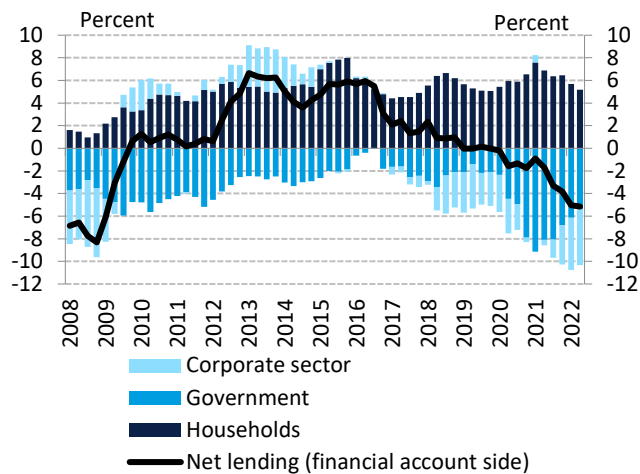
5.1.1. Developments in Hungary's external balance position

In mid-2022, net borrowing of the economy and the current account deficit rose to 3.3 percent and 6.6 percent of GDP, respectively (Chart 5-1). The increasing trade deficit was the main contributor to the worsening of the external balance position in 2022 Q2. Within that, the increasing deficit of the goods balance was determined by the rise in net energy imports due to the surge in energy prices, while items outside the energy balance were stable. The surplus of the balance of services increased further in parallel with the recovery of tourism. The decline in corporate income supported the improvement in the income balance, while the transfer balance surplus also expanded. According to preliminary monthly data, the rise in the goods deficit attributable to the higher energy prices continued in 2022 Q3, which was partly offset by an expansion in the surplus of the balance of services, which is explained by the pick-up in tourism. Accordingly, while the level of the income and transfer balance remained unchanged, the current account deficit and net borrowing of the economy increased further in the third quarter.

5.1.2. Developments in financing

The domestic net FDI stock increased in 2022 Q2, while inflows of debt liabilities declined in parallel with that (Chart 5-2). Following a temporary decline in net FDI in 2022 Q1 related to one-off items, the FDI stock increased again in the second quarter. Net portfolio investments continued to decrease in 2022 H1, due to residents' increasing investments abroad and non-residents' lower equity investments in Hungary. All three sectors contributed to the rise in debt liabilities. According to preliminary monthly data, partly as a result of a foreign technology company's investment in Hungary, significant net FDI inflow materialised in 2022 Q3. In parallel with that, following declines in previous quarters, net portfolio equity investments started to increase, primarily in relation to

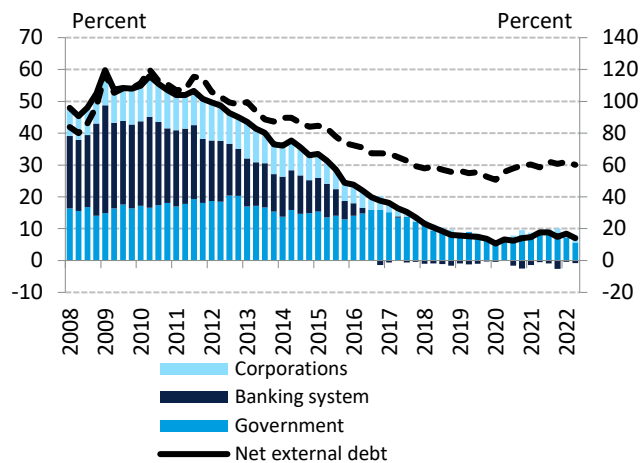
Chart 5-3: Decomposition of net lending by sectors



Note: Four-quarter cumulation, as a percentage of GDP.

Source: MNB

Chart 5-4: Development of net external debt by sectors



Note: From an economic point of view, fundamental developments in the dynamics of debt ratios are not affected by the switch between gold bullion and unallocated gold accounts so this technical effect, as well as intercompany loans are excluded from time series. As a percentage of GDP.

Source: MNB

resident actors' investments abroad. Inflows of debt liabilities continued at a decelerating pace in 2022 Q3: in parallel with borrowing by the general government and the banking sector, companies reduced their foreign debt.

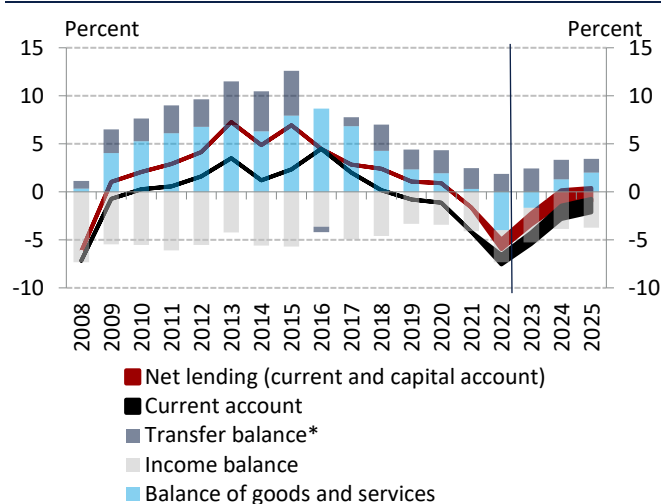
In 2022 H1, the net borrowing of the state continued to decline, while the net financial savings of the private sector decreased considerably in parallel (Chart 5-3). In the first half-year, strong domestic demand contributed to a decline in the private sector's net financial position, while the net position of the general government improved due to a rise in tax revenues. According to the preliminary financial accounts, the decline in the net borrowing of the general government stopped in 2022 Q3, while the net position of the private sector also turned into net borrowing. Companies' increasing net borrowing was attributable to the buoyant investment activity, inventory accumulation as well as to the corporate income-reducing effect of higher energy and commodity prices. Households' net financial savings declined in line with the still buoyant consumption.

At end-June 2022, the net external debt of the economy declined to 7 percent of GDP (Chart 5-4). The decrease in the indicator to near its historical low was a result of contrasting effects. Although transactions increased the stock, this impact was offset by the effect of the revaluation of the outstanding debt (primarily in relation to the yield increase) and of the expansion in nominal GDP. Gross external debt declined to 60 percent of GDP, which is also attributable to the revaluation effects that exceeded the debt inflow.

5.2. Forecast for Hungary's net lending position

The balance position of the economy may reach its low in 2022, before improving gradually in the following years. This year, the terms of trade, which are deteriorating due to the rising energy prices, raise the trade deficit considerably, which is partly offset by the upswing in exports in 2022 H2. Looking ahead, in 2023, in parallel with a dynamic expansion in exports, decelerating domestic demand will restrain the increase in imports, which will be reflected in a declining trade deficit. From 2024, normalisation of the global economic environment, in conjunction with investment projects that start production, will result in a further improvement in Hungary's external balance position. From the savings side, the private sector's funding position will deteriorate significantly in 2022, while the general government deficit will decline considerably as a result of the increase in revenues due to economic growth, the consolidation of utility costs as well as other fiscal measures. From 2023, the decline in inflation and the expansion in households' incomes will result in an increase in household savings. In parallel with that, corporate net borrowing will decrease as a result of falling energy prices, a pick-up in external demand and EU fund inflows.

Chart 5-5: Evolution of net lending



Note: As a percentage of GDP*. The sum of the balance of the current transfers and the capital account balance.

Source: MNB

Table 5-1: Development of trade balance as a percentage of GDP

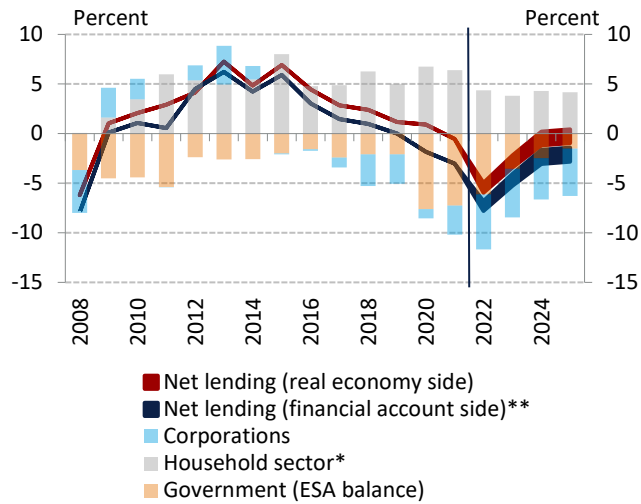
	2021	2022	2023	2024	2025
Balance of goods	-3.0	-8.4	-6.5	-4.0	-2.9
Balance of energy	-4.4	-10.1	-8.8	-7.0	-6.0
Balance of other goods	1.4	1.7	2.3	3.0	3.2
Balance of services	3.3	4.4	4.8	5.3	4.9
Trade balance	0.3	-4.0	-1.7	1.3	2.0

Source: HCSO, MNB

In 2022, the current account deficit will increase further in parallel with continued deterioration in the trade balance (Chart 5-5). The deterioration in the terms of trade in 2022 due to surging energy prices increases imports, while exports pick up significantly, despite the slowdown in the external environment in the latter half of the year. On the whole, the trade deficit is worsening considerably, which is only partly offset by the temporary improvement in the income balance in view of the extraordinary profit tax. The current account deficit may peak at around 7 percent of GDP in 2022. In 2023, decelerating domestic demand will restrain the expansion in imports, while exports will continue to grow dynamically, reflected in a strong improvement in the trade balance. Meanwhile, higher interest expenditures and the increase in foreign-owned companies' profits as a result of dynamic export growth will entail deterioration in the income balance, which is still offset to some extent by the further existence of the extraordinary profit tax. From 2024, with normalisation of the global economic environment and as the major new export capacities developed in recent years become productive, the external balance position may improve considerably, and thus by the end of the horizon, the current account deficit could be close to balance.

The evolution of the current account balance is mainly affected by the energy balance. In 2021, net energy imports corresponded to a mere 4.4 percent of GDP, but this year the indicator is expected to more than double in view of the much higher energy prices. Although domestic economic agents' gradual adjustment is a drag on the expansion in imports, the energy balance deficit may remain high in 2023 as well. Starting from 2024, as energy prices return to normal, net energy imports may decline further, reducing the goods deficit to around 3 percent of GDP in parallel with still subdued consumption (Table 5-1).

Chart 5-6: Changes in the savings of sectors



Note: As a percentage of GDP. * Net financial saving of households does not contain the pension savings of those who return to the public pension system. The net savings in the financial accounts differ from the data in the chart. ** We expect that 'Net errors and omissions' (NEO) will return to the historical average.

Source: MNB

According to the sectors' savings trends, the general government deficit is declining, while the private sector's position turns into net borrowing in 2022 (Chart 5-6). Looking ahead, the government's net borrowing is declining steadily, in relation to a major increase in revenues, the consolidation of utility rules as well as the budgetary measures that further reduce expenditures and increase tax revenues, which partly offset the expenditure-raising effects of the high energy prices and the Russia–Ukraine war. The high inflation and rising utility expenditures are reflected in the declining real income as well as in the decrease in household savings. Looking ahead, with the easing of inflationary pressure and the expansion in household income, households' net savings will stabilise at a slightly higher level. In 2022, the still buoyant investment and the high commodity and energy prices result in an increase in companies' net borrowing. From 2023, declining energy prices, an upswing in external demand and EU fund inflows together contribute to an improvement in companies' financing position.

5.3. Fiscal developments

Deficit targets of 6.1 percent and 3.5 percent are set in the budgets for 2022 and 2023, respectively, with 2.5 percent projected for 2024 and 1.5 percent for 2025. In 2022, the achieving a balance that is in line with the increased deficit target is supported by the high tax revenues, the expenditure-reducing and revenue-increasing measures announced in parallel with the preparation of the 2023 Budget Act and in the second half of the year by amendments related to regulated energy prices. Nevertheless, starting from 2023, tight fiscal management and the saving of some of the higher-than-expected additional revenues will be needed in order to achieve the deficit targets. Amendment of the 2023 Budget Act will take place at the end of December, and thus we did not know any details when the forecast was made. According to our forecast, as a result of the strong nominal GDP growth, the government debt ratio will decline from 76.8 percent at the end of the previous year to around 74 percent of GDP by end-2022, before sinking to below 70 percent by the end of the forecast period.

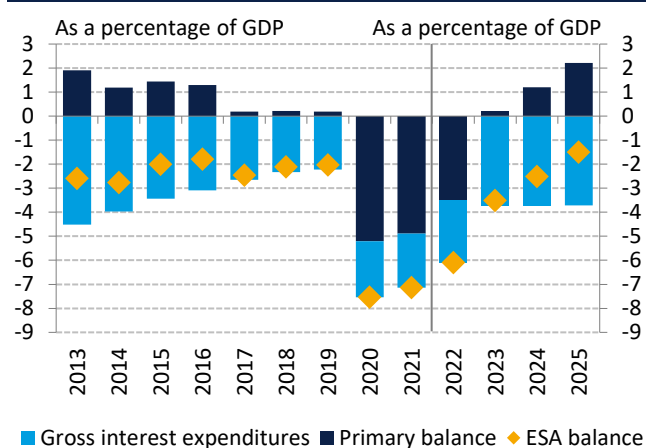
Table 5-2: General government balance indicators

	2022	2023	2024	2025
ESA-balance	-6.1	-3.5	-2.5	-1.5
Primary ESA balance	-3.5	0.2	1.2	2.2

Note: As a percentage of GDP.

Source: HCSO, MNB

Chart 5-7: Changes in the fiscal balance and government interest expenditures



Source: HCSO, MNB

5.3.1. Main balance indicators

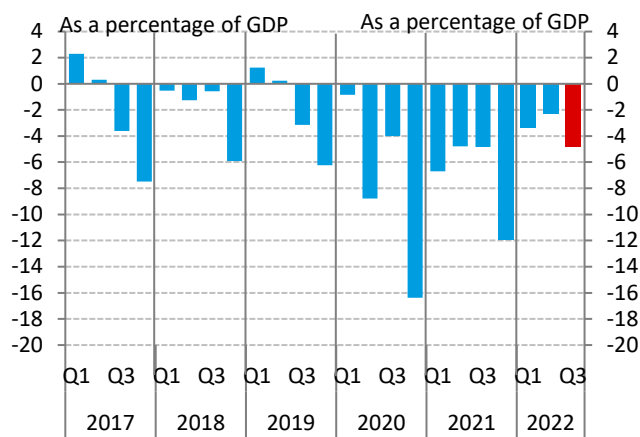
The government sector's accrual-based deficit as a percentage of GDP may amount to 6.1 percent in 2022 and 3.5 percent in 2023 (Table 5-2). In 2021, the budget deficit amounted to 7.1 percent, compared to which the deficit could narrow this year. In addition to the increase in revenues stemming from economic growth, the decrease in the budget deficit in both 2022 and in 2023 results from the measures announced in parallel with the 2023 Budget Act, while the ongoing war in the neighbouring country and high energy prices have unfavourable impacts on the budget, in response to which continuous budgetary measures are being taken. In 2024, the deficit may decline further compared to previous years and, based on budgetary expectations, it may reach the level of 2.5 percent of GDP, complying with the Maastricht deficit criterion (Chart 5-7). The deficit-to-GDP ratio may continue to decline in 2025.

The temporary suspension of the EU fiscal rules will remain in place in 2023 as well, and then, according to the communication of the European Commission, renewed application of the fiscal rules may start from 2024 at the earliest. In parallel with the temporary suspension of EU regulations, the 3-percent deficit criterion and the rule regarding the medium-term budgetary objective set forth in the Stability Pact were also suspended until end-2023, while the continuation of the state of emergency in Hungary allows for deviation from the debt rule set out in the Fundamental Law.

5.3.2. Budget balance in 2022

The budget deficit may amount to 6.1 percent of GDP in 2022, based on the government's increased target. The 2022 Budget Act contained a budget deficit target of 5.9 percent of GDP, which was first reduced to 4.9 percent by the government's projection, and then raised back to 6.1 percent in relation to the special natural gas reserve accumulation. According to the HCSO's actual figures, the accrual-based deficit in the first six months corresponded to

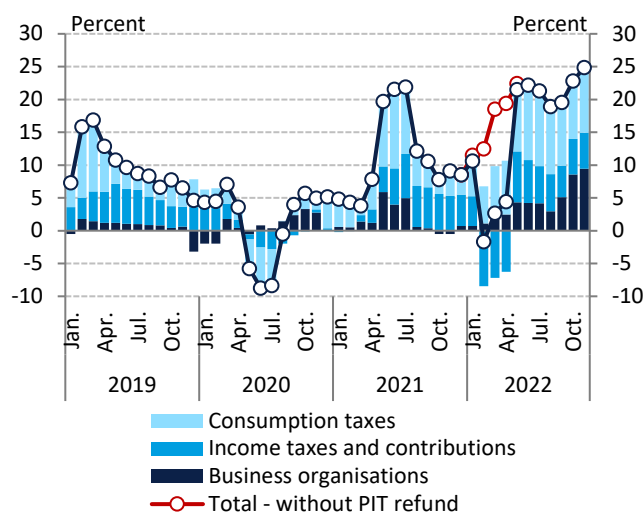
Chart 5-8: Accrual balance of the general government sector



Note: The Q3 2022 data shows the net lending capacity of general government as reported in the preliminary financial accounts published by the MNB.

Source: HCSO, MNB

Chart 5-9: Evolution of tax and contribution revenues in 2019–2022, year-on-year, 3-month moving average



Source: HST, MNB

2.8 percent of the half-year GDP, whereas according to the preliminary financial account data published by the MNB, the accrual-based deficit amounted to 4.8 percent of the quarterly GDP in the third quarter (Chart 5-8). Following the favourable H1 data, budgetary expenditures is set to increase in the latter half of the year: expenditures related to energy prices, pensions and interest expenditures are projected to be much higher than previously planned. At the same time, the degree of the increase is reduced by the decline in world market energy prices.

The deficit in the first eleven months was mitigated by favourable developments in tax revenues. As a result of the rapid increase in wages and consumption as well as of the surtaxes paid in the second half of the year, tax revenues in November exceeded the amount recorded one year earlier by 24 percent. Revenues are expected to considerably exceed the appropriation throughout the year (Chart 5-9).

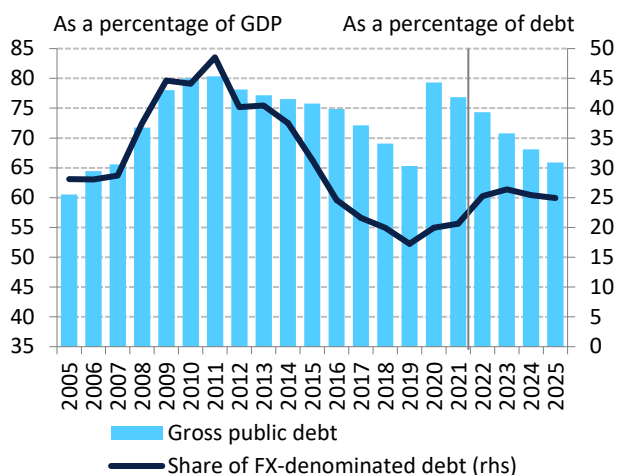
5.3.3. Budget balances for 2023–2025

According to the deficit target set forth in the Budget Act adopted in July, the budget deficit in 2023 may amount to 3.5 percent of GDP. The deficit may primarily be reduced by the revenue and expenditure measures announced in parallel with the preparation of the budget bill, by the tax revenues, which are expected to be much higher than planned as well as by tight fiscal management. Cancellation of the fuel price cap in December 2022 may also contribute to the decline in the deficit in 2023 via higher VAT and other tax revenues from the retail trade of fuel. Amendment of the 2023 Budget Act will occur at the end of December, and thus we did not know the details when the forecast was made.

The evolution of government expenditures related to energy prices will remain an important factor in 2023. This will be covered by the Utilities Protection Fund, which amounts to 1 percent of GDP, while the Defence Fund is for financing the increase in defence expenditures from the surtaxes imposed on extraordinary profits and made available for these funds. High energy prices pose a risk to the achievement of the deficit targets between 2023 and 2025. In addition, the surge in interest expenditures due to yield increases, rising pension disbursements to compensate inflation as well as the adjustment of teachers’ salaries planned from 2023 also have an expenditure-increasing effect. The achievement of the deficit targets requires tight fiscal management and the saving of some of the higher-than-expected additional revenues.

As there is no Budget Act available, we prepare a technical forecast for 2024 and 2025, which suggests that according to the expected macroeconomic path and estimated

Chart 5-10: Gross public debt forecast



Source: MNB, ÁKK

expenditures, the deficit path will decline further, following a decrease in risks.

5.3.4. Risks surrounding the baseline scenario

The most important risk to the evolution of the budget balance is the level of energy prices. The high energy prices entail major additional fiscal expenditures even after the recent decline in world market prices and with the application of the new rules, which poses a risk to achieving the deficit targets in the coming years. The amendment of regulated utility prices announced in July, the reduction of the heating cost of public institutions and further energy saving measures partly offset the additional expenditures caused by the high gas price.

Following approval of the Hungarian Recovery and Resilience Plan, uncertainty about disbursements of EU funds decreased significantly. If there is no permanent loss of funds, the 55-percent suspension of the three operational programmes of the 2021–2027 EU cycle will not significantly affect next years' fund inflows. The pre-financing and receipt of funds affect developments in government debt, while the scheduling of implementation has an impact on the accrual-based balance and real economy trends. Until the approval of the submitted plans, the budget provides pre-financing for the beneficiaries for the expenditures connected to the new programming period.

5.3.5. Expected developments in public debt

According to preliminary data, at the end of 2022 Q3 the gross government debt-to-GDP ratio was 75.9 percent. The debt-to-GDP ratio decreased by around 3.2 percentage points year-on-year and by 0.9 percentage points compared to the end-2021 level. The decline in government debt was mainly attributable to the dynamic growth in nominal GDP.

According to our forecast, if the budget deficit target is met, the gross government debt-to-GDP ratio will fall to around 74 percent by end-2022, and we expect a steady decline in the debt ratio over our forecast horizon. If the financing plan of the Debt Management Agency is achieved, the government debt ratio will decline as a result of a dynamic expansion in nominal GDP and more subdued debt issuance in the second half of the year. The government debt ratio may decrease annually by 2.5–3.0 percentage points on average over the forecast horizon (Chart 5-10).

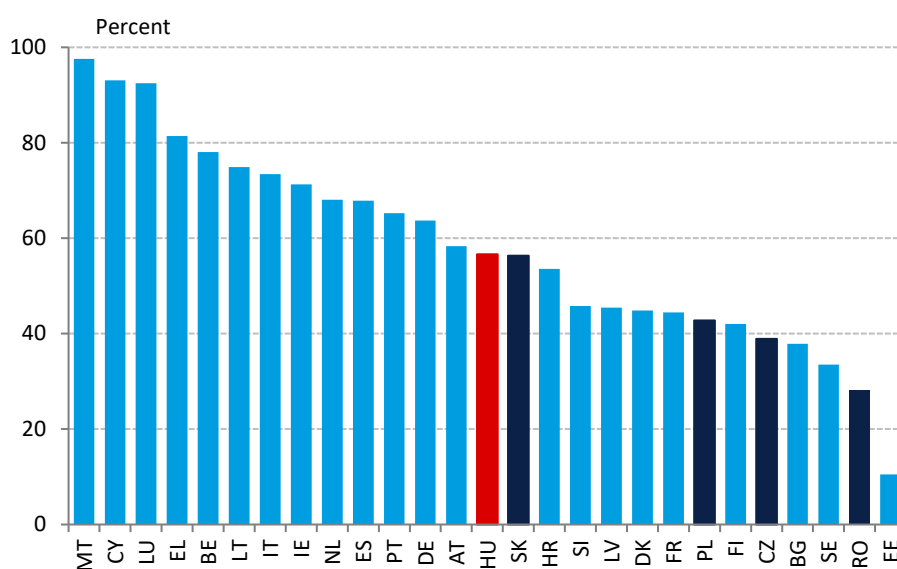
The change in the EUR/HUF exchange rate affects the debt ratio through the revaluation of FX debt, and thus a 10-forint change in the EUR/HUF exchange rate modifies the government debt-to-GDP ratio by around 0.45 percentage point. The share of foreign currency within the central government debt rose from 20.6 percent to 25 percent by the end of 2022 as a result of FX bond issuances.

6. Special topics

6.1. The effects of the energy crisis on the EU and domestic current account

The rise in world market energy prices, which had started in 2021 H2, accelerated significantly following the outbreak of the war, hitting the European continent hard due to its high energy exposure (Chart 6-1). The sudden, drastic rise in energy prices is a problem because the advanced economies and most European countries are typically net energy importers, i.e. based on the dependency measured on a quantitative basis, these countries procure one half or even two thirds of their energy consumption from external sources. In 2020, the energy dependency rate was around an average 42 percent in the countries of the region, which was considerably exceeded by Hungary's exposure of 57 percent. Moreover, due to the surging commodity and energy prices as well as the Russia–Ukraine conflict, this rate may be even higher both in European countries and in the countries of the region (including Hungary) in 2022. In addition, deceleration in production due to shortage of semiconductors and subdued exports as a result of the slowdown in external demand may result in deterioration in the trade balance and the current account balance of European countries in 2022.

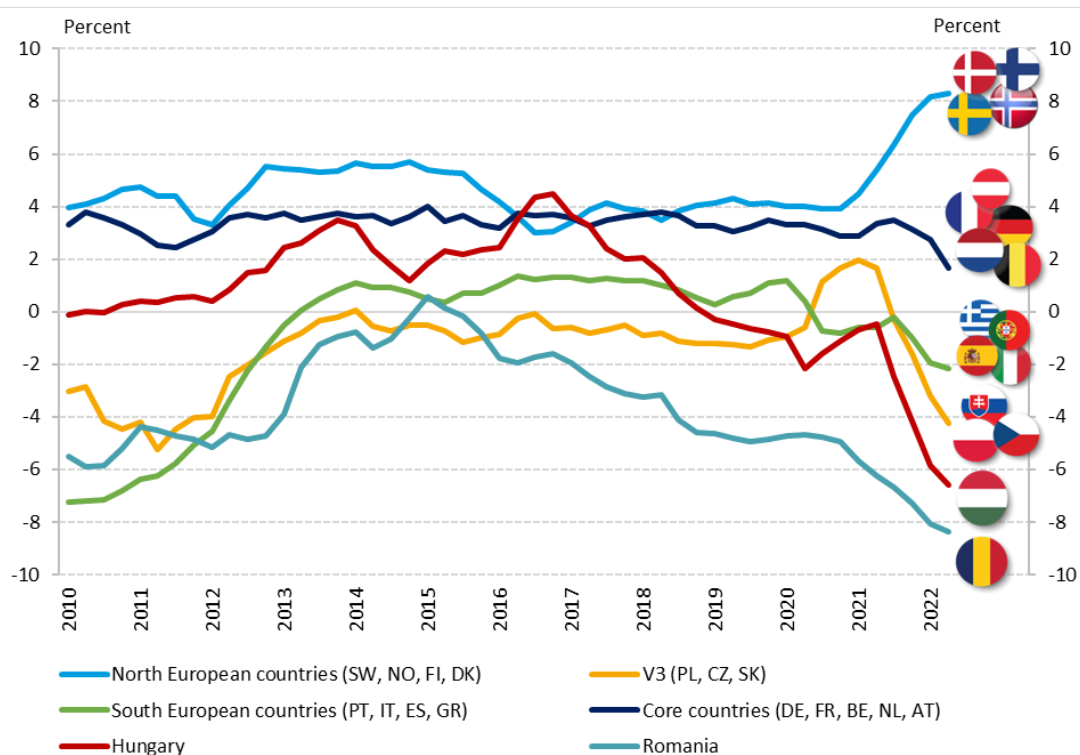
Chart 6-1: Energy dependency in the European Union (2020)



Source: Eurostat

In most EU countries, the fall in the energy balance due to price surge is also reflected in the worsening of the current account (Chart 6-2). As a result of the global commodity and energy price rise, energy balances typically deteriorated in the EU countries, also causing increases in the current account deficits of the individual countries in 2022. Exceptions are the Nordic countries, which are better supplied with sources of energy. At the same time, the current account surplus of the core countries of the euro area, which had been persistently close to 4 percent before, declined to below 2 percent, while the sharpest downturn in the current account was observed in the countries of the Central and East European region.

Chart 6-2: Average current account balances in certain regions of Europe

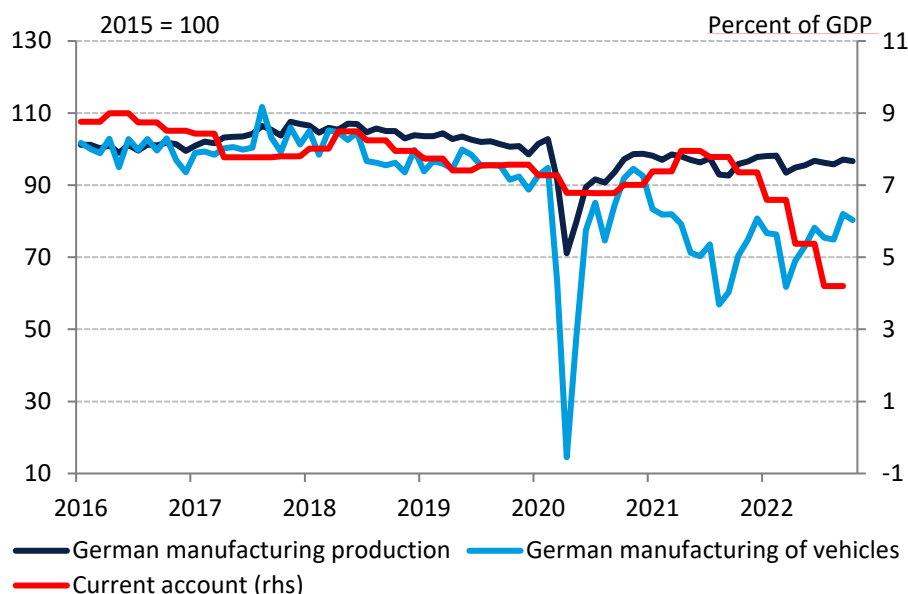


Note: Values relative to GDP for quarters.

Source: Eurostat, MNB

Nevertheless, in addition to the energy crisis, EU countries are threatened by major competitiveness problems as well, and solving these may require a renewal of the business model of the whole economy. The example of Germany, which is one of the leading economies in the EU, shows well that the external balance difficulties of EU countries are more wide-ranging than the shortage of energy, which is a major challenge on its own as well. On the supply side, in addition to the high energy and commodity prices, the shortage of gas and the still existing frictions in the supply chains cause problems, while the demand side is moderated by the subdued outlook due to the war in Ukraine and continued geopolitical uncertainties, as well as by the financial crisis due to eroding household incomes in view of inflation, which is expected to accelerate to double-digit levels by the end of the year, and also by the fall in consumer confidence sinking to an even lower level than during the coronavirus pandemic. It may be the consequence of the above that even in the recent months the German manufacturing and vehicle industry output has been at the very low level observed during the outbreak of the coronavirus pandemic, which, together with the surge in energy prices, may have contributed to the rapid fall in the previously always high German current account surplus (Chart 6-3). It may be a negative development for economic performance in the countries of the region as well that the slowdown in the German economy has an unfavourable impact on the rest of the EU as well, and that weakening external demand may slow growth and impair the external balance in the CEE region. As the current global economic developments jeopardise the economic model that materialised to date based on cheap Russian energy and the exports of quality products produced from imports, in the near future EU countries will have to focus on energy efficiency investment, green transition and measures aiming at maintaining competitiveness.

Chart 6-3: Evolution of some main indicators of German industrial production

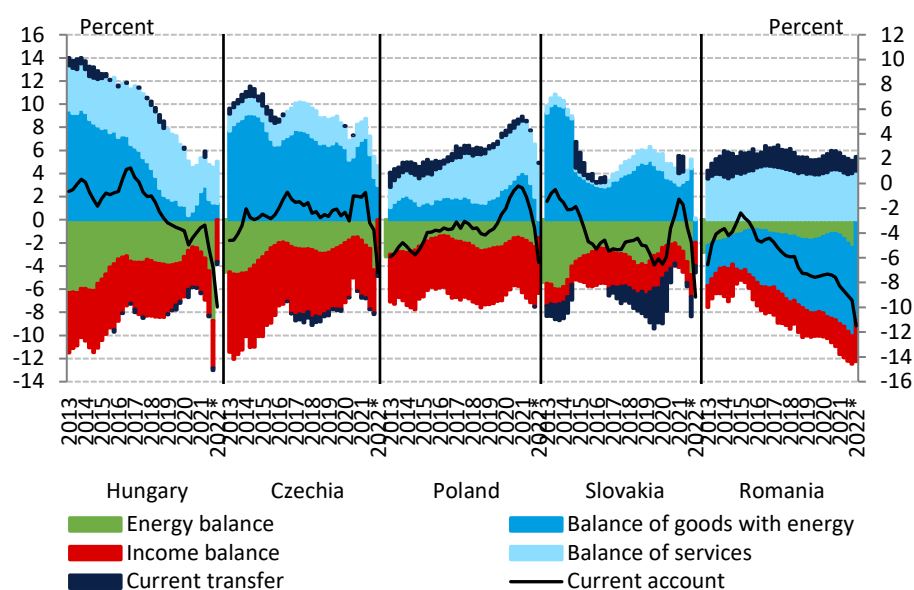


Note: Seasonally adjusted data.

Source: Destatis, Eurostat

As a result of the global commodity and energy price increases as well as in relation to the weak external demand, external balance indicators also worsened considerably in the countries of the region, and the current account deficit rose in all the countries of the region (Chart 6-4). Of the countries in the region, Hungary's current account deficit (7.5 percent) is the second highest after Romania (9.2 percent). In Hungary, the energy balance impaired the current account balance to the greatest degree, which is primarily attributable to the global commodity and energy price increases. Hungary is followed by Slovakia's relatively high current account deficit, but the external balance of Czechia and Poland also deteriorated considerably in the past quarters. Although the current account deficit is the highest in Romania, its financing structure is more favourable, as the level of net FDI inflows is steadily high, and the increase in debt is also restrained by EU fund inflows, which is also reflected in the external indebtedness ratios, which are more favourable than in the case of Hungary

Chart 6-4: Components of the financing capacity in the region (values relative to GDP in four quarters)



Source: MNB, Eurostat

It is particularly important to reduce Hungary's current account deficit, which requires not only a reduction in energy dependence, but also a competitiveness turnaround in the domestic economic structure. Within the region, not only was the decline in Hungary's current account one of the largest, following the more favourable position of the previous years, Hungary is expected to post one of the highest deficits (after Romania) in terms of its level as well in 2022. The decline in energy prices, which started in the past months, significantly eases the pressure on the trade balance, but adjustment is necessary in the quantitative dimension as well in order to achieve sustainable external balance. Firstly, this should concern reducing the energy dependence of the domestic economy and the rationalisation of the use of energy, and secondly, domestic economic policy should also aim to improve the balance of non-energy items. Because as Chart 6-4 shows, the downward trend in the goods balance excluding energy has also contributed to the deterioration in the external balance of the Hungarian economy in recent years. Although early on it was related to investment projects that served as the foundation for the later economic growth, in addition to the expansion in household consumption, recently the more subdued export performance also contributed to this, and thus over the longer term the improving of the external balance requires further strengthening of the competitiveness of the domestic economy.

7. Breakdown of the average consumer price index for 2022 and 2023

Table 7-1: Decomposition of inflation to carry-over and incoming effects (percentage points and percent, respectively)

	Effect on CPI in 2022			Effect on CPI in 2023		
	Carry-over effect	Incoming effect	Yearly index	Carry-over effect	Incoming effect	Yearly index
Administered prices	0.1	1.1	1.2	2.1	0.2	2.3
Market prices	2.8	10.7	13.5	11.3	2.7	14.0
Indirect taxes and government measures	0.1	-0.2	-0.1	0.2	0.7	0.9
CPI	3.0	11.6	14.6	13.6	3.6	17.2

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated the inflationary effects of changes in the indirect taxes, administered prices and market prices (non-administered prices excluding indirect tax effects). The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

Table 7-2: Detailed decomposition of our inflation forecast into carry-over and incoming effects (percentage points and percent, respectively)

	2022					2023				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming indirect tax effect	Incoming indirect tax effect	Yearly index	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	3.6	0.0	25.2	0.0	28.8	24.5	0.0	5.2	0.0	29.7
non-processed	0.9	0.0	24.0	0.0	24.9	20.4	0.0	8.0	0.0	28.4
processed	4.9	0.0	25.7	0.0	30.6	26.4	0.0	4.0	0.0	30.4
Tradable goods	3.2	0.0	9.9	0.1	13.2	8.9	0.1	3.2	0.0	12.2
durables	4.2	0.0	8.5	0.0	12.7	9.8	0.0	2.7	0.0	12.5
non-durables	2.7	0.0	10.6	0.1	13.4	8.1	0.1	3.6	0.0	11.8
Market services	2.2	0.0	8.0	0.0	10.2	6.8	0.0	5.3	0.0	12.1
Market energy	6.0	0.0	19.3	0.0	25.3	39.2	0.0	0.0	0.0	39.2
Alcohol and Tobacco	1.9	0.8	5.3	2.1	10.1	6.6	0.9	-1.0	5.3	11.8
Fuel	7.3	-0.5	10.5	-6.5	10.8	20.3	2.6	-2.9	1.8	21.8
Administered prices	1.0	0.0	8.8	0.0	9.8	16.8	0.0	1.6	0.0	18.4
Inflation	2.9	0.1	11.8	-0.2	14.6	13.2	0.3	3.0	0.7	17.2
Core inflation	3.2	0.0	12.5	0.0	15.7	12.0	0.0	4.2	0.0	16.2

Note: The tables show the decomposition of the yearly average change of the consumer price index forecast range. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated their inflationary effects. The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

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Mátyás Hunyadi

(23 February 1443 – 6 April 1490)

He ruled from 1458 to 1490 as King of Hungary, and had been Czech king from 1469 and Prince of Austria from 1486. Hungarian tradition regards him as one of the greatest Hungarian kings whose memory is preserved in many folk tales and legends. He is also known as Matthias Corvinus, King Matthias the Just or officially as Matthias I, but commonly he is simply denoted as King Matthias.

His father, János Hunyadi, the regent of Hungary, was one of the most outstanding military leaders and strategists in the country's medieval history who triumphed at the Battle of Nándorfehérvár in 1456. Matthias' mother was Erzsébet Szilágyi, and he had an elder brother, László Hunyadi. The future king was brought up by his mother and nurse until the age of six, and was subsequently placed under the supervision of his tutors. János Hunyadi did not have a chivalrous education in mind for his son: first, it was a Polish humanist, Gergely Szánoki who introduced him to the realm of knowledge, then this task was assigned to János Vitéz. Mátyás was brought up and educated in a humanistic spirit to become a versatile and curious-minded person who had been taught canon and constitutional law, arts and Latin. In addition to Hungarian, he also spoke German and Czech.

After the death of László V, his uncle, Mihály Szilágyi, and the armed forces supporting Hunyadi exercised pressure to have Matthias crowned as King of Hungary on 24 January 1458. Even in the early years of his reign Matthias had troubles both with the magnates of the country and Emperor Frederick III of the Holy Roman Empire. As the king was still a minor, parliament appointed Mihály Szilágyi to act as regent on his behalf. However, Matthias did not tolerate any guardianship and pushed his uncle to the background who devised a plot against the king in response. Returning from battle with the Turks, the king had the rebels captured and he imprisoned his uncle in the castle of Világos.

Upon his ascension to the throne the annual income of the treasury hardly exceeded 110 to 120 thousand forints. During his rule spanning thirty-two years the king managed to multiple revenues from taxes. Considering the average of the taxes levied, less the revenues from the Czech and Austrian provinces, this yearly amount approximated 628,000 forints and may as well reached 900,000 gold forints in the most prosperous years. This was still much less than the annual revenue of the western powers of the age. In order to raise the low income of the treasury, reform-like and comprehensive financial actions were needed. Matthias recognised that a centralised, nationwide financial system was the only solution to the problem, and that the royal revenues had to be directed to a single person, the treasurer. The reforms of Matthias were adopted by parliament and his decrees were promulgated on 25 March 1467.

We can get a glimpse of the cultural life in the royal court, which represented the elite of European civilisation at the time, at the partly reconstructed Royal Palace in Visegrád. The most distinguished pieces of the cultural legacy of Matthias are the Corvinian books, richly illustrated volumes of the former royal library.

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