NARODOWY BANK POLSKI

Monetary Policy Council

November 2022

Inflation Report

The Inflation Report presents the Monetary Policy Council's assessment of macroeconomic developments influencing inflation. The projection of inflation and GDP presented in Chapter 4 has been prepared at the Economic Analysis and Research Department of Narodowy Bank Polski (NBP). In terms of the contents, works on the projection have been supervised by Piotr Szpunar, Director of the Economic Analysis and Research Department. The projection has been prepared with the use of the NECMOD macroeconomic model. The NBP Management Board has approved the submission of the projection to the Monetary Policy Council. The projection of inflation and GDP is one of the inputs to the Monetary Policy Council's decision-making process.

The time frame of the analysis presented in the *Report* is conditioned by the availability of macroeconomic data, while its periodisation (breakdown into sub-periods) is conditioned by the development of particular variables. Chapters 1 and 2 of the *Report* include data available until 3 November 2022, while the projection of inflation and GDP presented in Chapter 4 has been prepared taking into account data available until 21 October 2022 and information on planned legislative changes announced until 7 November 2022.

This *Inflation Report* is a translation of NBP *Raport o inflacji* in Polish. In case of discrepancies, the original prevails.

Contents

Summary

Available data point to a deterioration in global economic conditions in 2022 Q2 and Q3. Economic activity around the world and its outlook are negatively affected mainly by the high prices of commodities and production inputs, high uncertainty related to Russia's military aggression against Ukraine, and the global tightening of financing conditions. This is accompanied by deteriorating consumer sentiment, although labour market conditions in the major economies remain very good.

Alongside that, global inflation is running at high levels and in many economies it is at its highest in several decades. Significant source of inflation continue to be high commodity prices driven partly by the consequences of Russian military aggression against Ukraine and, despite a gradual easing, the persistent disruptions to global supply chains. In view of the steeply rising production costs – including, in some economies, rising labour costs – and the still relatively favourable demand conditions, companies in some countries are adjusting the prices of their final goods. As a result, core inflation is also running at elevated levels in these economies.

Energy commodity prices were still high in October 2022, despite a recent fall. At the same time, agricultural commodity prices were running at levels close to their all-time highs.

Amid high inflation, central banks have recently increased interest rates or kept them unchanged following earlier hikes. Financial market participants expect that interest rates in the major economies will continue to be raised in the coming quarters, and later on will stabilise or gradually decrease.

Sentiment in global financial markets has deteriorated in recent months, accompanied by heightened volatility. The sentiment has been negatively affected by the expected weakening in the global economic activity, tightening of monetary policy by many central banks amid high inflation, and the geopolitical tensions related to the ongoing Russian military aggression against Ukraine. Under these conditions, government bond yields in the majority of economies have risen gradually in recent months, while the US dollar has strengthened against many currencies, including the euro.

In Poland, like in many other economies around the world, consumer price inflation has been running high in recent months. In September 2022, CPI inflation picked up to 17.2% y/y, and in October – according to Statistics Poland flash estimate – it stood at 17.9% y/y. The increase in inflation in recent months has been mainly due to a gradual pass-through of high commodity prices – a consequence, primarily, of the Russian military aggression against Ukraine – to consumer prices. High commodity prices were reflected in rising food and energy prices. At the same time, they boosted operating costs of enterprises, which – given the still relatively high demand – inclined firms to raise prices of consumer goods, contributing to higher core inflation. Core inflation was also increased by the effects of the persisting, though gradually easing, disruptions to global supply chains. Alongside that, the Anti-inflationary Shield continued to curb CPI inflation.

Annual GDP growth in Poland remained relatively high (5.8% y/y) in 2022 Q2, although it was lower than in 2022 Q1, mainly as a result of slower growth in inventories. Growth in household consumption also slowed down slightly, although it remained relatively fast. Consumption growth was supported by the very good situation in the labour market, as well as additional demand generated by Ukrainian refugees staying in Poland. Growth in consumer demand, however, was held back by high inflation, which reduced the real purchasing power of households' income, as well as unfavourable consumer sentiment and uncertainty related to the Russian military aggression against Ukraine. Meanwhile, investment growth has accelerated, which was likely caused by the relatively high capacity utilisation and the very good financial situation of enterprises. However, the heightened uncertainty about the economic outlook and increased operating costs continued to dampen corporate investment growth. The contribution of net exports to annual GDP growth, in turn, remained negative in 2022 Q2, yet its scale declined. Available monthly data indicate a gradual deterioration in the economic conditions in 2022 Q3.

The financial situation of the general government was favourable in the first half of 2022, and it improved on the corresponding period of 2021 due to, among others, the phasing out of anti-crisis support for households and enterprises related to the COVID-19 pandemic.

The very good conditions in the domestic labour market continued in the recent period, which was reflected in the record low unemployment rate, among others. The favourable situation of employees in the labour market was conducive to high growth of nominal wages. At the same time, signals have appeared of a slight slowdown in demand for labour.

In the recent months, in Poland – as in many other economies around the world – government bond yields rose, while equity prices dropped considerably. At the same time, the zloty – as many other currencies – weakened against the US dollar.

In 2022 Q3, growth in broad money (M3) slowed down and the stock of household loans declined amid a marked increase in interest rates on loans and deposits, following the hitherto decisive hikes in NBP interest rates.

In 2022 Q2, the current account balance declined, which was primarily due to a further deterioration in the trade in goods balance. This was mainly the result of a rise in the value of imports, in particular, of fuels and supply goods, amid high global commodity prices. At the same time, the surplus in the trade in services increased. The external imbalance indicators evidence that the Polish economy is well balanced.

The *Report* is structured as follows: Chapter 1 presents the analysis of economic conditions in the external environment of the Polish economy in terms of their impact on inflation developments in Poland. These developments and the domestic factors that might affect them are described in Chapter 2. Chapter 3 includes *Minutes of the Monetary Policy Council decision-making meetings* held between July and October 2022, together with the *Information from the meeting of the Monetary Policy Council* in November 2022. Chapter 5 presents the Monetary Policy Council voting records from the meetings held between May and August 2022.

Chapter 4 of the *Report* presents the projection for inflation and GDP based on the NECMOD model, which is one of the inputs into the Council's decision-making process on the NBP interest rates. In line with the projection prepared under the assumption of unchanged NBP interest rates and taking into account data available until 21 October 2022 and information on planned legislative changes announced until

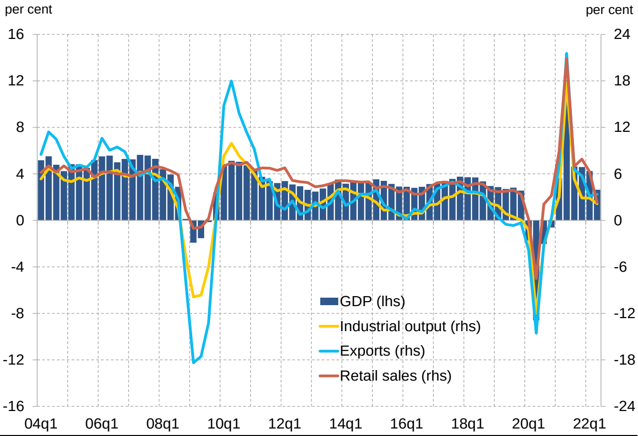
7 November 2022, there is a 50-percent probability that the annual price growth will be in the range of 14.4 – 14.5% in 2022 (against 13.2 – 15.4% in the July 2022 projection), 11.1 – 15.3% in 2023 (compared to 9.8 – 15.1%), 4.1 – 7.6% in 2024 (compared to 2.2 – 6.0%) and 2.1 – 4.9% in 2025. At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.3 – 4.9% in 2022 (against 3.9 – 5.5% in the July 2022 projection), -0.3 – 1.6% in 2023 (compared to 0.2 – 2.3%), 1.0 – 3.1% in 2024 (compared to 1.0 – 3.5%) and 1.8 – 4.4% in 2025.

1. External developments

1.1 Economic activity abroad

Available data point to a deterioration in global economic conditions in 2022 Q2 and Q3. Economic activity around the world and its outlook are negatively affected mainly by the high prices of commodities and production inputs, elevated uncertainty related to Russia's military aggression against Ukraine, and the global tightening of financing conditions (see also Chapter 1.4 *Monetary policy abroad* and Chapter 1.5 *International financial markets*). In the environment of high inflation, this is accompanied by deteriorating consumer sentiment, although labour market conditions in the major economies remain very good. Alongside that, global trade growth remains slower than in 2021, which facilitates the easing of supply chain disruptions (Figure 1.1, Figure 1.2).

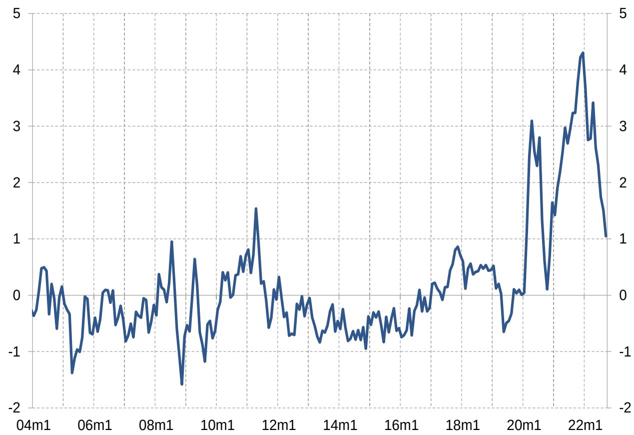
Figure 1.1 Global GDP growth and economic activity indicators (y/y)



Source: Bloomberg, Centraal Planbureau, Eurostat and IMF data, NBP calculations.

GDP, industrial output and retail sales – average annual growth in economies comprising over 80% of global GDP in 2019, weighted by GDP. Exports – growth in global exports of goods estimated by Centraal Planbureau. Note: due to limited availablility of data from some countries, the economies used for calculating each time series differ slightly.

Figure 1.2 Global Supply Chain Pressure Index (GSCPI)



Source: data by Federal Reserve Bank of New York.

The neutral value of the index is 0, values below 0 mean an improvement in the situation, while values above 0 mean a deterioration in the situation.

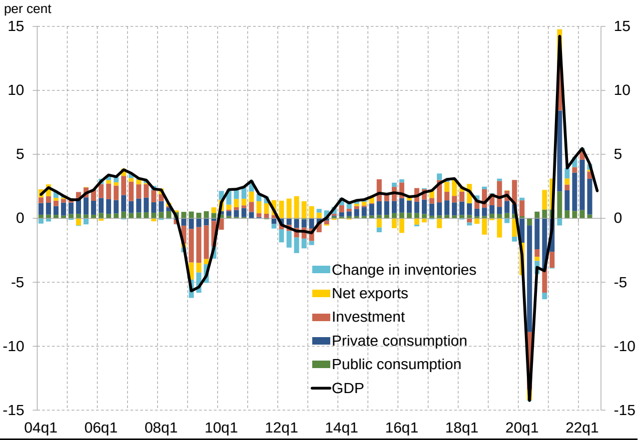
In the euro area, GDP growth declined to 4.3% y/y in 2022 Q2 (as compared to 5.5% y/y in 2022 Q1; Figure 1.3). The weaker pace of growth largely reflected the base effect related to the rapid recovery in activity after the relaxation of the pandemic restrictions the year before. GDP growth in 2022 Q2 continued to be mainly driven by consumption, supported by a recovery in demand for services and a favourable situation in the labour market. Despite slowing down, investment also made a positive contribution to GDP growth, while the contribution of net exports remained negative. In 2022 Q3, GDP growth declined again (to 2.1% y/y according to the preliminary flash estimate[1]), which combined with softening consumer and business sentiment indicators, is a sign of a marked deterioration in economic conditions amid high inflation and elevated uncertainty associated with, among others, concerns about the availability and prices of gas and electricity during the winter season (see also Chapter 1.2 *Inflation developments abroad*).

In the United States, GDP growth amounted to 1.8% y/y in both 2022 Q2 and Q3 (as compared to 3.7% y/y in 2022 Q1; Figure 1.4).[2] The lower annual GDP growth in Q2 and Q3 as compared to Q1 was mainly due to decelerating private consumption and investment growth. In particular, the decline in residential real estate investment exacerbated against the background of rapid interest rate growth. Monthly data incoming in 2022 Q3 indicate that the situation in the labour market remained favourable, which was accompanied by growth in real income and expenditure of households, although consumer sentiment remained subdued.

Also in the non-euro area countries of Central and Eastern Europe, GDP growth slowed down in 2022 Q2 (to an average of 5.1% y/y, from 6.1% y/y in 2022 Q1). This was largely driven by a weaker rise in consumption, which nonetheless remained the main source of economic growth. GDP growth continued to be supported by investment growth and inventory build-up, occurring amid high producer price inflation. In turn, the contribution of net exports to GDP growth was again highly negative. Incoming data for 2022 Q3 indicate a further weakening of economic activity growth in the region.

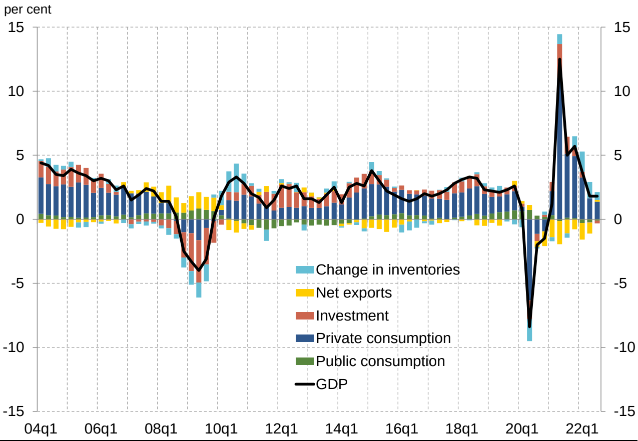
In China, GDP growth in 2022 Q2 declined markedly, and then picked up in 2022 Q3

Figure 1.3 GDP growth in the euro area and its components (y/y)



Source: Eurostat data.

Figure 1.4 GDP growth in the United States and its components (y/y)



Source: Bureau of Economic Analysis data, NBP calculations.

[1] In quarterly terms, the GDP growth in the euro area amounted to 0.2% q/q in 2022 Q3 (according to the preliminary flash estimate) as compared to 0.8% q/q in 2022 Q2 and 0,6% q/q in 2022 Q1 (seasonally adjusted data).

[2] In quarterly terms, GDP increased by 2.6% q/q saar in 2022 Q3 (according to the advance estimate) following the decline in the two previous quarters (-0.6% q/q saar in 2022 Q2 and -1.6% q/q saar in 2022 Q1). In the first half the year, the decline in GDP resulted primarily from the negative growth contributions of the highly volatile categories: net exports in Q1 and the change in inventories in Q2.

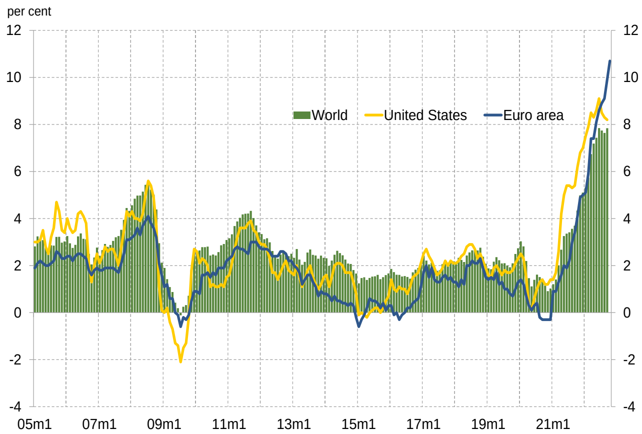
(amounting to 3.9% y/y in 2022 Q3 and 0.4% in 2022 Q2, as compared to 4.8% in 2022 Q1). An important factor impacting on the macroeconomic developments and outlook is the restrictive pandemic policy contingent on changes in the number of COVID-19 cases. Economic activity is also constrained by the prolonged crisis in the real estate market.

1.2 Inflation developments abroad

Global inflation is running at high levels and in many economies it is at its highest in several decades (Figure 1.5). Significant source of inflation continue to be high commodity prices driven partly by the consequences of Russian military aggression against Ukraine and, despite a gradual easing, the persistent disruptions to global supply chains (see also Chapter 1.3 *Global commodity markets* and Chapter 1.1 *Economic activity abroad*). These factors also contribute to high producer price inflation[3] (Figure 1.6). Given the steeply rising production costs – including, in some economies, rising labour costs – and amid the still relatively favourable demand conditions, companies in some countries are adjusting the prices of their final goods. As a result, core inflation is also running at elevated levels in these economies (Figure 1.7).

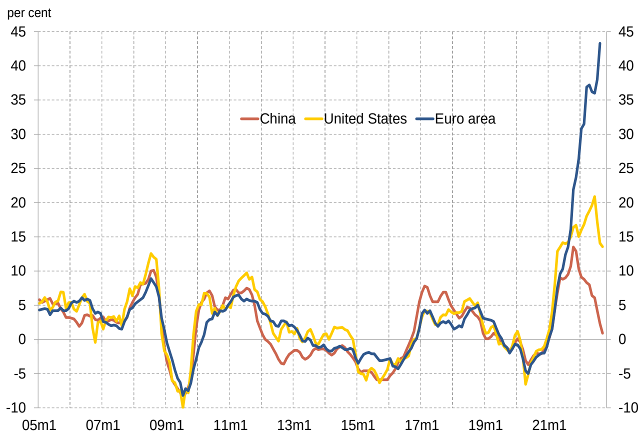
Against this background, HICP inflation in the euro area continued to rise, reaching, according to the flash Eurostat estimate, 10.7% y/y in October 2022, i.e. the highest level since the start of the publication of the index in 1997. At the same time, consumer price inflation in Germany was at its highest in at least 70 years (HICP inflation, according to the flash Eurostat estimate, posted 11.6% y/y in October 2022). The increase in euro area inflation was driven mainly by a continued rise in core inflation and food price growth, amid the persistently steep growth of energy prices. CPI

Figure 1.5 CPI inflation globally and in selected economies (y/y)



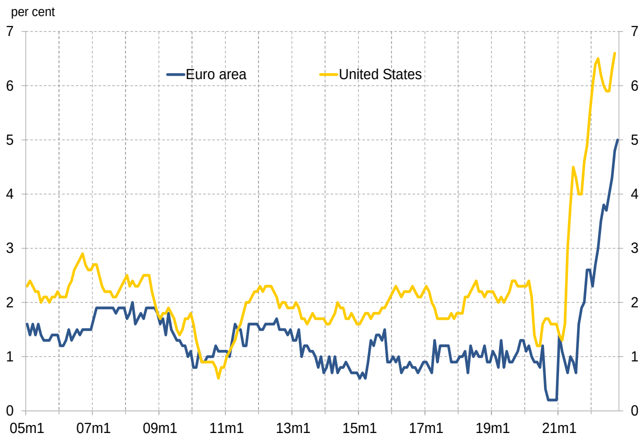
Source: Bloomberg and IMF data, NBP calculations.
World – average consumer price inflation in economies comprising over 80% of global GDP, weighted by 2019 GDP. The United States – annual CPI inflation. Euro area – annual HICP inflation.

Figure 1.6 Producer price inflation index in selected economies (y/y)



Source: Bloomberg and Bureau of Labor Statistics data, NBP calculations.
For the United States – producer price growth in manufacturing industry, for the euro area and China – producer price growth in industry.

Figure 1.7 Core inflation rate in the United States and the euro area (y/y)



Source: Eurostat and Bureau of Labor Statistics data.
For the United States – CPI inflation excluding food and energy prices. For the euro area – HICP inflation excluding energy, food, alcohol and tobacco.

[3] In the recent period, PPI inflation in the euro area has continued to rise due to, among others, a previous sharp rise in wholesale prices of natural gas and electricity in the European markets, while in the United States and China it has declined.

inflation in the United States is also running close to its highest level in several decades, although in recent months price growth has moderated slightly (declining to 8.2% y/y in September from 8.6% y/y in May 2022), mainly due to weaker growth in the prices of energy, notably fuels, and goods. This was accompanied by core CPI inflation rising to 6.6% y/y (as compared to 6.0% y/y in May 2022).

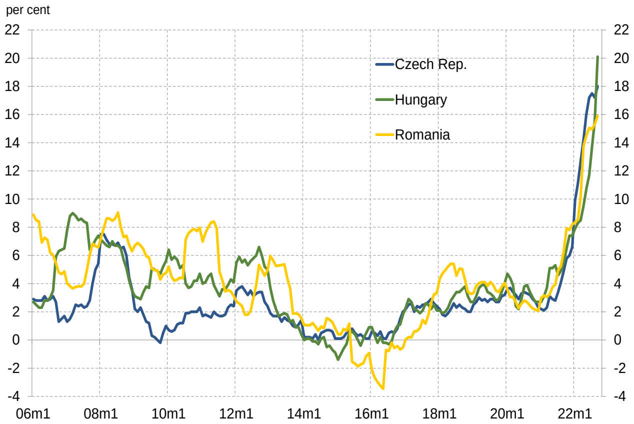
Inflation is high in the countries of Central and Eastern Europe, having risen again since the publication of the previous *Report*, mainly on the back of higher core inflation and higher food price growth. Inflation was particularly strong – in excess of 20% – in the Baltic countries. According to the flash Eurostat estimate, in October HICP inflation in Estonia stood at 22.4% y/y, in Lithuania at 22.0% y/y and in Latvia at 21.8% y/y. In the Czech Republic, inflation was 18% y/y in September 2022, in Romania 15.9% y/y and in Hungary – where caps exist on the prices of fuels and certain staple food – it amounted to 20.1% y/y (Figure 1.8).

1.3 Global commodity markets

Energy commodity prices remained high in October 2022, despite their recent fall. The continued upward pressure on these commodity prices stemmed from supply limitations, related mainly to the impact of Russia's armed aggression against Ukraine. In turn, the decrease in energy commodity prices was backed by, among others, the worsening current and anticipated global economic conditions. Alongside that, agricultural commodity prices were running at levels close to their all-time highs in October 2022.

Against this background – and in view of the low oil inventories as well as the OPEC countries' policy of restricting supply[4] – the average price of

Figure 1.8 CPI inflation in the Czech Republic, Romania and Hungary (y/y)

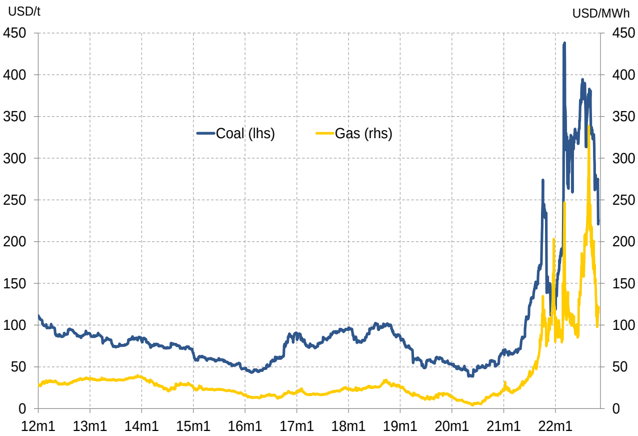


Source: Bloomberg data.

Figure 1.9 Brent oil barrel price

Source: Bloomberg data.

Figure 1.10 Hard coal and natural gas prices



Source: Bloomberg data, NBP calculations.
Natural gas prices express prices of Dutch TTF Natural Gas Futures one-month-ahead contracts. USD/t – price expressed in US dollar per metric tonne. USD/MWh – price expressed in US dollar per megawatt hour.

[4] OPEC countries, together with some of the remaining oil producers, raised the combined cap on oil output by 648,000 barrels per day (b/d) in July and August and by 100,000 b/d in September 2022, as part of restoring output to its pre-COVID-19 pandemic levels. With demand for oil expected to decline due to the global economic slowdown, in order to prevent a fall in prices, on 5 September

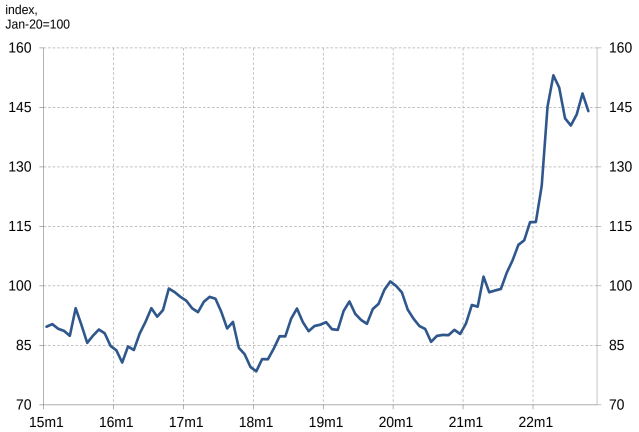
Brent oil in October 2022 was higher than in previous years (and more than 10% higher than the year before) in spite of a fall relative to July 2022 due to the deterioration in global economic conditions (Figure 1.9).[5] In turn, natural gas prices in Europe were approx. 25% higher in October than the year before and several times higher than in previous years, although recently they have markedly declined (Figure 1.10). In addition to the worsening global economic outlook, prices of this commodity were dragged down by the achievement of the planned level of filling gas storage facilities before the start of the heating season.[6] At the same time, the average price of hard coal was around 15% higher in October 2022 than the year before and several times higher than in previous years, though it has also fallen substantially in recent months.

In October 2022, the NBP index of agricultural commodity prices was 30.6% higher than the year before (Figure 1.11). Growth in these prices was fuelled by the restricted supply of some of them (including grains and meat) – due to, among others, the Russian military aggression against Ukraine – and the strong cost pressure related to high prices of energy commodities and inputs (especially fertilisers[7]).

1.4 Monetary policy abroad

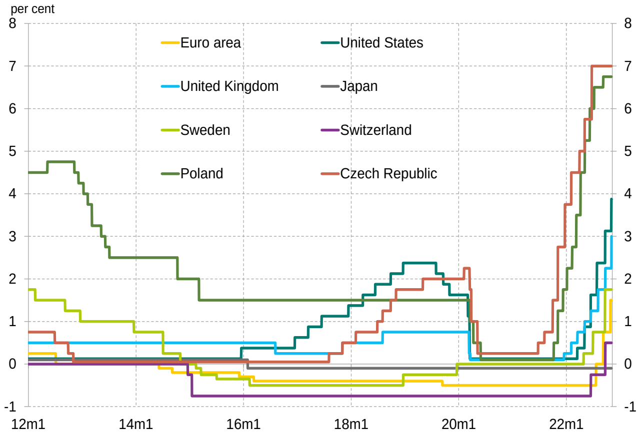
Amid high inflation, central banks have recently increased interest rates or kept them unchanged following earlier hikes (Figure 1.12; see also Chapter 1.2 *Inflation developments abroad*). The

Figure 1.11 Index of agricultural commodity prices



Source: Bloomberg data, NBP calculations.
Index of agricultural prices includes prices of wheat, colza, pigmeat, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter and frozen concentrated orange juice. The weights reflect the consumption structure of Polish households.

Figure 1.12 Interest rates of selected central banks



Source: Bloomberg data.
Central bank interest rate: for the United States – the midpoint of the fed funds range; for the euro area – the deposit facility; for Japan – the Complementary Deposit Facility; for Switzerland – the policy rate; for the United Kingdom – the Bank Rate; for Sweden – the policy rate; for the Czech Republic – the 2W repo rate; for Poland – the NBP reference rate.

these countries announced they would cut production by 100,000 b/d from October 2022, and on 5 October they decided to impose further restrictions of 2 million b/d from November 2022.
[5] Another downward factor on oil prices was the decision of the member states of the International Energy Agency to release strategic reserves of this commodity. In particular, the United States committed to releasing 180 million barrels from its strategic reserves between April and October, and an additional 10 million barrels in November 2022, which, along with the decision of the remaining states associated in the International Energy Agency to release another 60 million barrels, caused an increase in supply of more than 1%.
[6] According to the agreement from May 2022, EU countries made a commitment to fill their storage facilities to 80% of their capacity by the end of October 2022. This goal was achieved by the end of August, and in the following weeks the storage levels exceeded the 2015-2019 average.
[7] The increase in fertiliser prices is a consequence of high natural gas prices and restrictions on exports of fertilisers from Russia and Belarus.

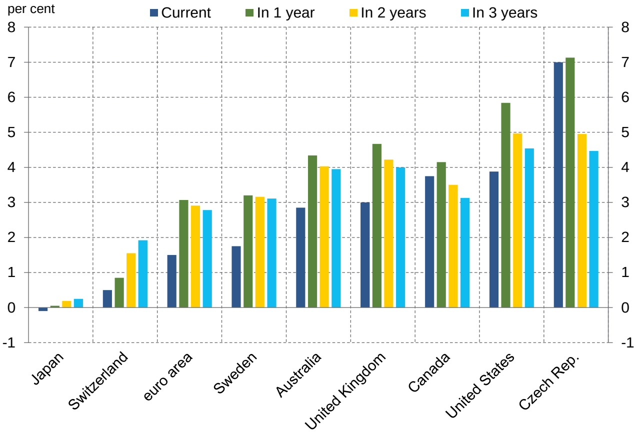
central banks of advanced economies, including the European Central Bank (ECB) and the Federal Reserve of the United States (Fed), have continued to tighten monetary policy. Financial market participants expect interest rates in the major economies will continue to be raised in the coming quarters, after which they will stabilise or gradually decrease (Figure 1.13). In the emerging market economies, in turn, some of the central banks have continued to increase interest rates in the recent period, while others – including in Central and Eastern Europe – have stopped increasing interest rates.

Since July 2022, the ECB has raised interest rates three times. The deposit rate currently stands at 1.50%.[8] The ECB has signalled the possibility of further interest rate hikes, while underlining that the decisions will be taken following a meeting-by-meeting approach and will be data-dependent. Financial market participants expect the ECB deposit rate to increase to approx. 3% in mid-2023 and afterwards to stabilise. Moreover, in July 2022, the ECB introduced the Transmission Protection Instrument (TPI), which is intended to support effective and smooth transmission of monetary policy across all euro area countries.[9]

Since March 2022, the Fed has raised interest rates six times and currently the target range for the fed funds rate is 3.75-4.00%. The Fed has also signalled interest rate hikes in the coming months. The median projection of the Fed representatives from September 2022 indicates that the fed funds rate may increase to approx. 4.75% in 2023 and then gradually decline.

In recent months, most central banks of other advanced economies – including the United Kingdom, Switzerland, Sweden, Norway, New

Figure 1.13 Current and expected level of central banks' interest rates in selected advanced economies



Source: Bloomberg data.
Central bank interest rate: for the United States – the midpoint of the fed funds range; for the euro area – the deposit facility; for Japan – the Complementary Deposit Facility; for Switzerland – the policy rate; for the United Kingdom – the Bank Rate; for Sweden – the policy rate; for Canada – the overnight rate target; for Australia – the cash rate target; for Czech Republic – 2W repo rate. Market expectatations according to Bloomberg based on OIS, as of 3 November 2022.

[8] In July 2022, the ECB raised interest rates for the first time since 2011, while in the period from June 2014 to July 2022 the ECB deposit rate was negative.
[9] The Transmission Protection Instrument (TPI) enables the secondary market purchase of public sector securities of euro area member countries experiencing a deterioration in financial conditions which is not warranted by the economic fundamentals. The size of the purchase under the TPI will depend on the scale of disturbances in the transmission mechanism.

Zealand, Canada and Australia – have also increased interest rates.

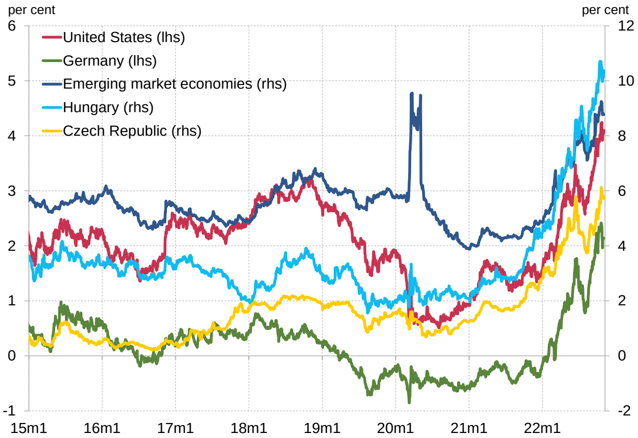
1.5 International financial markets

Sentiment in global financial markets has deteriorated in recent months, accompanied by heightened volatility. The sentiment in the financial markets has been negatively affected by the expected weakening of activity in the global economy, tightening of monetary policy by many central banks amid high inflation, and the geopolitical tensions related to the ongoing Russian military aggression against Ukraine (see also Chapter 1.1 *Economic activity abroad* and Chapter 1.4 *Monetary policy abroad*).

Under these conditions, government bond yields in the majority of economies have increased gradually in recent months (Figure 1.14). In effect, in the United States and Germany yields on 10-year government bonds have reached the highest levels for more than a decade. In turn, equity prices around the world, particularly in emerging market economies, have continued to fall over the recent past (Figure 1.15).

At the same time, the US dollar has recently strengthened against many currencies. The US dollar exchange rate has appreciated against the euro, reaching its highest value since 2002, which has been supported by a higher level and expected stronger increase in interest rates together with more favourable outlook for economic growth in the United States than in the euro area. Amid persisting geopolitical tensions related to the Russian military aggression against Ukraine, the US dollar has appreciated particularly markedly against the currencies of Central and Eastern Europe (Figure 1.16).

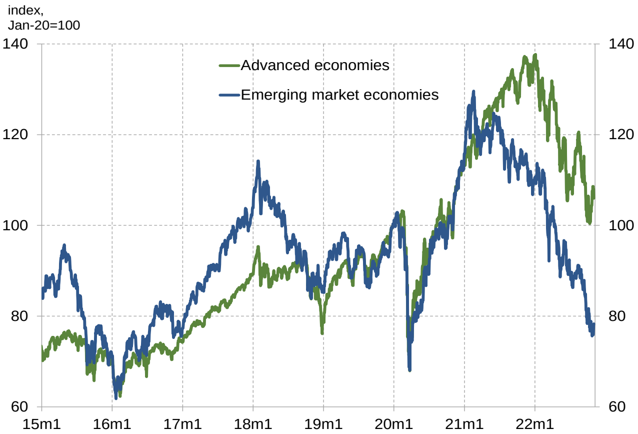
Figure 1.14 Yields on long-term government bonds



Source: Bloomberg data.

For the United States, Germany, the Czech Republic and Hungary – 10 year government bond yield; emerging market economies – *Bloomberg Barclays Emerging Markets Sovereigns*.

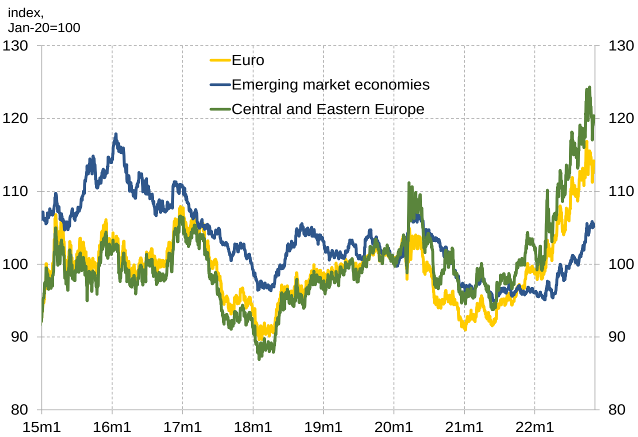
Figure 1.15 Equity prices



Source: Bloomberg data.

Advanced economies – *MSCI World Equity Index*; emerging market economies – *MSCI Emerging Markets Equity Index*.

Figure 1.16 US dollar exchange rates against the currencies of emerging market economies and the euro (rise indicates appreciation of the dollar)



Source: Bloomberg data, NBP calculations.

Emerging market economies – *MSCI Emerging Market Currency Index*; Central and Eastern Europe – GDP-weighted average of exchange rates of the Czech koruna, the Hungarian forint, and Romanian leu against the US dollar.

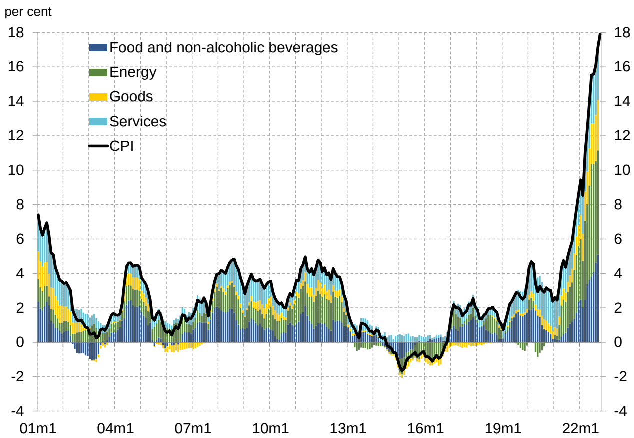
2. Domestic economy

2.1 Inflation developments

In recent months, consumer price inflation in Poland, like in many other economies around the world, has been running high (see also Chapter 1.2 *Inflation developments abroad*).

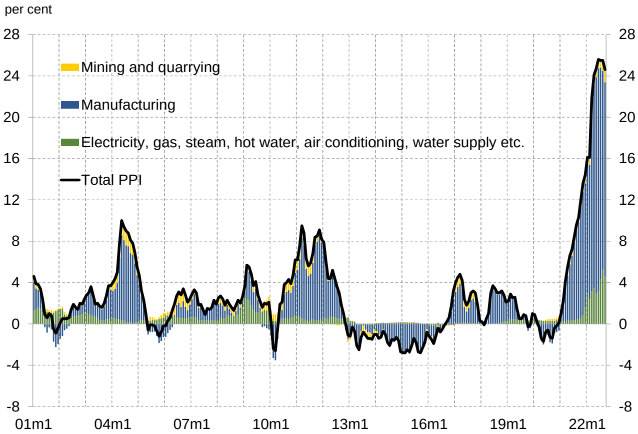
In September 2022, CPI inflation picked up to 17.2% y/y (compared to 13.9% y/y in May 2022; Figure 2.1)[10]. The increase in inflation in recent months has been mainly due to a gradual pass-through of high commodity prices – a consequence, primarily, of the Russia's military aggression against Ukraine (see also Chapter 1.3 *Global commodity markets*) – to consumer prices. High commodity prices were reflected in rising food and energy prices. At the same time, they boosted operating costs of enterprises,[11] which – given the still relatively high demand – inclined firms to raise prices of consumer goods, contributing to higher core inflation.[12] Core inflation was also increased by the effects of the persisting, though gradually easing, disruptions to global supply chains. Alongside that, the Anti-inflationary Shield continued to curb CPI inflation.[13]

Figure 2.1 Composition of CPI inflation (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.
CPI inflation in October 2022 – Statistics Poland flash estimate.

Figure 2.2 Composition of PPI inflation (y/y)



Source: Statistics Poland (GUS) and Eurostat data.

[10] In October 2022 – according to Statistics Poland (GUS) flash estimate – CPI inflation stood at 17.9% y/y. The rise in inflation was mainly driven by an increase in price growth of food and non-alcoholic beverages.
[11] Against the background of the strong cost pressures related to higher prices of commodities, energy carriers and intermediate goods, producer price growth in Poland – like in many other economies – ran at high levels (in September 2022 it stood at 24.6% y/y, compared to 24.7% y/y in May 2022; Figure 2.2).
[12] Due to nominal rigidities, prices of goods and services may adjust to underlying macroeconomic shocks with a lag; thus, the pass-through of higher commodity prices and other costs to consumer prices is spread over time.
[13] The Anti-inflationary Shield is a package of fiscal policy measures aimed at reducing CPI inflation and mitigating its fallout. As part of these measures, VAT rates on electricity, heat energy, natural gas, motor fuels, fertilisers and staple foods were temporarily reduced, excise tax on electricity for households was abolished, excise tax on motor fuels and light heating oil was reduced to the minimum level required by EU provisions, and compensation for natural gas distributors was introduced in connection with the cap on the increases in the prices of this commodity for tariff-protected recipients. The adopted solutions will be applicable until the end of 2022.

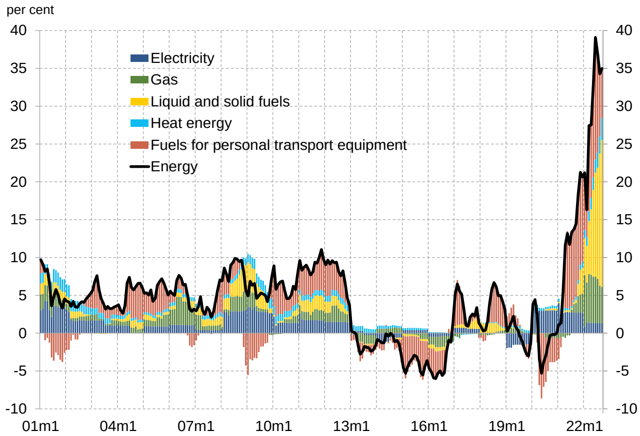
Inflation of food and non-alcoholic beverage prices rose to 19.3% y/y in September 2022 (from 13.5% y/y in May 2022). The accelerated food price growth resulted from the pass-through of strong cost pressures – associated with higher agricultural commodity prices in the global markets and rising production costs, including among others the costs of energy and fertilisers – to the prices of finished goods.

Energy price inflation stood at 35.0% y/y in September 2022 (compared to 32.8% in May 2022; Figure 2.3). Growth in energy prices was mainly driven by a sharp rise in the annual growth in prices of liquid and solid fuels, related, in particular, to high global coal prices and the embargo on coal imports from Russia. Meanwhile, the slower growth in the prices of fuels for personal transport equipment (related to the decline in global oil prices) worked in the opposite direction, although it remained relatively high (18.3% y/y in September 2022). Energy prices also continued to be boosted by higher than a year ago prices of electricity and natural gas due to the introduction of higher tariffs on the sale and distribution of these energy carriers as of January 2022.[14]

Inflation excluding food and energy prices increased in September 2022 to 10.7% y/y (as compared with 8.5% y/y in May 2022; Figure 2.4). This was driven by a gradual pass-through of rising costs of enterprises to consumer prices, amid the still relatively high demand. The increase in inflation excluding food and energy prices was a combined effect of higher growth in the prices of non-food products and of services. This was accompanied by an increase in the remaining measures of core inflation.

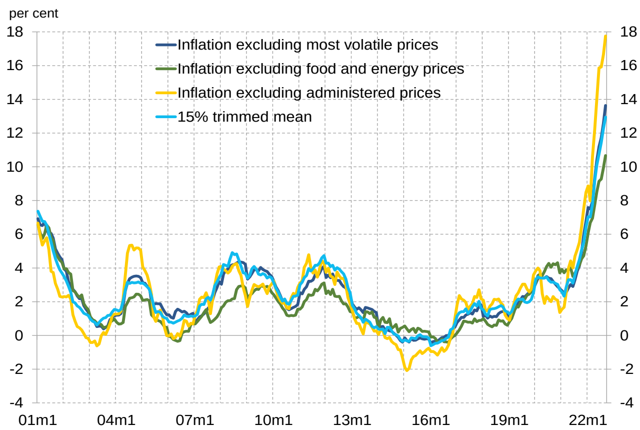
Inflation expectations of the analysts surveyed by Refinitiv and of participants to the NBP Survey of Professional Forecasters in the horizon of 4-8 quarters are still running high (Table 2.1). At the

Figure 2.3 Energy price growth and its components (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 2.4 Core inflation indices (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.

Table 2.1 Inflation expectations of financial sector analysts and participants to the NBP Survey of Professional Forecasters (per cent)

	Survey conducted in:				
	21q4	22q1	22q2	22q3	22q4
Refinitiv Survey, inflation expected in 4 quarters	5.9	9.0	10.5	10.1	9.0
NBP Survey, inflation expected in 4 quarters	5.9 (4.7-7.2)	8.8 (7.2-10.9)	9.7 (7.3-11.9)	9.6 (7.5-12.2)	-
NBP Survey, inflation expected in 8 quarters	3.8 (2.8-5.2)	4.9 (3.4-6.6)	5.7 (3.5-8.4)	6.1 (4.2-9.0)	-

Source: NBP and Refinitiv data.

Inflation expectations of the financial sector analysts are proxied by the median forecast of the analysts surveyed by Refinitiv in the last month of a given quarter, except 2022 Q4, where the forecast of October 2022 is presented.

Inflation expectations of the participants to the NBP Survey of Professional Forecasters reflect the median probability distribution obtained from the aggregation of probability forecasts of the experts surveyed by NBP. In the parentheses there are given 50% probability intervals (between the 1st and 3rd quartiles) of this distribution. In principle, the survey takes place in the last month of a given quarter.

[14] The increase in tariffs was a result of the strong rise in global prices of natural gas and the increase in wholesale electricity prices and prices of CO_2 emission allowances (due to the EU climate policy, see *Inflation Report – March 2022*).

same time, analysts surveyed by Refinitiv expect inflation to decline gradually starting from 2023 Q2. Inflation expectations of consumers and enterprises as measured by balance statistics shifted in 2022 Q3, on average, towards lower inflation, although they were still relatively high (Figure 2.5).

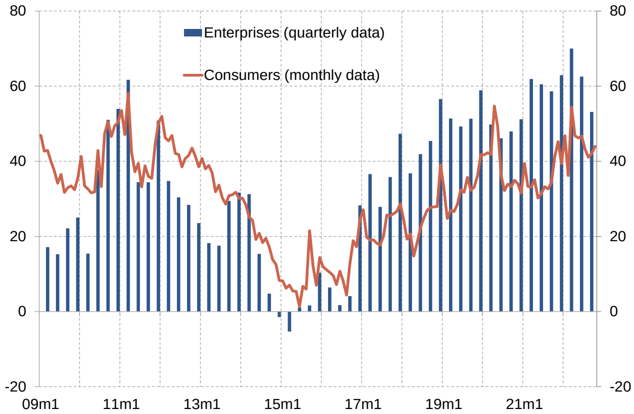
2.2 Demand and output

Annual GDP growth in Poland remained relatively high in 2022 Q2, although it was lower than in 2022 Q1, mainly as a result of slower growth in inventories (in 2022 Q2 GDP grew by 5.8% y/y against 8.6% y/y in 2020 Q1[15]; Figure 2.6, Table 2.2). Available monthly data for 2022 Q3 indicate a gradual deterioration in economic conditions.

In 2022 Q2, growth in household consumption slowed down slightly, although it remained relatively fast (at 6.4% y/y compared to 6.7% y/y in 2022 Q1; Figure 2.7).[16] Consumption growth was supported by the very good situation in the labour market, as well as additional demand generated by Ukrainian refugees staying in Poland (see Chapter 2.4 *Labour market*). At the same time, however, growth in consumer demand was held back by high inflation, which reduced the real purchasing power of households' income, as well as unfavourable consumer sentiment and uncertainty related to the Russian military aggression against Ukraine (Figure 2.8).

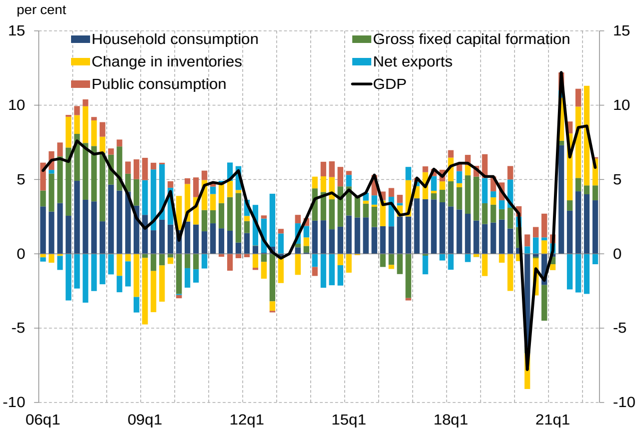
Growth in gross fixed capital formation picked up to 6.6% y/y in 2022 Q2 (compared to 4.7% y/y in 2022 Q1; Figure 2.9). Corporate investment grew the fastest, particularly in manufacturing, which was likely caused by the relatively high capacity utilisation. Yet, the elevated uncertainty about the economic outlook and increased operating costs continued to dampen corporate investment

Figure 2.5 Balance statistics of consumer and enterprise inflation expectations



Source: Statistics Poland (GUS) and NBP data, NBP calculations.
Balance statistic is defined as a difference between a fraction of respondents expecting rise in prices and a fractions of respondents expecting no change or fall in prices (with respective weights). A rise in balance statistic should be interpreted as a shift in opinions towards higher rise in prices.

Figure 2.6 GDP growth and its components (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.

Table 2.2 GDP growth (y/y, per cent) and its contributions (percentage points)

	2020				2021				2022	
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
GDP	**2.7**	**-7.8**	**-1.0**	**-1.8**	**0.2**	**12.2**	**6.5**	**8.5**	**8.6**	**5.8**
Private consumption	0.4	-6.3	-0.2	-2.1	-0.2	7.3	2.9	4.2	4.0	3.6
Public consumption	0.7	0.8	0.7	1.6	0.6	1.2	0.8	1.2	0.0	0.1
Gross fixed capital	1.4	-0.4	-0.1	-2.4	-0.5	0.3	0.7	0.9	0.6	1.0
Change in inventories	-0.5	-2.4	-2.5	0.9	-0.4	2.9	4.5	4.8	6.7	1.8
Net exports	0.7	0.5	1.1	0.2	0.7	0.5	-2.4	-2.6	-2.7	-0.7

Source: Statistics Poland (GUS) data, NBP calculations.

[15] In 2022 Q1, growth in inventories made the largest contribution to annual GDP growth. This contribution was higher than in previous quarters and higher than in 2022 Q2.
[16] The decline in annual consumption growth compared to the previous quarter was due to the higher reference base (in 2021 Q1 the pandemic restrictions were in force, which were eased in 2021 Q2), which mainly affected services.

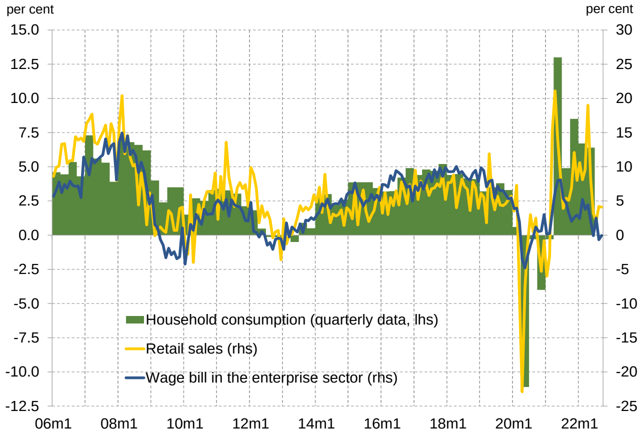
growth. Stronger growth in corporate investment outlays was accompanied by weaker growth in public investment and a significant slowdown in housing investment, due to, among others, an increase in interest rates on mortgages and the tightening of their underwriting standards (see Chapter 2.6 *Money and credit*).

The marked growth in corporate investment outlays was also supported by the very good financial situation of enterprises (Table 2.3). In 2022 Q2, the financial result from sales and net financial result of the sector increased again, to reach record-high levels in nominal terms. The favourable aggregated financial results were due to the fact that sales revenue continued to rise faster than costs of goods sold. This indicates that companies passed on the sharp increases in costs, including those related to high prices of natural gas and electricity, to the prices of final goods (Figure 2.10; see Chapter 1.3 *Global commodity markets* and Chapter 2.1 *Inflation developments*). Consequently, profitability indicators, including the percentage of profitable firms, remained high.

At the same time, marked differences in the financial situation of firms operating in various sectors persisted. However, in 2022 Q2 the scale of these differences decreased slightly, among others, as a result of the improvement in profitability of sectors previously affected by the pandemic restrictions, including firms providing hotel, catering and cultural services.

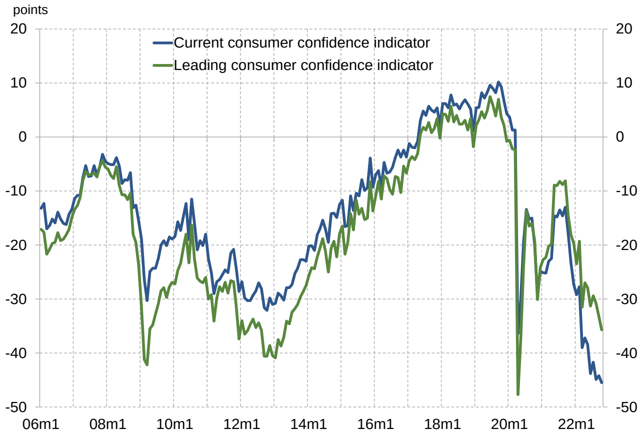
The contribution of net exports to annual GDP growth remained negative in 2022 Q2, yet its scale declined (it amounted to -0.7 p.p. compared to -2.7 p.p. in 2022 Q1). Amid weaker domestic demand, in particular markedly lower growth in inventories, there was some decline in import growth in real terms. At the same time, nominal import growth of goods remained high – and higher than export growth – among others due to the high prices of imported fuels and commodities (Figure 2.11). In turn, nominal export growth of goods increased, supported by rising prices and

Figure 2.7 Real growth in household consumption, retail sales and wage bill in the enterprise sector (y/y)



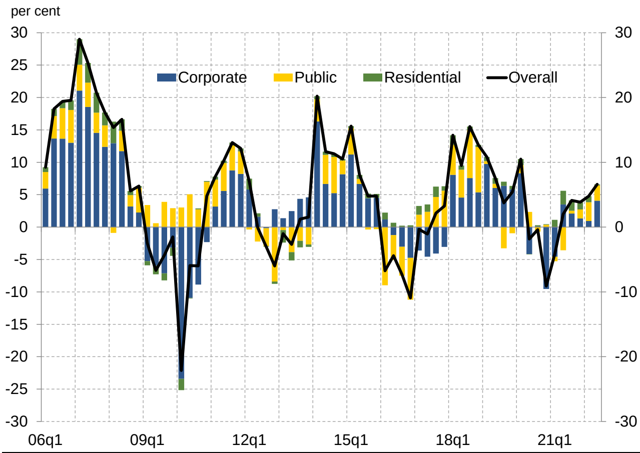
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 2.8 Consumer confidence indicators



Source: Statistics Poland (GUS) data.

Figure 2.9 Growth in investment and its main components (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.

also the rebound of exports in the automotive industry amid reduced global supply chain disruptions.[17]

In 2022 Q2, growth of gross value added slowed down (total gross value added increased by 5.6% y/y compared to 8.4% y/y in 2022 Q1; Figure 2.12). Among the main sectors of the economy growth in value added declined – although it remained positive – in industry, construction and market services sector.

Available monthly data indicate a gradual deterioration in the economic conditions in 2022 Q3. Retail sales growth in real terms slowed down (to 2.8% in 2022 Q3 compared to 9.0% y/y in 2022 Q2), while demand for durable goods was lower than a year earlier. Alongside that, there was an increase in the sales of, above all, food, pharmaceuticals, and clothing and footwear, supported by additional demand generated by Ukrainian refugees. At the same time, industrial output growth declined slightly, although it remained relatively high despite a marked deterioration in business confidence (it amounted to 9.7% y/y in 2022 Q3 compared to 11.3% y/y in 2022 Q2). In 2022 Q3, growth in construction and assembly output also slowed down (to 3.4% y/y in 2022 Q3 compared to 9.2% y/y in 2022 Q2[18]).

2.3 Public finance

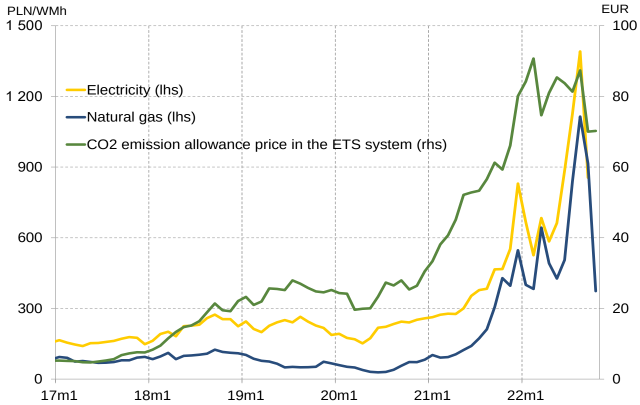
In the first half of 2022, the financial situation of the general government was favourable. The outturn of the general government in ESA terms was close to balanced (-0.2% of GDP) and it improved on the corresponding period of 2021 (-0.4% of GDP; Figure 2.13). The improvement in the headline deficit of the general government was, among others, due to the phasing out of anti-crisis support for households and enterprises related to the COVID-19 pandemic (in the first half of 2021 the

Table 2.3 Selected financial indicators in the enterprise sector (per cent)

	average 2010-2019	2020				2021				2022	
		q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
Sales profitability indicator	4.7	3.9	4.9	5.5	4.9	6.0	5.5	5.6	5.9	6.7	6.4
Net turnover profitability indicator	4.0	2.4	4.5	4.4	3.3	5.4	6.2	5.9	5.1	5.2	6.1
Share of profitable enterprises	73.4	74.4	73.4	75.8	74.4	76.3	78.0	78.9	78.3	77.6	77.4
Share of enterprises with profitability above 5%	34.2	37.7	39.0	41.3	42.0	42.7	45.5	45.2	46.7	43.4	42.2
1st degree financial liquidity indicator	36.3	38.9	42.6	42.9	43.9	43.0	44.1	44.6	44.1	42.7	40.9
Return on assets indicator	1.2	0.7	1.1	1.2	1.0	1.5	1.8	1.8	1.8	1.7	2.1
Share of bank credits and loans in the balance sheet total	15.2	15.9	15.9	15.2	15.1	14.7	14.3	14.5	14.5	14.1	14.2

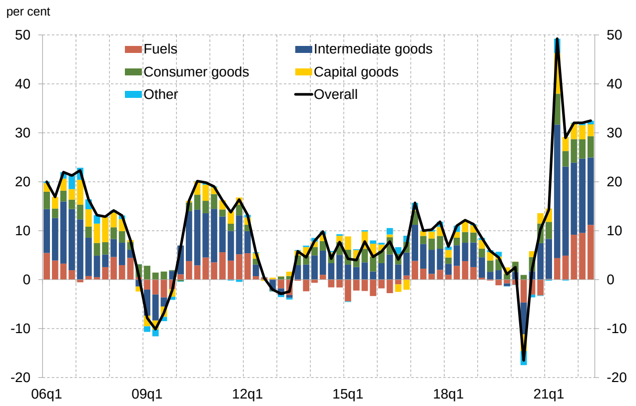
Source: Statistics Poland (GUS) data, NBP calculations.
Data from the survey conducted by Statistics Poland (GUS) on revenues, costs, financial results and gross fixed capital formation (based on F-01/I-01 forms). Share of profitable firms and firms with profitability above 5% – seasonally adjusted data. The average share of bank credits and loans in the balance sheet total covers only the years 2015-2019.

Figure 2.10 Natural gas and electricity prices on the Towarowa Giełda Energii (commodity exchange) and price of the CO_2 emission allowance in the EU ETS



Source: TGE, Bloomberg data.
Electricity and natural gas prices on the day-ahead market. A CO_2 allowance within the EU ETS permits an emission of an equivalent of 1 tonne of CO_2.

Figure 2.11 Contribution to import growth by commodity (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.
Data based on Statistics Poland (GUS) classification of the main product categories for the value of Polish exports and imports in zlotys. "Other" comprises passenger cars and goods else not classified.

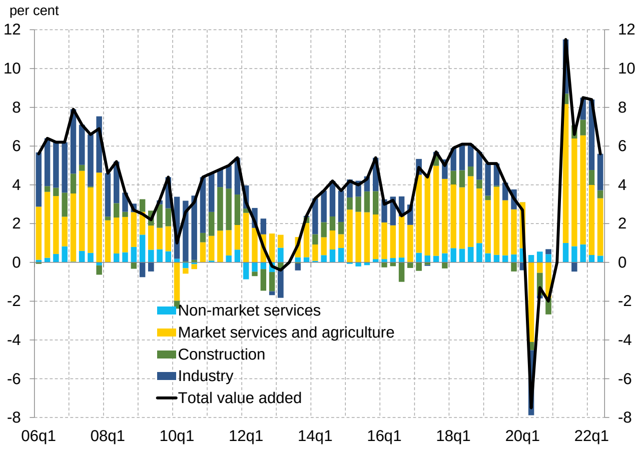
[17] Data for July and August 2022 indicate that nominal growth in exports and imports of goods remained high, while import growth exceeded export growth.
[18] The calculation of quarterly growth in construction and assembly output is based on monthly data.

cost of anti-crisis measures related to the pandemic amounted to 0.8% of GDP).

According to the Ministry of Finance data, in the period from January to September 2022, the state budget surplus amounted to PLN 27.5 billion, and tax revenues were 12.4% y/y higher. This result was achieved despite the lowering of excise duty and VAT rates under the Anti-inflationary Shield[19] as well as changes under the Polish Deal and its corrections, which lowered tax receipts from PIT to the state budget.[20] The relatively strong annual GDP growth in the second half of 2022 and high inflation were factors boosting tax revenues. Expenditure of the state budget in the analysed period of 2022 was 13.8% y/y higher due to, among others, the higher subsidy to the Social Insurance Fund (FUS) (by 25.7% y/y; the base effect related to the transfer of additional funds to FUS in December 2020 and the lower subsidy requirements of FUS in the first half of 2021), higher expenditure in the budget sections: national defence and internal affairs, as well as the disbursement of additional allowances and benefits under the Family Care Capital scheme[21] introduced in 2022.

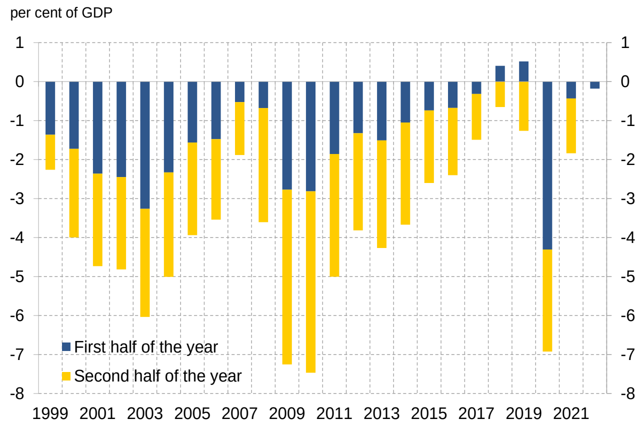
Despite the good performance of the state budget in the first months of 2022, in accordance with the autumn fiscal notification, the general government balance in ESA terms will amount to -4.7% of GDP compared to -1.8% of GDP in 2021. Besides seasonal factors, the expected deterioration of the sector's performance in the second half of 2022 will also be due to legislative changes. In recent months, the scope of government anti-inflation measures has been expanded by: coal allowances, subsidies for heating with fuels other than gas and coal for

Figure 2.12 Growth of gross value added by sectors (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 2.13 General government balance in ESA 2010 terms



Source: Eurostat data.

[19] In January 2022, VAT rates were reduced for natural gas and electricity, excise duty on electricity was also lowered and excise duty on electricity for households was abolished. In February 2022, the VAT rates were reduced on additional goods, in particular, on staple food products and fuels.

[20] In particular, PIT (personal income tax) receipts to the budget were lowered by the increase in the tax-free amount for individuals from PLN 8,000 to PLN 30,000 as well as by the increase in the income threshold beyond which the 32% PIT rate applies from PLN 85,528 to PLN 120,000.

[21] The Family Care Capital scheme provides benefits for parents for the second child and each subsequent child over 1 year old. It is awarded until the child turns 35 months old. Under the scheme, the parents receive PLN 500 every month for 24 months or PLN 1000 for 12 months.

households and vulnerable entities, compensation for district heating systems and support for energy-intensive sectors. Total expenditure on the aforementioned measures will amount to approx. 0.8% of GDP in 2022 and will be incurred in full in the second half of 2022. In 2022 Q3, the so-called 14th pension was also disbursed (at a cost of 0.4% of GDP). The tax changes introduced from July 2022 under the Polish Deal (the cost of the correction of the Polish Deal for the general government sector in 2022 is 0.2% of GDP), above all, the reduction of the lowest PIT rate (from 17% to 12%), are another factor with a negative impact on the performance of the sector.

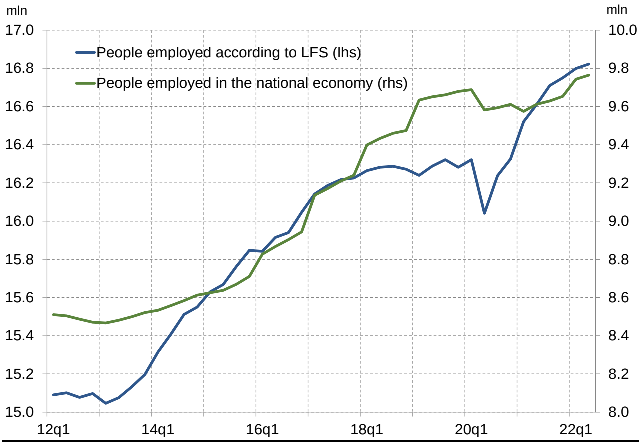
In accordance with the autumn notification, the general government debt to GDP ratio in ESA terms will stand at 51.7% in 2022 (compared to 53.8% in 2021).

2.4 Labour market

In the recent period, the very good conditions in the labour market continued, which was reflected in the record low unemployment rate, among others. At the same time, signals have appeared of a slight slowdown in demand for labour following a period of its robust growth (Figure 2.14, Figure 2.15).

Growth in the number of employed persons, according to the LFS survey, decelerated in 2022 Q2 to 1.0% y/y compared to 1.7% y/y in 2022 Q1.[22] This was due to the markedly slower growth in the number of the employed in the services sector and in industry, although in the latter case to a lesser extent. Data from the enterprise sector (ES) point to a stabilisation of the annual growth in employment in recent months, while survey data from Statistics

Figure 2.14 Number of employed persons according to the LFS and according to reporting data from the national economy (NE), seasonally adjusted data

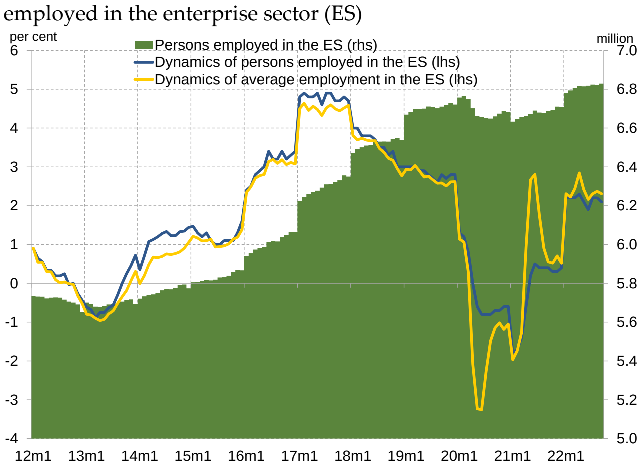


Source: Statistics Poland (GUS) data, NBP calculations.

Unlike the LFS data, the number of employed persons in the NE concerns entities with more than 9 employees and does not include the following: (1) individual farming, (2) employment in the grey economy, (3) employment based on civil law contracts.

Due to a change in the LFS methodology introduced in 2021 Q1, data from 2012 Q1 to 2020 Q4 have been recalculated to make definitions classifying respondents into different categories in the labour market more consistent. Despite this, because of the significant degree of change in the survey, data from Q1 2021 onward are not fully comparable with earlier periods.

Figure 2.15 Annual growth rates in the number of persons employed and average employment, and the number of persons employed in the enterprise sector (ES)



Source: Statistics Poland (GUS) data.

Unlike the employment statistics, the number of persons employed in the ES is not expressed in the number of full-time jobs and includes employees who are on sickness benefit or child care leave.

[22] Some slowdown in growth of the number of the employed in 2022 Q2 was also visible in reporting data from the national economy as well as survey data from Statistics Poland's labour demand survey, which additionally indicated a slight decline in the number of job vacancies (seasonally adjusted data).

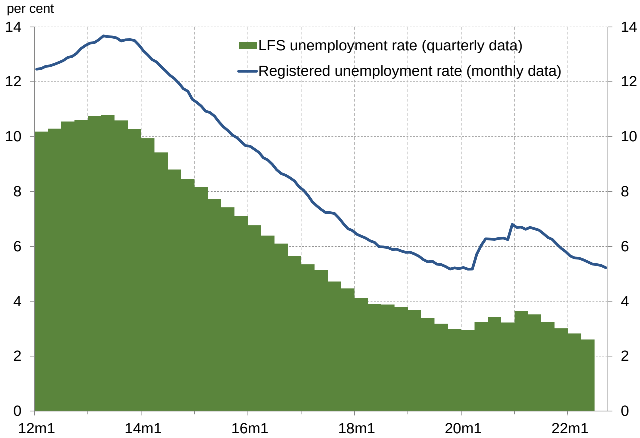
Poland and NBP indicate a slight weakening of demand for labour in the coming period.[23]

Alongside that, the registered unemployment rate is running close to the lowest level ever recorded, i.e. since 1990 (in September 2022 it stood at 5.2%; seasonally adjusted data). The LFS unemployment rate was also running at a record low level (2.6% in 2022 Q2.; seasonally adjusted data; Figure 2.16).

The favourable situation of employees in the labour market was reflected in high growth in nominal wages. The average wage in the national economy (NE) rose by 11.8% y/y in 2022 Q2 (Figure 2.17). Wage growth in the ES was slightly higher (13.7% y/y in 2022 Q2 and 14.5% y/y in 2022 Q3). Despite high nominal growth, in 2022 Q2 real wages in the NE declined by 1.8% y/y, and in the ES by 0.2% y/y in 2022 Q2 and 1.6% y/y in 2022 Q3. Fast wage growth combined with slower growth in labour productivity translated into an increase in annual growth in unit labour costs to 6.8% y/y in 2022 Q2 compared to 2.8% y/y in 2022 Q1. The results of the NBP Quick Monitoring Survey point to the continuation of relatively high nominal wage growth in the coming months, despite a slightly lower percentage of enterprises planning wage rises and firms reporting increased wage pressure.

Wage pressure is partly mitigated by the large number of immigrants in the domestic labour market due to, among others, the inflow of war refugees from Ukraine (Figure 2.18). According to NBP estimates, there are currently 1.0-1.3 million Ukrainian refugees in Poland[24], and their labour market participation is high. According to data from the Ministry of Family, Labour and Social Policy, poviat labour offices had received approx.

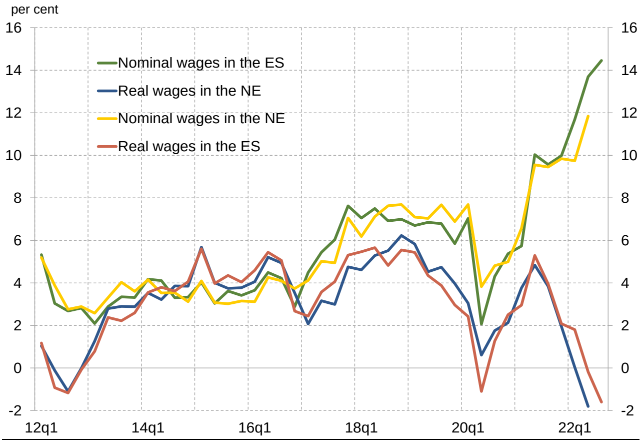
Figure 2.16 Unemployment rate, seasonally adjusted data



Source: Statistics Poland (GUS) data, NBP calculations.

There are three reasons for the difference between the unemployment rate according to labour offices and the LFS unemployment rate: (1) the definition of an unemployed person is different, (2) the definition of the population to which the number of the unemployed is referred is different, (3) registered unemployment rate is based on the number of unemployed people registered in labour offices, while LFS unemployment rate is based on survey results.
Due to a change in the LFS methodology introduced in 2021 Q1, data from 2012 Q1 to 2020 Q4 have been recalculated to make definitions classifying respondents into different categories in the labour market more consistent. Despite this, because of the significant degree of change in the survey, data from Q1 2021 onward are not fully comparable with earlier periods.
Data on the unemployment rate since December 2020 take into account the number of persons employed in agriculture as estimated on the basis of the 2020 Agricultural Census, and are not fully comparable with earlier periods.

Figure 2.17 Annual nominal and real wage growth rates in the national economy (NE) and in the enterprise sector (ES)



Source: Statistics Poland (GUS) data.

Wages in the ES concern entities classified in selected PKD (NACE) sections that employ 10 or more people. Data on wages in the NE cover the whole statistical population, i.e. regardless of the number of people employed, and also cover all PKD (NACE) sections of the economy.

[23] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2022, *The economic situation in manufacturing, construction, trade and services 2000-2022 (October 2022)*, Statistics Poland, October 2022. The weakening of labour demand is also indicated by the declining number of job vacancies registered in labour offices during a month, which fell in annual terms in July, August and September by 22.1%, 14.8% and 19.9% respectively.

[24] According to data from the Chancellery of the Prime Minister, up to 31 October 2022, approx. 1.44 million citizens of Ukraine had applied for a Polish personal identification number (PESEL); however, some of them may have later left Poland. 40.8% of applications were for people below 18 years old, 3.8% for people above 65 years old, while 84.5% of people between 18 and 65 years old were women.

625,000 notifications on employing Ukrainian citizens up to 28 October 2022.[25]

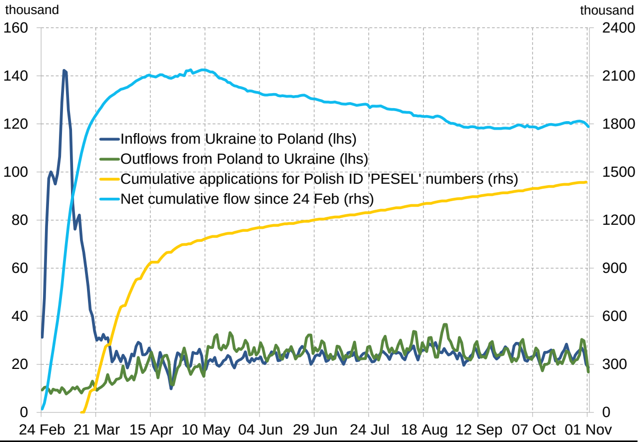
2.5 Financial markets and asset prices

In recent months, prices of financial instruments in Poland have been affected by the deterioration in sentiment in global financial markets, related to the tightening of monetary policy amid high inflation and the uncertainty about the global economic outlook as well as the course and consequences of the Russian military aggression against Ukraine (see also Chapter 1.4 *Monetary policy abroad* and Chapter 1.5 *International financial markets*). Moreover, prices have been impacted by some worsening of the outlook for domestic economic growth and the NBP interest rate hikes (see Chapter 2.2 *Demand and output*, Figure 2.19).

Against this background, in recent months, in Poland – like in many other economies around the world – government bond yields have risen, while equity prices have declined significantly (Figure 2.20). At the same time, the zloty – like many other currencies – has weakened against the US dollar (Figure 2.21).

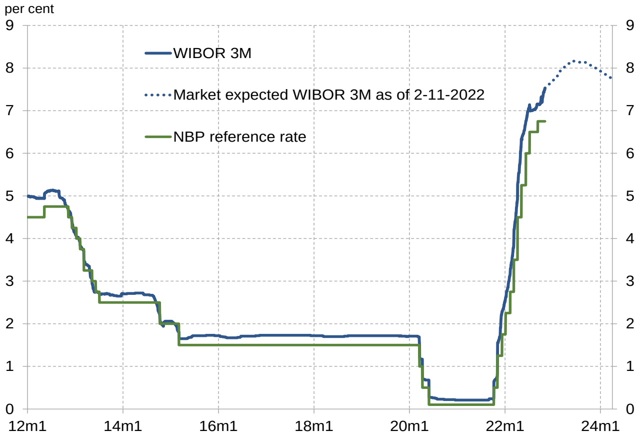
In 2022 Q2, in the housing market, transaction prices continued to rise in annual terms due to mounting construction costs (Figure 2.22).[26] According to NBP data,[27] growth in average housing transaction prices rose to 14.8% y/y in 2022 Q2 (compared to 14.3% y/y in 2022 Q1).[28]

Figure 2.18 Daily border crossings between Poland and Ukraine and cumulative applications for Polish ID numbers (PESEL)



Source: Polish Border Guard, The Chancellery of the Prime Minister of Poland (KPRM) data.

Figure 2.19 NBP reference rate and WIBOR 3M with expectations based on FRA contracts



Source: NBP and Bloomberg data.

[25] The possibility for Ukrainian citizens to take up employment on the basis of notification was introduced under the Act of 12 March 2022 on assistance to citizens of Ukraine in connection with the armed conflict on the territory of that country. The number of Ukrainians who took up employment under this procedure is lower – some of the notifications concern citizens of Ukraine who have more than one employer or those who have changed their place of work (each employer must issue another notification). Ukrainians who were already legally staying in Poland before the war also have the right to take up employment on the basis of notification.
[26] More information about the situation in the Polish housing market can be found in the NBP publication entitled *Information on home prices and the situation in the residential and commercial real estate market in Poland in 2022 Q2*, NBP, September 2022.
[27] The discussed data on home prices include transactions concluded between March and May 2022, so 2022 Q2 analysed in the chapter does not fully coincide with the calendar quarter.
[28] These data apply to average transaction price of flats (PLN/m^2) in 17 cities (16 voivodeship capitals and Gdynia) in the primary and secondary markets weighted by housing stock. In quarterly terms, this price growth was running at 3.5% q/q in 2022 Q2 (against 3.4% q/q in 2022 Q1).

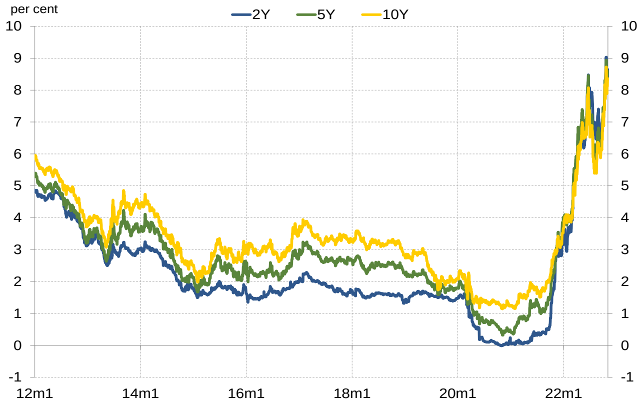
2.6 Money and credit[29]

Over the recent past, growth in broad money (M3) has slowed down and the stock of household loans has declined amid a marked increase in interest rates on loans and deposits, following the hitherto decisive hikes in NBP interest rates.

In 2022 Q3, growth in broad money (M3) slowed down again (to 6.1% y/y compared to 6.8% y/y in 2022 Q2; Figure 2.23). This was primarily the result of the slower growth in cash in circulation (8.2% y/y in 2022 Q3 compared to 12.9% y/y in 2022 Q2), following an earlier temporary rise in demand for cash due to the sharp increase in uncertainty in the wake of the Russian military aggression against Ukraine. Meanwhile, growth in household deposits was relatively stable (1.3% y/y in 2022 Q3 compared to 1.4% y/y in 2022 Q2), held back by, among others, increased purchases of retail Treasury bonds triggered by a rise in their interest rates. This was accompanied by a further change in the structure of deposits, including a shift of some funds from current deposits to term deposits, due to the stronger rise in interest rates on term deposits (Figure 2.24).[30] Alongside that, growth in corporate deposits accelerated (to 8.5% y/y in 2022 Q3 from 7.6% y/y in 2022 Q2) as a result of a significant increase in term deposits.

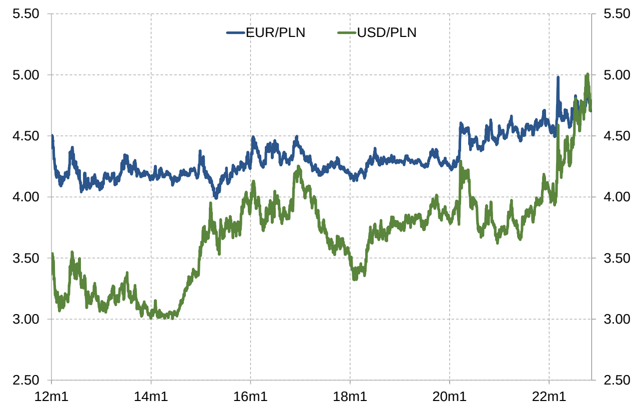
The stock of household lending decreased in 2022 Q3 (with the growth rate running at -1.1% y/y compared to 1.9% y/y in 2022 Q2; Figure 2.25) against the background of a marked rise in the interest rates on loans, the tightening of the credit underwriting standards[31] and the deterioration in consumer sentiment (see Chapter 2.2 *Demand and*

Figure 2.20 Yields on Polish government bonds



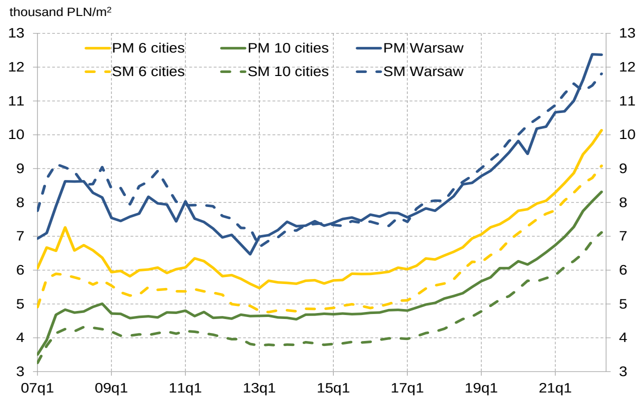
Source: Bloomberg data.

Figure 2.21 Exchange rates of the euro and the US dollar in zloty



Source: Bloomberg data.

Figure 2.22 Nominal transaction prices of flats in major cities in Poland



Source: NBP data.

PM – primary market, SM – secondary market. Transaction prices – an average weighted with the share of the housing stock in a given city in the total housing stock. Aggregate of 6 cities consists of: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław, whereas of 10 cities: Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin and Zielona Góra.

[29] In this chapter, the growth in the broad money aggregate M3, deposits and loans is defined as the annual growth resulting from transaction changes, on average in a given quarter. The data refer to monetary financial institutions.

[30] From January to September 2022, the stock of households zloty current deposits decreased by approximately PLN 136.1 billion (a fall of 17.2%), while that of term deposits increased by approximately PLN 108.3 billion (an increase of 68.1%).

[31] In 2022 Q2 and Q3, the banks tightened their credit underwriting standards for households due to, among others, the deteriorating macroeconomic outlook and worsening prospects of financial standing of households. The considerable tightening of lending standards in the housing loan segment was the result of the Polish Financial Supervision Authority recommendation that tightened the procedures for the borrower creditworthiness assessment, in force since April 2022. See *Senior loan officer opinion survey on bank lending practices and credit conditions*. 3rd quarter 2022, NBP, July 2022.

output). The lower pace of growth in loans to households primarily reflected the slowdown in housing loans (to -0.1% y/y in 2022 Q3 from 3.4% y/y in 2022 Q2)[32] amid a further decline in demand for this type of credit.[33] This was accompanied by a decrease in the stock of consumer loans (growth of -0.6% y/y in 2022 Q3 compared to 1.5% y/y in 2022 Q2) as well as other loans to households.

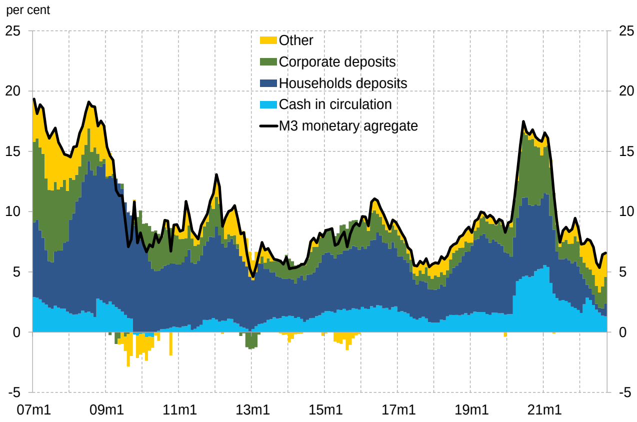
Corporate loan growth, in turn, increased again in 2022 Q3 (to 16.1% y/y from 12.6% y/y in 2022 Q2; Figure 2.26). The main contributing factor was an acceleration in current loan growth (to 31.5% y/y in 2022 Q3 from 27.6% y/y in 2022 Q2), related to a rise in large enterprises' financing needs for inventories and working capital amid fast growth in prices of commodities and production components. Investment loan growth also increased (to 6.0% y/y in 2022 Q3 from 3.1% y/y in 2022 Q2), reflecting a slight recovery in investment processes financed by loans that had been interrupted by the pandemic.

2.7 Balance of payments[34]

In 2022 Q2, the current account balance declined (to -3.5% of GDP, from -2.7% of GDP in 2022 Q1). This was primarily due to a further deterioration in the trade in goods balance (to -3.6% of GDP in 2022 Q2 as against -2.7% of GDP in in 2022 Q1; Figure 2.27). The decrease in the balance of trade in goods continued to mainly result from a rise in the value of imports, in particular, of fuels and supply goods, amid high global commodity prices (see Chapter 1.3 *Global commodity markets).*

At the same time, the current account balance was boosted by a rise in the balance of services (to 4.9% of GDP in 2022 Q2 as compared to 4.6% of GDP in 2022 Q1), while the balances on the remaining

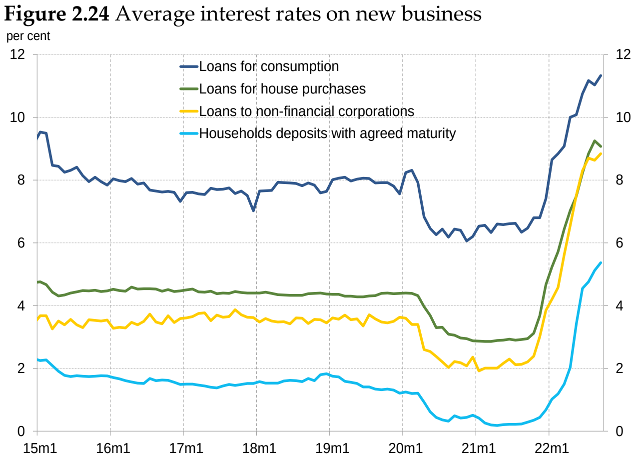
Figure 2.23 Composition of M3 growth (y/y)



Source: NBP data.

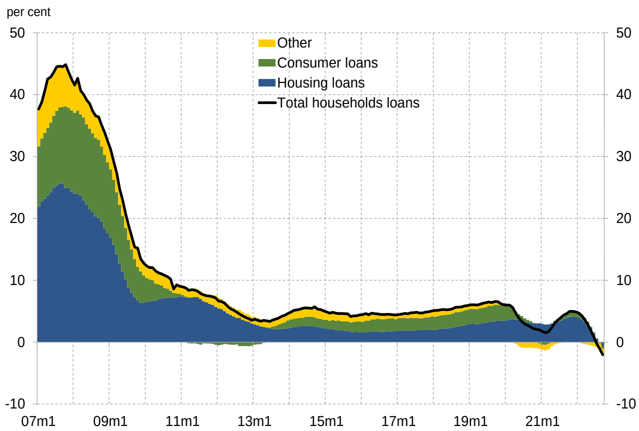
The category *Other* covers deposits of non-monetary financial institutions and local government units, repurchase agreements between banks and non-banking sector as well as debt securities with maturity up to 2 years issued by banks.

Figure 2.24 Average interest rates on new business



Source: NBP data.

Figure 2.25 Composition of growth in household loans (y/y)



Source: NBP data.

The category *Other* covers credit card loans, loans to individual entreprenuers and individual farmers as well as other receivables.

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[32] At the same time, the negative growth in housing loans deepened in monthly terms throughout 2022 Q3.

[33] According to the Credit Information Bureau (BIK) data, in 2022 Q3 the value of housing loan applications decreased on average by 69.5% y/y (compared to a fall of 50.1% y/y in 2022 Q2).

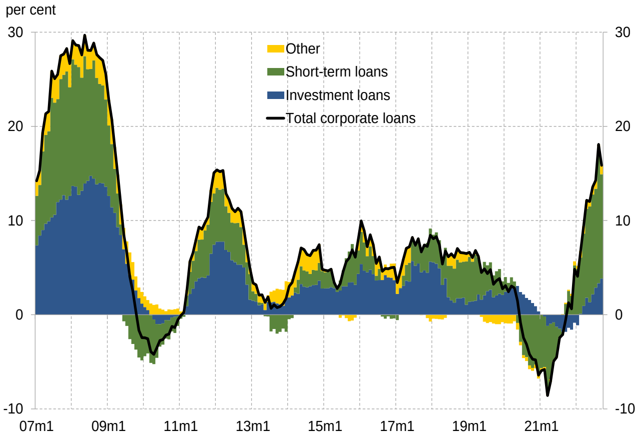
[34] In this chapter, data on the balance of payments in relation to GDP are presented in terms of a four-quarter rolling sum. In September 2022 statistical data have been revised – see *Revision of balance of payments and international investment position statistics data 2004-2021*, NBP, September 2022

current account components did not change substantially. In particular, the balance on the primary income account remained negative (-4.7% of GDP in 2022 Q2), which largely reflected the high income of foreign direct investors in Poland.[35]

Alongside that, the financial account balance declined in 2022 Q2 (to -3.2% of GDP as compared to -2.6% of GDP in 2022 Q1), which implies a higher net capital inflow into Poland (Figure 2.28).

The external imbalance indicators evidence that the Polish economy is well balanced (Table 2.4). In 2022 Q2, Poland's net international investment position improved again (as measured in relation to GDP), hitting the highest level since at least 2004. At the same time, and the foreign debt to GDP ratio fell to its lowest level since 2008.

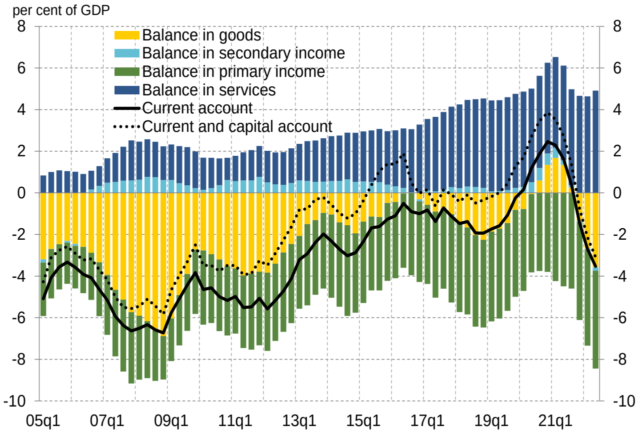
Figure 2.26 Composition of growth in corporate loans (y/y)



Source: NBP data.

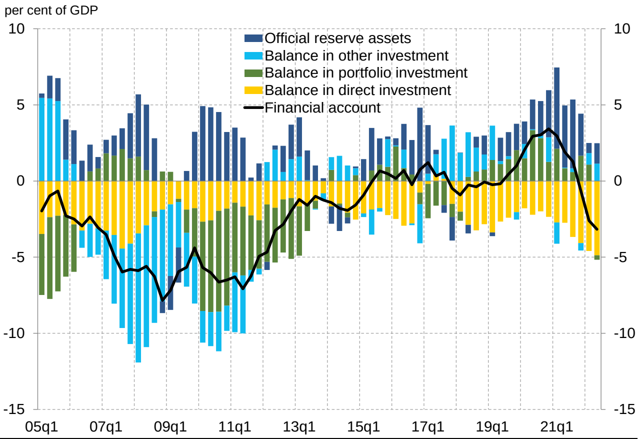
The category *Investment loans* covers loans for investments and real estate purchases. The category *Other* covers i.a. car loans, loans for security purchases and other receivables.

Figure 2.27 Current account balance (4-quarter rolling sum)



Source: NBP data.

Figure 2.28 Financial account balance (4-quarter rolling sum)



Source: NBP data.

A positive value of the balance means an increase in Polish net foreign assets (net outflow of capital from Poland).

[35] In contrast, the capital account remained in surplus (0.4% of GDP in 2022 Q2), resulting from the inflow of EU funds.

Table 2.4 Selected external imbalance indicators (4-quarter rolling sum in per cent, unless indicated otherwise)

	2020				2021				2022	
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
Current account balance/GDP	0.2	1.2	1.9	2.5	2.3	1.6	0.4	-1.4	-2.7	-3.5
Current and capital account balance/GDP	1.7	2.7	3.5	3.9	3.5	2.7	1.4	-0.7	-2.1	-3.1
Trade balance/GDP	3.8	4.4	5.0	5.7	6.0	5.9	4.9	3.3	2.0	1.3
Official reserve assets (in monthly imports of goods and services)	5.3	5.7	6.0	6.3	6.6	5.8	6.0	5.7	5.1	5.0
Foreign debt/GDP	60	59	59	61	61	57	58	57	56	55
Net international investment position/GDP	-46	-45	-44	-44	-42	-41	-40	-40	-39	-35
Official reserve assets/short-term foreign debt minus forecast current account balance	134	133	122	115	108	101	107	115	101	105
Official reserve assets/short-term foreign debt	117	121	119	124	124	122	130	140	115	116

Source: NBP data.

The last two indicators include foreign debt and the level of official reserves at the end of the period.

3. Monetary policy in July – November 2022

This chapter includes the previously published *Minutes of the Monetary Policy Council decision-making meetings* held between July 2022 and October 2022 as well as the *Information from the meeting of the Monetary Policy Council* in November 2022.

Minutes of the Monetary Policy Council decision-making meeting held on 7 July 2022

At the meeting it was pointed out that in 2022 Q2 labour market situation in the largest advanced economies remained very good, therefore the economic conditions in these economies were assessed to be relatively favourable. At the same time, it was stressed that in some of the emerging market economies, including China, the pace of economic activity growth had declined markedly, which had also had an adverse impact on export growth in the advanced economies. The Council members also drew attention to the fact that signs of a marked worsening of the global growth outlook had intensified recently, which was reflected in deteriorating sentiment of economic entities. It was pointed out that activity in the global economy and its outlook were under the negative impact of high prices of commodities and production components, persisting disruptions in the functioning of global supply chains and the repercussions of Russian military aggression against Ukraine, including high uncertainty. The tightening of monetary policy by the major central banks would also curb growth in economic activity. It was underlined that the available forecasts, both by external institutions and by NBP, indicated a significant deterioration of the global economic conditions. In particular, attention was drawn to the expected decline in annual GDP growth in the United States and – on a much larger scale – in the euro area. At the same time, it was emphasised that in the euro area there was a risk of a sharper than currently forecast slowdown in GDP growth, should the supply of gas from Russia be cut off entirely. Certain Council members also pointed out the risks for economic activity resulting from the next wave of the COVID-19 pandemic in Europe.

The Council members noted that in the recent months global inflation had continued to rise, reaching the highest levels in decades in many economies. During the discussion attention was drawn to the fact that – according to preliminary Eurostat data – in the euro area inflation stood at 8.6% in June, and it substantially varied across countries. It was pointed out that in many euro area countries annual price growth was in double digits, and in the Baltic countries it had reached approximately 20%. In turn, in the United States CPI inflation had risen to 8.6% in May. High commodity prices as well as the persisting disruptions in global supply chains and international transport, exacerbated by the effects of war, continued to be the main source of price growth around the world. The Council members drew attention to the fact that the situation in the commodity markets remained unfavourable, although recently it had become more diverse. In particular, the situation in the gas market had deteriorated amid the reports of reduced gas supply from Russia to more European countries, including Germany and Italy. It was stressed that the constrained supply of gas was boosting its price, which in the European market was approximately three times higher than a year ago and seven times higher than before the pandemic. On the other hand, the price of Brent oil had decreased in the recent period due to concerns about a global downturn, although it was still approximately 40% higher than a year ago and approximately 60% higher than before the pandemic. It was underlined that in some economies high growth in demand and rising labour costs, which translated into growth in core inflation, were also boosting prices. At the same time, it was pointed out that in many economies inflation forecasts for the coming quarters continued to be revised upwards, although it was highlighted that the expected global economic slowdown should curb inflation.

During the discussion it was noted that in view of the high current and forecast inflation, many central banks had been tightening their monetary policy in the recent period. In June, the Federal Reserve of the United States once again raised its interest rates. In turn, the ECB concluded net asset purchases. Central banks in many economies, including in the Central-Eastern Europe region, continued to increase interest rates.

While analysing the situation in the Polish economy, the Council members judged that the economic conditions in 2022 Q2 remained favourable, however, economic activity growth decelerated. Attention was drawn to the fact that although data on industrial output and retail sales in May indicated further relatively rapid growth in activity in annual terms, these figures were worse than expected by market analysts. It was also pointed out that total retail sales growth had been boosted by the high growth in sales of non-durable goods – supported by the demand generated by the refugees from Ukraine – while demand for durable goods had weakened. Meanwhile, incoming data indicated that conditions in the construction sector have deteriorated. The Council members also underlined that sentiment indicators, including the current consumer confidence indicator and the PMI index, had declined.

The Council members drew attention to the fact that the unemployment rate in Poland remained at a historically low level. This was accompanied by a significant rise in wages, although annual wage growth in the enterprise sector slowed down in May to 13.5%. At the same time, it was pointed out that growth of average employment in this sector had halted in May in monthly terms which, along with the growing labour force participation of refugees from Ukraine, was probably limiting wage pressure.

During the discussion on the economic activity outlook, attention was drawn to the fact that according to the projection, average annual GDP growth in 2022 would remain relatively high. However, it was underlined that this was mainly due to the strong growth in activity in 2022 Q1, while the second half of 2022 would most likely see a significant slowdown in GDP growth. At the same time, it was emphasised that according to the central path of the projection, in the second half of 2023 annual GDP growth would begin to gradually accelerate, although it would remain lower than in previous years. It was also pointed out that in line with the projection, the deteriorating economic conditions might lead to a slight rise in unemployment in the coming years, which would curb wage growth. Certain Council members pointed out that – in their opinion – despite the expected deterioration of the economic conditions, a rise in unemployment was unlikely. At the same time, it was underlined that both the domestic and global economic outlook were subject to significant uncertainty.

At the meeting it was noted that according to the Statistics Poland flash estimate, inflation in Poland had increased in June 2022 to 15.6% y/y. At the same time, the Council members underlined that high inflation resulted mainly from an earlier strong rise in global energy and agricultural commodities prices – driven, to a large extent, by the repercussions of the Russian military aggression against Ukraine – and the earlier increases in regulated tariffs on electricity, natural gas and thermal energy. It was emphasised that consequences of disruptions in global supply chains and high shipping costs in international trade also boosted inflation. During the discussion it was also pointed out that price growth in Poland was supported by the continued robust demand, enabling enterprises to pass rising costs onto the final prices, which is accompanied by a rise in core inflation. However, attention was drawn to the fact that core inflation – apart from the influence of demand factors – reflected also the indirect impact of factors independent of the domestic economic conditions, which were boosting the production costs and prices of many goods. At the same time, it was pointed out that a curbing impact on inflation had been exerted by a reduction in some tax rates as part of the Anti-inflationary Shield.

During the discussion on the outlook for inflation in Poland, it was pointed out that according to NBP's July projection, in the coming quarters inflation would remain high due to the continued impact of the factors currently boosting price growth, including those related to the Russian military aggression against Ukraine. Attention was also drawn to the risk of significant increases in regulated tariffs for electricity and natural gas at the beginning of 2023. The impact of unfavourable weather conditions and cost factors in agriculture, which exert upward pressure on food prices, was also highlighted. At the same time, it was underlined that the coming years would see a gradual decline in inflation towards the NBP target, which would be supported by the expected weakening of economic conditions, along with the fading of the impact of the shocks that were currently boosting prices as well as the NBP interest rate hikes implemented so far, which, among others, had been curbing credit growth. The decrease in inflation would also be supported by appreciation of zloty exchange rate, which, in the Council's assessment, would be consistent with the fundamentals of the Polish economy. Certain Council members judged that the disinflation process might proceed slower than indicated in the projection, due to, among others, the possible fiscal policy easing.

In the context of the projection, the Council members underlined that there were significant uncertainty factors regarding inflation outlook, such as the future course of the war in Ukraine, the developments in the global commodity markets, and also the scale of the global and domestic economic slowdown and its impact on price growth. Moreover, it was emphasised that the validity period of the lower tax rates under the Anti-Inflation Shield was also an uncertainty factor for the price growth in Poland.

The Council members judged that there remained a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. Consequently, the Council concluded that, in order to bring inflation down to the NBP target in the medium term, NBP interest rates should be raised again. The increase in NBP interest rates is curbing inflation expectations and should support the appreciation of the zloty.

The Council decided to increase the NBP reference rate by 0.50 percentage points, i.e. to 6.50% and set the remaining NBP interest rates at the following levels: the lombard rate at 7.00%, the deposit rate at 6.00%, the rediscount rate at 6.55%, and the discount rate at 6.60%.

The Council members pointed out that further decisions of the Council would depend on incoming information regarding perspectives for inflation and economic activity, including the impact of the Russian military aggression against Ukraine on the Polish economy.

Minutes of the Monetary Policy Council decision making meeting held on 7 September 2022

At the meeting it was pointed out that the annual GDP growth had declined in 2022 Q2 in major economies, and the incoming Q3 data indicated a further deterioration in the global economic activity. This was because global economic activity and its outlook were still negatively affected by high prices of commodities and production components, the fallout from the Russia's military aggression against Ukraine as well as, although to a lesser extent than before, global supply chain disruptions. Moreover, it was pointed out that global demand was and would be dampened by the tightening of monetary policy by many central banks, including the major ones. It was observed that GDP data for 2022 Q2 confirmed a decline in activity in this period in the United States and China, whereas in the euro area GDP had continued to grow. At the same time, it was indicated that economic activity in Europe in the coming quarters would be weighed down, above all, by a severe supply shock in the market for energy commodities and electricity. On the other hand, it was also observed that the labour market situation in the largest advanced economies remained very good, which was a factor stabilising economic conditions. However, it was pointed out that consumer confidence indicators were running at very low levels in these economies.

With regard to inflationary developments, the Council members observed that in most economies inflation had continued to rise over recent months, reaching again the highest levels in decades in many countries. During the discussion, it was highlighted that inflation in the euro area, according to the Eurostat preliminary data, amounted to 9.1% in August, with many countries of the area recording a double-digit annual price growth, and the Baltic countries seeing inflation exceeding 20%.

It was emphasised that although higher price growth continued to be mainly driven by high commodity prices and persistent – despite signs of their gradual easing – global supply chain disruptions, in some economies inflation was additionally fuelled by demand factors and rising labour costs. In effect, core inflation was also on the rise. The Council members drew attention to the results of business climate surveys, which suggested an easing of cost pressures as a result of mitigated supply chains disruptions and a decline in international transport costs. At the same time, continued rise in core inflation in many economies was evidence of an ongoing process of firms passing on sharp cost increases into the prices of finished goods. The Council members also noted that inflation forecasts for the coming quarters were being revised upwards in many economies, although it was pointed out that the expected slowdown in global economic growth would curb demand factors boosting prices.

During the discussion it was observed, that, considering the high current and forecast inflation, many central banks had recently continued to tighten monetary policy. In particular, in July the Federal Reserve of the United States once again raised interest rates. In turn, in the same month the European Central Bank launched its first interest rate hike since 2011.

While analysing the situation in the Polish economy, the Council members judged that the economic conditions in the first half of 2022 had remained favourable; yet the growth in economic activity had been slowing down, as evidenced by GDP data. It was pointed out that, in accordance with the Statistics Poland flash estimate, GDP grew by 5.5% y/y in 2022 Q2, and its decline compared to 2022 Q1, when the annual GDP growth reached 8.5%, was mainly due to significantly lower contribution of inventories. Meanwhile, annual consumption growth remained relatively high in 2022 Q2 and investment growth accelerated.

When referring to monthly data, attention was drawn to the fact that data on industrial production, construction and assembly output, and retail sales in July as well as economic confidence indicators for August suggested that annual growth in economic activity in 2022 Q3 would decline further. In July, growth in both industrial production and construction and assembly output declined. Also retail sales in real terms slowed down, with sales of durable goods falling compared to the previous year. In August, in turn, consumer confidence indicators deteriorated and the PMI for industry saw another drop. Therefore, the Council members judged that in the coming quarters a further decline in the annual GDP growth should be expected, although the forecasts were currently subject to considerable uncertainty. It was pointed out that activity was negatively affected by, among others, the sharp increases in the prices of energy and energy carriers, although these effects would be mitigated by the extension of the Anti-inflationary Shield and the introduction of carbon allowances and heating subsidies.

During the discussion it was emphasised that the labour market situation remained very good, as reflected in the record low unemployment rate and the continued marked wage rises. It was pointed out that unemployment in July stayed at a historic low, while corporate employment continued to increase. It was indicated that wage growth in the corporate sector stood at 15.8% in July; however, its rise compared to the previous month level was largely the result of bonus payments in certain sectors. The Council members drew attention to the fact that for several months the number of job vacancies had been on a decline, which might follow from positions being filled with new employees, but might also indicate some fall in demand for labour.

At the meeting, it was pointed out that according to the Statistics Poland flash estimate, inflation in Poland had risen to 16.1% y/y in August 2022. The Council members underlined that high inflation was still mainly the result of the earlier strong rise in global energy and agricultural commodity prices – driven, to a large extent, by the repercussions of the Russian military aggression against Ukraine – and the earlier increases in regulated domestic tariffs on electricity, natural gas and thermal energy. It was pointed out that inflation continued to be additionally boosted by the consequences of disruptions to global supply chains and passing by enterprises rising costs on to the final prices, which also translated into a rise in core inflation. Meanwhile, the reduction in some of the tax rates as part of the Anti-inflationary Shield was curbing inflation.

While discussing the outlook for inflation in Poland, it was emphasised that according to available forecasts in the coming months inflation would remain close to the current level. The Council members underlined that the path of prices next year would be highly dependent on decisions regarding the Anti-inflationary Shield and the scale of increases in regulated prices. Some Council members judged that inflation would most likely remain highly elevated at least until mid-2023, although – due to the difficulty of predicting developments in regulatory and supply factors, including the further course of the war in Ukraine and the situation in the European commodities market, as well as the uncertainty about the scale of the expected slowdown in the global and European economy – the currently formulated forecasts remained subject to very high uncertainty.

At the same time, the Council members pointed out that the significant increase in the NBP interest rates carried out over the past year, along with the fading impact of the shocks currently boosting prices and the slowdown in economic activity growth, would gradually dampen inflation in the coming years. The decrease in inflation would also be supported by the appreciation of the zloty exchange rate, which in the Council's assessment, would be consistent with the fundamentals of the Polish economy. Alongside that, certain Council members judged that the disinflation process might be hampered by the possible fiscal policy easing.

When referring to the effects of the monetary policy, some Council members drew attention to the fact that the strong increase in the NBP interest rates that had been introduced since October 2021, had translated into a significant rise in interests on loans and deposits, which was resulting, in particular, in a fall in lending to households and a shift in household funds from current accounts to term deposits or the purchase of Treasury bonds. At the same time, certain Council members emphasised that the introduction of the so-called repayment holidays for all mortgage borrowers was weakening the effect of the NBP's monetary policy tightening.

The Council members judged that there persisted a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. Consequently, the Council concluded that, in order to strive for bringing inflation down to the NBP target in the medium term, NBP interest rates should be raised again. The increase in the NBP interest rates will support curbing inflation expectations and the appreciation of the zloty.

The Council decided to increase the NBP reference rate by 0.25 percentage points, i.e. to 6.75% and set the remaining NBP interest rates at the following levels: the lombard rate at 7.25%, the deposit rate at 6.25%, the rediscount rate at 6.80%, and the discount rate at 6.85%.

The Council members pointed out that further decisions of the Council would depend on incoming information regarding the perspectives for inflation and economic activity, including the impact of the Russian military aggression against Ukraine on the Polish economy.

Minutes of the Monetary Policy Council decision-making meeting held on 5 October 2022

At the meeting it was pointed out that incoming data indicated a deterioration of global economic conditions in 2022 Q3. Activity in the global economy and its prospects were under the negative impact mainly of high prices of commodities and production components, as well as the repercussions of Russia's military aggression against Ukraine and the tightening of monetary policy around the world. Alongside that, it was pointed out that in many countries the situation in the labour market remained favourable. The majority of the Council members underlined, however, that real purchasing power of wages continued to be curbed by high inflation, which was accompanied by pessimistic consumer and business sentiment.

It was pointed out that in Europe high energy prices and concerns about gas shortages in the face of the coming winter were weakening economic activity, and in energy-intensive sectors had already led to falls in production. At the same time, sharply rising prices of necessity goods were limiting the possibility of many households to purchase other goods and services. This was accompanied by continued high uncertainty about the European economic activity outlook. At the same time, it was pointed out that in the United States the outlook for economic activity was better than in the euro area – due to, among others, the fact that the US economy was not dependent on energy commodities from Russia – although it was also negatively affected by high inflation and significant monetary tightening.

It was pointed out, that the weakening of global economic conditions and weaker prospects for global economic growth were accompanied, during the discussed period, by deteriorating sentiment and increased volatility in global financial markets. This was reflected in a marked drop in equity and bond prices, as well as a depreciation of many currencies against the US dollar.

With regard to global inflationary developments, certain Council members noted that in many economies inflation was running at the highest level in decades. It was emphasised that – according to Eurostat preliminary data – inflation in the euro area rose to around 10% in September, reaching almost 11% in Germany, over 17% in the Netherlands, and continued to clearly exceed 20% in the Baltic states. It was underlined that high commodity prices, driven partly by the consequences of Russia's military aggression against Ukraine, continued to be a significant source of high price growth in many economies. Price growth was also boosted by global supply chain disruptions, which were still present despite their gradual easing. In this context, attention was drawn to the very strong growth in producer prices in many economies, including in Germany. The Council members also underlined that in some economies rising prices were also driven by demand factors and rising labour costs. Certain Council members judged that the impact of demand factors on price growth was currently significant. It was emphasised that increased demand, along with the pass-through of earlier increases in production costs to consumer goods prices, were also boosting core inflation. At the same time, it was pointed out that there were signals that the scale of the external shocks which had boosted inflation around the world was gradually decreasing, which – besides the gradual easing of global supply chain disruptions – was evidenced by a slight fall in oil prices. In this context, it was pointed out that CPI inflation in the United States had decreased slightly in the recent period, although it was accompanied by further growth in CPI core inflation.

At the meeting it was observed that amid high inflation, the major central banks had recently continued to tighten their monetary policy. In September the Federal Reserve of the United States and the European Central Bank had significantly increased interest rates once again. At the same time, certain Council members emphasised that the monetary policy tightening by the major central banks was accompanied by communication indicating their determination to bring inflation down to the target. It was pointed out that monetary policy tightening by the major central banks should reduce inflationary pressure on a global scale and contribute to a weakening of the global economic conditions. It was judged that the measures taken by the major central banks would therefore be complementary to the monetary tightening implemented in many economies. Against this background – and also taking into account the lag in the monetary policy transmission mechanism – certain central banks, that had earlier raised interest rates significantly (e.g. the Czech National Bank), were currently refraining from further interest rate hikes. However, certain Council members pointed out that further interest rate increases by the major central banks would – ceteris paribus – reduce their interest rate disparity with other economies, which might contribute to an appreciation of the base currencies. These Council members judged that, in such a situation, the impact of the weakening of global inflationary pressure on price growth in many countries would be limited.

While analysing the situation in the Polish economy, the majority of the Council members judged that the available monthly data suggested a gradual deterioration in the economic conditions. Attention was drawn to the weakening household sentiment and lower sales of durable goods than a year earlier, and it was observed that the accompanying further growth in retail sales in annual terms was partly the result of demand generated by Ukrainian refugees. It was underlined that indicators of economic conditions in the manufacturing sector were also pessimistic. At the same time, it was pointed out that industrial production continued to grow significantly, supported by the easing of global supply chain disruptions. Certain Council members judged, however, that the deterioration in the economic conditions was not marked.

The Council members drew attention to the fact that in the coming quarters, amid a global economic slowdown, a further decline in GDP growth in Poland was forecast, which – despite the government's shielding measures – would be driven by high prices of energy and its carriers. At the same time, it was underlined that the economic outlook was subject to significant uncertainty.

During the discussion it was pointed out that despite the deteriorating economic conditions, the situation in the labour market remained very good, which was reflected in the low unemployment rate. However, the majority of the Council members judged that data from the enterprise sector might suggest a slight cooling down of labour demand in some sectors. They expressed the opinion that – along with the increased supply of labour from Ukrainian refugees – it should help curb wage pressure and over time contribute to reducing inflation. At the same time, other Council members underlined that annual growth in average wages in the enterprise sector had remained lower than consumer price growth for several months and therefore the purchasing power of wages in this sector was falling. However, a judgement was expressed that the labour market situation would hamper the reduction of inflation, due to the marked increase in unit labour costs.

At the meeting it was pointed out that according to the Statistics Poland flash estimate, inflation in Poland had risen to 17.2% y/y in September 2022. Certain Council members drew attention to the acceleration in price growth, including in monthly terms. The majority of the Council members underlined that high inflation was still mainly the result of the earlier strong rise in global energy and agricultural commodity prices – driven, to a large extent, by the repercussions of the Russian military aggression against Ukraine – and the earlier increases in regulated domestic tariffs on electricity, natural gas and thermal energy. At the same time, it was pointed out that inflation was also boosted by enterprises passing rising costs onto the final goods prices and the consequences of the earlier global supply chain disruptions, which also drove up core inflation. Certain Council members underlined that price growth was also driven by demand factors. The Council members also pointed out that the reduction in some of the tax rates as part of the Anti-inflationary Shield was curbing annual inflation index.

While discussing the outlook for inflation in Poland, it was emphasised that according to available forecasts inflation would remain close to the current level in the coming months, and should decline over the next year. It was underlined that the price path would be highly dependent on the decision regarding the Anti-inflationary Shield and the development of regulated prices, including an electricity price freeze up to a certain level of consumption. Meanwhile, it was pointed out that the currently formulated forecasts were still subject to very high uncertainty, including uncertainty about the further course and repercussions of the Russia's military aggression against Ukraine, the situation in the European commodities markets, and also the scale of the expected global economic slowdown. Certain Council members judged that despite the decline in inflation next year – partly as a result of base effects – price growth, in case of no further monetary tightening, would remain above the inflation target in the medium term. These Council members judged that the disinflation process would be hampered by the heightened inflation expectations of households and enterprises. In this context, they pointed out that the level of real interest rates – taking into account the level of inflation expected next year by these economic agents as well as by professional forecasters – remained negative.

Meanwhile, it was pointed out that hitherto significant NBP interest rate hikes had contributed to a marked rise in interest rates on loans and deposits, which should curb domestic demand pressure and, consequently, gradually limit the possibility of passing rising costs onto the final goods prices. In particular, it was underlined that NBP's monetary policy tightening had curbed lending in the housing loans segment and had contributed to negative annual growth in the total value of consumer loans. This was also accompanied by a change in the structure of household assets, including a shift in some funds from current deposits to term deposits and the purchase of government bonds. By contrast, certain Council members emphasised that the introduction of so-called repayment holidays for all mortgage borrowers was weakening the effect of NBP’s monetary policy tightening.

The majority of the Council members judged that the hitherto significant monetary policy tightening by NBP and the expected slowdown in economic activity growth, which in part stemmed from external shocks, would contribute to curbing demand growth in the Polish economy, which would support a decline in inflation in Poland towards the NBP inflation target. The majority of the Council members pointed out that, given strength and persistence of the current shocks that remained beyond the impact of domestic monetary policy, a return of inflation towards the NBP inflation target would be gradual. Alongside that, it was underlined that in accordance with the Monetary Policy Guidelines for 2022, the Council flexibly determined the desirable time necessary to bring the inflation back to the target, as bringing inflation rapidly back to the target might entail significant costs to macroeconomic stability. The decrease in inflation would also be supported by the appreciation of the zloty exchange rate, which in the Council’s assessment, would be consistent with the fundamentals of the Polish economy.

However, certain Council members expressed the opinion that in view of the still favourable economic conditions in Poland, the high price growth and the heightened inflation expectations, as well as due to the easing of fiscal policy, the hitherto scale of interest rate hikes was, in their view, insufficient to ensure the return of inflation to the target in the medium term.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 6.75%, the lombard rate at 7.25%, the deposit rate at 6.25%, the rediscount rate at 6.80%, and the discount rate at 6.85%.

The Council members pointed out that further decisions of the Council would depend on incoming information regarding the perspectives for inflation and economic activity, including the impact of the Russian military aggression against Ukraine on the Polish economy.

Information from the meeting of the Monetary Policy Council held on 9 November 2022

The Council decided to keep the NBP interest rates unchanged: reference rate at 6.75%; lombard rate at 7.25%; deposit rate at 6.25%; rediscount rate at 6.80%; discount rate at 6.85%.

Incoming data indicate a deterioration of economic conditions abroad. 2022 Q3 saw a marked lowering of the annual GDP growth in the euro area and its stabilisation in the United States. At the same time, despite a favourable labour market situation in the largest economies, in October business condition indices deteriorated further. Activity in the global economy and its prospects are primarily negatively affected by the impact of Russia’s military aggression against Ukraine, including high prices of commodities, food and production components, as well as by the tightening of monetary policy around the world. Meanwhile, there persists uncertainty regarding further impact of these shocks on economic conditions, and in particular – despite some lowering of gas prices in Europe over the recent period – there persists uncertainty regarding the impact of the situation in energy commodity markets on activity in the European economy in the coming quarters.

Inflation in many economies is at the highest levels in decades, and in the euro area and in the countries of Central and Eastern Europe it is still on the rise. Significant source of high inflation continue to be high commodity prices, resulting partly from the repercussions of Russia's military aggression against Ukraine, as well as persistent – despite their easing – disruptions in global supply chains. Rising prices are also driven by demand factors and increasing labour costs. These factors, combined with the passing earlier rises in production cost on to the consumer goods prices, lead also to an increase in core inflation.

Amidst high inflation, major central banks continued to tighten their monetary policy in the recent period. In particular, the US Federal Reserve and the ECB increased interest rates once again.

In Poland, available monthly data for 2022 Q3, including data on industrial production, construction and assembly output and retail sales, as well as business condition indices, signal that the annual GDP growth decelerated again. A further slowdown of GDP growth is forecast for the coming quarters, while the economic outlook is subject to significant uncertainty. Despite the decelerating GDP growth, labour market situation remains very good, which is reflected i.a. in a low unemployment rate.

Inflation in Poland – according to Statistics Poland flash estimate – increased in October 2022 to 17.9% y/y. The increase in inflation in recent months has been mainly due to a gradual pass-through of high commodity prices to consumer prices. High commodity prices were reflected in rising food and energy prices. At the same time, they boosted operating costs of enterprises, which – given the still relatively high demand – inclined firms to raise prices of consumer goods, contributing to higher core inflation. Core inflation was also driven by the effects of the persisting – though gradually easing – disruptions to global supply chains. At the same time, the Anti-inflationary Shield continued to curb CPI inflation.

The Council became acquainted with the results of the November projection of inflation and GDP based on the NECMOD model. In line with the projection prepared under the assumption of unchanged NBP interest rates and taking into account data available until 21 October 2022 and information on planned legislative changes announced until 7 November 2022, there is a 50-percent probability that the annual price growth will be in the range of 14.4 – 14.5% in 2022 (against 13.2 – 15.4% in the July 2022 projection), 11.1 – 15.3% in 2023 (compared to 9.8 – 15.1%), 4.1 – 7.6% in 2024 (compared to 2.2 – 6.0%) and 2.1 – 4.9% in 2025. At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.3 – 4.9% in 2022 (against 3.9 – 5.5% in the July 2022 projection), -0.3 – 1.6% in 2023 (compared to 0.2 – 2.3%), 1.0 – 3.1% in 2024 (compared to 1.0 – 3.5%) and 1.8 – 4.4% in 2025.

The Council assessed, that the expected weakening of the external economic conditions, together with monetary policy tightening by major central banks, will curb global inflation and commodity prices. The weakening of the global economic conditions will also hamper GDP growth in Poland. Under such circumstances, the hitherto significant monetary policy tightening by NBP will support a decline in inflation in Poland towards the NBP inflation target. At the same time, given strength and persistence of the current shocks that remain beyond the impact of domestic monetary policy, in the short term inflation will remain high, and its return to the NBP inflation target will be gradual. A decrease in inflation would be faster if supported by appreciation of zloty exchange rate, which, in the Council's assessment, would be consistent with the fundamentals of the Polish economy.

Further decisions of the Council will depend on incoming information regarding perspectives for inflation and economic activity, including the impact of the Russian military aggression against Ukraine on the Polish economy.

NBP will take all necessary actions in order to ensure macroeconomic and financial stability, including above all to reduce the risk of inflation remaining elevated. NBP may intervene in the foreign exchange market, in particular to limit fluctuations of the zloty exchange rate that are inconsistent with the direction of monetary policy.

4. Projection of inflation and GDP

This inflation and GDP projection was prepared by the Economic Analysis and Research Department of Narodowy Bank Polski and presents a forecast of economic developments under the assumption of the unchanged NBP interest rates. In terms of the contents, works on this projection were supervised by Piotr Szpunar, Director of the Economic Analysis and Research Department. The process was coordinated by the Macroeconomic Forecasts Division of the Economic Analysis and Research Department. Using the macroeconomic model NECMOD, the projection was prepared as the outcome of an iterative process, in the course of which the paths of some variables were adjusted if they diverged from NBP experts' economic intuition based on their knowledge of economic processes. The Management Board of NBP approved the projection to be submitted to the Monetary Policy Council. The projection constitutes one of the inputs to the Monetary Policy Council's decision-making process concerning the NBP interest rates.

The November projection based on the NECMOD model covers the period from 2022 Q4 to 2025 Q4. The starting point for the projection is 2022 Q3.

The projection was prepared under the assumption of the unchanged NBP interest rates. The cut-off date for the data used in this projection is 21 October 2022. The projection takes into account the information on planned legislative changes announced until 7 November 2022.

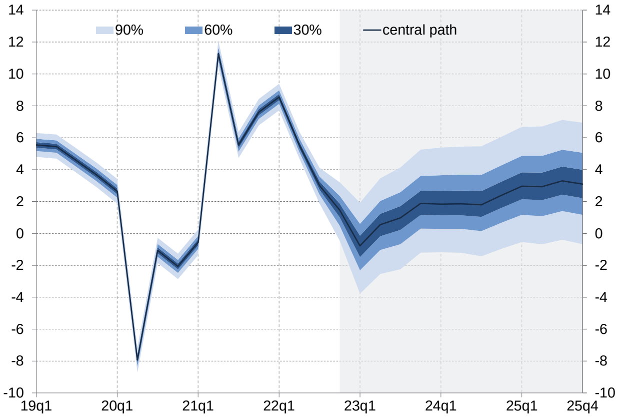
4.1 Summary

The central scenario of the current projection is significantly affected by the macroeconomic effects of Russia's armed aggression against Ukraine, including, in particular, the strong growth in global energy commodity prices and – to a lesser extent – other global commodity prices. The functioning of many economies around the world, including the Polish economy, is negatively affected by Russia's reduction of gas supplies to Europe, the significant increase in uncertainty impacting on the decisions of economic agents regarding the allocation of resources, and also the tightening of global monetary conditions. Domestic price-setting in 2022 continues to be affected by the high costs of CO2 emission allowances and prolonged tensions in global supply chains, although these disruptions have eased in the recent period.

The high inflation currently observed is also affected by demand factors related to the rapid recovery of economic activity following a period of strict restrictions imposed during the COVID-19 pandemic. These factors, combined with a high increase in labour costs, are leading to a rapid pass-through of external price shocks in the energy and food market to other price categories. On the other hand, the scale of the growth in inflation is significantly mitigated by the NBP interest rate hikes and the government's anti-inflationary measures, including, in particular the partial freeze of prices of electricity and other energy carriers.

In 2023-2025, CPI inflation will decline as factors boosting its level this year subside, although it will only return to the band of deviations from the NBP inflation target defined as 2.5% +/-1 p.p. at the end of the projection horizon. The current period of inflation running at the highest level for many years increases its persistence by boosting inflation expectations translating into greater acceptance of price rises in many sectors of the economy. A gradual decline in inflation over the project horizon

Figure 4.1 GDP (y/y, %)



Source: Statistics Poland (GUS) data, NBP calculations.

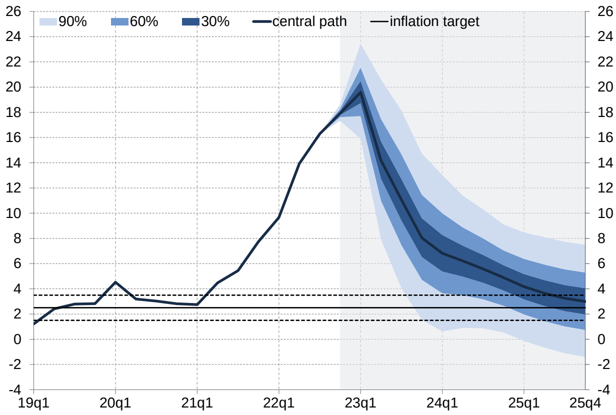
Fan charts depict the probability distribution of possible outcomes of GDP growth (Figure 4.1) and inflation rate (Figure 4.2). The part of the chart in the grey background illustrates forecast uncertainty of these variables over the projection horizon. It was assumed that the probability distribution of the possible outcomes of a variable at each forecast horizon belongs to the family of two-piece normal (TPN) distributions. This distribution is determined by three parameters: mode, variance and a measure of skewness. The mode of the distribution is the central path of the projection, while the variance is determined based on historical forecast errors for each of the horizons adjusted for the impact of the current uncertainty of exogenous variables. The skewness of the distribution is obtained on the basis of an analysis of several alternative scenarios together with the assigned probabilities of their realisation. On the chart, the distribution of the realisation of a given variable is illustrated by 30%, 60% and 90% probability intervals around the central projection path, which were constructed in such a way as to minimize the width of the bands (for more information see: Pońsko P., Rybaczyk B., 2016, Fan Chart – A Tool for NBP's Monetary Policy Making, Narodowy Bank Polski Working Paper, No 241.).

is supported by the slowdown in aggregate demand growth in the economy, reduced cost pressure in the labour market due to falling labour demand and the rising unemployment rate, as well as the assumed decline in global commodity prices.

Following a strong rebound in economic activity in 2021, the GDP growth rate is expected to slow significantly over the projection horizon. In the coming quarters the domestic economic conditions will continue to be affected by a strong negative supply shock reflected in rapid growth in the prices of many commodities as well as goods and services. In 2023, the negative impact of the marked slowdown in GDP growth in the major advanced economies on domestic economic activity will increase, and in 2024 the positive impact of the recovery abroad will mitigate the significant decline in the inflow of EU funds due to the termination of disbursements under the EU financial framework for 2014-2020. The scale of the decline in domestic GDP growth will be reduced by the changes in fiscal policy, which will weaken the negative impact of increases in prices of energy and other commodities for households, vulnerable energy consumers and enterprises.

The economic outlook and CPI inflation path in Poland depend to the greatest extent on the scale of disruptions to the global economy triggered by Russia's military aggression against Ukraine. In the case of inflation, the future shape of the anti-inflationary policies of central banks and governments is also a significant source of risk. The balance of uncertainty factors indicates a close to symmetric distribution of risks for CPI inflation and GDP growth over the projection horizon (Figure 4.1, Figure 4.2).

Figure 4.2 CPI inflation (y/y, %)



Source: Statistics Poland (GUS) data, NBP calculations.

The methodology of construction of fan charts is discussed in the note under Figure 4.1.

4.2 External environment

Economic growth

Strong rise in global energy commodity prices and heightened uncertainty due to the Russian aggression on Ukraine, as well as monetary policy tightening, caused a slowdown in economic growth in most advanced economies in 2022 Q3. These factors, including further interest rate hikes by the major central banks and tensions in the gas market, will also curb economic activity in the coming quarters (Figure 4.3). Therefore, after a period of recovery following the crisis triggered by the COVID-19 pandemic, GDP growth in the largest advanced economies will slow down significantly, and in some of them, including in Germany, GDP is likely to fall temporarily (Table 4.1).

In 2023, major emerging markets are also expected to see subdued economic growth. This is due to the tightening of global financing conditions and domestic monetary policies amid high inflation and economic slowdown in the advanced economies. Moreover, the strict pandemic restrictions are negatively affecting business conditions in China, including the country's industrial sector, and are also disrupting global supply chains. At the same time, the Russian economy is in recession, which is due to the sanctions imposed on Russia following its military aggression on Ukraine.

Table 4.1 GDP abroad – November projection versus July projection

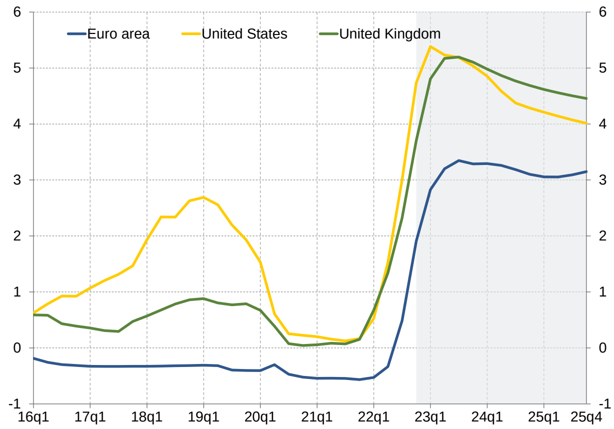
	2022	2023	2024
GDP in Euro Area (y/y, %)			
November 2022	3.2	0.1	1.7
July 2022	2.9	1.1	1.8
GDP in Germany (y/y, %)			
November 2022	1.6	-0.3	2.1
July 2022	1.5	0.8	2.0
GDP in United States (y/y, %)			
November 2022	1.8	0.5	1.9
July 2022	2.4	1.7	1.8
GDP in United Kingdom (y/y, %)			
November 2022	4.3	-0.4	1.2
July 2022	3.4	0.6	1.5

Source: NBP calculations.

Inflation and commodity markets

Concerns about the condition of the global economy have pushed oil prices down to a level close to that recorded before the beginning of the Russian aggression on Ukraine. On the other hand, further reduction in the supply of natural gas by Russia have caused another sharp rise in prices of this commodity in European markets. Hard coal prices have also increased due to the EU decision to ban hard coal imports from Russia and as a result of the increase in prices of gas, which is a substitute for coal in the generation of electricity. Futures quotes suggest that global prices of energy commodities will gradually decline[36] (Figure 4.4, Figure 4.5). However, over the whole of the

Figure 4.3 Interest rates abroad (%)



Source: Bloomberg data, NBP calculations.

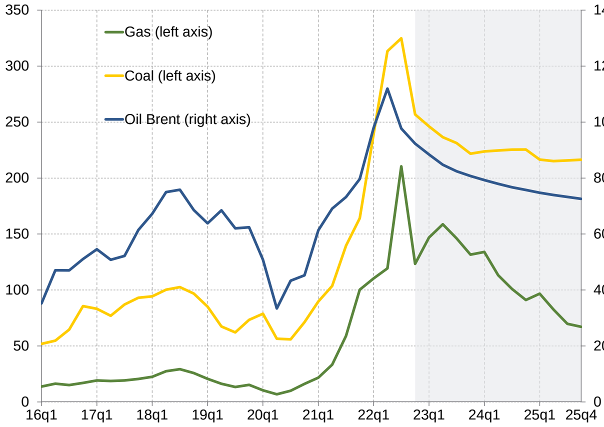
[36] The forecast of global prices of oil (Brent), natural gas (TTF) and hard coal (Richards Bay) is based on futures quotes for delivery of these commodities on the ICE Futures Europe.

projection horizon they will remain significantly higher than before the outbreak of the pandemic. The fall in prices of energy commodities will be supported by the curb in demand, including by implementing measures aimed at reducing gas consumption in Europe, alongside the increased capacity of importing gas from countries other than Russia. The scenario of lower oil prices is supported by the expected increase in oil production in the United States. In the longer term, the decline in energy commodity prices will be supported by the increased use of renewable energy sources.

The upward pressure on global agricultural commodity prices caused by the limited supply and growing production costs, exacerbated by the effects of the Russian aggression on Ukraine, subsided slightly in 2022 Q3 (Figure 4.5). This was due to the agreement concluded in July this year to unblock wheat exports from Ukraine via the Black Sea. However, fears about wheat supply as a consequence of the Russian military aggression remain. Prices of many agricultural commodities continue to be elevated due to high prices of energy commodities, which are affecting transport and electricity costs and prices of artificial fertilizers. Over the projection horizon, along with declining prices of energy commodities and the reduced scale of disruptions resulting from the Russian aggression, global prices of agricultural products should gradually decline (Figure 4.5).

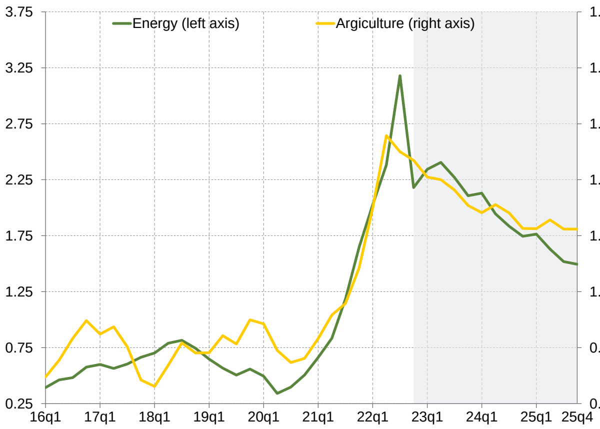
In 2022 Q3, a further acceleration in consumer and producer prices growth was recorded in the euro area, while inflation in the United States declined slightly. Inflation in the global economy is driven by high commodity prices and the shortage of goods as a result of the persistent – although gradually subsiding – global supply chain disruptions (see Chapter 1.2 *Inflation developments abroad*, Figure 4.6). In some economies price increases are also caused by demand factors and rising labour costs. Over the longer-term projection horizon, along with the gradual fading of factors

Figure 4.4 Brent oil prices (USD/b), natural gas (TTF, USD/MWh) and hard coal (Richards Bay, USD/t)



Source: Bloomberg data.

Figure 4.5 Energy commodities price index (USD, 2011=1) and index of agricultural prices (EUR, 2011=1) in global markets



Source: Bloomberg data, NBP calculations.

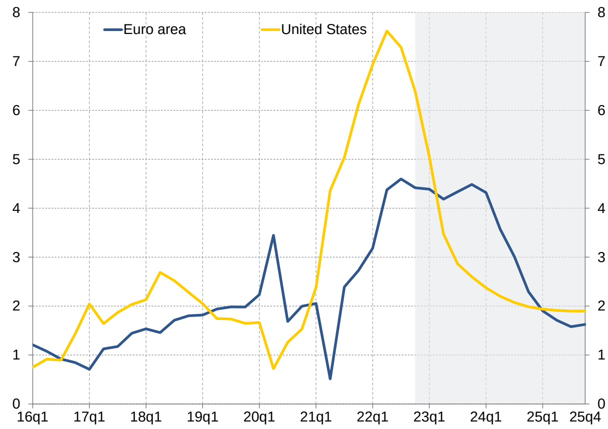
The index of the prices of energy commodities includes prices of crude oil, coal and natural gas, taking into account of the consumption structure of these commodities in Poland. The agricultural commodity price index includes prices of wheat, pork, skimmed milk powder, butter, sugar, cocoa, coffee, frozen concentrated orange juice, potatoes, oilseed, allowing for weights reflecting the consumption structure of Polish households.

boosting prices and a slowdown in economic growth, inflation will gradually fall (Figure 4.6).

Uncertainty

Europe and the whole world continue to see significant geopolitical risks related to the Russian aggression on Ukraine and the tensions in some other parts of the world. The hostilities and the possibility of their escalation, the political tensions, and Russia's decisions to limit gas supplies, as well as economic sanctions imposed on Russia in response to its military aggression, disrupt the functioning of the global economy as well as the prices and supply of energy and agricultural commodities. These risks are more extensively discussed in Chapter 4.5 *Forecast uncertainty sources*.

Figure 4.6 Change in gross value added deflator (y/y, %)



Source: Bloomberg, Eurostat data, NBP calculations.

4.3 Polish economy in 2022-2025

Legislative changes affecting the projected path of GDP and CPI inflation

In response to severe disruptions in the global markets of energy carriers, the government is undertaking a range of shielding measures to protect households and firms from the impact of rising commodity prices. Hence the projected path of GDP growth and CPI inflation in the coming years will depend on a range of legislative changes enlarging the expansionary fiscal policy to a greater extent than assumed in the July projection.

It was assumed in the November projection that the tax cuts introduced under the Anti-Inflation Shield would remain in force until the end of 2022. This comprises the abolishment of the excise tax on energy for households, the reduction in the excise tax on engine fuel and a reduction in, among others, the VAT rate on basic foodstuffs, electrical and thermal energy, gas and fuels, as well as exemption of fuel sales from retail sales tax. At the same time it was assumed, in line with the latest announcement from Prime Minister, that the most of the above mentioned solutions related to energy

Table 4.2 Fiscal costs of the government anti-inflationary measures (impact on underlying general government outturn, in pp. of GDP)

Government anti-inflationary measures – impact on underlying fiscal outturn (in pp. of GDP)	2022	2023*
Tax cuts within the Anti-inflation Shield	1.0	-0.6
Energy cost allowances targeted at vulnerable households, heating cost allowances targeted at households (coal, wood, heating oil, pellet, electricity), compensation payment to coal distributors due to preferential prices for households	0.6	-0.5
Compensation payments to natural gas distributors/heating providers/electricity providers for tariff freezes for households and certain public entities	0.4	0.7
Subsidies to energy intensive industry to compensate for electricity and gas prices	0.2	0.1
Compensation payments to farmers to mitigate substantial increase of the fertilizers prices	0.1	-0.1
Total impact	2.3	-0.3

Source: NBP calculations based on government estimates.

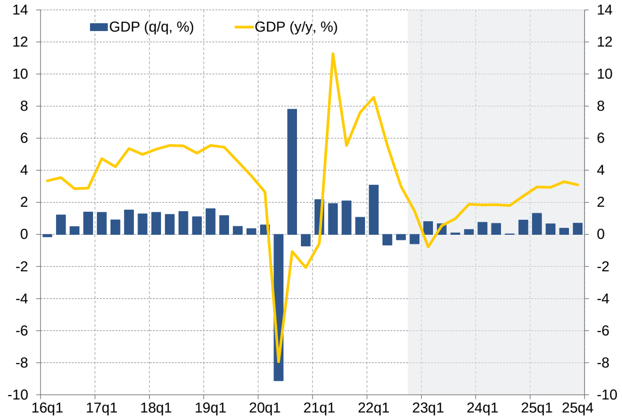
*) Figures for 2023 are subject to high uncertainty.

carries' taxation will remain in effect until the end of 2022. Therefore from 2023 onwards, the scope of Anti-Inflation Shield will be limited. It is estimated that due to the direct impact of the Anti-Inflation Shield, the rate of consumer price growth in 2022 will run – in average annual terms – at a level 3.9 percentage point lower than under a scenario without this package. At the same time partial withdrawal of the Anti-Inflation Shield in 2023 will increase annual CPI growth rate by around 1.9 percentage point. The annual cost for public finance of lower tax rates under the Anti-Inflation Shield is estimated at around 1.0% of GDP in 2022 and at around 0.4 % of GDP in 2023 (Table 4.2).

The government has also introduced a number of other regulations protecting households against the present sharp rise in energy prices (Table 4.2). In addition to shielding allowances for the poorest, which were already accounted for in the previous round, households and public utility institutions without access to gas and heating networks will receive one-off subsidies in 2022 related to the use of coal and other fuels for heating (the anticipated cost of these transfers is 0.6% of GDP in 2022, Table 4.2).

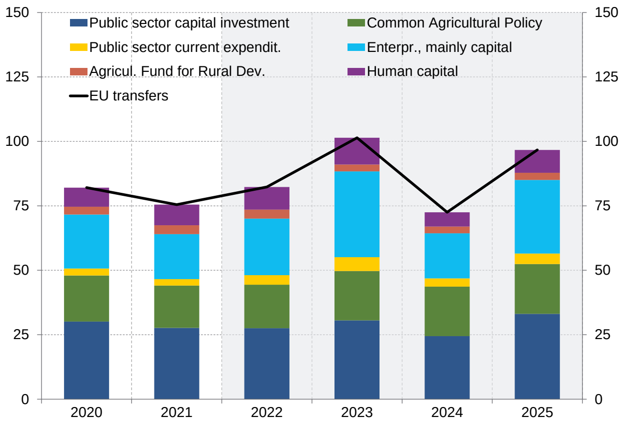
The government has also imposed statutory regulation on the increase in the tariffs on electricity and heat supplied to households, public utility institutions, and, for electricity alone, also micro, small and medium-sized enterprises. Moreover, for the period 2022-2027, the government has extended the range of entities covered by the gas price regulation to include public utility companies. At the same time, with a view to curbing the growth of these prices, it has committed to paying compensation to sellers and distributors of energy carriers. In the current heating season (from October 2022 to April 2023) the increase in the tariffs for heat and water heating charged to households and public utility entities has been limited by law. Regulations have also been adopted to partially freeze electricity prices charged to households, public utility companies

Figure 4.7 Economic growth



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.8 Expenditure financed by EU funds (in PLN billion) – breakdown



Source: NBP calculations.

and micro, small and medium-sized companies, from 1 December 2022 until the end of 2023. The measure will be partly financed by revenues of electricity producers. In line with the NBP estimates based on government documents, the total cost to the public finance sector of the compensations resulting from the regulation of tariffs on gas, heating energy and electricity will amount to 0.4% of GDP in 2022 and 1.1% of GDP in 2023 (Table 4.2).

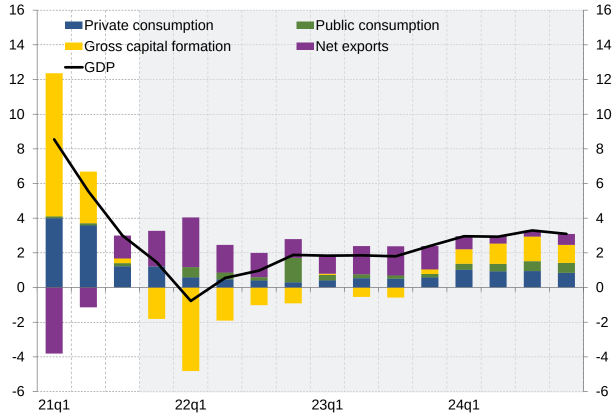
Another form of anti-inflation support is the subsidies to the prices of electricity and gas for energy intensive companies, to be disbursed in the years 2022-2023 (at 0.2% of GDP p.a.). Moreover, given the steep rise in the prices of fertilisers in 2022, farmers will also be eligible to seek subsidies (0.1% of GDP, Table 4.2).

In the coming quarters, cutting the tax burden under the Polish Deal will continue to boost economic conditions (a decline in tax revenue of 1% of GDP in 2022 and another 0.5% of GDP in 2023). The financial situation of households will also benefit from "repayment holidays" – already taken into account in the July projection – i.e. the possibility of suspending repayment of a total of eight mortgage loan instalments in 2022 and 2023. According to Credit Information Bureau data, at the end of August 2022, instalments suspended under the repayment holidays arrangements applied to 58% of the total value of PLN mortgage loans. If the take-up of this form of support is sustained at this level, the value of the suspended instalments can be estimated at 0.3% of GDP in each of the years between 2022-2023. At the same time, "repayment holidays" do not directly pose a burden on public finance.

Economic activity

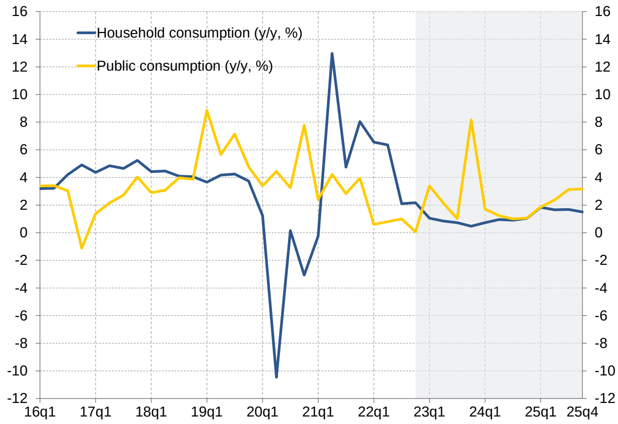
The substantial weakening in economic activity observed in Poland since 2022 Q2 will continue in the coming quarters. In year-on-year terms, growth is expected to be at its slowest in 2023 Q1 (-0.8% y/y), when a marked fall in most GDP components

Figure 4.9 GDP growth (y/y,%) – breakdown



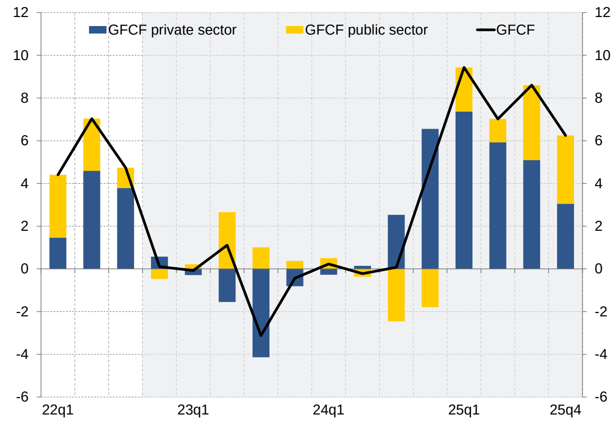
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.10 Household and public consumption



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.11 Gross fixed capital formation (y/y, %) – breakdown

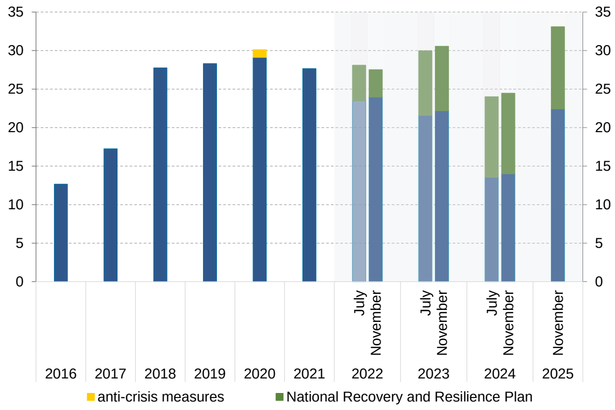


Source: Statistics Poland (GUS) data, NBP calculations.
Private sector investment is defined as gross fixed capital formation according to the national accounts except for the general government sector. It covers gross fixed capital formation of non-financial enterprises, financial and insurance companies, households (both housing and non-housing investment) and non-profit institutions serving households.

will be compounded by the negative base effect related to the steep rise in inventories in 2022 Q1 (see also: Figure 4.7, Figure 4.9). Domestic economic conditions in the projection horizon will continue to be affected by the severe negative supply shock resulting from Russia's aggression against Ukraine, reflected in a marked rise in the prices of a range of commodities in the global markets. Economic activity in Poland will be also adversely influenced by the marked slowdown abroad, especially in the German economy. The scale of the decline in domestic economic conditions will be mitigated by a range of protective measures for households and entities sensitive to increases in the prices of energy carriers (see also Section *Legislative changes affecting the projected path of GDP and CPI inflation*). As the negative supply shocks gradually fade away and activity abroad recovers, economic growth will pick up in the further projection horizon. The scale of the recovery in 2024 will be constrained by a substantial decline in the inflow of EU funds after spending of funds under the 2014-2020 EU framework has ended. (Figure 4.8).

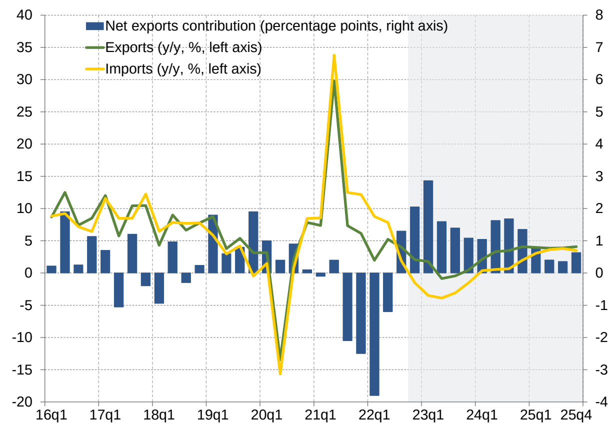
In the projection horizon, consumption growth in the household sector will substantially lose momentum relative to 2021 and the first half of 2022 (Figure 4.10). Consumer expenditure will be constrained by high CPI inflation envisaged for the coming quarters, which will stem the purchasing power of the population, a deterioration in consumer sentiment related to Russia's aggression against Ukraine and the NBP interest rate hikes that have taken place so far. The impact of the above factors will be partially neutralised by the legislative measures introduced by the government. These comprise the tax changes already in effect related to the implementation of the Polish Deal programme, as well as new regulations protecting households against the current sharp increase in energy prices, and support to people holding zloty-denominated mortgage debt (see also Section *Legislative changes affecting the projected path of GDP and CPI inflation*).

Figure 4.12 Use of EU funds for public investment (PLN billion)



Source: MFiPR, Statistics Poland (GUS) data, NBP calculations.

Figure 4.13 Foreign trade



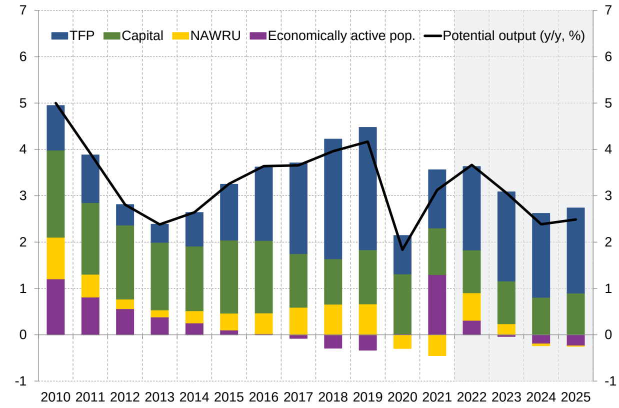
Source: Statistics Poland (GUS) data, NBP calculations.

Private consumption growth in the coming quarters will also be boosted by consumer spending of the Ukrainian refugees, financed both from own funds and the granted family benefits.

In the coming quarters, private investment will remain under a strong negative influence of the direct and indirect effects of Russia's aggression against Ukraine. Investment demand will be hampered by high global commodity prices and energy costs. Another factor dampening investment activity will be the depressed business sentiment – in particular, high uncertainty, whose assessments in survey studies of firms rose to the highest point on record in 2022 Q3.[37] The slowdown in Poland's external economic environment, heightened exchange rate volatility and the lagged effects of the NBP interest rate hikes constraining the availability of credit and raising its cost while reducing the present value of investment projects will also have a downward effect on private capital expenditure growth. As a result, private investment growth in 2023 will be lower than in 2022 (Figure 4.11). A gradual recovery in investment demand is expected from 2024, driven by the need to increase the stock of corporate productive capital after the reduced investment activity during the pandemic, and given the low degree of automation and robotisation of Polish industry coupled with rising labour costs.

The path of public investment in the November projection is heavily determined by the level of absorption of EU funds (Figure 4.12). With regard to the funds for Poland under the *Recovery and Resilience Facility*, it was assumed that use of funds will start in 2022, while in 2023-2025 the amounts drawn will be in line with the government's assumptions of the *Convergence Programme* of April 2022. As a result, investment outlays of the public finance sector, will rise by close to 5.0% y/y in 2022-2023 on average, followed by a decline in 2024, on the back of falling EU capital transfers as

Figure 4.14 Potential product (y/y, %) – breakdown



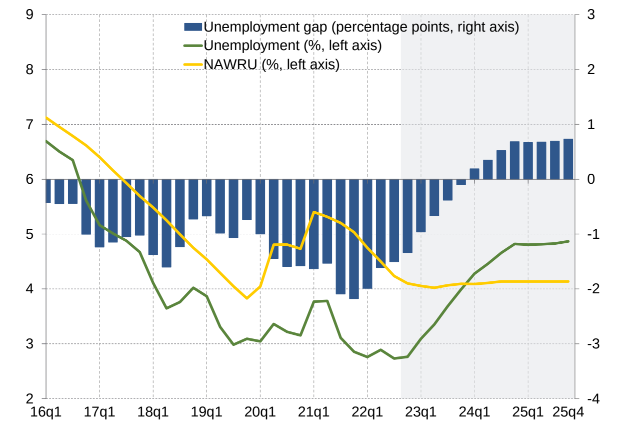
Source: NBP calculations.

Potential output growth is defined as the economic growth rate that does not cause the accumulation of inflationary pressure. It may originate from the growth of labour supply, productive capital or total factor productivity. In the NECMOD model it is estimated on the following Cobb-Douglas production function:

$PKB_t^{pot} = TFP_t^{trend} \cdot \left[LF_t^{trend} \cdot (1 - NAWRU_t)\right]^{0.67} \cdot K_t^{1-0.67}$,

where PKB_t^{pot} is the level of potential output, TFP_t^{trend} – total factor productivity, smoothed by the Hodrick-Prescott (HP) filter extended with an index of capacity utilisation, LF_t^{trend} – the number of economically active people smoothed by a HP filter, $NAWRU_t$ – non-accelerating wage rate of unemployment in the equilibrium, K_t – productive capital. The output elasticity with respect to labour was set at the level of 0.67.

Figure 4.15 Unemployment



Source: Statistics Poland (GUS) data, NBP calculations.

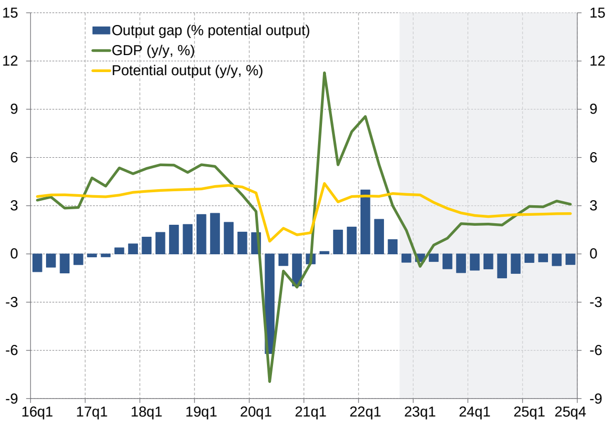
$NAWRU_t$ – non-accelerating wage rate of unemployment in the equilibrium.

[37] *NBP Quick Monitoring Survey Economic climate in the enterprise sector*, NBP, October 2022.

expenditure under the 2014-2020 EU framework comes to an end (Figure 4.11). With the absorption of EU funds under the 2021-2027 framework rising, public investment growth will pick up again in 2025. At the same time, growth in the capital expenditure of the public sector in 2023-2025 will be boosted by the planned increase in defence spending.

Due to the weakening demand from the euro area, particularly from Germany, export growth will slow down in 2023 relative to its 2022 pace. In 2024-2025, owing to a gradual recovery in Poland's economic environment, external sales growth will rebound (Figure 4.13). At the same time, on account of the marked slowdown in domestic demand growth and the stronger cyclical response of imports than exports, the contribution of net exports to GDP growth will be positive throughout the projection horizon.

Figure 4.16 Output gap

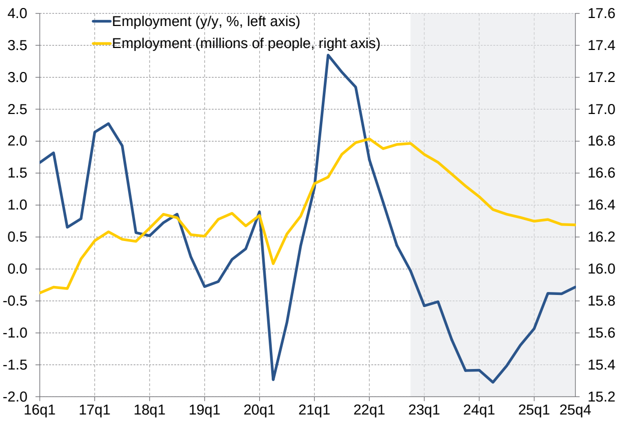


Source: Statistics Poland (GUS) data, NBP calculations.
The output gap is a synthetic measure of demand pressure in the economy. It is expressed as a percentage of the deviation of the actual real level of GDP from the level of potential output.

Potential output and the output gap

The relatively high growth rate of the potential of the Polish economy in 2022 reflects a marked increase in the utilisation of production factors – capital and labour – following the end of a period of tight restrictions. (Figure 4.14). As a result, there is a decline in the equilibrium unemployment rate (NAWRU) while the growth in total factor productivity (TFP) is accelerating. Over the projection horizon, this effect will fade away, weakening potential output growth.

Figure 4.17 Employment



Source: Statistics Poland (GUS) data, NBP calculations.

The deteriorating demographic situation will work in the same direction, as through a decline in the number of people of productive age, it will have a limiting effect on the growth of the economically active population. On the other hand, the productive capacity of the Polish economy in the projection horizon is boosted by the increase – spread over time – in the labour supply following the inflow of refugees from Ukraine,[38] which

[38] The inflow of immigrants from Ukraine will be only partially reflected in LFS statistics, due to the methodology of the survey. Consequently, in the projection it was assumed that it will be manifested in the rise in total factor productivity (TFP).

outweighs the negative impact of a simultaneous outflow of migrants (mainly men) from certain industries.

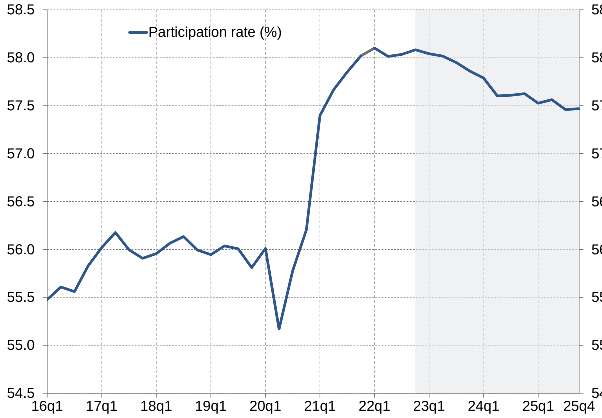
Following the robust economic growth in the past quarters, the output gap reached an average of 3.1% of potential GDP in the first half of 2022 (Figure 4.16). In the subsequent years, the slowdown in the economic activity will translate into a renewed narrowing of the output gap, which will assume negative values. Such a path of the output gap means that demand factors, currently acting towards higher CPI inflation, will contribute to its decline later on in the projection horizon.

Labour market

In the first half of 2022, the situation in the labour market remained favourable, as illustrated by a marked rise in employment, while the number of unemployed and economically inactive declined (Figure 4.15, Figure 4.17).[39] In the subsequent quarters, as domestic economic activity loses momentum, demand for labour will subside, yet it is assumed that there will be no sharp rise in the unemployment rate. This scenario is confirmed by NBP surveys[40], which indicate that the planned employment level in enterprises has declined since the beginning of 2022, but is still well above the long-term average. The decline in employment will also be driven by the decreasing labour force participation, which is adversely affected by demographic trends (Figure 4.18). The expected rise in employment of Ukrainian immigrants will alleviate the decline in the domestic labour force, although due to the survey methodology, it will be reflected in the LFS statistics only to a limited extent.

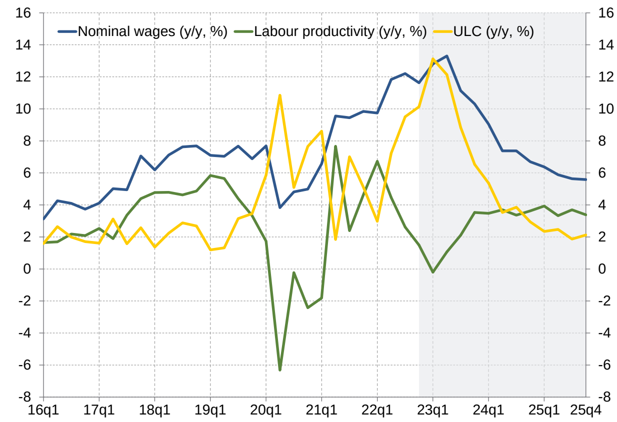
Available data indicate that, given elevated price growth and staff shortages experienced by many

Figure 4.18 Labour force participation



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.19 Unit labour cost

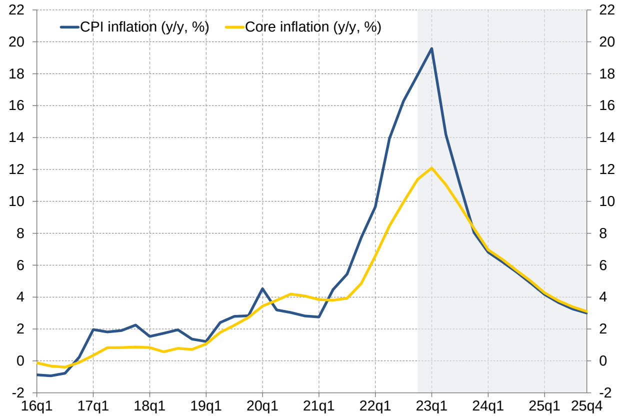


Source: Statistics Poland (GUS) data, NBP calculations.
Unit labour cost is defined as the average cost of labour per unit of output produced. They are calculated by dividing the product of average wages and the number of employed persons in the economy by the total GDP. Alternatively, they can be expressed as the quotient of the average wage and labour productivity, in other words, the relation of GDP to the number of the employed persons. Unit labor cost (ULC) presented in the chart include employers' social security contributions.

[39] The projection uses historical LFS series recalculated by Statistics Poland (GUS) in accordance with the new methodology in force since the beginning of 2021. Despite the adjustment, the series of employment, labour force participation and unemployment show discontinuity in 2021 Q1 as recalculation does not take into account the impact of changes in the survey itself, nor the changes in the method of interviewing and recruiting respondents.
[40] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2022.

industries, wage growth in the economy will remain high in 2022 (Figure 4.19). This assessment is confirmed by the NBP surveys, according to which a substantial percentage of enterprises plan to raise wages in 2022 Q4 while maintaining high average increases.[41] On the other hand, wage pressure will be mitigated in the projection horizon by the inflow of refugees from Ukraine, who will gradually find employment in the Polish labour market. In 2023-2025, as economic growth slows down, unemployment rate increases and inflation declines, wage growth will gradually decrease, although it will remain relatively high.

Figure 4.20 CPI and core inflation

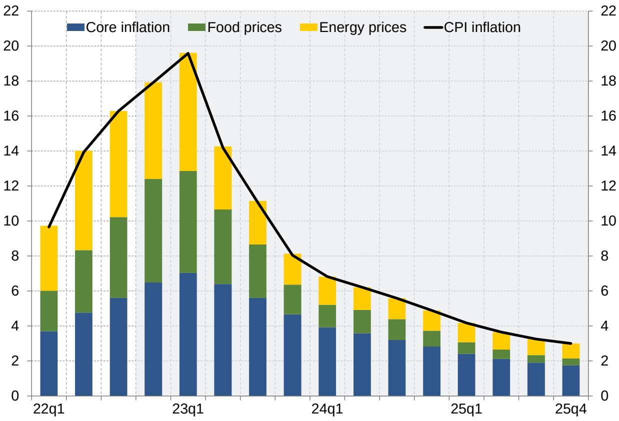


Source: Statistics Poland (GUS) data, NBP calculations.

CPI inflation

The strong negative supply shock, whose main source is currently associated with the Russian military aggression on Ukraine, has caused inflation to rise substantially in the past few months. To a significant degree, this is due to record-high prices of energy and agricultural commodities, elevated prices of CO_2 emission allowances and the prolonged tensions in global supply chains. Combined with high labour costs, these factors are leading to sharp increases in food and energy price inflation in the economy (Figure 4.21, Figure 4.23). The currently observed high inflation is also affected by demand factors. They are related to the strong rebound in economic activity following the period of severe restrictions during the COVID-19 pandemic, as a result of which the output gap remained positive until 2022 Q3. Under these circumstances, the spilling of exogenous price shocks in energy and food markets to other price categories has considerably accelerated, as reflected in a marked increase in all core inflation measures (Figure 4.20). The impact of these factors on domestic inflation has also intensified as a result of an increase in import prices (Figure 4.22), against the background of the

Figure 4.21 CPI inflation (y/y, %) – breakdown



Source: Statistics Poland (GUS) data, NBP calculations.

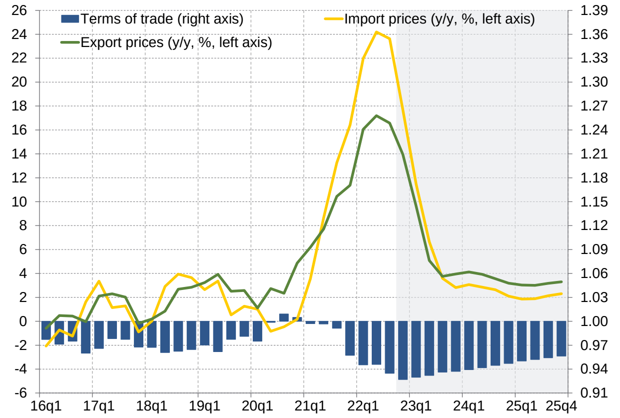
[41] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2022.

weakening zloty exchange rate, primarily against the US dollar.

Following the rise in CPI inflation in 2023 Q1, over the further projection horizon, its level will start to decline, as the impact of factors currently boosting inflation expires. Under the assumption of unchanged NBP interest rates (including the reference rate of 6.75%), CPI inflation will only return to the band of deviations from the NBP inflation target defined as 2.5% +/-1 p.p. at the end of the projection horizon. (Figure 4.20, Figure 4.21). The highest inflation in many years observed currently increases its persistence by rising inflation expectations translating into persistently elevated wage pressure and increased tolerance of price growth. Besides the slowing growth in aggregate demand in the economy – as reflected in the declining output gap – the gradual decline in inflation is also supported by the assumed fall in global prices of energy and agricultural commodities in 2023-2025. Yet, the prices of these commodities will continue to exceed the pre-pandemic levels. Due to the tariffication process and delayed adjustment to the earlier increases in prices of commodities and CO2 emission allowances, the decline in the growth rate of electricity and natural gas prices for households will be spread over time. The downward trend in CPI inflation in the projection horizon will be supported by the gradual fading of tensions in supply chains, the slowdown in inflation abroad as well as falling growth of payroll costs.

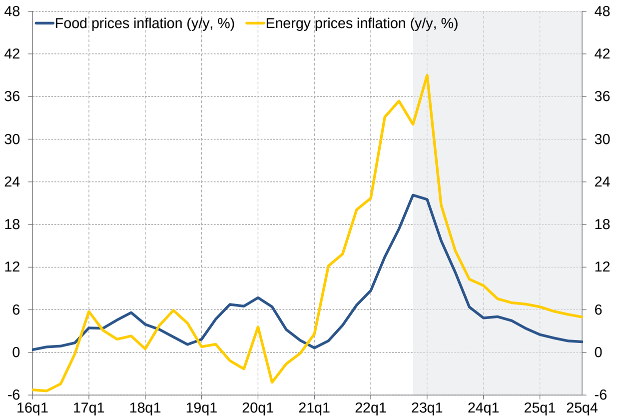
Throughout the projection horizon, consumer price growth will be significantly affected by measures taken by the government (see section *Legislative changes affecting the projected paths of GDP and CPI inflation)*. In 2022, CPI inflation is substantially reduced by the introduction of the Anti-Inflation Shield and the cap on increases in gas prices for households. In 2023 Q1, the significant part of the solutions adopted under the Anti-Inflation Shield that were in place in 2022 will expire, contributing to higher price growth due to the statistical base

Figure 4.22 Export and import prices



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.23 Food and energy price inflation



Source: Statistics Poland (GUS) data, NBP calculations.

effect. However, this effect will be compensated by other fiscal changes, including the partial freeze on electricity prices. In 2024, the unfreezing of electricity prices will, in turn, be conducive to increasing CPI inflation.

4.4 Current versus previous projection

Data and information released after the cut-off date of the July projection have contributed to a downward revision of the economic growth forecast in 2023, with GDP growth in 2022 and 2024 remaining close to the previous projection. On the other hand, the path of CPI inflation was revised upwards as compared to the previous projection (Table 4.3, Figure 4.24, Figure 4.25, Figure 4.26, Figure 4.27).

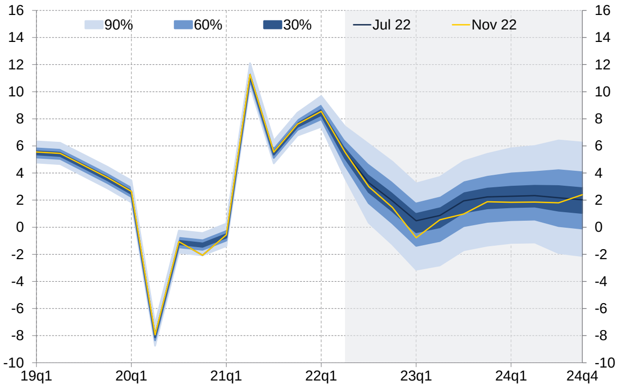
The downward revision of domestic economic growth in 2023 is a consequence of the stronger negative impact of the Russian military aggression against Ukraine on economic developments in Poland and abroad. In particular, it was assumed that this will, to an even greater extent than assumed in the previous projection, translate into rising prices of natural gas and coal in the global markets, with gas prices in Europe markedly exceeding gas prices in other markets. As a consequence, it was assumed in the current projection that the war in Ukraine will result in a weaker economic growth in countries being Poland's main trading partners, especially in Germany, due to an important role of industry in this economy and its strong reliance on gas imports from Russia. The lower path of GDP growth in Poland in 2023 also results from the NBP interest rate hikes implemented after the cut-off date of the previous projection. The scale of the downward revision of domestic economic growth is reduced by the legislative changes introduced after the cut-off date of the July projection, especially increased subsidies for companies in connection with the electricity price freeze in 2023 (see section *Legislative changes affecting the projected path of GDP and CPI inflation*) as well as the extension of the

Table 4.3 November projection versus July projection

	2022	2023	2024
GDP (y/y, %)			
November 2022	4.6	0.7	2.0
July 2022	4.7	1.4	2.2
CPI inflation (y/y, %)			
November 2022	14.5	13.1	5.9
July 2022	14.2	12.3	4.1

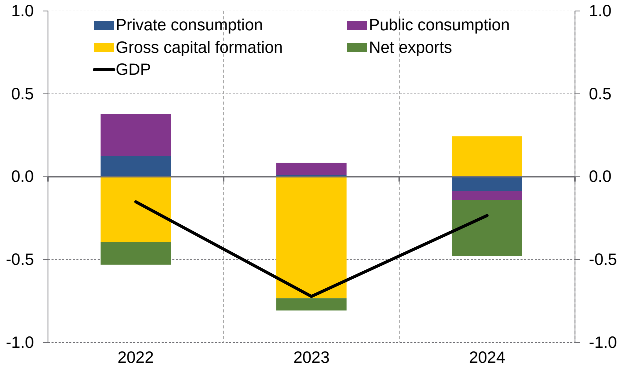
Source: NBP calculations.

Figure 4.24 November projection versus July projection: GDP growth (y/y, %)



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.25 Decomposition of deviations between November and July projection: GDP growth (percentage points)



Source: NBP calculations.

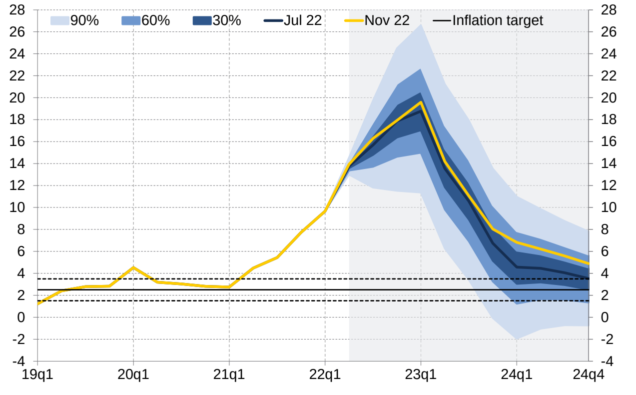
The data presented in the chart may vary slightly from those in Table 4.3, due to rounding of numbers to one decimal place.

period of validity of some solutions under the Anti-Inflation Shield. In 2024, along with the fading of the disruptions weighing on GDP growth abroad and the path of this macroeconomic category returning to the level assumed in the July projection, economic growth in Poland will also run at a level close to the previous projection.

Upward revision of CPI inflation forecast in the years 2022-2023 is related to higher growth in core inflation and food prices connected with the spread over time of the response of those components of the CPI basket to a stronger rise in the costs of production, especially energy, than assumed in the July forecasting round. The government's anti-inflationary measures focus mainly on the household sector and, to a lesser extent, on the enterprise sector. Corporate operating costs are also boosted by the persisting disruptions in global supply chains and the depreciation of the Polish currency. On the other hand, the rise in core inflation and food prices is curbed by weaker economic growth mitigating demand pressure in the economy. The scale of the revision of CPI inflation forecast in the years 2022-2023 is limited by the extension of the scale of the government's anti-inflationary measures, as compared to the level at the cut-off date of the July projection, translating into downward revision of expectations about the level of energy prices in this horizon. Lower prices of crude oil, whose path declined following the anticipated slowdown in the global economy, act in the same direction.

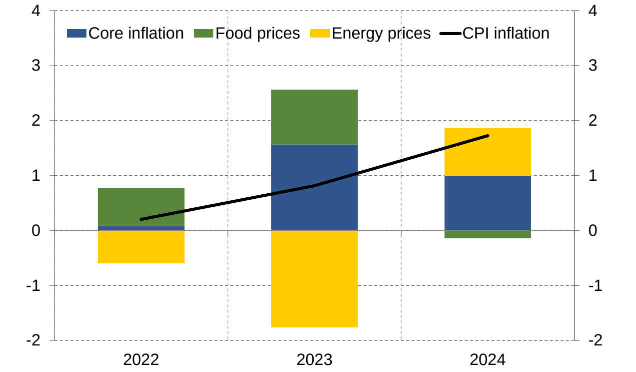
In 2024, the impact – spread over time – on CPI inflation exerted by, on the one hand, higher costs than in the previous forecasting round and, on the other hand, weaker economic activity, will largely balance itself. However, the assumption in the projection scenario that electricity prices will be unfrozen as of 2024 will contribute to a rise in consumer price inflation exceeding the level anticipated in the previous projection.

Figure 4.26 November projection versus July projection: CPI inflation (y/y, %)



Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.27 Decomposition of deviations between November and July projection: CPI inflation (percentage points)



Source: NBP calculations.

The data presented in the chart may vary slightly from those in Table 4.3, due to rounding of numbers to one decimal place.

4.5 Forecast uncertainty sources

The central scenario of the projection, presenting the most likely macroeconomic developments in Poland, is subject to uncertainty reflected in the fan charts (Figure 4.1, Figure 4.2). The economic outlook and CPI inflation path in Poland is to the greatest extent dependent on the scale of disruptions to the global economy triggered by Russia's military aggression against Ukraine. As regards inflation, another important source of risk is the future anti-inflation policy pursued by central banks and governments. The balance of uncertainty factors indicates approximately symmetric distribution of risks to CPI inflation and GDP growth in the projection horizon (Table 4.4).

Table 4.4 Probability of inflation running:

	Below 1.50%	Below 2.50%	Below 3.50%	Below the central projection	In the range (1.5-3.5%)
22q4	0.00	0.00	0.00	0.46	0.00
23q1	0.00	0.00	0.00	0.49	0.00
23q2	0.00	0.00	0.00	0.49	0.00
23q3	0.01	0.02	0.04	0.50	0.03
23q4	0.05	0.08	0.12	0.49	0.08
24q1	0.08	0.13	0.19	0.50	0.11
24q2	0.07	0.13	0.20	0.51	0.13
24q3	0.08	0.14	0.23	0.50	0.16
24q4	0.10	0.19	0.31	0.51	0.20
25q1	0.15	0.26	0.40	0.50	0.25
25q2	0.20	0.33	0.47	0.49	0.27
25q3	0.25	0.38	0.53	0.49	0.28
25q4	0.29	0.42	0.57	0.50	0.28

Source: NBP calculations.

Further course of Russia's military aggression against Ukraine

The ongoing Russian armed aggression against Ukraine, the uncertainty it entails, including the possibility of its further escalation, Russian retaliatory actions against the West and the consequences of economic sanctions already imposed and planned to be imposed against Russia, pose the greatest risk to economic activity and inflation processes in Poland and abroad. Due to the European Union's heavy reliance on imports of energy commodities, including imports from Russia, the future situation in this economy is subject to considerable uncertainty, depending on the impact of the suspension of imports of Russian crude oil, hard coal and natural gas. This uncertainty is connected with weather conditions in the winter season, the possibility of extending the existing LNG terminals and ensuring supplies from other countries as well as with the scale of a possible rationing of energy carriers for selected industries. In the case of a milder winter, lower demand for energy amid faster expansion of LNG terminals than assumed in the central scenario as well as increased supplies of energy commodities from other countries, the negative impact of declining imports of commodities from Russia on economic activity in the EU countries may be expected to weaken.

Should the negative scenario materialise, the risk of energy rationing for energy-intensive industries and the euro area slipping into recession would increase and the magnitude of a decline in GDP in Germany and Italy in 2023 would be even greater than assumed in the central scenario.

An important risk factor in the projection scenario is also the prospects of further exports of agricultural commodities from Ukraine, such as wheat, corn and oilseeds. Despite the lifting of the Russian blockade of Ukrainian ports on the Black Sea at the end of July 2022 under an agreement signed between Ukraine, Turkey and the UN, the factor hindering their exports is the high cost of transport of agricultural products, including their insurance, amid the ongoing hostilities. Any deviation of the availability of cereals imported from Ukraine on the global market from what was assumed in the central scenario will affect not only the prices of their close substitutes, but also

– due to the impact on the availability of feedstuffs – the world prices of meat and dairy products.

A further escalation of the Russian military aggression may also have a negative impact on the possibility of importing other commodities from Russia and Ukraine, including rare metals, such as lithium, nickel and palladium, used, among others, in the automotive industry. In such a scenario, greater supply chain disruptions can be expected, including a further rise in inflation and worsening economic conditions in the global economy, including in Poland. A deterioration in the conditions of foreign trade would cause import prices to rise, lowering at the same time the current account in the balance of payments.

Should Russia's armed aggression against Ukraine come to an end over the projection horizon, the scale of disruptions in global supply chains and geopolitical risk aversion in Central and Eastern Europe would be reduced. If this optimistic scenario was to materialise, the path of energy and agricultural commodity prices in the global markets would run lower than assumed in the projection and disruptions in international trade would ease. Under these conditions, a decline in the persistence of inflation in the domestic economy and a faster decrease in CPI inflation than assumed in the projection are likely.

Further course of the COVID-19 pandemic around the world

The future course of the COVID-19 pandemic is another risk factor to the central scenario of the projection. It is judged that the impact of this factor on the global economy is smaller than in the previous forecasting rounds and is largely confined to China, where the government continues its "zero COVID" policy. It can be assumed that the extension of lockdowns in China would increase the scale of disruptions in global supply chains, leading to a decline in global economic growth and causing inflation to remain at an elevated level. If the epidemic policy in China was eased or an effective drug for COVID-19 was launched, it would be possible to limit the negative impact of the pandemic on global economic growth. Such a scenario would improve the functioning of global supply chains, particularly if accompanied by a simultaneous increase in the availability of materials and intermediate goods and a decline in their prices.

Faster pace of monetary policy tightening by the ECB and the Fed

The likelihood of stronger monetary policy tightening by the ECB and the Fed in response to rising inflation, including a faster than expected rise in core inflation in the euro area and the United States, is a risk factor to the central scenario of the projection. A larger than expected scale of interest rate hikes by these central banks would limit the availability and increase the cost of credit, which would contribute to a stronger decline in household consumption growth and private investment growth in these economies. Thus, this would increase the risk of a recession in 2023 in the euro area and the United States.

This scenario, should it unfold, would negatively impact economic growth in Poland, while affecting inflation in various ways. On the one hand, higher than expected inflation abroad and a depreciation of the zloty exchange rate following stronger interest rate hikes by the ECB and the Fed would boost domestic inflation through higher growth in import prices. On the other hand, weaker economic activity in Poland and lower demand pressure would mitigate the impact of higher import prices on domestic inflation.

Anti-inflation measures of the Polish government and EU transfers

In the current forecasting round the scale of fiscal policy measures taken by the Polish government to limit the negative impact of high commodity prices and inflation on the situation of households increased (see the heading: *Legislation changes affecting the projected paths of GDP and CPI inflation*). A different scale of these measures than assumed in the central scenario would affect future consumer price growth in the projection horizon, contributing to a change in the domestic economic activity path.

Another risk factor weighing on economic growth in Poland in the years 2023-2024 is the possible postponement of disbursement of funds under the EU's new financial assistance instrument *Next Generation EU*. The disbursement of funds aimed at implementing the projects under the National Recovery and Resilience Plan depends on the acceptance by the European Commission of Poland's fulfilment of the conditions or so-called "milestones". The delay or suspension of disbursement of those funds would weigh on domestic economic activity and would negatively impact the future level of the current and capital account balance.

Table 4.5 Central path of inflation and GDP projection

	2022				2023				2024				2025				2022	2023	2024	2025
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Consumer Price Index CPI (%, y/y)	9.7	13.9	16.3	17.9	19.6	14.2	11.1	8.0	6.8	6.2	5.6	4.9	4.2	3.6	3.3	3.0	14.5	13.1	5.9	3.5
Core inflation (CPI net of food and energy prices, %, y/y)	6.6	8.5	10.0	11.4	12.1	11.0	9.7	8.3	7.0	6.4	5.7	5.0	4.3	3.8	3.4	3.1	9.1	10.3	6.0	3.6
Food prices (%, y/y)	8.7	13.4	17.4	22.1	21.5	15.7	11.3	6.4	4.8	5.0	4.5	3.4	2.5	2.0	1.6	1.5	15.3	13.6	4.4	1.9
Energy prices (%, y/y)	21.7	33.1	35.4	32.1	39.0	20.7	14.3	10.3	9.4	7.6	7.0	6.8	6.4	5.8	5.3	5.0	30.5	20.6	7.7	5.6
GDP (%, y/y)	8.5	5.5	3.0	1.5	-0.8	0.6	1.0	1.9	1.8	1.9	1.8	2.4	3.0	2.9	3.3	3.1	4.6	0.7	2.0	3.1
Domestic demand (%, y/y)	13.2	7.2	1.8	-0.6	-3.8	-1.1	-0.4	0.9	0.8	0.2	0.1	1.1	2.4	2.7	3.2	2.7	5.2	-1.1	0.6	2.7
Household consumption (%, y/y)	6.6	6.4	2.1	2.2	1.0	0.8	0.7	0.5	0.7	1.0	0.9	1.0	1.8	1.7	1.7	1.5	4.3	0.8	0.9	1.7
Public consumption (%, y/y)	0.6	0.8	1.0	0.1	3.4	2.1	1.0	8.2	1.7	1.2	1.0	1.1	1.9	2.4	3.1	3.2	1.1	3.6	1.2	2.6
Gross fixed capital formation (%, y/y)	4.3	7.1	4.4	0.1	-0.1	1.1	-3.1	-0.4	0.2	-0.2	0.1	4.8	9.4	7.0	8.6	6.2	3.9	-0.6	1.2	7.8
Contribution of net exports (percentage points, y/y)	-3.8	-1.2	1.3	2.1	2.9	1.6	1.4	1.1	1.0	1.6	1.7	1.4	0.8	0.4	0.4	0.6	-0.3	1.7	1.4	0.5
Exports (%, y/y)	2.0	5.2	4.0	2.1	1.8	-0.9	-0.5	0.5	2.1	3.3	3.5	4.1	4.0	3.8	3.9	4.1	3.4	0.2	3.3	3.9
Imports (%, y/y)	8.8	7.8	1.9	-1.5	-3.5	-3.9	-3.1	-1.5	0.4	0.5	0.7	2.0	3.1	3.6	3.8	3.5	4.2	-3.0	0.9	3.5
Gross wages (%, y/y)	9.7	11.8	12.2	11.6	12.8	13.3	11.1	10.3	9.0	7.4	7.4	6.7	6.4	5.9	5.6	5.6	11.3	11.9	7.6	5.9
Total employment (%, y/y)	1.7	1.0	0.4	0.0	-0.6	-0.5	-1.1	-1.6	-1.6	-1.8	-1.5	-1.2	-0.9	-0.4	-0.4	-0.3	0.8	-0.9	-1.5	-0.5
Unemployment rate (%)	2.8	2.9	2.7	2.8	3.1	3.4	3.7	4.0	4.3	4.5	4.7	4.8	4.8	4.8	4.8	4.9	2.8	3.5	4.6	4.8
NAWRU (%)	4.7	4.5	4.2	4.1	4.1	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.4	4.1	4.1	4.1
Labour force participation rate (%, y/y)	58.1	58.0	58.0	58.1	58.0	58.0	57.9	57.9	57.8	57.6	57.6	57.6	57.5	57.6	57.5	57.5	58.1	58.0	57.7	57.5
Labour productivity (%, y/y)	6.7	4.5	2.6	1.5	-0.2	1.1	2.1	3.5	3.5	3.7	3.4	3.6	3.9	3.3	3.7	3.4	3.8	1.6	3.5	3.6
Unit labour cost (%, y/y)	3.0	7.2	9.5	10.1	13.1	12.1	8.8	6.5	5.4	3.5	3.9	2.9	2.3	2.5	1.9	2.1	7.4	10.1	3.9	2.2
Potential output (%, y/y)	3.6	3.6	3.8	3.7	3.7	3.2	2.8	2.5	2.4	2.3	2.4	2.4	2.5	2.5	2.5	2.5	3.7	3.1	2.4	2.5
Output gap (% potential GDP)	4.0	2.2	0.9	-0.5	-0.5	-0.5	-0.9	-1.2	-1.0	-0.9	-1.5	-1.2	-0.5	-0.5	-0.7	-0.7	1.6	-0.8	-1.2	-0.6
Index of agricultural commodity prices (EUR; 2011=1.0)	1.27	1.47	1.42	1.40	1.36	1.35	1.32	1.28	1.26	1.28	1.26	1.22	1.22	1.24	1.22	1.22	1.39	1.33	1.26	1.22
Index of energy commodity prices (USD; 2011=1.0)	2.03	2.38	3.18	2.18	2.34	2.41	2.27	2.11	2.13	1.95	1.83	1.74	1.76	1.63	1.52	1.49	2.44	2.28	1.91	1.60
Gross value added deflator abroad (%, y/y)	3.6	4.7	4.9	4.6	4.2	3.8	3.7	3.8	3.7	3.2	2.8	2.3	2.0	1.8	1.7	1.7	4.5	3.9	3.0	1.8
GDP abroad (%, y/y)	5.6	3.6	1.7	0.9	0.0	-0.4	0.0	0.6	1.3	1.8	1.9	2.0	2.0	1.8	1.6	1.5	2.9	0.0	1.8	1.7
Current account balance (% GDP)	-2.7	-3.5	-3.8	-3.4	-2.6	-2.0	-1.6	-1.3	-1.1	-0.8	-0.4	-0.1	0.1	0.2	0.3	0.5	-3.4	-1.3	-0.1	0.5
WIBOR 3M (%)	3.50	6.24	7.08	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	5.94	6.95	6.95	6.95

Source: Bloomberg, Eurostat, Statistics Poland (GUS), NBP calculations.

For the majority of variables, the values up to 2022Q3 are determined on the basis of raw quantities, while in the projection horizon are presented seasonally adjusted data. In the case of the unemployment rate, the NAWRU rate, the labour force participation rate, potential output growth, the output gap, the agricultural commodity price index, the energy commodity price index, inflation abroad and GDP growth abroad only seasonally adjusted data are presented, while the WIBOR 3M rate and import price growth are not seasonally adjusted series.

LFS data on total employment, labour force participation rate and unemployment rate. The agricultural commodity price index includes prices of wheat, pork, skimmed milk powder, butter, sugar, cocoa, coffee, frozen concentrated orange juice, potatoes, oilseed, allowing for weights reflecting the consumption structure of Polish households. The energy commodity price index covers prices of crude oil, coal and natural gas, taking into account the structures of consumption of these commodities in Poland.

5. The voting of the Monetary Policy Council members in May – August 2022

■ Date: 5 May 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 1.00 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:		Against:	
	L. Kotecki		A. Glapiński
			I. K. Dąbrowski
			W. S. Janczyk
			C. Kochalski
			P. Litwiniuk
			R. Sura
			H. J. Wnorowski

■ Date: 5 May 2022

Subject matter of motion or resolution:
Motion to raise the reference rate by 0.75 p.p. to 5.25% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 5.75%,
- deposit rate 4.75%,
- rediscount rate 5.30%,
- discount rate 5.35%.

MPC decision:
The motion was passed.

Voting of the MPC members:

For:		Against:	
	A. Glapiński		L. Kotecki
	I. K. Dąbrowski		P. Litwiniuk
	W. S. Janczyk		
	C. Kochalski		
	R. Sura		
	H. J. Wnorowski		

- Date: 5 May 2022

Subject matter of motion or resolution:
Resolution no. 8/2022 on the reference rate, refinancing credit rate, fixed-term deposit rate, rediscount rate and discount rate at Narodowy Bank Polski.

Voting of the MPC members:

For:	A. Glapiński	**Against:**	L. Kotecki
	I. K. Dąbrowski		P. Litwiniuk
	W. S. Janczyk		
	C. Kochalski		
	R. Sura		
	H. J. Wnorowski		

- Date: 5 May 2022

Subject matter of motion or resolution:
Resolution no. 9/2022 on approving the Report on monetary policy in 2021.

Voting of the MPC members:

For:	A. Glapiński	**Against:**	L. Kotecki
	I. K. Dąbrowski		P. Litwiniuk
	W. S. Janczyk		
	C. Kochalski		
	R. Sura		
	H. J. Wnorowski		

■ Date: 5 May 2022

Subject matter of motion or resolution:
Resolution no. 10/2022 on evaluation of the activities of the NBP Management Board as regards the implementation of monetary policy guidelines for 2021.

Voting of the MPC members:

For: A. Glapiński
I. K. Dąbrowski
W. S. Janczyk
C. Kochalski
R. Sura
H. J. Wnorowski

Against: L. Kotecki
P. Litwiniuk

■ Date: 5 May 2022

Subject matter of motion or resolution:
Resolution no. 11/2022 on approving the report on the operations of Narodowy Bank Polski in 2021.

Voting of the MPC members:

For: A. Glapiński
I. K. Dąbrowski
W. S. Janczyk
C. Kochalski
P. Litwiniuk
R. Sura
H. J. Wnorowski

Against: L. Kotecki

■ Date: 8 June 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 1.00 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For: L. Kotecki

Against: A. Glapiński
I. K. Dąbrowski
W. S. Janczyk
C. Kochalski
P. Litwiniuk
R. Sura
H. J. Wnorowski

■ Date: 8 June 2022

Subject matter of motion or resolution:
Motion to raise the reference rate by 0.75 p.p. to 6.00% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 6.50%,
- deposit rate 5.50%,
- rediscount rate 6.05%,
- discount rate 6.10%.

MPC decision:
The motion was passed.

Voting of the MPC members:

For: A. Glapiński
I. K. Dąbrowski
W. S. Janczyk
C. Kochalski
P. Litwiniuk
R. Sura
H. J. Wnorowski

Against: L. Kotecki

Date: 8 June 2022

Subject matter of motion or resolution:

Resolution no. 12/2022 on the reference rate, refinancing credit rate, fixed-term deposit rate, rediscount rate and discount rate at Narodowy Bank Polski.

Voting of the MPC members:

For:	A. Glapiński I. K. Dąbrowski W. S. Janczyk C. Kochalski P. Litwiniuk R. Sura H. J. Wnorowski	**Against:**	L. Kotecki

Date: 7 July 2022

Subject matter of motion or resolution:

Motion to raise the reference rate by 0.50 p.p. to 6.50% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 7.00%,
- deposit rate 6.00%,
- rediscount rate 6.55%,
- discount rate 6.60%.

MPC decision:

The motion was passed.

Voting of the MPC members:

For:	A. Glapiński I. K. Dąbrowski W. S. Janczyk C. Kochalski L. Kotecki P. Litwiniuk R. Sura H. J. Wnorowski	**Against:**	No-one

- Date: 7 July 2022

Subject matter of motion or resolution:
Resolution no. 13/2022 on the reference rate, refinancing credit rate, fixed-term deposit rate, rediscount rate and discount rate at Narodowy Bank Polski.

Voting of the MPC members:

For:	A. Glapiński I. K. Dąbrowski W. S. Janczyk C. Kochalski L. Kotecki P. Litwiniuk R. Sura H. J. Wnorowski	**Against:**	No-one

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