NARODOWY
BANK POLSKI

Monetary Policy Council

March 2023

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 1 March 2023, while the projection of inflation and GDP presented in Chapter 4 has been prepared taking into account data available until 28 February 2023.

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

Contents

Summary

In 2022 Q4, global economic activity growth continued to decline in annual terms. This was driven by the effects of Russia's armed aggression against Ukraine (including high commodity prices and elevated uncertainty), monetary policy tightening in the largest economies and an increase in COVID-19 cases in China.

Since the previous *Inflation Report*, global inflation has declined, although it remains high. Price growth continues to be strongly affected by high energy prices, the second-round effects of earlier supply shocks, including in commodity markets, and also the relatively fast rebound in activity following the pandemic and rising labour costs. In these conditions, in most countries core inflation also remains high and in some of them core inflation is rising.

Energy commodity prices, despite recent declines, remained relatively high in February 2023. Agricultural commodity prices, following a fall in 2022 Q4 and in January 2023, increased again in February 2023 and continued to run at higher levels than a year ago.

Amid persistently high inflation, many central banks are continuing to tighten monetary policy or are keeping interest rates unchanged following their previous increases. Financial market participants expect interest rates to be raised further in most major economies in the coming months. The valuation of financial instruments implies a gradual decrease in interest rates over the coming years, but to higher levels than before the pandemic.

In recent months, sentiment in global financial markets has improved. However, due to the earlier sharp interest rate increases, government bond yields remained high in most economies. Better sentiment in international financial markets and lower risk aversion led to a significant weakening of the US dollar against many other currencies.

Annual consumer price growth in Poland – like in many other economies around the world – declined in the last months of 2022, while remaining at the high level of 16.6% in December 2022. The fall in inflation in November and December 2022 was primarily due to lower prices of coal and fuels. According to Statistics Poland preliminary data, in January 2023, inflation rose to 17.2% y/y, mainly on the back of the increase in the average bills on electricity, heating and gas due to changes in some of the tariffs and the restoration of the base VAT rates for energy products to the levels from before the introduction of the so-called Anti-inflationary Shield. The relatively high commodity prices – despite their fall in the second half of 2022 and at the beginning of 2023 – continued to translate into a rise in food and energy prices in annual terms. At the same time, for a long period they had been increasing the operating costs of enterprises, which – in spite of weakening demand growth – prompted firms to raise the prices of consumer goods and led to higher core inflation. Core inflation was also boosted by the lagged effects of past disruptions to global supply chains. The so-called Anti-inflationary Shield, in turn, curbed CPI growth throughout the whole of 2022 and also, to a slight degree, in January 2023. Since 2022 Q2, the inflation expectations of

consumers and enterprises, measured by balance statistics, have gradually shifted towards lower values, primarily due to a decrease in the percentage of entities expecting a further rise in inflation.

In Poland, GDP rose by 4.9% in the whole of 2022 (compared to 6.8% in 2021), while economic activity growth gradually declined from the beginning of the year. In 2022 Q4, GDP growth stood at 2.0% y/y (compared to 3.6% y/y in 2022 Q3), with the relatively high investment growth accompanied by a fall in private consumption, which declined in annual terms by 1.5% y/y (compared to growth of 0.9% y/y in 2022 Q3). Like in 2022 Q3, net exports and the change in inventories made positive contributions to GDP growth.

In the first three quarters of 2022, the general government deficit in ESA 2010 terms amounted to 0.9% of GDP, compared to 0.3% of GDP in the corresponding period of 2021. According to preliminary estimates of the Ministry of Finance, the public debt in these terms might have been below 50% of GDP at the end of 2022 (compared to 53.8% at the end of 2021).

The situation in the labour market remains good as evidenced, in particular, by continued low unemployment rate and a further rise in both employment and average nominal wages. At the same time, weaker economic activity translates into a gradual reduction in wage growth and, consequently, a decline in wages in real terms.

In recent months, prices of financial instruments in Poland have been affected by, among others, weakening market expectations of further increases in the NBP interest rates, along with rising expectations of a fall in inflation and an improvement in sentiment in global financial markets. The above factors led to the lowering of yields on Polish government bonds and the strengthening of the zloty, which was also supported by the strong fundamentals of the Polish economy.

The significant tightening of monetary conditions in the Polish economy led to a decline in growth of the M3 aggregate to a relatively low level in 2022 Q4, which was accompanied by a surge in term deposits. At the same time, a fall in loans to households deepened, while growth in loans to enterprises slowed considerably.

In 2022 Q4, the current account balance improved, although it remained negative. Factors contributing to this improvement included a slight increase in the surplus of trade in services and a small decrease in the deficit of trade in goods. External imbalance indicators show 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 November 2022 and January 2023, together with the *Information from the meeting of the Monetary Policy Council* in February and March 2023. Chapter 5 presents the Monetary Policy Council voting records from the meetings held between September 2022 and January 2023.

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 28 February 2023, there is a 50-percent probability that the annual price growth will be in the range of 10.2 – 13.5% in 2023 (against 11.1 – 15.3% in the November 2022 projection), 3.9 – 7.5% in 2024 (compared to 4.1 – 7.6%) and 2.0 – 5.0% in 2025 (compared to 2.1 – 4.9%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of -0.1 – 1.8% in 2023 (against -0.3 – 1.6% in the November 2022 projection), 1.1 – 3.1% in 2024 (compared to 1.0 – 3.1%) and 2.0 – 4.3% in 2025 (compared to 1.8 – 4.4%).

1. External developments

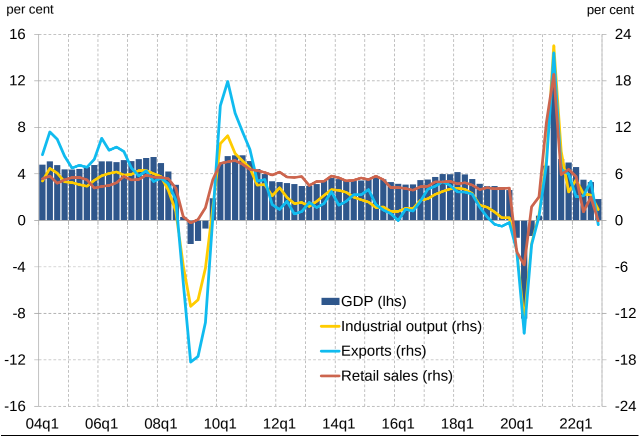
1.1 Economic activity abroad

In 2022 Q4, global economic activity growth continued to decline in annual terms (Figure 1.1). This was driven by the effects of Russia's armed aggression against Ukraine (including high commodity prices and elevated uncertainty), monetary policy tightening in the largest economies and an increase in COVID-19 cases in China.

At the beginning of 2023, business confidence indicators in the largest advanced economies improved slightly, supported by a decline in the prices of energy commodities (see also Chapter 1.3 *Global commodity markets)*, the earlier easing in global supply chain pressures (Figure 1.2) and the continuously good situation in the labour markets. Despite this, the annual activity growth in these economies probably remained low.

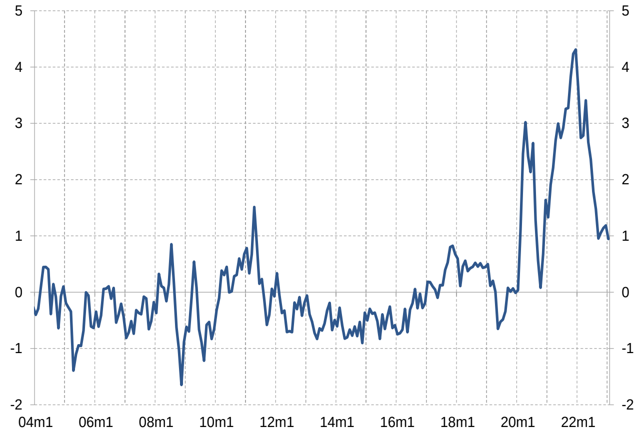
In the euro area, GDP growth declined to 1.9% y/y in 2022 Q4 (compared to 2.3% y/y in Q3; Figure 1.3).[1] Economic growth slowed down amid high inflation, weak business and consumer sentiment, as well as slower global demand growth. In effect, in December 2022 the annual growth in both retail sales and industrial output was negative, with a particularly sharp fall recorded in production of energy-intensive industries. The slowdown in 2022 Q4 was somewhat less pronounced than expected due to the weaker impact of the energy

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



Source: Datastream, Centraal Planbureau, OECD, Eurostat, IMF and national statistical offices data, NBP calculations.
The growth in GDP, industrial output and retail sales are calculated using weights based on GDP expressed in purchasing power parity (PPP). The sample consists of 58 economies comprising over 80% of global GDP expressed in PPP. Growth in global exports according to Centraal Planbureau. Due to limited availablility of data from some countries, the sets of economies used for calculating each time series differ slightly.

Figure 1.2 Global Supply Chain Pressure Index (GSCPI)

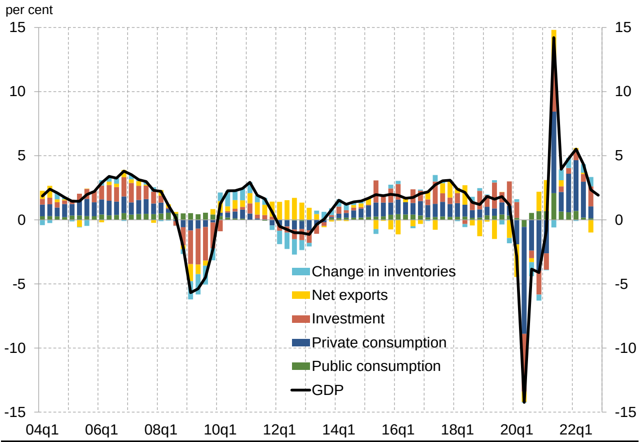


Source: data by Federal Reserve Bank of New York.
The value of 0 means that the index is equal to its mean value; a value above zero indicates by how many standard deviations the index is above its mean value.

[1] In quarterly terms, GDP growth in the euro area in 2022 Q4 amounted to (according to preliminary data) 0.1% against 0.3% in 2022 Q3 (seasonally adjusted data).

crisis on economic activity.[2] In addition, the easing of tensions in global supply chains supported the recovery of production in some industries. The situation in the labour market continued to be good, and the unemployment rate in 2022 Q4 declined to the lowest level in the history of the euro area (6.6%).

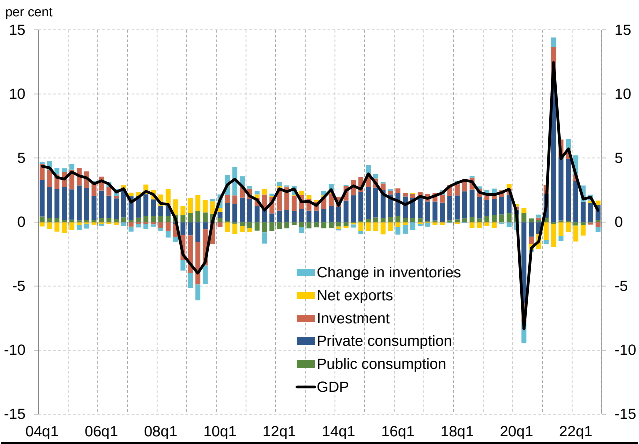
Figure 1.3 GDP growth in the euro area and its components (y/y)



Source: Eurostat data, NBP calculations.

In the United States, GDP growth fell to 0.9% y/y in 2022 Q4 (compared to 1.9% y/y in 2022 Q3; Figure 1.4).[3] This was related to a weaker rise in private consumption and a further decline in investment growth. In particular, the fall in investment outlays in the residential property sector deepened as the Federal Reserve raised interest rates. The situation in the labour market remained favourable, as reflected in, among others, a decline in the unemployment rate to 3.4% in January 2023, i.e. the lowest level in decades.

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



Source: Bureau of Economic Analysis data, NBP calculations.

In China, GDP growth slowed to 2.9% y/y in 2022 Q4 (from 3.9% y/y in 2022 Q3). The main factor dampening economic growth in this period was the deterioration in epidemic situation and the departure from the "zero COVID" policy, which had a negative impact on consumption growth. Moreover, GDP growth in China was constrained by the deepening crisis in the real estate market and the slowdown in global growth.

In the countries of Central and Eastern Europe outside the euro area, GDP growth[4] decelerated from 4.3% y/y in 2022 Q2 to 3.2% in 2022 Q3 and 2.0% y/y in 2022 Q4. The main reason for the slowdown in GDP growth in 2022 Q3 was the flagging consumption growth, while acceleration in investment growth acted in the opposite direction. Similar trends were likely to be observed in 2022 Q4.

[2] Factors behind this development included high stocks of natural gas (amid a decline in its consumption, a mild winter and the deployment of alternative supply sources) as well as governments' actions to curb the impact of the increase in energy commodity prices.

[3] In quarterly terms, GDP growth in the United States increased by 2.7% saar in 2022 Q4 against 3.2% saar in 2022 Q3.

[4] GDP-weighted average real GDP growth in annual terms in the Czech Republic, Hungary and Romania.

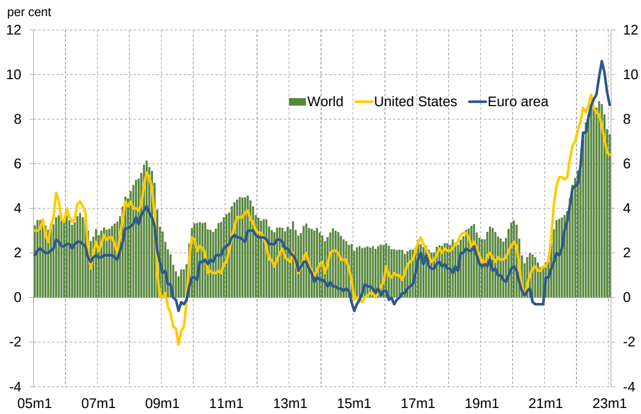
1.2 Inflation developments abroad

Since the previous *Inflation Report*, global inflation has declined, although it remains high (Figure 1.5). Price growth continues to be strongly affected by high energy prices, the second-round effects of earlier supply shocks, including in commodity markets, and also the relatively fast rebound in activity following the pandemic and rising labour costs. In these conditions, in most countries core inflation also remains high and in some of them core inflation is rising (Figure 1.6).[5] However, in recent months, the prices of certain commodities have begun to decline. Moreover, the scale of global supply chain tensions is significantly lower than in the first half of 2022. Consequently, price pressure is reduced, which in many countries is reflected in lower growth of producer prices (Figure 1.7).

HICP inflation in the euro area declined to 8.6% y/y in January 2023 (compared to 10.6% y/y in October 2022, when it reached its historically highest level). The fall in inflation was the result of the decline in energy price growth, which was strongly influenced by government shielding policies and the fall in energy commodity prices in the recent period. Core inflation, in turn, continued to rise, reaching 5.3% y/y in January 2023 (i.e. its all-time high).

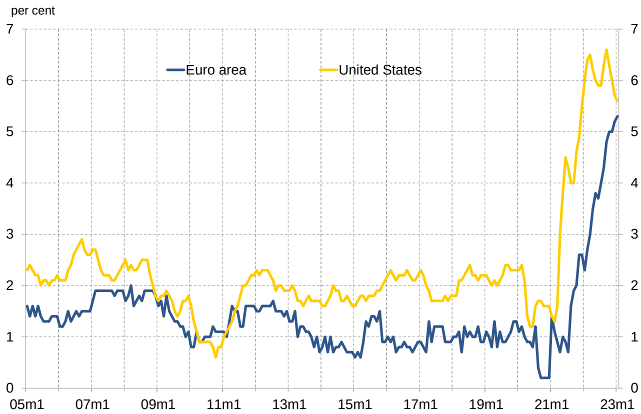
CPI inflation in the United States declined to 6.4% y/y in January 2023 (compared to 7.7% y/y in October 2022 and the long-term peak of 9.1% y/y in June 2022). The fall in inflation was primarily caused by lower energy price growth. At the same time, CPI core inflation also declined, albeit at a slower pace than the headline inflation (to 5.6% y/y in January 2023), alongside a steady fall in the price growth of goods and still increasing price growth of services, particularly of residential services.

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



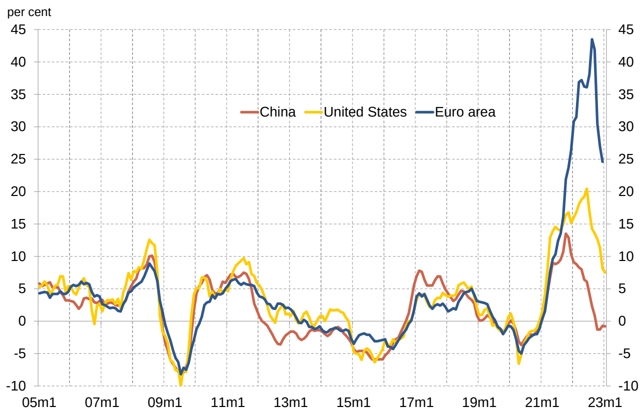
Source: Bloomberg and IMF data, NBP calculations.
World – consumer price inflation in economies whose total share in GDP PPP in 2020 amounted to 84% according to IMF estimates, weighted by GDP in PPP. The United States – annual CPI inflation. Euro area – annual HICP inflation.

Figure 1.6 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.

Figure 1.7 Producer price inflation index in selected economies (y/y)



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

[5] Core inflation refers to the national CPI (for the euro area HICP) excluding food and energy prices.

In the Central and Eastern European countries outside the euro area, inflation remains high (Figure 1.8), which reflects still high energy and food price growth, together with core inflation rising in some countries. In January 2023, CPI inflation rose in the Czech Republic to 17.5% y/y (compared to 15.1% y/y in October 2022) and in Hungary to 25.7% y/y (compared to 21.1% y/y in October 2022), while in Romania it declined to 15.1% y/y (from 15.3% y/y in October 2022).

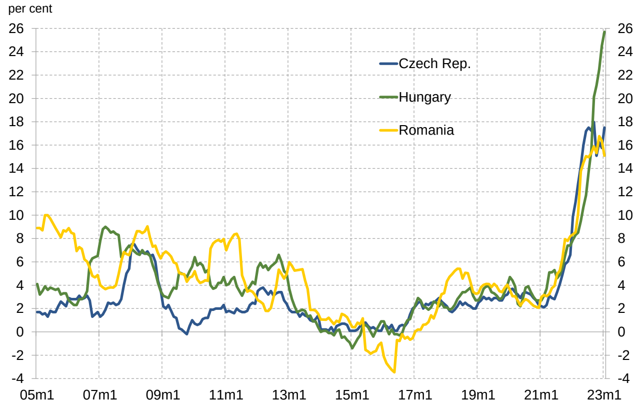
1.3 Global commodity markets

Global commodity prices remained relatively high in February 2023, despite recent declines in most of them. This was supported by limited supply, primarily due to the consequences of the Russian military aggression against Ukraine. In turn, a deterioration in the current and expected global economic conditions and higher than average temperatures in recent months acted, among others, towards a decline in commodity prices.

In February 2023, the average price of Brent oil was lower than a year ago (by 11.2%), and at the same time considerably lower (by 28.9%) against its long-term monthly average maximum reached in June 2022 (Figure 1.9). This was attributable to the downturn in the global economy. Stronger declines in oil prices were, however, counteracted by sanctions imposed on Russia[6] and concerns about the availability of crude oil in the international market, as well as the OPEC countries' policy[7] of oil supply cuts.

Prices of natural gas and coal also declined significantly compared to their record high levels seen in summer 2022 (Figure 1.10). Apart from the

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

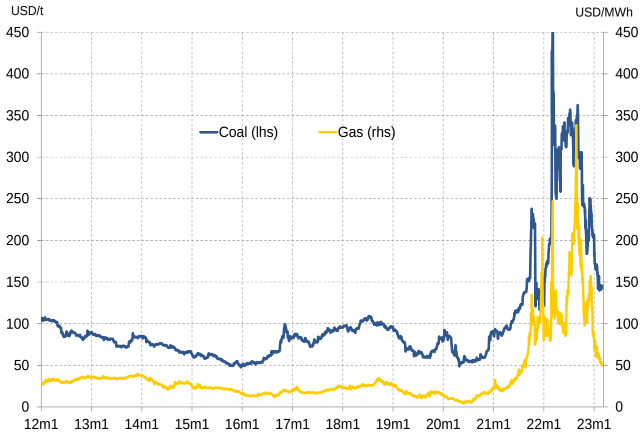


Source: national statistical offices.

Figure 1.9 Brent oil barrel price

Source: Bloomberg data.

Figure 1.10 Hard coal and natural gas prices



Source: Bloomberg data, NBP calculations.

Prices express prices of Dutch TTF Natural Gas Futures and Coal FOB Richards Bay 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.

[6] On 5 December 2022, the EU banned oil imports from Russia by sea, and as of 5 February 2023 the sanctions also cover oil products (fuels). Additionally, on 5 December 2022, the G7 countries, the EU and Australia introduced a cap price for Russian oil in the amount of 60 USD per barrel, prohibiting the provision of services to vessels transporting Russian oil sold above the limit. The EU banned imports of coal and other solid fuels from Russia as of 10 August 2022. In the case of Poland, imports of coal from Russia and Belarus have been banned since 16 April 2022 under the Act on Special Measures to Counteract the Support of Aggression against Ukraine and to Protect National Security.

[7] OPEC countries limited oil production by 100,000 b/d as of October 2022 and by 2 billion b/d as of November 2022.

deterioration of the global economic outlook, this was backed by the higher than average temperature in recent months and high stocks of natural gas in the EU. In February 2023, in the European market, gas and coal were approx. 39.3% and 26.5% cheaper than a year ago. At the same time, the prices of both of these commodities continued to be markedly higher than before the COVID-19 pandemic.

In 2022 Q4 and in January 2023, NBP's index of agricultural commodity prices was declining (Figure 1.11), mainly as a result of the improved supply outlook in the cereal and oilseeds markets, among others, due to the agreement enabling exports from the Black Sea basin.[8] This was accompanied by a fall in the prices of dairy products amid weaker demand from Asian countries and higher deliveries of milk in the EU. In February 2023, in turn, the prices of agricultural commodities rose (by 3.7% m/m and 6.4% y/y), primarily reflecting rising prices of meat (the effect of unfavourable supply situation amid cost pressure driven by high prices of energy commodities and factors of production) and orange juice (lower orange harvest).

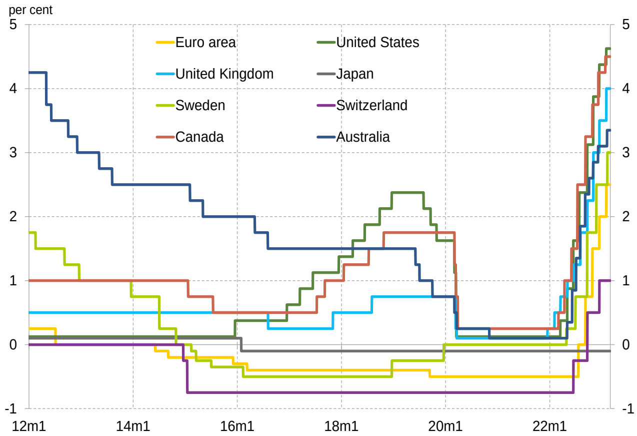
Figure 1.11 Index of agricultural commodity prices

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.

1.4 Monetary policy abroad

Amid persistently high inflation, many central banks are continuing to tighten monetary policy or are keeping interest rates unchanged following their previous increases (Figure 1.12). Financial market participants expect interest rates to be raised further in most major economies in the coming months. The valuation of financial instruments implies a gradual decrease in interest rates over the coming years, but to higher levels than before the pandemic (Figure 1.13).

Figure 1.12 Interest rates of selected central banks of 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.

The European Central Bank (ECB) is continuing to tighten its monetary policy. Since July 2022, the ECB has raised interest rates five times, including

[8] At the same time, concerns are reappearing about the export of agricultural products by sea from Ukrainian ports since the middle of March 2023, due to the expiry of the agreement on unblocking exports.

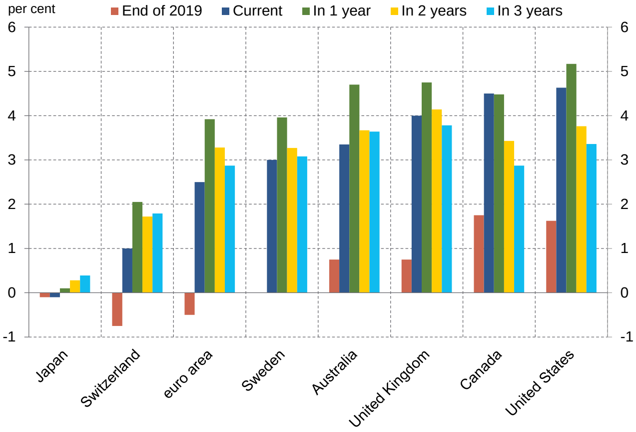
the deposit rate to 2.50%. The ECB has announced further interest rate hikes, while it has slowed down somewhat their pace in December 2022. Financial market participants expect that the ECB deposit rate will be raised to at least 3.75% in the second half of 2023. Staring from March 2023, the ECB is also set to reduce the reinvestment of funds from maturing financial instruments purchased under the asset purchase programme (APP).[9] At the same time, the ECB is continuing its flexible reinvestment of maturing bonds under the pandemic emergency purchase programme (PEPP).[10]

The Federal Reserve of the United States (Fed) is also continuing its interest rate hikes. Since March 2022, the Fed has raised interest rates eight times and currently the target range for the fed funds rate is 4.50-4.75%. The Fed is signalling further interest rate hikes, while in December 2022 and January 2023 it gradually reduced their scale compared to previous months. Financial market participants expect that the fed funds rate will increase to the target range of 5.25-5.50% in the second half of 2023.[11] The Fed is continuing to gradually reduce its balance sheet by limiting the reinvestment of assets.

In the recent period, the majority of central banks of other advanced economies – among others, the United Kingdom, Switzerland, Sweden, Australia and Canada – have continued to raise interest rates, although at a smaller scale than in previous months.[12]

In turn, following the earlier significant monetary policy tightening, most central banks in Central and Eastern European countries have recently kept interest rates unchanged. Some of the central banks of non-European emerging market

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. Market expectatations according to Bloomberg based on OIS, as of 28 February 2023.

[9] The scale of the reduction in the asset portfolio held is to average EUR 15 billion per month from March to June 2023, while its subsequent pace will be determined later.

[10] The principal payments from maturing assets purchased under the PEPP are set to be reinvested until at least the end of 2024.

[11] In turn, the median projection of the Federal Open Market Committee (FOMC) members of December 2022 indicated that the fed funds rate would be in the range 5.00-5.25% at the end of 2023.

[12] At its meeting held in January 2023, the Bank of Canada signalled a pause in the interest rate hikes cycle.

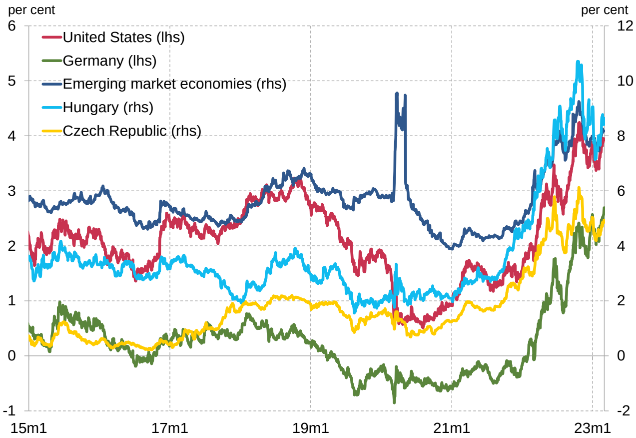
economies, among others the central banks of China, Brazil and Chile, have also kept interest rates unchanged.

1.5 International financial markets

In recent months, sentiment in global financial markets has improved. However, due to the earlier sharp interest rate increases, government bond yields remained high in most economies (Figure 1.14). Strong sentiment in global financial markets was translated into an increase in equity prices, in both advanced and emerging market economies (Figure 1.15).

Better sentiment in international financial markets and lower risk aversion led to a significant weakening of the US dollar against many other currencies (Figure 1.16). The US dollar depreciated significantly against the euro as a result of the expected reduction in the disparity of the Fed and the ECB interest rates and the improved energy situation in Europe (see Chapter 1.3 *Global commodity markets*). Following the euro, the currencies of the Central and Eastern European economies also appreciated.

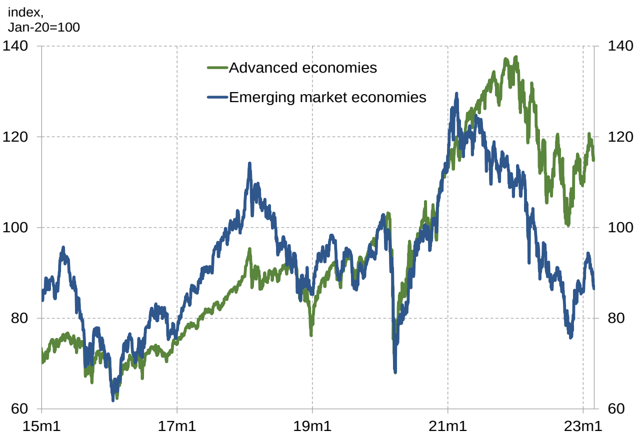
Figure 1.14 Yields on long-term government bonds



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*.

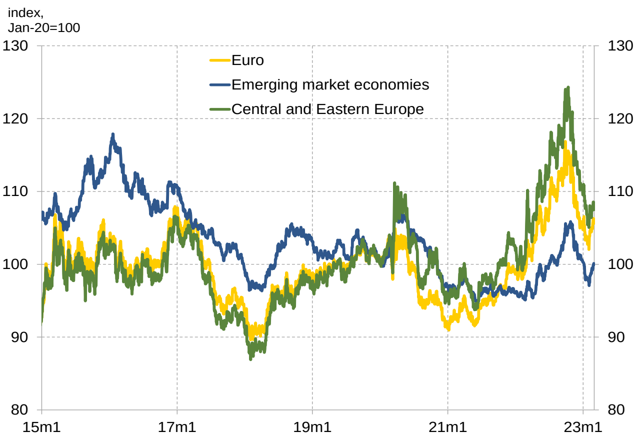
Figure 1.15 Equity prices



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

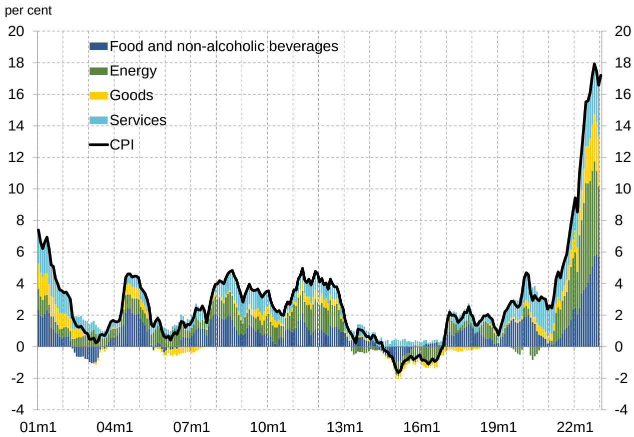
2.1 Inflation developments

Following an increase to 17.9% in October 2022, annual consumer price growth in Poland declined in the last months of 2022 (to 16.6% in December 2022; Figure 2.1) – like in many other economies around the world – while remaining high (see Chapter 1.2 *Inflation developments abroad*). The fall in inflation in November and December 2022 was primarily due to lower prices of coal and fuels (the result of selling coal by local governments at a statutory capped price and lower global oil prices, along with the appreciation of the Polish zloty).

According to Statistics Poland preliminary data, in January 2023 inflation rose to 17.2% y/y, mainly on the back of the increase in the average bills on electricity, heating and gas due to changes in some of the tariffs and the restoration of the base VAT rates for energy products to the levels from before the introduction of the so-called Anti-inflationary Shield. Higher inflation also resulted from the continued, albeit weakening, growth in core inflation in recent months.

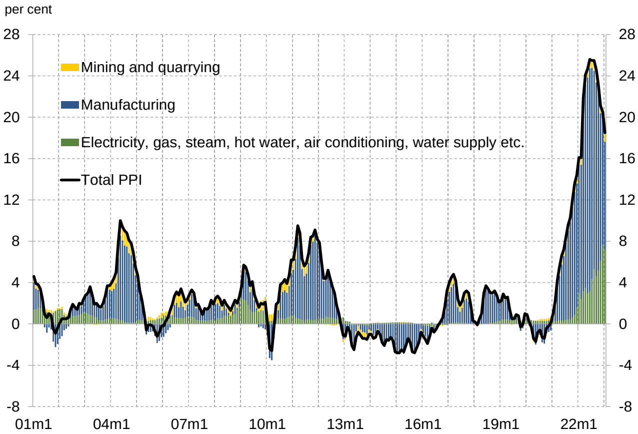
The relatively high commodity prices – despite a fall in the second half of 2022 and at the beginning of 2023 (see Chapter 1.3 *Global commodity markets*) – continued to translate into a rise in food and energy prices in annual terms. At the same time, for a long period they had been increasing the operating costs of enterprises,[13] which – in spite of weakening demand growth – prompted firms to raise the prices of consumer goods and led to higher core

Figure 2.1 Composition of CPI inflation (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.
CPI inflation in January 2023 – Statistics Poland preliminary data.

Figure 2.2 Composition of PPI inflation (y/y)



Source: Statistics Poland (GUS) and Eurostat data.

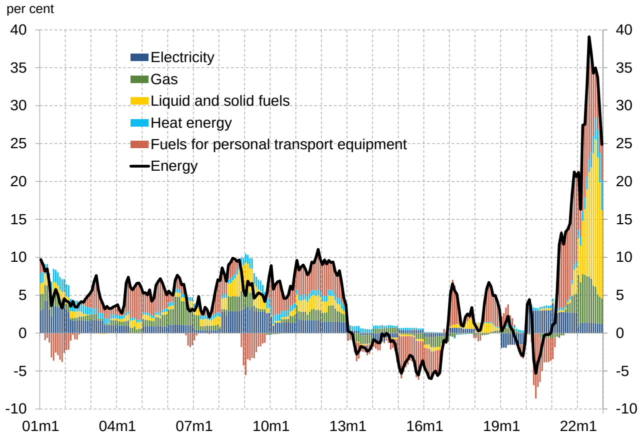
[13] In the second half of 2022 and at the beginning of 2023, there was a slowdown in growth of industrial producer prices (to 18.5% y/y in January 2023, Figure 2.2), mainly due to slower growth in prices of energy carriers, industrial commodities and other intermediate goods. This led to a gradual easing of the high cost pressure at each successive stage of the value-added chain.

inflation.[14] Core inflation was also boosted by the lagged effects of past disruptions to global supply chains. The so-called Anti-inflationary Shield curbed CPI growth throughout the whole of 2022 and also, to a slight degree, in January 2023.[15]

Inflation of food and non-alcoholic beverage prices rose to 22.3% y/y in November 2022, after which it declined – according to Statistics Poland preliminary data – to 20.7% y/y in January 2023 as a result of the base effect. At the same time, cost pressure related to the high prices of agricultural commodities, energy, production inputs (including fertilisers) and labour costs, continues to boost food prices, albeit to a lesser degree than previously.

In the last months of 2022, energy price inflation declined, and in December stood at 24.9% y/y (compared to 35.0% y/y in September 2022; Figure 2.3), after which in January – based on Statistics Poland preliminary data – it probably rose. The decline at the end of 2022 was primarily driven by the fall in annual growth of liquid and solid fuels prices (to 83.1% y/y in December 2022 from 172.2% y/y in September) due to selling coal by local governments at a statutory capped price and due to the negative base effect related to the sharp increase in liquid and solid fuels prices in September 2021. The fall in the annual growth of energy prices was also a result of the decrease in price growth of fuels for personal transport equipment (to 13.5% y/y in December 2022 from 18.3% y/y in September), following the fall in global oil prices, along with the appreciation of the Polish zloty. However, price growth of heat energy continued to increase (to 29.6% y/y in December 2022 from 21.0% y/y in September 2022). This was the result of the gradual pass-through of the

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



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

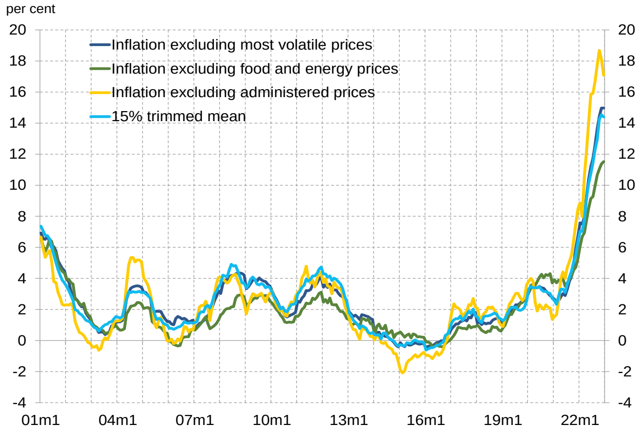
[14] Due to nominal rigidities, prices of goods and services may adjust to underlying macroeconomic shocks with a lag. The pass-through of higher commodity prices and other costs to consumer prices is therefore spread over time.
[15] As part of the so-called Anti-inflationary Shield, the VAT rates were temporarily reduced on electricity, heat energy, natural gas, engine fuels, fertilizers, and staple food products, excise duty on electricity for households was abolished, excise duty on motor fuels and light heating oil was reduced to the minimum required by EU provisions, and compensation was introduced for retailers of natural gas in connection with the cap on the increases in prices for tariff-protected recipients. On 1 January 2023 the VAT rates on electricity, heat energy, gas and fuels for personal transport equipment increased, while the VAT rate on staple food products was kept unchanged at the reduced level of 0%.

increase in prices of natural gas and coal to household bills (due to the tariffication process being spread over time) and changes in fees by housing associations. The persistence of high annual growth in energy prices throughout the whole of 2022 was also supported by the higher electricity and natural gas prices than in 2021, which was the result of the introduction of higher tariffs for the sale and distribution of these energy carriers from January 2022.[16] In turn, the rise in energy price inflation in January 2023, was caused by higher prices (10.4% m/m) of energy carriers (the combined effect of the rise in the average bills on electricity, heating and gas, due to changes in some of the tariffs and the restoration of the base VAT rates for energy products to the levels from before the introduction of the so-called Anti-inflationary Shield).

Inflation excluding food and energy prices rose in the last months of 2022 and stood at 11.5% y/y in December 2022 (Figure 2.4), however, its growth gradually slowed down. The increase in this measure of core inflation was the result of the further rise in annual growth of prices of both non-food products and services. Apart from one-off factors[17], cost pressure due to the high energy prices as well as the past disruptions to global supply chains and international transport continued to affect core inflation, despite weakening demand growth. The increase in CPI inflation excluding food and energy prices was accompanied by a rise in inflation excluding the most volatile prices and the 15-percent trimmed mean, as well as by a fall in inflation excluding administered prices, the latter primarily due to lower prices of coal and fuels for personal transport equipment.

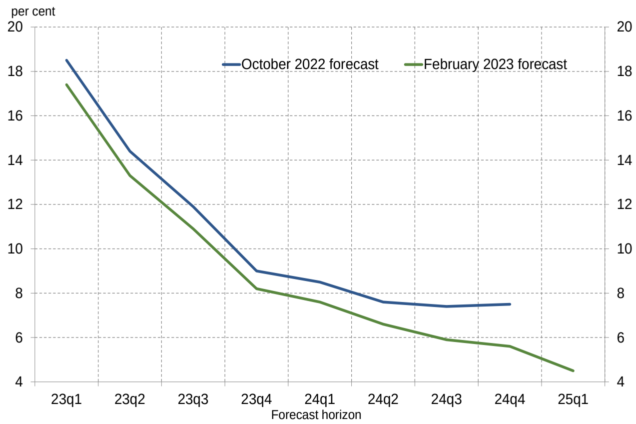
According to forecasts of December 2022, experts from the NBP Survey of Professional Forecasters

Figure 2.4 Core inflation indices (y/y)



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

Figure 2.5 Inflation forecasts of financial sector analysts



Source: Refinitiv data.
Median of forecasts of analysts surveyed by Refinitiv.

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

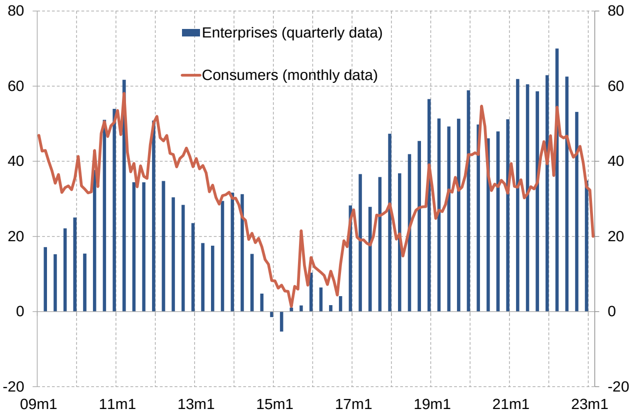
	Survey conducted in:				
	22q1	**22q2**	**22q3**	**22q4**	**23q1**
Refinitiv Survey, inflation expected in 4 quarters	9.0	10.5	10.1	9.0	7.6
NBP Survey, inflation expected in 4 quarters	8.8 (7.2-10.9)	9.7 (7.3-11.9)	9.6 (7.5-12.2)	9.6 (7.8-11.9)	-
NBP Survey, inflation expected in 8 quarters	4.9 (3.4-6.6)	5.7 (3.5-8.4)	6.1 (4.2-9.0)	6.0 (4.1-8.7)	-

Source: NBP and Refinitiv data.
Inflation expectations of the financial sector analysts show the median forecast of the analysts surveyed by Refinitiv in the last month of a given quarter, except 2023 Q1, where the forecast of February 2023 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 (interpreted as the range of typical scenarios considered by the experts). The survey takes place in the last month of a given quarter.

[16] The increase in tariffs was related to the sharp increase in natural gas prices in global markets and the increase in wholesale electricity prices and CO_2 emission allowances (due to EU climate policy, see *Inflation Report – March 2022*).
[17] One-off factors include, among others, the change in the list of reimbursed drugs, changes in the prices of medical, insurance and communications services, and the lack of seasonal discounts on clothes.

expected a significant fall in inflation over 4 quarters and a further decline over 8 quarters. The NBP Survey results point also to the high level of uncertainty and divergence of opinions regarding the further course of price developments.[18] At the same time, the latest inflation expectations of financial sector analysts (Refinitiv survey from February 2023) indicate a faster fall in inflation over the whole of the forecast horizon (Figure 2.5, Table 2.1). Since 2022 Q2, inflation expectations of consumers and enterprises as measured by balance statistics have gradually shifted towards lower values, primarily due to a decrease in the percentage of entities expecting a further rise in inflation (Figure 2.6).

Figure 2.6 Balance statistics of consumer and enterprise inflation expectations



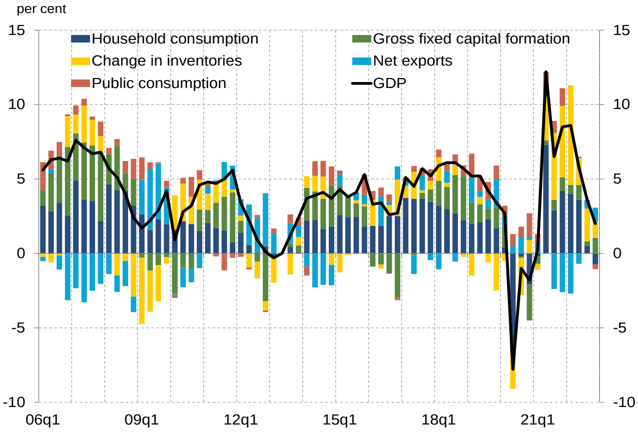
Source: Statistics Poland (GUS) and NBP data, NBP calculations.
Balance statistics is defined as a difference between the fraction of respondents expecting a faster rise in prices or at the same pace as at present (or as currently perceived) and the percentage of respondents expecting no change or a fall in prices (with respective weights). A rise in balance statistics should be interpreted as a shift in opinions towards higher rise in prices.

2.2 Demand and output

In Poland, GDP rose by 4.9% in the whole of 2022 (compared to 6.8% in 2021), while economic activity growth gradually declined from the beginning of the year. In 2022 Q4, GDP growth stood at 2.0% y/y (compared to 3.6% y/y in 2022 Q3; Figure 2.7, Table 2.2), with the relatively high investment growth accompanied by a fall in private consumption. Like in 2022 Q3, net exports and the change in inventories made positive contributions to GDP growth.

In 2022 Q4, private consumption declined in annual terms (by 1.5% y/y compared to increasing by 0.9% y/y in 2022 Q3; Figure 2.8). The fall in household consumption took place against the background of high inflation reducing the purchasing power of their income and a strong tightening of monetary policy in Poland. The persistence of significant uncertainty triggered by the Russian military aggression against Ukraine also had a negative impact on the propensity to consume. These factors translated into unfavourable – although improving – household sentiment (Figure 2.9). Alongside that,

Figure 2.7 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	q3	q4
GDP	**2.7**	**-7.8**	**-1.0**	**-1.8**	**0.2**	**12.2**	**6.5**	**8.5**	**8.6**	**5.8**	**3.6**	**2.0**
Private consumption	0.4	-6.3	-0.2	-2.1	-0.2	7.3	2.9	4.2	4.0	3.6	0.5	-0.7
Public consumption	0.7	0.8	0.7	1.6	0.6	1.2	0.8	1.2	0.0	0.1	0.0	-0.3
Gross fixed capital	1.4	-0.4	-0.1	-2.4	-0.5	0.3	0.7	0.9	0.6	1.0	0.3	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	2.2	1.1
Net exports	0.7	0.5	1.1	0.2	0.7	0.5	-2.4	-2.6	-2.7	-0.7	0.6	0.9

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

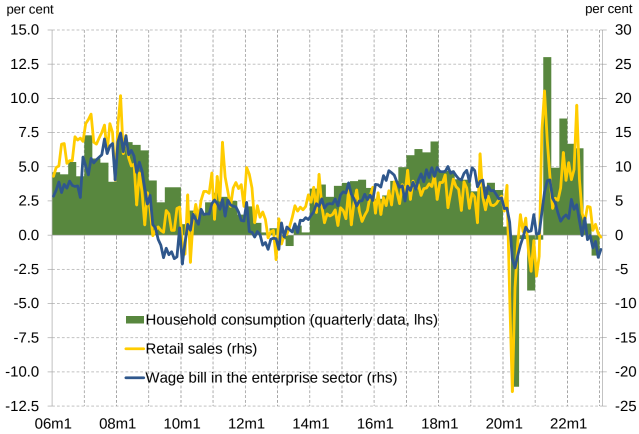
[18] This is indicated by the wide range of typical scenarios considered by the experts, i.e. within the boundaries of a 50-percent probability range (between the 1st and 3rd quartile) of the aggregated distribution of expert forecasts.

consumption was supported by the continued good labour market situation, reflected in low unemployment, rising employment and growth in average nominal wages, while wages and the wage bill in real terms declined (see Chapter 2.4 *Labour market*; Figure 2.8).[19]

Growth in gross fixed capital formation picked up in 2022 Q4 (Figure 2.10). At the same time – according to NBP estimates – housing investment declined significantly for the second consecutive quarter. This was driven by weakened demand for real estate – also reflected in a marked fall in housing starts – in the wake of the increase in the interest rates on housing loans (see Chapter 2.6 *Money and credit*). Growth in public sector investment declined as well. In these conditions, higher growth in total investment in 2022 Q4 was a consequence of the pick-up in growth in corporate investment compared to 2022 Q3.

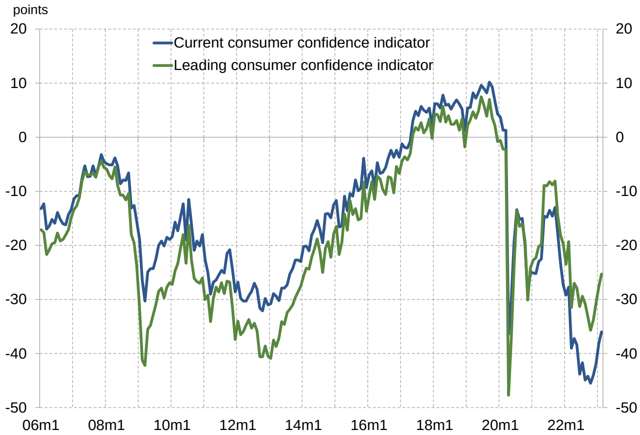
Stronger growth in corporate investment at the end of 2022 was partly due to the base effect resulting from its relatively weak growth in 2021 Q4. Investment activity was additionally supported by a noticeable fall in uncertainty, as signalled by respondents of the NBP Quick Monitoring Survey, which was related, among others, to the improved military situation in Ukraine. Moreover, the easing supply chain disruptions stimulated investment activity, particularly in the case of large entities. This, in turn, encouraged investments of smaller firms – their cooperating partners – yet with a certain delay. Alongside that, investment activity could have been curbed by enterprises' pessimistic forecasts of their own situation and a decrease of capacity utilisation. The financial situation of enterprises also deteriorated, although it remained relatively good (Table 2.3). In particular, after two years of rapid growth, the net financial result in 2022 Q3 was lower than the previous year, due to the decline in the result on financial operations and other activities. The sharper fall in growth in sales

Figure 2.8 Real growth in household consumption, retail sales and wage bill in the enterprise sector (y/y)



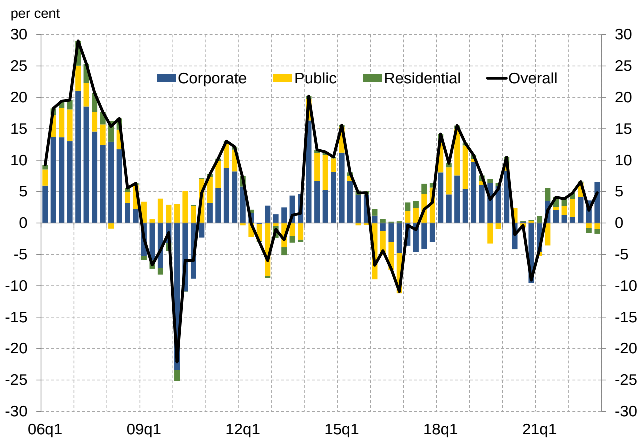
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 2.9 Consumer confidence indicators



Source: Statistics Poland (GUS) data.

Figure 2.10 Growth in investment and its main components (y/y)



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

[19] In January 2023, retail sales declined by 0.3% y/y, against a rise of 0.8% y/y in 2022 Q4.

revenue than in growth in costs of sales indicates the weakening capacity of enterprises to pass through their rising costs into the prices of final goods. In 2022 Q3, the marked differences in the financial situation of firms operating in various sectors deepened, with a fall in profits recorded in most sectors.

In 2022 Q4, industrial output growth declined to 4.0% y/y (compared to 9.3% y/y in 2022 Q3 and with average growth of 5.5% y/y over the last 10 years). Growth in construction and assembly output also slowed down (to 2.1% y/y compared to 3.3% y/y in 2022 Q3 and long-term average growth of 2.8% y/y). In January 2023, industrial output growth amounted to 2.6% y/y, while growth in construction and assembly output was 2.4% y/y.

The contribution of net exports to GDP growth in 2022 Q4 was positive once again and stood at 0.9 p.p. (compared to 0.6 p.p. in 2022 Q3). Real growth in imports declined significantly (due to flagging domestic demand), while that in exports fell to a slightly lesser extent (on the back of worse economic conditions in Poland's main trading partners). In nominal terms, growth in goods imports (Figure 2.11) declined compared to 2022 Q3, but remained relatively high, which continued to be driven by high prices of imported commodities (see Chapter 1.3 *Global commodity markets*). Nominal growth in goods exports also declined, while exports to Ukraine continued to grow rapidly.

Gross value added increased by 2.4% y/y in 2022 Q4 (compared to 3.3% y/y in 2022 Q3; Figure 2.12). In industry and market services, growth in gross value added declined compared to the previous quarter, but remained positive. In the construction sector, in turn, growth in gross value added did not change significantly and was running slightly above zero.

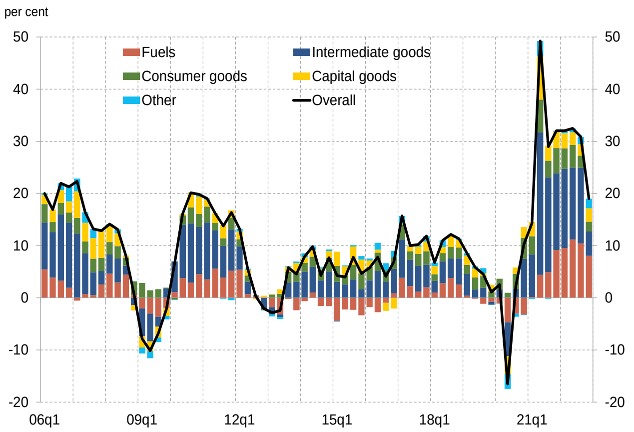
Table 2.3 Selected financial indicators in the enterprise sector (per cent)

	average 2010-2019	2020				2021				2022		
		q1	q2	q3	q4	q1	q2	q3	q4	q1	q2	q3
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	6.1
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	4.5
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	76.6
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	41.1
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	39.9
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	1.5
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	14.7

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.

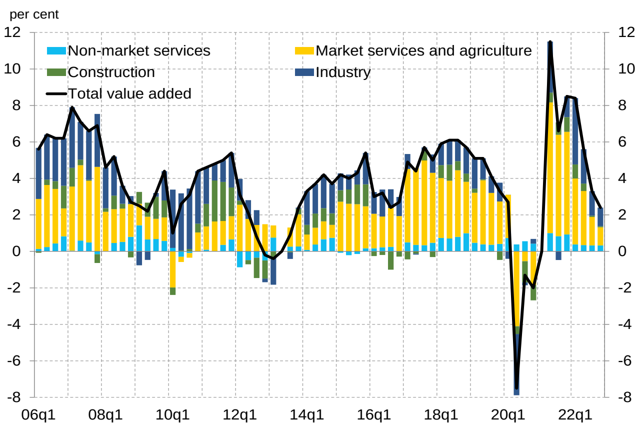
Figure 2.11 Contribution to import growth by product group (y/y)



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.

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



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

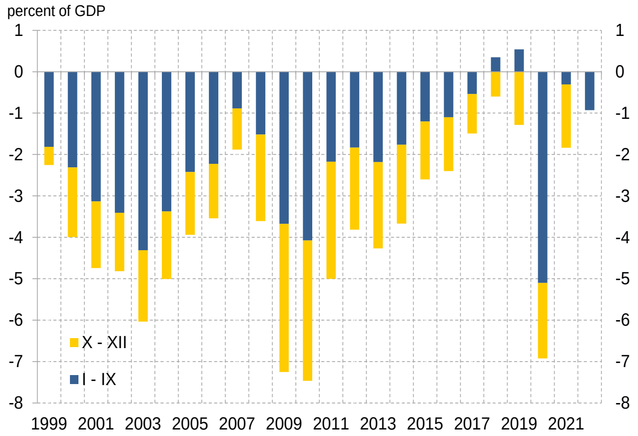
2.3 Public finance

In the first three quarters of 2022, the general government deficit in ESA 2010 terms amounted to PLN 28.4 billion (0.9% of GDP), compared to PLN 8.0 billion (0.3% of GDP) in the corresponding period of 2021 (Figure 2.13). The deficit increased significantly in 2022 Q3 (in the first half of 2022 it stood at a mere PLN 4.6 billion), driven, in particular, by the disbursement of the 14th pension benefits (in 2021 paid out in Q4) and by lower growth of tax revenues resulting from the revision, in force as of July 2022, of the Polish Deal programme, i.e. the reduction of the lower PIT rate to 12%. Moreover, the weaker performance of the general government was driven by the so-called Anti-inflationary Shield – according to NBP estimates – in the first three quarters of 2022, its cost on the revenue side reached PLN 21.6 billion and on the expenditure side PLN 13.9 billion (see Chapter 2.1 *Prices of goods and services*).

In 2022 Q4, the headline deficit was probably still running at an elevated level, which – apart from seasonal factors – was related, among others, to the disbursement of the so-called coal allowance (coal allowance disbursements were planned in the amount of PLN 13.5 billion for 2022 as a whole, of which the overwhelming majority was planned for Q4) and expenditures of the Bank Guarantee Fund incurred in connection with the resolution of Getin Noble Bank S.A. (PLN 6.9 billion). Nevertheless, the fiscal outturn in the whole of 2022 was probably markedly better than the -4.7% of GDP, as indicated by the government in the autumn 2022 fiscal notification.

According to the Ministry of Finance data, in the period from January to November 2022, the state budget surplus amounted to PLN 18.3 billion. Tax revenues in this period were 8.7% y/y higher, which was largely a combined effect of higher tax

Figure 2.13 General government balance in ESA2010 terms



Source: Eurostat and Statistics Poland (GUS) data.

receipts from CIT (by 37.7% y/y) and VAT (by 5.9% y/y) and lower tax receipts from PIT (by 2.8% y/y)[20].

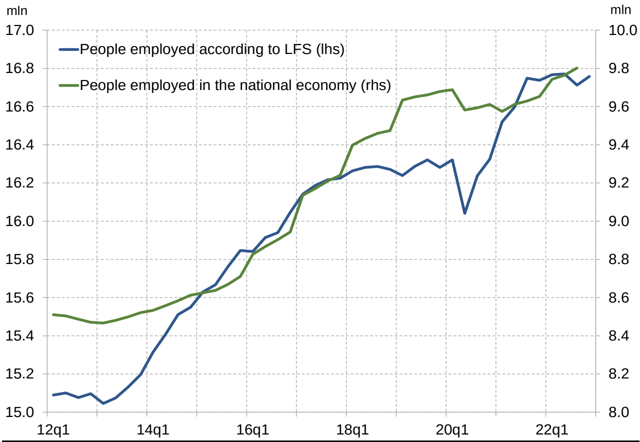
The general government debt in ESA 2010 terms rose in the first three quarters of 2022 by PLN 68.8 billion to PLN 1,479.3 billion. According to preliminary estimates of the Ministry of Finance, the public debt in these terms might have been below 50% of GDP at the end of 2022 (compared to 53.8% at the end of 2021).

2.4 Labour market

The situation in the labour market remains good as evidenced, in particular, by continued low unemployment rate and a further rise in both employment and average nominal wages. At the same time, weaker economic activity translates into a gradual reduction in wage growth, and, as a result, a decline in wages in real terms.

Weakening of demand for labour is observed in the whole economy. Following a decline in 2022 Q3 by 0.7% y/y, in 2022 Q4 the number of employed persons according to the LFS data was only slightly higher than the year before (by 0.1% y/y; Figure 2.14). The rise in the number of employed persons was a result of the higher number of the employed in the public sector (by 3.0% y/y) amid a deepening decline in the number of the employed in the private sector (by 0.8% y/y in 2022 Q4 compared to a decline of 0.3% y/y in 2022 Q3). Employment in the enterprise sector (ES) in companies employing 10 or more persons remained at a relatively high level (Figure 2.15). In 2022 Q4, the growth of this category stood at 2.9% y/y (compared to 2.8% in 2022 Q3).[21] In January 2023, however, it declined to

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

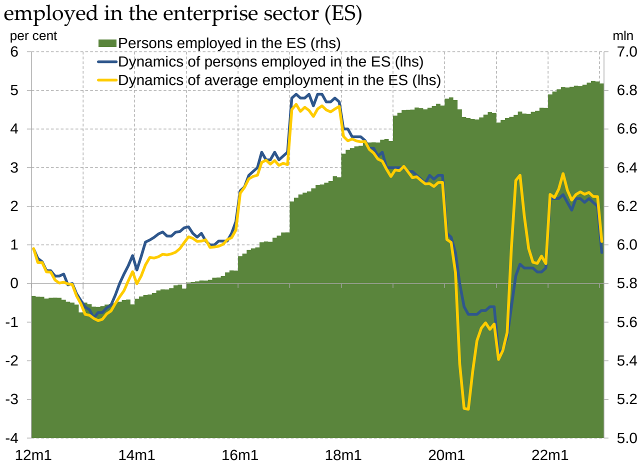


Source: Statistics Poland (GUS) data, NBP calculations.

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 2021 Q1 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.

[20] Lower tax receipts from VAT in 2022 were the effect of lower VAT rates under the Anti-inflationary Shield, while lower tax receipts from PIT were driven by changes and corrections in the Polish Deal. In turn, strong rise in tax revenues from CIT reflected, among others, favourable situation of non-financial enterprises in 2022 as well as high profits generated in 2021 which – as a result of the annual settlement – passed through into the general budget revenues in 2022.

[21] On one hand, the difference between the LFS data and the reporting data results partly from the fact that they cover different groups of employees. In particular, the LFS data (contrary to the reporting data) cover employees working in microenterprises, under civil law contracts and oral agreements. On the other hand, however, due to the nature of the survey, which is addressed exclusively to Polish residents, it barely captures the activity of foreigners in the Polish labour market. Moreover, in Q3 and Q4 growth in average employment in the ES turned out to be higher than implied by the monthly data. This may be due to the preliminary nature of the monthly information.

1.1% due to, among others, a markedly lower scale of revision of employment data than a year ago resulting from updating the number of the surveyed companies.[22]

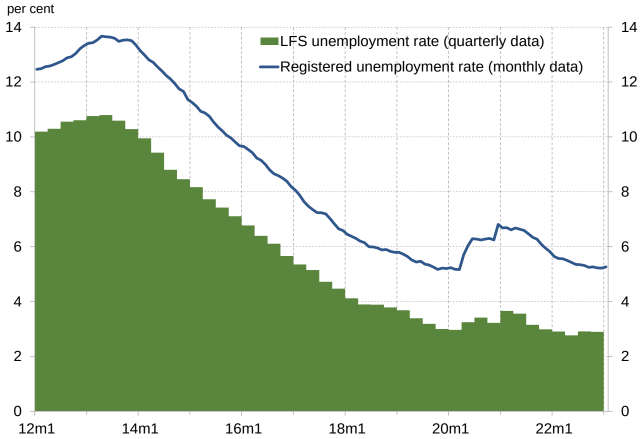
Survey data from Statistics Poland and NBP point to the possible weakening of demand for labour – which is still relatively high – in the market part of the economy in 2023 Q1.[23]

At the same time, the unemployment rate continues to run at a low level. The LFS unemployment rate remained low (2.9% in 2022 Q4 and Q3, seasonally adjusted data; Figure 2.16), as well as the registered unemployment rate (according to Statistics Poland 5.3% in January 2023; seasonally adjusted data).

The still favourable situation of employees in the labour market was reflected in continued high growth of nominal wages. The average wage in the national economy (NE) in 2022 Q4 rose by 12.3% y/y (against 14.6% in 2022 Q3; Figure 2.17). Wage growth in the enterprise sector slowed down from 14.5% y/y in 2022 Q3 to 12.0% y/y in 2022 Q4 and 13.5% y/y in January 2023. The annual wage growth declined in 2022 Q4 in the majority of sections of the enterprise sector as well as in the remaing part of the economy not included in this sector.[24] In real terms, wages in the NE in 2022 Q4 declined by 4.0% y/y and in the ES by 4.3% y/y.

Despite slower growth in nominal wages in 2022 Q4, growth in unit labour costs in this period rose slightly to 10.4% y/y (against 9.9% y/y in 2022 Q3). This was a combined effect of slower growth in GDP and higher growth in the number of

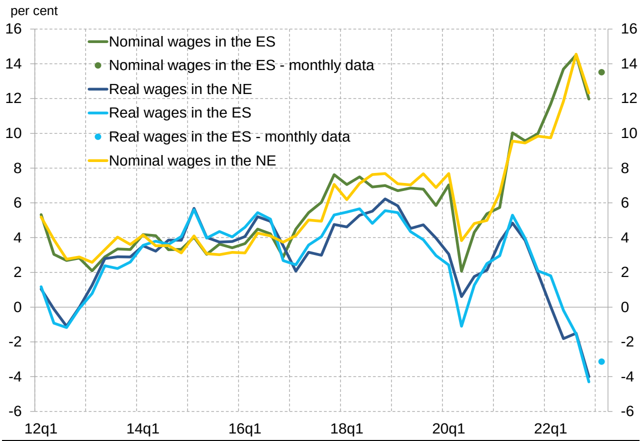
Figure 2.16 Unemployment rate, seasonally adjusted data



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.
The figure presents quarterly data (lines) and monthly data for January 2023 (dots).

[22] The revision made in January by Statistics Poland (GUS) often leads to an abrupt change in the annual growth of this indicator between December and January. Yet, it takes into account the changes in employment which really took place during the whole previous year and which – due to methodological limitations – were not seen instantly in the preliminary monthly information from the enterprise sector. A smaller adjustment for the whole of 2022 compared to 2021 means slower actual growth in average employment in this sector of the economy.

[23] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, January 2023, *The economic situation in manufacturing, construction, trade and services 2000-2022 (January 2023)*, Statistics Poland, January 2023. The weakening of labour demand is also indicated by the declining number of job vacancies registered in labour offices during a month, which in 2022 Q4 fell on average by 28.9% y/y and in January 2023 by 20.6% y/y.

[24] The following are not included in the enterprise sector: financial and insurance sector, public administration, education, health care and social welfare as well as all private enterprises employing fewer than 10 persons. More detailed sectoral data for 2022 Q4 will be available in April 2023.

employed persons according to the LFS, which brought down the annual growth in labour productivity in the economy.

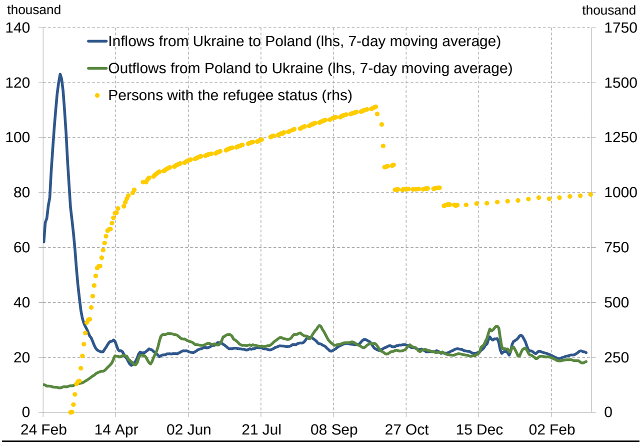
The results of the NBP Quick Monitoring Survey suggest that relatively high nominal wage growth may also continue in 2023 Q1, despite the weakening of wage pressure reported by companies. The wage pressure is mitigated by the large number of immigrants active in the domestic labour market due to, among others, the inflow of refugees from Ukraine (Figure 2.18). According to the data from the Ministry of Family, Labour and Social Policy, by 27 February 2023 the number of Ukrainians (both war refugees as well as earlier economic migrants) who took up work on the basis of employment notification reached 636,900.[25]

2.5 Financial markets and asset prices

In recent months, prices of financial instruments in Poland have been affected by, among others, declining market expectations of further increases in the NBP interest rates, along with rising expectations of a fall in inflation and an improvement in sentiment in global financial markets (see also Chapter 1.4 *Monetary policy abroad* and Chapter 1.5 *International financial markets;* Figure 2.19).

The above factors led to the lowering of yields on Polish government bonds and the strengthening of the zloty, which was also supported by the strong fundamentals of the Polish economy (Figure 2.20, Figure 2.21). In effect, in February 2023, the zloty exchange rate was significantly stronger against the US dollar and slightly stronger against the euro compared to October 2022. Alongside that, continued relatively high uncertainty in financial markets, including the persistence of elevated geopolitical risk, had a limiting effect on the appreciation of the zloty.

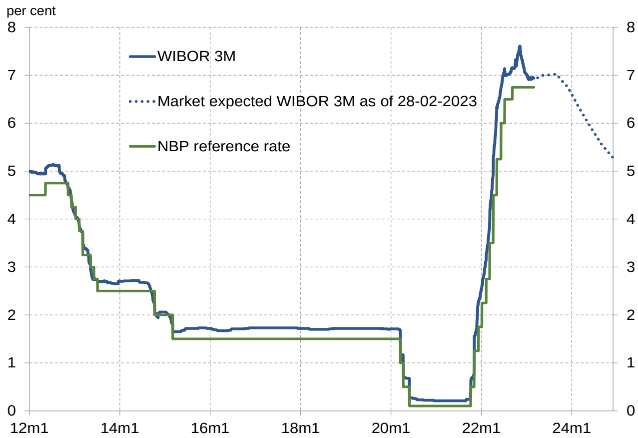
Figure 2.18 Border crossings between Poland and Ukraine and the number of persons with refugee status



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

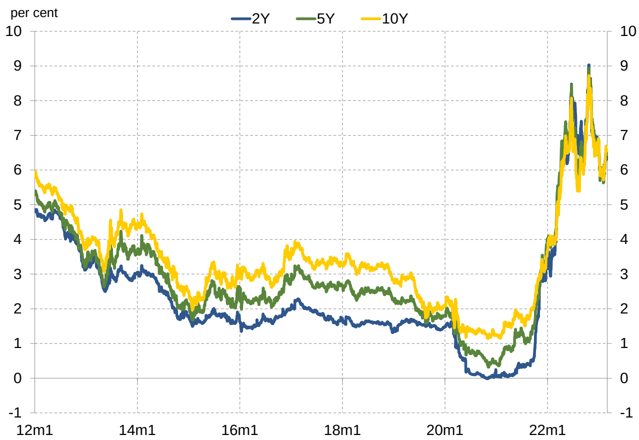
For the period from 14 March to 13 April 2022 the number of persons with refugee status was estimated on the basis of cumulative applications for Polish ID numbers (PESEL).

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



Source: NBP and Bloomberg data.

Figure 2.20 Yields on Polish government bonds



Source: 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 Ukrainian citizens due to the armed conflict on the territory of Ukraine.

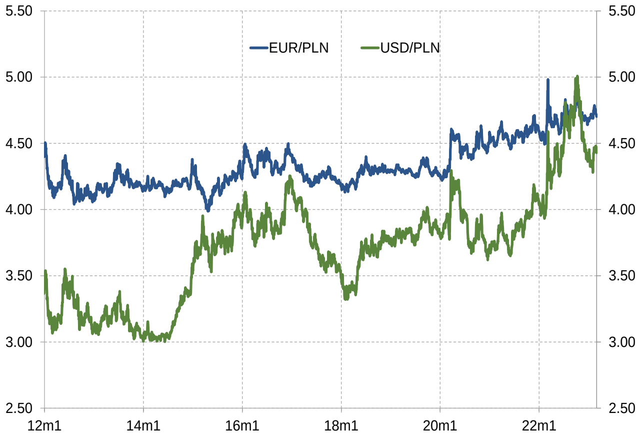
In 2022 Q4, in the housing market, despite weaker demand, transaction prices continued to grow in annual terms reflecting the rising construction costs (Figure 2.22).[26] According to NBP data,[27] growth in average housing transaction prices stood at 8.6% y/y in 2022 Q4 (compared to 14.3% y/y in 2022 Q3).[28]

2.6 Money and credit[29]

The strong tightening of monetary conditions in the Polish economy led to a decline in growth of the M3 aggregate to a relatively low level in 2022 Q4, which was accompanied by a surge in term deposits. At the same time, the fall in loans to households – recorded in Q3 for the first time in many years – deepened, while growth in loans to enterprises slowed significantly.

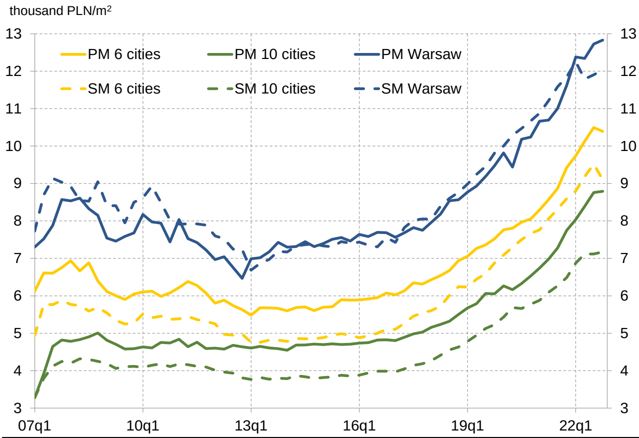
In 2022 Q4, growth in the broad money (M3) decelerated again (to 5.6% y/y compared to 6.1% in 2022 Q3; Figure 2.23) as a result of, among others, an outflow of household and corporate current deposits and the slower growth of cash in circulation (5.0% y/y in 2022 Q4 compared to 8.2% y/y in 2022 Q3).[30] This was accompanied by a sharp rise in term deposits, supported by a marked increase in their interest rates (Figure 2.24). In effect, accelerated growth took place in both household deposits (to 2.7% y/y in 2022 Q4 compared to 1.3% y/y in 2022 Q3) and corporate deposits (to 10.1% y/y in 2022 Q4 compared to 8.5% y/y in 2022 Q3).[31]

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.

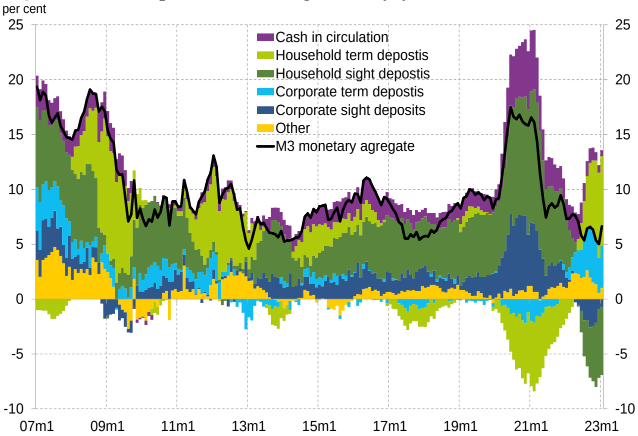
PM – primary market, SM – secondary market. Transaction prices – an average weighted with the share of the housing stock in a given city in the total housing stock. Aggregate of 6 cities consists of: Gdańsk, Gdynia, Kraków, Łódź, Poznań, Wrocław, whereas of 10 cities: Białystok, Bydgoszcz, Katowice,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

[26] More information about the situation in the Polish housing market can be found in other periodic NBP publications: *Information on home prices and the situation in the residential and commercial real estate market in Poland*.
[27] The discussed data on prices do not fully correspond to the quarters of the calendar year. In particular, data referring to 2022 Q4 cover transactions concluded between September and November 2022.
[28] These data apply to average housing transaction prices (PLN/m2) 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 -0.6% q/q in 2022 Q4 (against 2.6% q/q in 2022 Q3) and was negative for the first time in several years.
[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] Since 2022 Q2, monthly transaction changes in cash in circulation have remained, on average, negative.
[31] In January 2023, growth in the broad money (M3) amounted to 6.6% y/y, growth of cash in circulation declined to 2.9% y/y, household deposit growth rose to 3.7% y/y, and corporate deposit growth – to 15.3% y/y.

In 2022 Q4, the stock of credit to households decreased again (by -3.6% y/y compared to -1.1% y/y in 2022 Q3; Figure 2.25) amid a relatively high interest on loans (Figure 2.24) coupled with tighter lending standards[32] and weak consumer sentiment (see Chapter 2.2 *Demand and output*). The lower stock of housing loans (-3.2% y/y in 2022 Q4 compared to -0.1% y/y in 2022 Q3) was driven by, among others, a further steep fall in demand[33] and early repayments or overpayments in this category of loans.[34] Furthermore, the fall in consumer loan debt deepened (-1.7% y/y compared to -0.6% y/y in 2022 Q3).[35]

The last months of 2022 saw a rapid decline in corporate loan growth, which in 2022 Q4 stood at, on average, 12.2% y/y (compared to 16.1% in 2022 Q3; Figure 2.26). The increase in debt resulted primarily from continued high financing needs for inventories and working capital from large enterprises, which translated into still strong, albeit weakening, growth in current loans (19.2% y/y in 2022 Q4 compared to 31.5% y/y in 2022 Q3). Alongside that, growth in investment loans increased slightly again (to 7.5% y/y in 2022 Q4 compared to 6.0% y/y in 2022 Q3).[36]

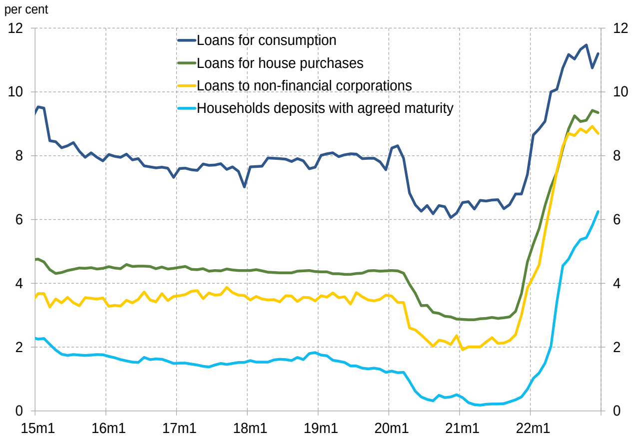
Figure 2.23 Composition of M3 growth (y/y)



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.

[32] In 2022 Q3 and Q4, banks tightened their standards on consumer loans to households, i. a., due to the deterioration of the economic outlook. At the same time, in the second half of 2022, after the earlier considerabe tightening of standards on housing loans, banks did not change them significantly, amid a continued fall in demand, caused by, among others, the deteriorated financial situation of households. See *Senior loan officer opinion survey on bank lending practices and credit conditions, 1st quarter 2023*, NBP, February 2023.
[33] According to data of the Credit Information Bureau, in 2022 Q4, the value of housing loan applications fell on average by 64.8% y/y (compared to a fall on average by 69.5% y/y in 2022 Q3). In January 2023, the value of enquiries about housing loans was 56.1% lower y/y.
[34] According to data of the Credit Information Bureau, the observed acceleration in early repayments of housing loans started in 2021 Q4. The total value of early repayments and overpayments of housing loans amounted to PLN 52.4 billion in 2022 compared to PLN 26.7 billion in 2021, while in the years 2019-2020 it averaged PLN 19 billion.
[35] In January 2023, growth in loans to households was -4.6% y/y. The decline in housing loans deepened to -4.8% y/y, and growth in consumer loans amounted to -1.5% y/y.
[36] In January 2023, growth in loans to enterprises amounted to 9.9% y/y. Growth in current loans decreased to 12.9% y/y, whereas growth in investment loans increased to 8.1% y/y.

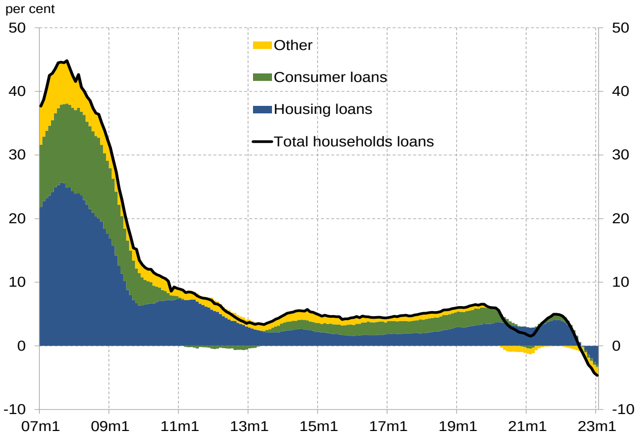
2.7 Balance of payments[37]

In 2022 Q4, the current account balance improved, although it remained negative (it stood at -3.1% of GDP compared with -3.5% of GDP in 2022 Q3; Figure 2.27). Factors contributing to this improvement included a slight increase in the surplus of trade in services (to 5.5% of GDP against 5.4% of GDP in the previous quarter) and a small decrease in the deficit of trade in goods (to 3.8% of GDP compared to 3.9% of GDP in 2022 Q3). However, the balance of trade in goods remained weaker than in previous years, largely due to the high value of imports, in particular of fuels and supply goods, amid the persistently high global commodity prices (see also Chapter 1.3 *Global commodity markets*). Moreover, the deficit on the primary income account narrowed slightly as well (to 4.5% of GDP in 2022 Q4 from 4.6% of GDP in 2022 Q3), mainly owing to the high income of foreign direct investors in Poland.[38]

Alongside that, the balance on the financial account improved to -2.7% of GDP in 2022 Q4 (against -3.4% in 2022 Q3; Figure 2.28).

External imbalance indicators show that the Polish economy is well balanced (Table 2.4). In 2022 Q3, Poland's net international investment position (as measured in relation to GDP) improved again, reaching the level at which the criterion indicating an absence of imbalances relating to this indicator (-35% of GDP), as laid down by the European Commission, is met. At the same time, the external debt to GDP ratio was running below its long-term average.

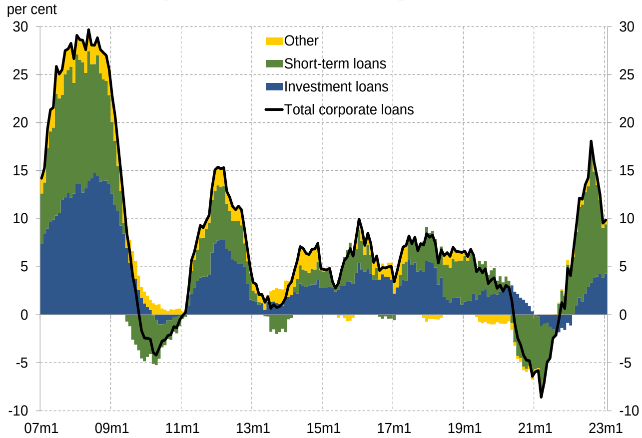
Figure 2.25 Composition of growth in household loans (y/y)



Source: NBP data.

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

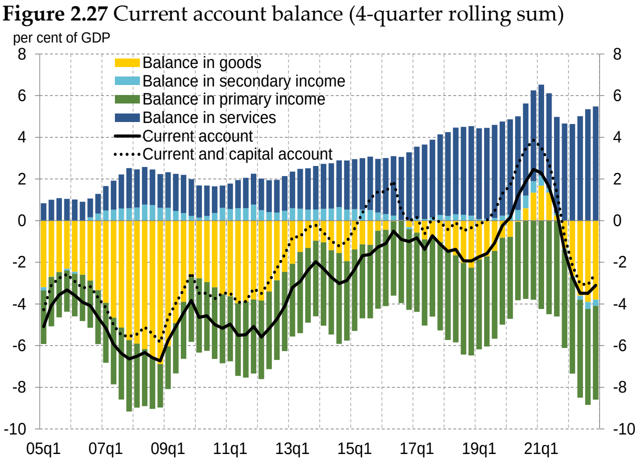
Figure 2.26 Composition of growth in corporate loans (y/y)



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.

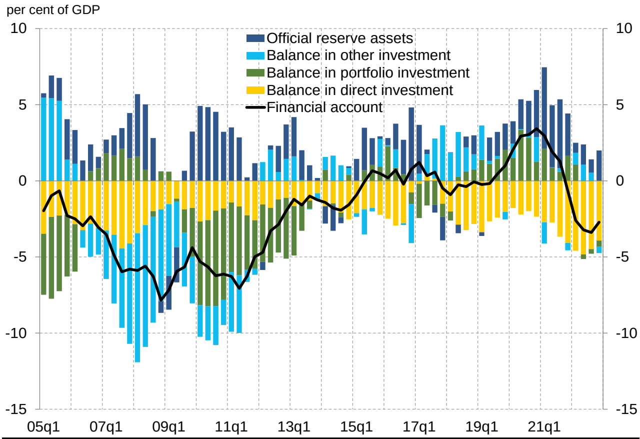
Figure 2.27 Current account balance (4-quarter rolling sum)



Source: NBP data.

[37] In this chapter, data on the balance of payments in relation to GDP are presented in terms of a four-quarter rolling sum. For 2022 Q4, the presented data are estimates based on the monthly balance of payments data.
[38] In turn, the surplus on the capital account rose to 0.6% of GDP in 2022 Q4 as a result of higher EU fund inflows.

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).

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
Current account balance/GDP	2.5	2.3	1.6	0.4	-1.4	-2.7	-3.5	-3.5	-3.1
Current and capital account balance/GDP	3.9	3.5	2.7	1.4	-0.7	-2.1	-3.0	-3.1	-2.5
Trade balance/GDP	5.7	6.0	5.9	4.9	3.3	2.0	1.4	1.5	1.7
Official reserve assets (in monthly imports of goods and services)	6.3	6.6	5.8	6.0	5.7	5.1	5.0	5.1	4.7
Foreign debt/GDP	61	61	57	58	57	56	56	56	-
Net international investment position/GDP	-44	-42	-41	-40	-40	-39	-36	-33	-
Official reserve assets/short-term foreign debt minus forecast current account balance	115	108	102	108	117	103	106	113	-
Official reserve assets/short-term foreign debt	124	124	122	130	140	115	116	118	-

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 November 2022 – March 2023

This chapter includes the previously published *Minutes of the Monetary Policy Council decision-making meetings* held between November 2022 and January 2023 as well as the *Information from the meeting of the Monetary Policy Council* in February and March 2023.

Minutes of the Monetary Policy Council decision-making meeting held on 9 November 2022

At the meeting, it was pointed out that economic conditions in the external environment of the Polish economy continued to weaken. In 2022 Q3, annual GDP growth in the euro area declined considerably, whereas it stabilised in the United States. It was underlined that the coming quarters were expected to see a slowdown in activity in these economies, despite still very favourable labour market conditions there, as evidenced by data on historically low unemployment and a rapid rise in nominal wages. Yet, the majority of the Council members assessed that with time the deteriorating economic situation in the euro area and the United States would be reflected in higher unemployment, which was also anticipated by the European Central Bank and the Federal Reserve of the United States.

It was assessed that the consequences of Russia's military aggression against Ukraine, including the high prices of commodities, food and production components, as well as monetary policy tightening, continued to negatively affect global economic activity and its prospects. Moreover, it was pointed out that considerable uncertainty about the further impact of those shocks on economic conditions remained, especially in the European economy, despite a certain decline in gas prices observed in Europe in the recent period.

Referring to the recently released data, the Council members highlighted that inflation was still on the rise in many countries, and that this continued to be driven by high commodity prices and persisting, though easing, global supply chain disruptions. Moreover, it was indicated that demand factors and growing labour costs were likewise boosting prices in many economies, which – along with the pass-through of the earlier rises in production costs to consumer prices – were also pushing up core inflation. It was pointed out that in October 2022 the HICP in the euro area had increased above 10%, exceeding market expectations, and in Germany the HICP reached 11.6%. It was observed that in September inflation was on the rise in the majority of Central and Eastern European countries as well. At the same time, in the United States – despite a decline in CPI inflation in October – core inflation continued to rise. The Council members emphasised that high inflation remained a global problem, yet, considerable monetary policy tightening by major central banks together with the fading of the earlier shocks boosting price growth, including a certain decline in prices of some commodities and the easing of global supply chain disruptions, would gradually curb global inflationary pressure.

The Council members pointed out that amid persistently high inflation the central banks of the largest economies continued to tighten monetary policy. The majority of the Council members emphasised that many of them, including the Federal Reserve of the United States and in particular the European Central Bank, had started raising interest rates much later than, for example, the central banks of Central and Eastern Europe. At the same time, it was pointed out that monetary policy tightening by the major central banks would be complementary to the decisions taken by the central banks of smaller economies that had already tightened monetary policy significantly.

While analysing the situation in the Polish economy, the Council members judged that the available monthly data pointed to a decline in annual GDP growth in 2022 Q3. The average growth in real retail sales dropped sharply compared to 2022 Q2, which suggested weakening consumer demand. In this context, attention was drawn to the fact that in October 2022 both the current and the leading consumer confidence indices of Statistics Poland were running at a low level. Furthermore, it was pointed out that the average growth in construction and assembly output in 2022 Q3 declined considerably, whereas the situation in the manufacturing sector remained relatively good; yet, also in this sector average output growth was lower than in 2022 Q2, despite the easing of global supply chain disruptions. Moreover, some Council members indicated that the manufacturing PMI had been on the decline for several months, pointing to a slowdown in this sector, with capacity utilisation in manufacturing in October having dropped to the lowest level in several quarters. At the same time, certain Council members emphasised that construction of buildings, as part of construction and assembly output, was at a level markedly higher than the long-term trend, data on construction and assembly output and on retail sales suggested that those indicators were at the level of a long-term average, and that the growth of industrial output was above a long-term average, whereas certain business indicators inferred from survey studies did not always adequately anticipate future changes in economic situation.

While discussing the outlook for economic activity in Poland, some Council members pointed out that in line with the central path of the NBP November projection, GDP growth in 2023 should amount to 0.7% and domestic demand should decline. They indicated that GDP growth would also be relatively low in 2024 and the output gap would be negative from 2022 Q4 until the end of the projection horizon.

The Council members emphasised that the situation in the domestic labour market continued to be very good, which was reflected, in particular, in the very low unemployment rate. At the same time, it was pointed out that real wage growth in the enterprise sector remained negative in September, and that in line with the projection, wages in real terms were likely to decline further in the coming quarters. Moreover, some Council members indicated that business surveys signalled a deterioration in the labour market conditions which – in the opinion of those Council members – would weaken employees' wage bargaining power.

It was pointed out at the meeting that according to the Statistics Poland flash estimate, in October 2022 CPI in Poland increased to 17.9%. Alongside that, it was also stated that domestic inflation was still affected by strong exogenous shocks, including, in particular, global energy and agricultural commodity prices and persisting, though easing, global supply chain disruptions. Attention was paid to the fact that these shocks did not only directly affect prices in Poland, including mainly energy and food prices, but – by boosting corporate costs amid relatively high demand – were passed through to prices of other goods and services. As a consequence, core inflation was also on the rise. Referring to the risk of inflation persisting at an elevated level, certain Council members pointed to rising consumer inflation expectations and higher inflation forecasts by analysts in October 2022. They also indicated a significant role of domestic demand factors and a limited scale of mitigating inflationary pressure by the hitherto conducted monetary policy.

When discussing the outlook for inflation in Poland, it was indicated that in line with the NBP November projection, the annual CPI would remain high in the nearest future and in 2023 Q1 it might even exceed its current level, which would be driven by the effects of the earlier growth in commodity prices and the announced termination of some reduced tax rates implemented under the so-called Anti-inflationary Shield. Yet, according to the available forecasts, as from 2023 Q2 inflation should start to gradually decline to the NBP inflation target (2.5% +/- 1 percentage point) which, in the opinion of the majority of the Council members, should be supported in particular by the strong monetary policy tightening implemented so far by NBP, the effects of which will fully materialise in the coming years due to lags in the monetary policy transmission mechanism. In line with the central path of the November projection – under the assumption of unchanged interest rates – inflation would return to the NBP inflation target in 2025. Yet, certain Council members assessed that inflation might start to decline later than foreseen in the NBP November projection and that – even assuming the CPI would run in line with this projection – in 2023 and 2024 inflation would run significantly above the level embodied in the July projection.

Referring to fiscal policy in the context of its impact on the economy in 2023, the majority of the Council members pointed out that in line with the NBP estimates, in 2023 the general government structural deficit should be close to the 2022 level. Certain Council members judged that unfavourable conditions for financing the borrowing needs of the state budget should act towards reducing the deficit in 2023.

During the discussion it was argued that the hitherto strong monetary policy tightening by NBP had a significant impact on the situation in the credit market and the structure of private sector financial assets, which should curb domestic demand pressure. In this context, some Council members pointed out that in 2022 Q3 the stock of consumer loans had declined and lending in the housing loans segment had slowed down significantly. Certain Council members also indicated that the strong growth in corporate loans observed in the recent months concerned mainly the largest enterprises and might result from a deterioration in their liquidity position. Other Council members emphasised that the annual growth in PLN housing loans remained positive and that most firms finance investment using their own funds, which should be kept in mind while analysing lending to this sector. Referring to changes in the structure of financial assets of the private sector, it was pointed out that the outflow of funds from current deposits to term deposits and to the Treasury bonds market continued in the recent period. In the opinion of the majority of the Council members, these changes evidenced strong monetary policy tightening in Poland.

The majority of the Council members assessed that the expected weakening of the external economic conditions, together with monetary policy tightening by major central banks, would curb global inflation and commodity prices. The weakening of the global economic conditions would also hamper GDP growth in Poland. Under such circumstances, the hitherto significant monetary policy tightening by NBP would 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 would remain high, and its return to 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. 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. In the opinion of these Council members, considering the scenario of the gradual return of inflation to the NBP inflation target in the coming years as assumed in the November projection, amid the concurrent anticipated deterioration in domestic economic conditions, including in the labour market, it was justified to keep the NBP interest rates unchanged.

However, certain Council members expressed the opinion that given the still favourable – in their view – economic conditions in Poland, including in the labour market, the persistently high price growth and elevated inflation expectations as well as the too sluggish disinflation process in light of the forecasts, the hitherto scale of interest rate hikes was – in their opinion – insufficient to ensure the return of inflation to the target in the medium term and to lower inflation expectations to levels consistent with the medium-term inflation target.

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.

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

At the meeting, it was noted that growth of economic activity in the major economies was slowing down. Incoming information signalled, in particular, a further slowdown in economic activity in the euro area, including a possible fall in GDP in quarterly terms in 2022 Q4. On the other hand, GDP was expected to continue to grow in the United States. It was pointed out that although the situation in the labour markets of the largest economies remained favourable, economic activity and its prospects were still negatively affected by the consequences of Russia's military aggression against Ukraine, including the still high commodity prices, as well as the global monetary policy tightening. This was accompanied by deteriorating business conditions in China, to a large extent due to the pandemic situation and the pandemic restrictions imposed there. Moreover, some Council members observed that the available forecasts for 2023 suggested a marked decline in GDP growth in the largest developed economies compared to 2022. It was underlined that this also applied to Germany, Poland's largest trading partner, where – like in the euro area as a whole – a recession could not be ruled out in 2023. At the same time, it was emphasised that uncertainty persisted about the prospects for global economic growth.

The Council members indicated that in many economies inflation remained at the highest level for decades. Attention was drawn to the fact that core inflation remained high in most countries as well. At the same time, it was pointed out that in the United States CPI inflation had been slowing down for several months, while in the euro area the HICP index had declined in November for the first time in many quarters. This was supported by a fall in the prices of some commodities, including gas prices in Europe, and oil and agricultural commodities in global markets, as well as the gradual easing of the supply chain disruptions and a decline in freight prices. Under such conditions, in many countries – among others in the United States and the euro area, including Germany – the annual growth of producer prices had also begun to decrease, while in China it had fallen to negative values. The Council members were of the opinion that these factors would slow down growth in consumer prices around the world, although the secondary effects of the earlier shocks would continue to have an impact on inflation, and particularly on core inflation.

It was pointed out that many central banks were continuing to tighten monetary policy, although – as some Council members argued – further interest rate hikes by the major central banks would most likely be smaller in scale than the previously implemented increases, as was indicated also by market expectations. As a result, in the period preceding the meeting of the Council, long-term bond yields in the United States and the largest euro area countries had declined. At the same time, it was noted that following previous large hikes in interest rates, most central banks in Central and Eastern European countries had recently kept interest rates unchanged. On the other hand, certain Council members underlined that the Federal Reserve of the United States was indicating the possibility of raising interest rates to a level higher than expected in previous months, while with regard to the ECB, a reduction in the Eurosystem balance sheet in 2023 could be expected, which would additionally tighten monetary conditions in the euro area. Moreover – in the opinion of these Council members – in the case of many economies a reduction in interest rates should not be expected in the coming years.

While analysing the situation in the Polish economy, the Council members pointed out that in 2022 Q3 annual GDP growth had slowed down to 3.6% (compared to 5.8% in 2022 Q2). It was stressed that household consumption growth had fallen to 0.9%, while fixed capital formation growth had fallen to 2.0%, and that investment growth of large and medium-sized enterprises had declined, which was evidence of a sharp slowdown in domestic demand growth. On the other hand, the contribution of net exports and changes in inventories to GDP growth had increased. It was observed that monthly data for October and business confidence indicators for November signalled a further slowdown in economic activity in 2022 Q4, and in particular, that real retail sales growth and industrial production growth had been lower than on average in 2022 Q3. It was pointed out that the weakening of economic conditions was related, among others, to the slowdown in global economic growth, but was also a result of the fall in real household income, especially since it was accompanied by weak economic agents' sentiments, and took place following strong monetary policy tightening. At the same time, it was noted that growth in construction and assembly output in October 2022 had been close to the average for 2022 Q3, although some Council members judged that the sharp fall in newly granted housing loans would lead to a significant decline in housing construction in the coming period. On the other hand, certain Council members expressed the view that an analysis of selected "soft" economic indicators suggested that the recession phase was ending and that the economy was entering the recovery phase.

The Council members judged that the situation in the labour market remained good. At the same time, some Council members drew attention to the fact that the fall in total employment in annual terms observed in the LFS data for 2022 Q3, the results of the PMI surveys indicating plans to reduce employment, and the growing concerns of households about the rise in unemployment suggest a deteriorating labour market outlook. When referring to data for 2022 Q3, certain Council members pointed out that the public sector had a larger negative contribution to the annual fall in total LFS employment than the private sector. It was also underlined that despite the increase in nominal wages, real wage growth was negative.

At the meeting it was pointed out that according to the Statistics Poland flash estimate, CPI inflation in Poland had declined to 17.4% y/y in November 2022. It was noted that the slowdown in inflation had stemmed from the fall in fuel prices due to the decline in global oil prices and the appreciation of the zloty. It was judged that the probable fall in heating fuel prices, in particularly of coal, may also have been conducive to curbing inflation. At the same time, it was underlined that consumer price growth remained high, which was largely due to the impact of sharp external shocks, related predominantly to global commodity prices, which – amid still relatively high demand – had prompted companies to pass higher costs onto the prices of consumer goods. Combined with the persisting effects of global supply chain disruptions – despite their ongoing easing – this was also boosting core inflation. However, some Council members pointed out that the strength of these factors might be beginning to weaken, which was signalled by the gradual decline in the PPI index. Moreover, these Council members drew attention to a decline in consumer inflation expectations in November 2022 and a downward revision of financial analysts' forecasts of inflation in 2024. In turn, certain Council members underlined that consumer inflation expectations remained very high.

When discussing the outlook for inflation in Poland, it was indicated that inflation was likely to pick up at the beginning of 2023 due to the anticipated increase in energy prices, the planned withdrawal of some reduced tax rates under the so-called Anti-Inflation Shield and the base effects. Yet, according to the available forecasts, including the November NBP projection, as from 2023 Q2 inflation should start to gradually decline to the NBP inflation target (2.5% +/-1 percentage point). In the opinion of the majority of the Council members, the disinflation process would be supported by the strong monetary policy tightening implemented so far by NBP, the effects of which would fully materialise in the coming quarters due to lags in the monetary policy transmission mechanism. The disinflation process would also partly be the effect of the monetary policy tightening by major central banks – weakening global economic conditions – coupled with the expected fading impact of the supply shocks occurring in recent quarters and the easing of global supply chains' disruptions. It was emphasised that the decline in global agricultural commodity prices in recent months should soon translate into slower food price growth in Poland.

During the discussion the majority of the Council members argued that the strong monetary policy tightening hitherto implemented by NBP had a significant impact on the situation in the credit market. It was pointed out, in this context, that lending to households had slowed down significantly, and the stock of consumer and zloty housing loans had markedly declined since the beginning of the year. A decline in the M3 aggregate, in real terms, was also brought to attention, which – in the opinion of the majority of the Council members – was a sign of a strong monetary policy tightening in Poland, which would contribute to lower inflation, albeit with a lag. Furthermore, it was emphasised that even taking into account the so-called loan repayment holidays, the impact of higher debt service costs on household disposable income would be greater in 2023 than in 2022, which meant a further tightening in monetary conditions despite the NBP interest rates being kept unchanged. In contrast, other Council members pointed out that the interest rate on housing and consumer loans to households had risen by less than the NBP reference rate.

The majority of Council members underlined that given the assessments based on the November projection, the structural deficit of the general government sector in 2023 would remain close to its 2022 level, which suggested a neutral fiscal policy stance. Other Council members observed that the scale of fiscal measures aimed at alleviating the rise in food and energy prices charged to households in Poland – in relation to GDP – was significant in 2022 and could also be expected to be large in 2023.

The majority of the Council members assessed that the expected weakening of the external economic conditions, together with monetary policy tightening by major central banks, would curb global inflation and commodity prices. The weakening of the global economic conditions would also hamper GDP growth in Poland. Under such circumstances, the hitherto significant monetary policy tightening by NBP would support a decline in inflation in Poland towards the NBP inflation target. At the same time, given the strength and persistence of the current shocks that remain beyond the impact of domestic monetary policy, in the short term inflation would remain high, and its return to the NBP inflation target would be gradual. Alongside that, it was underlined that the Council flexibly determined the desirable time necessary to bring 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 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. In the opinion of these Council members, considering the expected scenario of the gradual return of inflation to the NBP inflation target in the coming years, amid the deterioration in domestic economic conditions, including in the labour market, and the incoming signals of the global inflationary pressure slowing down, it was justified to keep the NBP interest rates unchanged.

However, certain Council members expressed the opinion that given the still favourable – in their view – economic conditions in Poland, including in the labour market, the persistently high price growth and elevated inflation expectations, the hitherto scale of interest rate hikes was – in their opinion – insufficient to ensure the return of inflation to the target in the medium term and to lower inflation expectations to levels consistent with the medium-term inflation target. In the opinion of those Council members, the disinflation process as foreseen by the forecasts, and particularly the decline in core inflation, would be too slow.

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.

Minutes of the Monetary Policy Council decision-making meeting held on 4 January 2023

At the meeting, it was noted that global economic conditions deteriorated in recent months. Incoming data signalled, in particular, that in 2022 Q4 economic activity in the euro area, Poland's major trading partner, might have slowed down. Some members of the Council pointed out that prospects for economic activity in the euro area, including Germany, also for 2023 were unfavourable and GDP growth might be close to zero. Slowdown in global economic growth was largely the effect of high energy prices, elevated uncertainty and global monetary policy tightening. This was accompanied by uncertainty related, among others, to consequences of China's moving away from pandemic restrictions.

The Council members pointed out that in recent months inflation in many economies started to decline. This was reflected, in particular, in the latest data on HICP inflation for some of euro area economies. Yet, it was emphasised that global inflation remained high. Some Council members highlighted high core inflation in most countries. The Council members stressed that the decline in inflation would be supported by the fall in the prices of some commodities, including prices of gas in Europe and prices of oil and agricultural commodities in the global markets, as well as the gradual easing of supply chain disruptions and a decline in freight prices.

It was pointed out that many central banks were continuing to tighten their monetary policy. This concerned, in particular, the Federal Reserve of the United States and the European Central Bank which raised interest rates for another time, although to a lesser extent than before. At the same time, it was indicated that these banks started their interest rate hikes much later than NBP. Certain Council members also highlighted that the effects of monetary policy tightening in the United States and the euro area would only materialise in the coming quarters. Other Council members, in turn, pointed out that communication of major central banks suggested further monetary policy tightening, which – given high levels of core inflation and elevated nominal wage growth – may reflect their concerns about more persistent inflation. Alongside that, it was noted that following previous large interest rate hikes, most central banks in non-euro area countries of Central and Eastern Europe had recently kept interest rates unchanged.

While analysing the situation in the Polish economy, the Council members indicated that in 2022 Q4 economic conditions continued to deteriorate. It was pointed out that although retail sales rose faster in November than in October, its pace was still sluggish. Industrial production growth in November was the weakest in many quarters. In turn, growth in construction and assembly output in November was close to the October figure, whereas some Council members emphasised that growing costs of financing were strongly undermining the outlook for the construction sector as indicated by, among others, the declining number of home construction starts. At the same time, it was pointed out that in December 2022 selected economic indicators rose somewhat, yet remained low. In effect, it was judged that the annual GDP growth in 2022 Q4 slowed down markedly for another consecutive quarter. It was also underlined that the coming quarters would probably see a further decline in GDP growth, which would include low growth in both consumption and investment.

In the opinion of the Council members, the situation in the labour market remained good, which was reflected, in particular, in the low unemployment rate and a relatively strong rise in nominal wages. However, it was pointed out that growth in nominal wages was lower than inflation, which led to a decline in real wages and had a negative impact on growth in consumption demand. Some Council members also noted the fall in the LFS employment in 2022 Q3 as well as the results of Statistics Poland studies and NBP surveys signalling weakening of labour demand in the Polish economy, although situation differed across sectors.

At the meeting, it was pointed out that the annual CPI in Poland in November 2022 declined to 17.5%. It was indicated that the fall in the annual CPI inflation was mainly driven by declining growth in the energy prices, including declining prices of heating fuels and fuels for private means of transport, as well as the base effects. Alongside that, core inflation net of food and energy prices rose to 11.4% in November 2022, which was largely the result of delayed effects of the rise in prices of energy, commodities, materials and intermediate goods. The persisting strong cost pressure also contributed to a slight rise in the annual growth of food prices. The Council members assessed that December 2022 might be expected to see a further fall in CPI inflation. It was pointed out that November 2022 saw another decline in PPI inflation, which might evidence the lessening of cost pressure in the economy. It was also emphasised that in December inflation expectations of both households and businesses declined.

When discussing the outlook for inflation in Poland, the Council members indicated that inflation would probably increase in the early months of 2023, due to the withdrawal of some of the reduced tax rates introduced under the so-called Anti-inflationary Shield and the impact of the previous energy price rises. At the same time, the majority of the Council members underlined that in light of available forecasts and assuming no further shocks, inflation should gradually decline from 2023 Q2, converging towards the medium-term NBP target (2.5% +/- 1 percentage point). In the opinion of these Council members, the disinflation process would be supported by the hitherto significant monetary policy tightening by NBP, whose full macroeconomic effects would be increasingly visible, as well as the tightening of the global financing conditions, which acts towards slower global economic activity and lower commodity prices. Some Council members additionally observed that incoming data hinted at the possibility of inflation running somewhat below the path of the November projection in the coming quarters. In turn, certain Council members emphasised that in line with current forecasts, the average annual inflation in 2023 would be only slightly lower than in 2022, while the average annual core inflation would be higher in 2023 than in the previous year.

During the meeting, it was pointed out that the strong monetary policy tightening conducted by NBP so far had an impact on monetary conditions in the Polish economy. In this context it was observed that lending to households had slowed down, which was particularly visible in a decline in debt arising from housing and consumer loans. Some Council members underlined that the NBP interest rate hikes had also been reflected in substantially higher rates on loans in recent quarters, including on corporate loans, and a change in the dynamics and structure of monetary aggregates, including in a rise in term deposits and a decline in cash.

The majority of the Council members assessed that the expected weakening of the external economic conditions, together with monetary policy tightening by major central banks, would curb global inflation and commodity prices. The weakening of the global economic conditions would also hamper GDP growth in Poland. Under such circumstances, the hitherto significant monetary policy tightening by NBP would support a decline in inflation in Poland towards the NBP inflation target. At the same time, given the strength and persistence of the shocks that remain beyond the impact of domestic monetary policy, in the short term inflation would remain high, and its return to the NBP inflation target would be gradual. Alongside that, it was underlined that the Council flexibly determined the desirable time necessary to bring inflation back to the target, as bringing inflation rapidly back to the target might entail significant costs to macroeconomic and financial stability. The decrease in inflation would be faster if supported by an appreciation of the zloty exchange rate, which, in the Council's assessment, would be consistent with the fundamentals of the Polish economy. In the opinion of the Council, considering the expected scenario of the gradual return of inflation to the NBP inflation target in the coming years, amid the deterioration in domestic economic conditions, including in the labour market, and the incoming signals of the global inflationary pressure slowing down, it was justified to keep the NBP interest rates unchanged.

Certain Council members expressed the opinion that given the persistently high price growth and elevated inflation expectations, the hitherto scale of interest rate hikes by NBP was insufficient to ensure the return of inflation to the target in the medium term and to lower inflation expectations to levels consistent with the medium-term inflation target. In the opinion of those Council members, the disinflation process as foreseen by the forecasts, and particularly the decline in core inflation, would be too slow.

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 7-8 February 2023

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%.

In 2022 Q4 the annual GDP growth in major economies declined. In particular, the euro area saw a further lowering of growth in activity. Although business condition indicators in this economy have slightly improved lately, forecasts still foresee a significant slowdown in euro area GDP growth in 2023. Activity in the global economy and its prospects continue to be negatively affected by the impact of Russia's military aggression against Ukraine, including high energy prices, as well as by the tightening of monetary policy around the world. There persists uncertainty regarding further impact of these shocks on global economic conditions.

Inflation in many economies has recently declined, although it remains high. High price dynamics is strongly influenced by high energy prices, protracted effects of the earlier supply shocks, including shocks at commodity markets, as well as demand factors and increasing labour costs. Under such conditions, core inflation in most countries likewise remains high. However, in recent months, prices of some commodities have declined. At the same time, supply chain disruptions are visibly mitigated compared to the first half of 2022. As a result, price pressures are diminishing, which translates into lower growth in producer prices in many countries.

The Federal Reserve of the United States and the European Central Bank raised again their interest rates in February 2023. In turn, some central banks of emerging economies, including those in the Central-Eastern Europe region – after earlier significant monetary policy tightening – have kept interest rates unchanged.

In Poland, incoming data confirm a slowdown in economic activity. According to Statistics Poland preliminary estimate, GDP growth in 2022 declined to 4.9% y/y, which implies that in 2022 Q4 the annual GDP growth most likely decreased once again. Despite the decelerating GDP growth, labour market situation remains good, which is reflected i.a. in a low unemployment rate. At the same time, data on the corporate sector show that nominal annual growth in average wages in December 2022 slowed down compared to the previous month.

Inflation in Poland in December 2022 decreased to 16.6% y/y. The decrease in CPI in year-on-year terms compared to November was mainly driven by lower growth in prices of energy carriers and fuels, due to a decline in prices of coal and oil. In 2022, as a whole, both CPI inflation as well as core inflation were running at high levels. Amid rising demand, a significant increase in costs – resulting from a strong surge in commodity prices and disruptions in global value chains – was passed through to consumer prices. In turn, the so-called Anti-inflationary Shield continued to limit dynamics in consumer prices in 2022. In final months of 2022, commodity prices and producer price growth declined, and disruptions in global value chains were markedly less acute than earlier, which together with the expected economic slowdown, will support a gradual easing of consumer price dynamics.

The Council assessed, that the weakening of the external economic conditions, together with monetary policy tightening by major central banks, will curb global inflation and commodity prices. The deterioration of the global economic conditions also hampers 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 recent 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 prospects 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.

Information from the meeting of the Monetary Policy Council held on 7-8 March 2023

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%.

In 2022 Q4, global economic growth slowed down. In the euro area – despite some improvement in recent months – economic conditions remain weakened. At the same time, forecasts suggest a significant slowdown in GDP growth in 2023. Inflation in major advanced economies has declined. However, in most economies, it remains high, driven by lagged effects of the earlier supply shocks, including in energy market, as well as demand factors and increasing labour costs. In recent months, prices of energy commodities have declined, which together with softening of supply chain disruptions reduces price pressures. It is reflected in systematically declining growth in producer prices. At the same time, core inflation remains high.

The Federal Reserve of the United States and the European Central Bank continue to increase their interest rates. In turn, central banks in Central-Eastern Europe – after earlier significant monetary policy tightening – are now keeping interest rates unchanged.

Amid the weakening of economic growth around the world, also in Poland activity has slowed down. In 2022 Q4, real GDP growth declined to 2.0% y/y. Reduction in consumption demand lowers economic growth. At the same time, investments continue to increase. Despite the slowdown in activity, labour market situation remains good, including low unemployment. The number of working persons remains high, although its decline in the private sector is observed.

CPI inflation in Poland in January 2023 – according to Statistics Poland flash estimate – was 17.2% y/y. The increase in inflation compared to December was driven to a large extent by an increase in VAT rates for energy goods. At the same time, despite weakening demand growth, the level of inflation was still affected by a significant increase in costs

– resulting from an earlier strong surge in international commodity prices and disruptions in global value chains – that was passed through to consumer prices. However, for several months commodity prices and PPI inflation have been decreasing, which signals a gradual easing of external supply shocks. Together with weakening economic activity, it will support a decline in domestic CPI inflation in the coming quarters.

The Council became acquainted with the results of the March 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 28 February 2023, there is a 50-percent probability that the annual price growth will be in the range of 10.2 – 13.5% in 2023 (against 11.1 – 15.3% in the November 2022 projection), 3.9 – 7.5% in 2024 (compared to 4.1 – 7.6%) and 2.0 – 5.0% in 2025 (compared to 2.1 – 4.9%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of -0.1 – 1.8% in 2023 (against -0.3 – 1.6% in the November 2022 projection), 1.1 – 3.1% in 2024 (compared to 1.0 – 3.1%) and 2.0 – 4.3% in 2025 (compared to 1.8 – 4.4%).

The Council assessed, that the weakening of the external economic conditions, together with a decline in commodity prices, will continue to curb global inflation, which will contribute to lower price growth in Poland. Decline in domestic inflation will be supported by the weakening in GDP growth, including consumption, amid significant decrease in credit growth. As a result, the Council assesses that the earlier strong monetary policy tightening undertaken by NBP will lead to a decline in inflation in Poland towards the NBP inflation target. At the same time, given strength and persistence of the recent shocks that remain beyond the impact of domestic monetary policy, the return of inflation to the NBP inflation target will be gradual. Such an assessment is supported by the March projection of inflation and GDP. 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 prospects for inflation and economic activity.

NBP will take all necessary actions in order to ensure macroeconomic and financial stability, including above all to bring inflation to the NBP inflation target in the medium term. 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 March projection based on the NECMOD model covers the period from 2023 Q1 to 2025 Q4. The starting point for the projection is 2022 Q4.

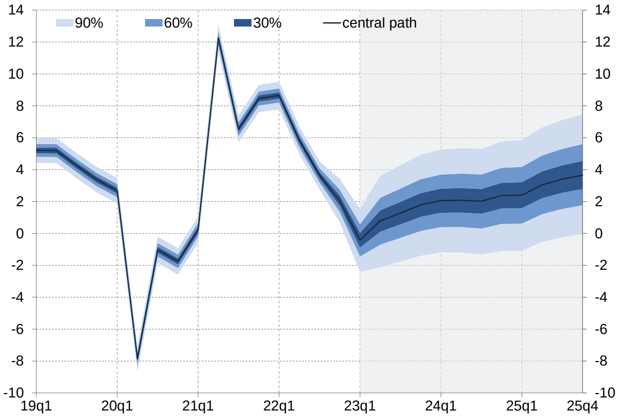
The projection was prepared under the assumption of the unchanged NBP interest rates. The cut-off date for the data used in this projection is 28 February 2023.

4.1 Summary

The central scenario of the current projection is significantly affected by the macroeconomic effects – spread over time – of the concurrence of many disruptions impacting on the global economy, largely in the form of negative supply shocks. For a year these disruptions have been amplified by the consequences of the Russian military aggression against Ukraine. In particular, the functioning of many economies around the world, including the Polish economy, are negatively affected by the high global prices of energy and agricultural commodities, which are accompanied by Russia's cuts in gas supplies and other commodities to Europe. The high level of uncertainty, and the tightening of global monetary conditions, are also impacting on the decisions of economic agents regarding the allocation of resources. Domestic price-setting is also affected by the high costs of CO_2 emission allowances and tensions in global supply chains, although these have eased in the recent period. These factors, combined with a large increase in labour costs, are leading to a 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 domestic inflation is significantly mitigated by the government's anti-inflationary measures, including, in particular, the introduction of a cap on the prices of electricity and the freezing of gas prices for households as well as support for other entities and also stronger effects of the NBP interest rate hikes.

In 2023-2025, CPI inflation will decline as factors currently 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

Figure 4.1 GDP (y/y, %)



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

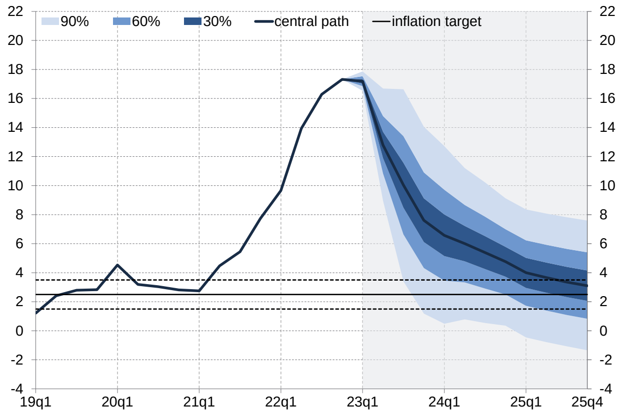
Fan charts depict the probability distribution of possible outcomes of GDP growth (Figure 4.1) and inflation rate (Figure 4.2). The part of the chart in the grey background illustrates forecast uncertainty of these variables over the projection horizon. It was assumed that the probability distribution 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.).

many sectors of the economy. A gradual decline in inflation over the project horizon is supported by the continued low level of aggregate demand in the economy, reduced cost pressure in the labour market due to falling demand for labour 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. The domestic economic conditions 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 unfavourable impact of the marked slowdown in GDP growth in the major developed economies on domestic economic activity will increase, and the consequences of the current NBP interest rate hikes will also gradually materialise. In 2024 the positive impact of the recovery abroad will be limited by 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 entities and enterprises.

The future economic activity and CPI inflation path in Poland depend to a considerable extent on the scale of disruptions to the global economy triggered by Russia's military aggression against Ukraine. The future monetary policy of the major central banks is also a significant source of risk for the economic conditions abroad. The balance of uncertainty factors indicates a close to symmetric distribution of risks for CPI inflation and a slight downward asymmetry of risks for 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

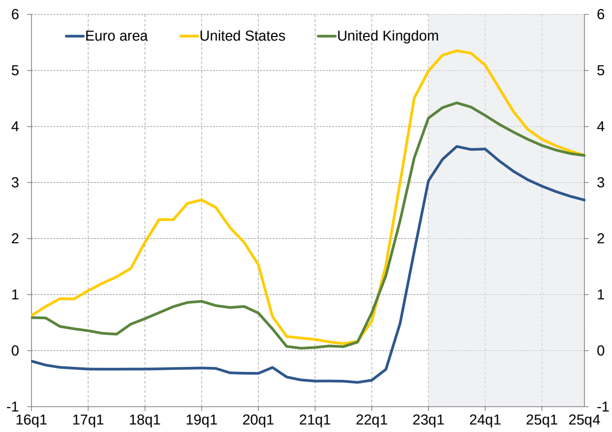
In 2022 Q4, GDP growth rate in the majority of advanced economies declined further as it continued to be affected by the negative supply shock in energy commodity markets amid monetary policy tightening (Figure 4.3). Growth in these economies was also curbed by the temporary sharp fall in economic activity in China triggered by a renewed increase in COVID-19 infections. At the same time, the impact of the energy crisis on the euro area economy proved to be less severe than previously expected, helped by more favourable conditions in the European natural gas and electricity markets and the shielding measures put in place to protect households and some firms. In the United States, incoming data point to the high resilience of the labour market to the ongoing cycle of significant monetary policy tightening, which has a positive impact on the future path of consumer spending. This is accompanied by an improved outlook for economic activity in China linked to the expected positive effect of the adjustment of this economy to operating in a more relaxed epidemic regime. As a result of the above-mentioned factors, the economic slowdown in the external environment of the Polish economy is expected to be milder than assumed in the previous projection. This is reflected in the upward revision of the GDP forecasts for the advanced economies in 2023 in the current forecasting round (Table 4.1).

Table 4.1 GDP abroad – March projection versus November projection

	2022	2023	2024	2025
GDP in Euro Area (y/y, %)				
March 2023	3.5	0.7	1.5	1.6
November 2022	3.2	0.1	1.7	1.7
GDP in Germany (y/y, %)				
March 2023	1.9	0.2	1.6	1.6
November 2022	1.6	-0.3	2.1	1.9
GDP in United States (y/y, %)				
March 2023	2.1	1.3	1.6	1.9
November 2022	1.8	0.5	1.9	1.9
GDP in United Kingdom (y/y, %)				
March 2023	4.0	-0.2	1.0	1.4
November 2022	4.3	-0.4	1.2	1.5

Source: NBP calculations.

Figure 4.3 Interest rates abroad (%)



Source: Bloomberg data, NBP calculations.

Inflation and commodity markets

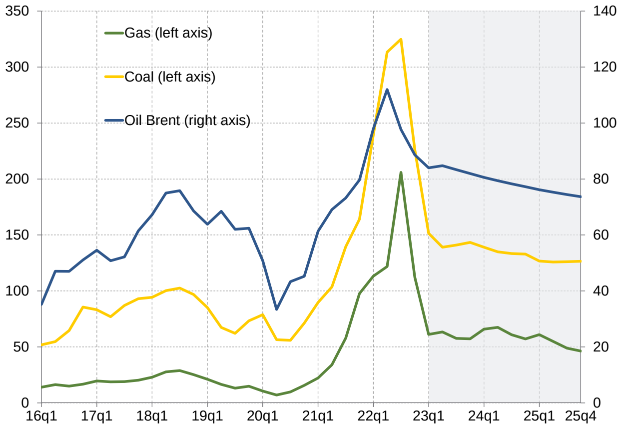
In the face of a weakening global economy, oil prices declined and are currently below the levels observed before Russia's aggression on Ukraine (Figure 4.4). On the other hand, sharper falls in oil prices are counteracted by reduced oil supply associated with the extension of sanctions imposed on Russia and the OPEC+ countries' policy of oil production cuts, and more recently also by expectations of increased demand from China following the lifting of epidemic restrictions in this country. At the beginning of 2023 natural gas prices in the European market also fell below the levels observed before the Russian invasion of Ukraine. This was due to the warm winter in Europe, which reduced heating needs, and the increased supply of gas from countries other than Russia (Figure 4.4). The prices of coal, which is a substitute for gas in the generation of heat and electricity, also declined.

Futures quotes suggest that global prices of energy commodities will gradually decline (Figure 4.4, Figure 4.5).[39] However, over the whole of the projection horizon they will remain significantly higher than before the outbreak of the pandemic. The fall in prices of natural gas will be supported by reduced demand, including by implementing further measures aimed at reducing gas consumption in Europe, alongside the increased capacity to import 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. Over the projection horizon, energy commodity prices will also be pushed down by the gradual increased use of renewable energy sources around the world.

The extension of the agreement enabling the export of cereals and oilseeds from Ukraine via the Black Sea supported the decline of NBP's index of agricultural commodity prices at the end of 2022 and beginning of 2023 (Figure 4.5). However, the prices of many agricultural commodities continue to be affected by the high prices of energy commodities as well as high production costs. Over the projection horizon, along with declining energy commodities prices and the reduced scale of disruptions resulting from the Russian aggression, global prices of agricultural products are expected to gradually decrease (Figure 4.5).

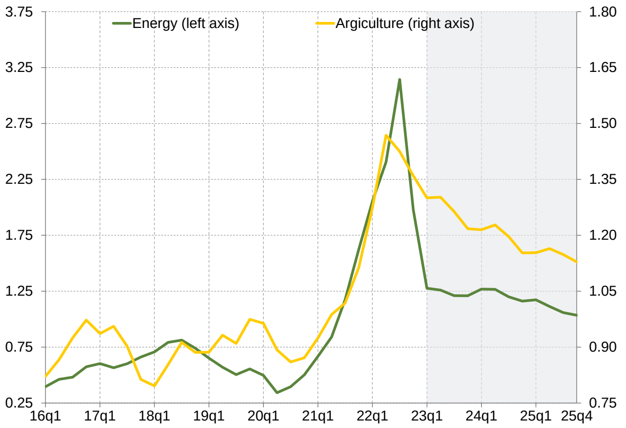
Price growth in the global economy remains high; however, in recent months growth in consumer prices and producer prices fell in the major

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



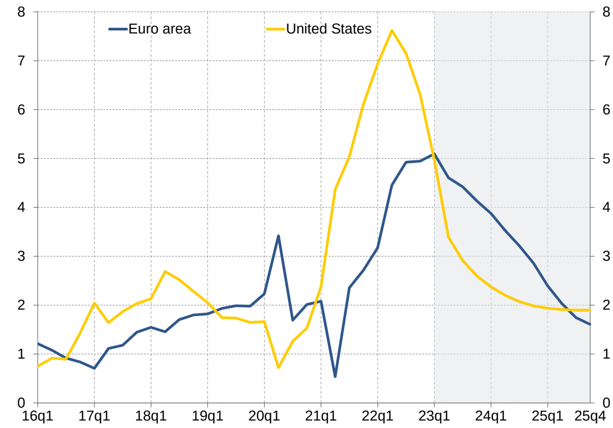
Source: Bloomberg data, NBP calculations.

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.

[39] 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 London.

advanced economies following the decline in energy prices and partial easing of disruptions in global trade (see Chapter 1.2 *Inflation developments abroad*). Over the projection horizon, price growth in the global economy will fall following the further gradual phasing out of factors acting in boosting inflation, supported by the measures taken by the major central banks. However, due to the second-round effects of earlier increases in production costs, alongside the continued high nominal wages growth, the decline in inflation in the advanced economies will proceed gradually (Figure 4.6).

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



Source: Bloomberg, Eurostat data, NBP calculations.

Uncertainty

Europe and the whole world continue to see heightened geopolitical risks related to the Russian aggression on Ukraine and tensions in certain other regions of the world. The further course of the aggression, as well as the future political decisions regarding retaliatory actions will affect the global economy as well as the prices and supply of energy and agricultural commodities in global markets. This is accompanied by uncertainty regarding the assessment of the impact of the significant monetary policy tightening by the major central banks on the global economy. The above risks are more extensively discussed in Chapter 4.5 *Forecast uncertainty sources*.

4.3 Polish economy in 2023-2025

Government shielding measures

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. These measures have a significant impact on the projected path of CPI inflation and GDP. While in 2022 tax cuts and social transfers were the most important legislative changes, in 2023 the role of regulation of energy

Table 4.2 Fiscal costs of the government support measures related to the high energy prices (impact on the headline deficit, in % of GDP)

Fiscal costs of measures aimed at shielding economy from the impact of high energy prices (in % of GDP)	2022	2023
Tax cuts within the Anti-inflation Shield	1.0	0.3
Compensation payments to natural gas distributors/heating providers/electricity providers for tariff freezes for households and certain public entities, compensation payments to coal distributors due to preferential prices for households	0.4	2.3
Subsidies to energy intensive industry to compensate for electricity and gas prices	-	0.2
Energy cost allowances targeted at vulnerable households, heating cost allowances targeted at households (coal, wood, heating oil, pellet, electricity), VAT refunds for certain households related to purchase of natural gas for heating	0.5	0.1
Compensation payments to farmers to mitigate substantial increase of the fertilizers prices	0.1	-
Mechanism capping profits of certain electricity producers and companies extracting natural gas	-0.0	-1.0
Total fiscal costs	**1.9**	**1.8**

Source: NBP calculations based on the government estimates.

carriers prices for households increased significantly.

The beginning of 2023 saw the phasing out of the reductions in VAT and excise tax on energy carriers which were introduced under the Anti-Inflation Shield at the end of 2021 and beginning of 2022. At the same time, the government extended the period in which the zero VAT rate on staple food products will be in force and the period in which the sales of fuels will be exempted from retail sales tax. It also lowered VAT rates on selected agricultural products. The cost of the above tax cuts for the public finance sector will be 0.3% of GDP in 2023 (compared to a reduction in direct taxes in 2022 at the level of 1.0% of GDP, Table 4.2).

In 2023 the key government measures shaping the path of energy prices were the statutory regulation of tariffs of selected energy carriers combined with the compensation payments to its providers and distributors. At the beginning of December 2022, a cap on electricity prices for households, public utility companies and micro, small and medium-sized firms was introduced. In accordance with the current legislation, this solution is to remain in force until the end of 2023 and will be partly financed by electricity producers and trading companies. Since January 2023 gas prices for households and vulnerable entities have also been frozen at the 2022 level of prices. Retailers will receive compensation partly financed by gas extraction companies. In October 2022 a statutory cap was introduced on the increase in tariffs for heating and hot water for households and public utility companies which will be in place until the end of 2023. In October 2022, regulations were also adopted which allow households to purchase coal from local governments in the current heating season at preferential prices, with the financial support provided to coal importers. According to NBP estimates based on government documents, the total value of compensation payments resulting from the regulation of tariffs on gas, coal, heating and electricity amount to 2.3% of GDP (compared to 0.4% of GDP in 2022), while a large part of this sum – 1.0% of GDP – will be financed by electricity producers and extractors of natural gas (Table 4.2). In the March projection it was assumed that the scale of government support aimed at limiting the increase in prices of basic energy carriers for vulnerable entities will be gradually reduced in the years 2024-2025 following the decline in global prices of these commodities.

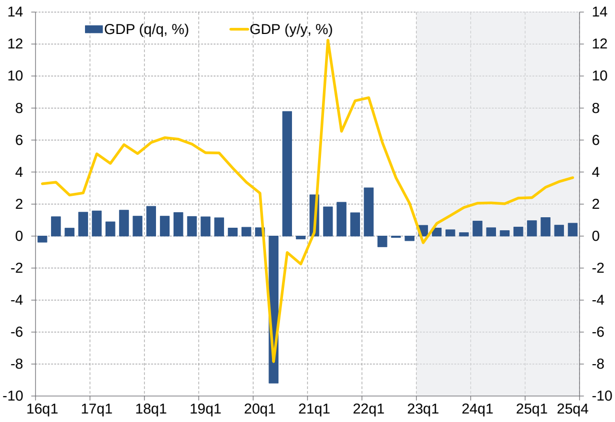
In the coming quarters the government will also support energy-intensive enterprises by partially financing their electricity and gas bills. In 2023, the cost of this support will reach the level of 0.2% of GDP (Table 4.2).

Additional support is provided to households affected by the rise in energy prices, although on a smaller scale than in 2022 (0.1% of GDP against 0.5% of GDP in 2022, Table 4.2). In 2023 households will receive the last one-off subsides related to the use of coal for heating as well as shielding allowances. Households using electricity to heat their homes will receive electricity allowances whereas private recipients using gas fuels for heating will get VAT refunds.

Economic activity

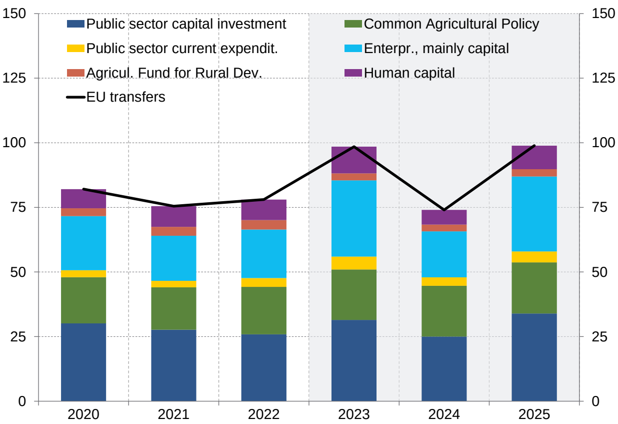
The substantial weakening in economic activity observed in Poland since 2022 Q2 will continue in the coming quarters. The available data indicate that in year-on-year terms the growth rate will reach its minimum level just below zero in 2023 Q1, when a marked fall in most GDP components will be compounded by the negative base effect driven by the strong rise in inventories in 2022 Q1 (see Figure 4.7, Figure 4.9). Domestic economic conditions will continue to be affected by strong negative shocks, including a commodity shock amplified by the consequences of Russia's aggression against Ukraine. Economic activity in Poland will be also adversely affected by the marked slowdown abroad, as well as the gradual materialisation of the effects of the current NBP interest rate hikes. At the same time, the scale of the

Figure 4.7 Economic growth



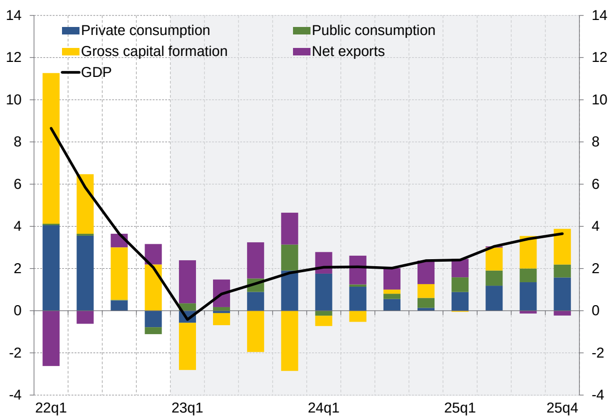
Source: Statistics Poland (GUS) data, NBP calculations.

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



Source: NBP calculations.

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



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

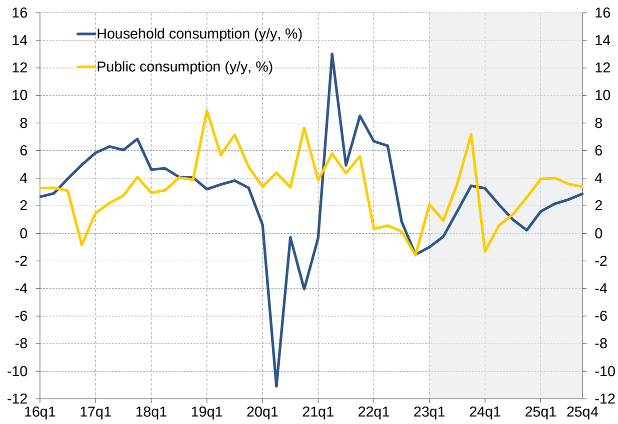
decline in domestic economic conditions will be mitigated by a range of protective measures for households and entities vulnerable to increases in the prices of energy carriers (see also section *Government shielding measures*).

As the negative supply shocks gradually fade away and activity abroad recovers, economic growth will gradually accelerate in the upcoming quarters. The scale of the recovery in 2024 will be constrained by the expected substantial decline in the inflow of EU funds after the spending of funds under the 2014-2020 EU framework has ended (Figure 4.8). The assumption made in the projection that NBP interest rates will remain at their February 2023 level over the whole of the projection horizon is a factor curbing the forecast acceleration in growth.

In the projection horizon, household consumption growth rate will run at levels substantially lower than the values observed in 2021 Q2 to 2022 Q2 (Figure 4.10). Consumer expenditure will be constrained by high CPI inflation envisaged for the coming quarters, which will reduce the purchasing power of the population, deteriorating consumer sentiment and by the effects of the NBP interest rate hikes implemented so far. The impact of the above factors will be partially mitigated by the legislative measures introduced by the government protecting households against sharp increases in electricity, natural gas and heat energy prices. The favourable changes in PIT (personal income tax) settlement for taxpayers for 2022, which result from the shape and mode of implementation of the Polish Deal programme, and the support to people repaying mortgage loans in Polish zloty will also have a positive impact on consumer spending.

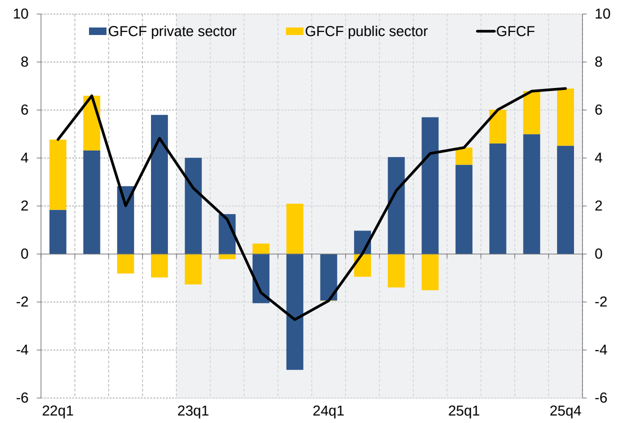
In the coming quarters, private investment will continue to be affected by the strong repercussions of Russia's military aggression against Ukraine. The persistently high global commodity prices, which are affecting the costs of energy consumption, will have a negative impact on investment demand. In surveys conducted in 2022 Q4, enterprises indicated increased investment

Figure 4.10 Household and public consumption



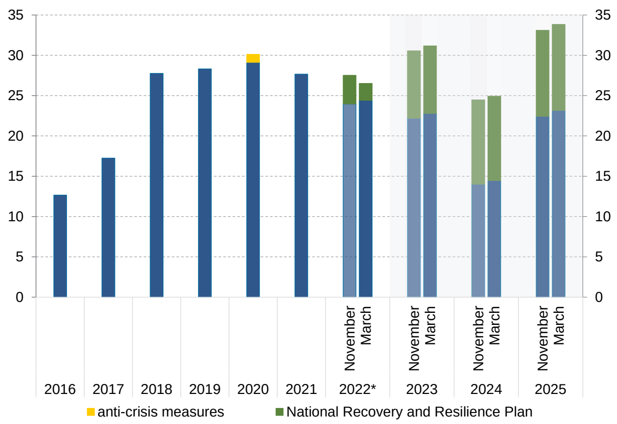
Source: Statistics Poland (GUS) data, NBP calculations.

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.

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

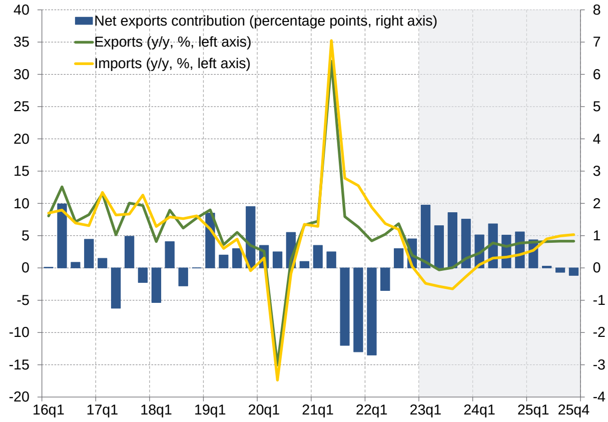


Source: MFiPR, Statistics Poland (GUS) data, NBP calculations.
* NBP estimates.

costs (unrelated to financing) as the biggest barrier limiting their investment activity.[40] The fall in investment optimism, which has persisted for several quarters, is also the result of concerns about declining demand – both domestic and foreign – due to the slowdown in Poland's external economic environment.[41] The effects of the NBP interest rate hikes implemented so far, which are spread over time, limiting the availability of credit and increasing its cost, also have a negative impact on the path of private investment and on housing demand in particular. Under the impact of the above factors, private investment growth will decline significantly in 2023 and will run close to zero (Figure 4.11). A gradual recovery in investment demand is expected from 2024, driven by the need to increase corporate productive capital after the reduced investment rate during the pandemic, and given the low degree of automation and robotisation of Polish industry as well as rising labour costs.

The projected path of public investment is largely 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 (RRF), it was assumed that in 2023-2025 the amounts drawn will increase, in line with the government's assumptions of the *Convergence Programme* of April 2022. At the same time, due to the suspension of the process of applying for EU funds allocated for expenditure under the RRF, the implementation of projects that have already started under this programme is temporarily financed by domestic funds. In 2024, on the back of falling EU capital transfers as expenditure under the 2014-2020 EU framework comes to an end, public investment will decline significantly (Figure 4.11). As a result of the EU funds absorption under the 2021-2027 framework rising, public investment growth will pick up again in 2025. At the same time, capital expenditure of the public sector in 2023-2025 will

Figure 4.13 Foreign trade



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

[40] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, January 2023.
[41] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, January 2023.

be boosted by the planned increase in defence spending.

Due to the ongoing slowdown in economic activity in the major developed economies, including in the German economy, demand for Polish goods and services will decline in 2023 compared to previous years, resulting in a decline in export and import growth (Figure 4.13). At the same time, on account of the significant slowdown in domestic demand growth and the stronger cyclical response of imports than exports, the contribution of net exports to GDP growth will increase, running at a positive annual average level in the years 2023-2025.

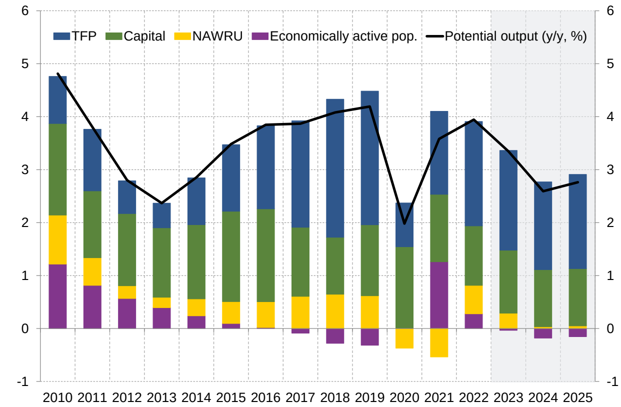
Potential output and the output gap

Following the relatively high growth in the potential output of the Polish economy in 2022, resulting from the post-pandemic increase in the utilisation of production factors – both capital and labour – in the coming years its growth will slow down (Figure 4.14). This is a result of the limited room for a further decline in the equilibrium unemployment rate (NAWRU) and also a decline in the growth in total factor productivity (TFP), which will return to its long-term trend.

The deteriorating demographic situation, reflected in a decline in the number of people of productive age, and as a result, in the economically active population, will also have an unfavourable impact on potential output growth. On the other hand, the productive capacity of the Polish economy in the projection horizon is boosted by the increase in the labour supply following the inflow of refugees from Ukraine,[42] which outweighs the negative impact of the simultaneous outflow of migrants (mainly men) from certain industries.

Due to the decline in the GDP growth rate over 2022, the output gap narrowed significantly and

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



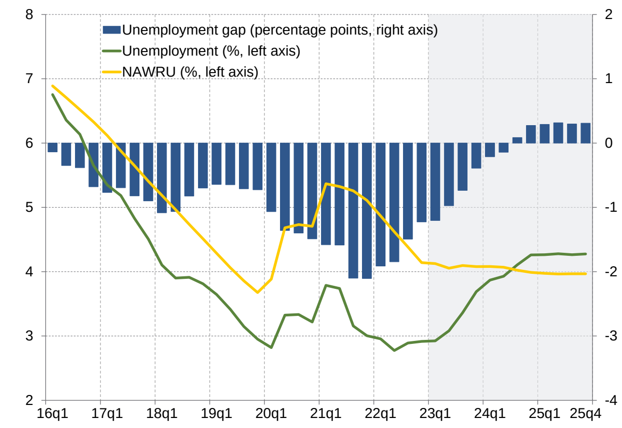
Source: NBP calculations.

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.

[42] 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).

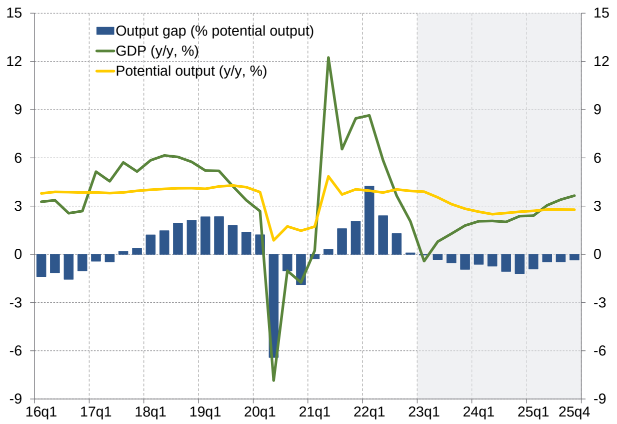
was already running close to zero in 2022 Q4 (Figure 4.16). The relatively slow growth in economic activity in the coming years will contribute to the persistence of a negative output gap throughout the projection horizon. This implicates a reduced demand pressure in the coming years, contributing to a decline in CPI inflation.

Labour market

In the projection horizon, following the slowdown in domestic economic activity, demand for labour will weaken, but it is assumed that unemployment will not rise significantly (Figure 4.15, Figure 4.17).[43] This scenario is confirmed by NBP surveys,[44] which indicate that the planned employment level in enterprises has declined in recent quarters, but is still well above the long-term average. The growth in unemployment will also be curbed by the decreasing labour force participation, which results from the negative impact of demographic trends (Figure 4.18). On the other hand, the expected rise in employment of Ukrainian immigrants over the projection horizon will alleviate the decline in domestic labour force, although due to the survey methodology, it will be reflected in the LFS statistics only to a limited extent.

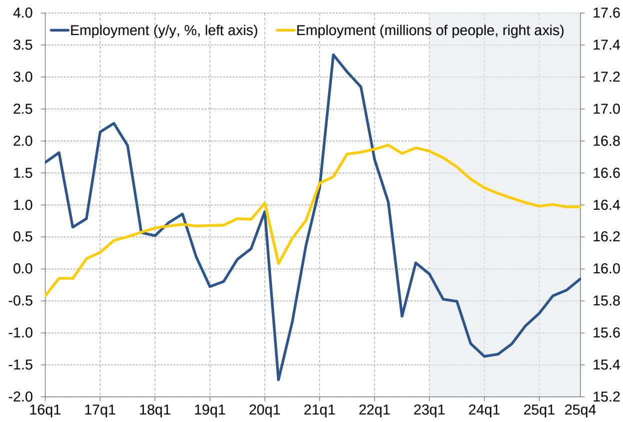
Amid faster price growth and noticeable staff shortages in many sectors, nominal wages in the national economy will continue to see double-digit growth in 2023 (Figure 4.19). This assessment is confirmed by NBP surveys, according to which a substantial percentage of enterprises plan to raise wages in 2023 Q1, while the average planned wage increase is high.[45] In 2024-2025, with limited economic growth, growth in the unemployment rate and declining inflation, nominal wage growth

Figure 4.16 Output gap



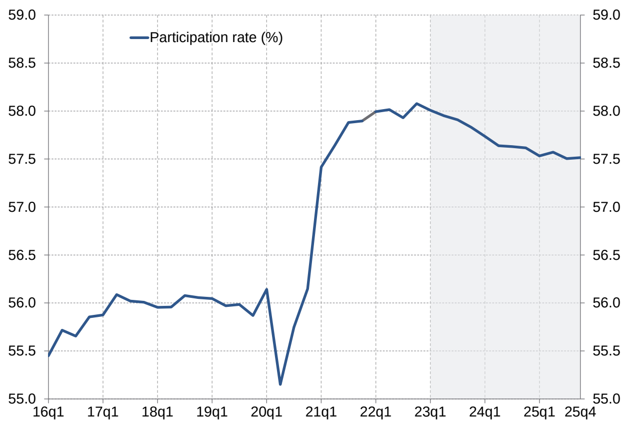
Source: Statistics Poland (GUS) data, NBP calculations.
The output gap is a synthetic measure of demand pressure in the economy. It is expressed as a percentage of the deviation of the actual real level of GDP from the level of potential output.

Figure 4.17 Employment



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

Figure 4.18 Labour force participation

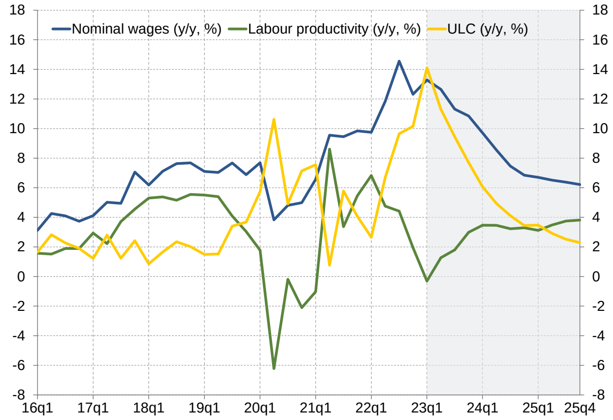


Source: Statistics Poland (GUS) data, NBP calculations.

[43] 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 the 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.
[44] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, January 2023.
[45] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, January 2023.

will decrease, although it will remain relatively high. After taking inflation into account, the purchasing power of wages will rise only gradually, at a somewhat slower pace than labour productivity. Over the projection horizon, wage pressure will be alleviated by the inflow of refugees from Ukraine, who will gradually find employment in the Polish labour market.

Figure 4.19 Unit labour cost



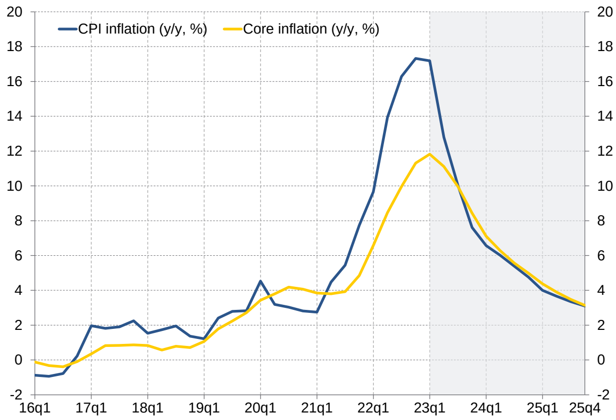
Source: Statistics Poland (GUS) data, NBP calculations.

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.

CPI inflation

The strong negative supply shock, amplified by the effects of the Russian military aggression against Ukraine, has caused inflation to rise substantially. This is due to record-high global prices of energy and agricultural commodities, elevated prices of CO_2 emission allowances and the prolonged tensions in global supply chains. These processes were reflected in the rapid growth of import prices (Figure 4.22). Combined with high labour costs, these factors are leading to sharp increases in food and energy prices in the economy (Figure 4.21, Figure 4.23). Inflation was also boosted by demand factors. These were related to the strong rebound in economic activity following the pandemic, as a result of which the output gap remained positive until 2022 Q4. Under these circumstances, the spillover of external 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).

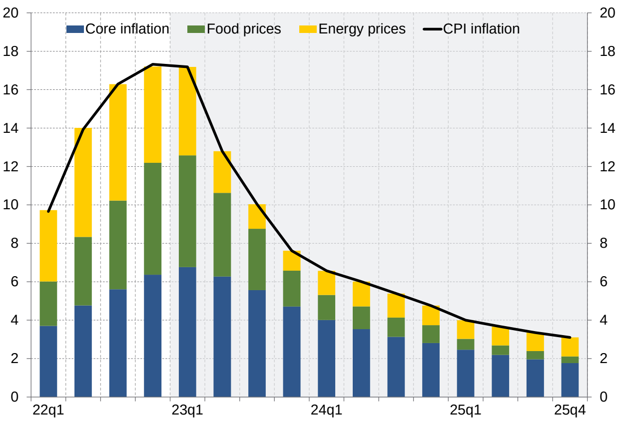
Figure 4.20 CPI and core inflation



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

Over the projection horizon, CPI inflation will decline as factors currently boosting its level subside. However, under the assumption of unchanged NBP interest rates (including the reference rate at 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 raising 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

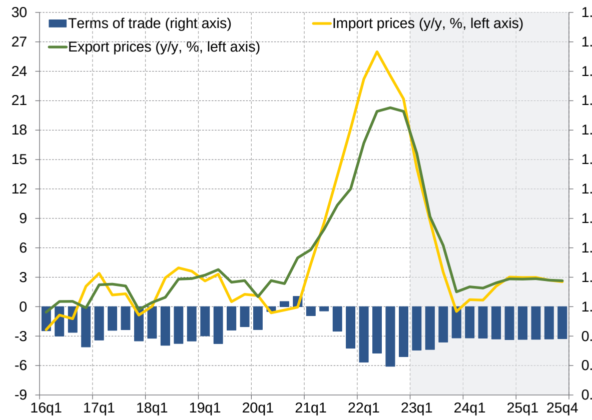
Figure 4.21 CPI inflation (y/y, %) – breakdown



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

the negative output gap – the further gradual decline in inflation is also supported by the assumed fall in global prices of energy and agricultural commodities. However, 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 CO_2 emission allowances, the decline in growth rate of energy 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.

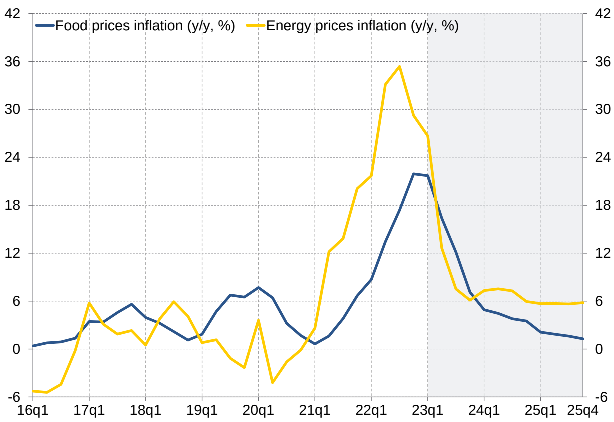
Figure 4.22 Export and import prices



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

Throughout the projection horizon, consumer price growth will be significantly affected by measures taken by the government (see section *Government shielding measures*). In 2023, the total scale of fiscal activities targeted directly at curbing energy price growth will increase. This increase is the result of the incurred costs of freezing gas prices and partly freezing electricity prices, while being limited by the withdrawal from most of the cuts in indirect tax rates. As a result, the government's anti-inflation measures are reducing the total level of consumer prices more sharply in 2023 than in 2022, significantly curbing CPI inflation in both years. In 2024-2025, the expected reduced scale of the government's shielding measures will contribute to a slowdown in the decline in CPI inflation.

Figure 4.23 Food and energy price inflation



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

4.4 Current versus previous projection

Data and information released after the cut-off date of the November projection have contributed to a slight upward revision of the economic growth forecast and a decline in the path of CPI inflation for 2023-2024. In 2025 both these variables run at a level similar to that of the November projection (Table 4.3, Figure 4.24, Figure 4.25, Figure 4.26, Figure 4.27).

Table 4.3 March projection versus November projection

	2022	2023	2024	2025
GDP (y/y, %)				
March 2023	4.9	0.9	2.1	3.1
November 2022	4.6	0.7	2.0	3.1
CPI inflation (y/y, %)				
March 2023	14.4	11.9	5.7	3.5
November 2022	14.5	13.1	5.9	3.5

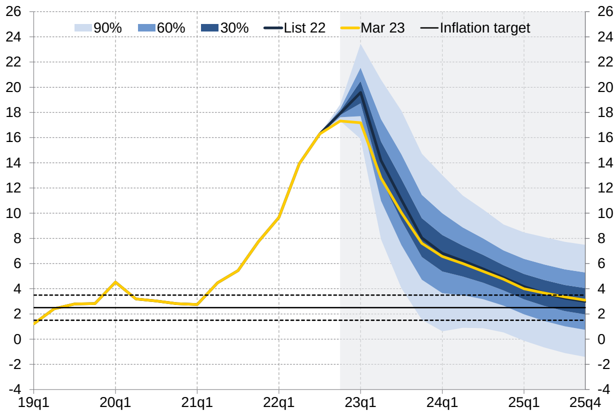
Source: NBP calculations.

The revision of the projection scenario is a consequence of the effects of the negative shock related to the Russian military aggression against Ukraine subsiding faster than expected. In particular, prices of natural gas and coal in the global markets have declined as compared with the previous projection, as well as the expectations regarding their future level based on futures quotes. In the current projection, the path of agricultural commodity prices, particularly of wheat and rapeseed, have been revised downward, amid the extension of the agreement enabling their export from Ukraine via the Black Sea. The mitigation of supply shocks affecting the global economy is also reflected in higher forecasts of GDP growth abroad in 2023.

The above conditions have contributed to a downward revision of the energy price growth forecast for 2023-2024, and as a result, lower expected growth of the overall consumer price index in this horizon. Apart from lower prices of natural gas and coal in the global markets, this also results from taking into account in the current forecasting round the effects of freezing of natural gas tariffs for households and vulnerable entities at the 2022 level, which was passed by the Sejm after the publication of the previous projection (see section *Government shielding measures*).

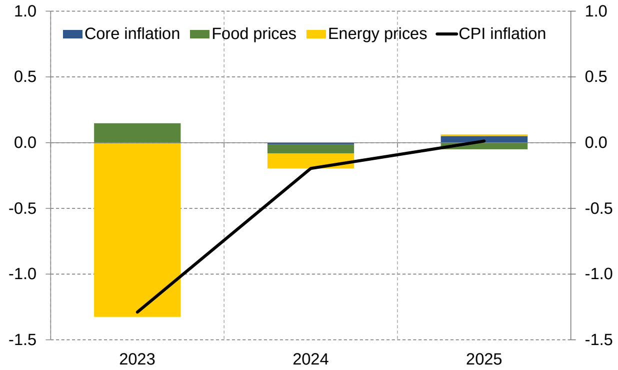
At the same time, the faster than expected fading of the effects of the negative shock related to the Russian military aggression against Ukraine also contribute to an upward revision of the path of economic activity as compared to the assumptions of the November projection. Reduced inflationary pressure in 2023-2024 boosts household disposable income in real terms, which increases the space for growth of household expenditure. At the same time, the situation of enterprises improves due to the weakening of cost pressure and higher external demand for Polish goods. These factors have a positive impact on the forecasted path of investment in this sector as well as on inventories.

Figure 4.24 March projection versus November projection: CPI inflation (y/y, %)



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

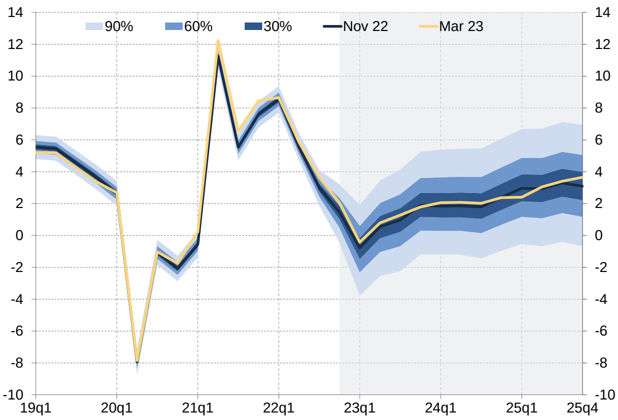
Figure 4.25 Decomposition of deviations between March and November projection: CPI inflation (percentage points)



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.

Figure 4.26 March projection versus November projection: GDP growth (y/y, %)

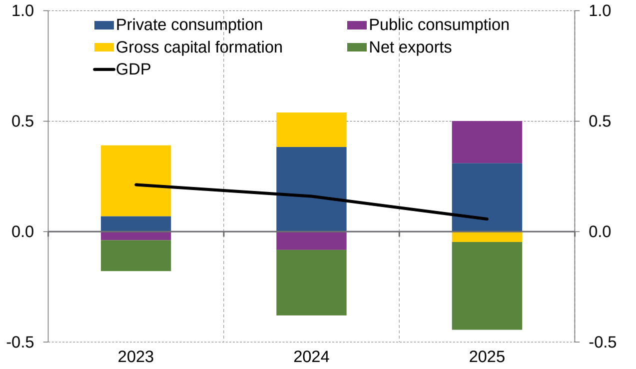


Source: Statistics Poland (GUS) data, NBP calculations.

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 outlook for economic activity and CPI inflation in Poland still depend to the greatest extent on the macroeconomic effects of Russia's military aggression against Ukraine. An additional significant risk factor in the external environment of the Polish economy is the effects of monetary policy tightening by the ECB and the Fed on the economic situation in the euro area and the United States. Apart from external conditions, an important source of risk for the projection is the scale and scope of the government's future shielding measures. The balance of uncertainty factors indicates an approximately symmetric distribution of risks for CPI inflation and a slightly higher probability of GDP growth running below the central path over the projection horizon (Table 4.4).

Figure 4.27 Decomposition of deviations between March and November 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.

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%)
23q1	0.00	0.00	0.00	0.49	0.00
23q2	0.00	0.00	0.00	0.50	0.00
23q3	0.02	0.03	0.05	0.50	0.04
23q4	0.06	0.10	0.15	0.50	0.09
24q1	0.08	0.14	0.20	0.50	0.12
24q2	0.08	0.13	0.22	0.50	0.14
24q3	0.09	0.16	0.26	0.50	0.17
24q4	0.11	0.20	0.32	0.50	0.21
25q1	0.18	0.29	0.43	0.51	0.25
25q2	0.21	0.34	0.48	0.50	0.27
25q3	0.24	0.37	0.52	0.50	0.28
25q4	0.28	0.41	0.56	0.50	0.28

Source: NBP calculations.

Further course of Russia's military aggression against Ukraine

The most important risk factor for the future path of economic activity and inflation processes in Poland continues to be the Russian aggression against Ukraine. This uncertainty is related to the further course of the aggression and the effects of the economic sanctions against Russia and Russian retaliatory actions against the West. This factor significantly affects the conditions of international trade in the projection horizon, including the functioning of the global supply chains and the global price levels of energy and agricultural commodities. In particular, the availability of energy carriers in Europe in the next heating season (2023/2024) is subject to uncertainty, as is the possibility of exporting cereals and oilseeds from Ukraine via the Black Sea, which is currently hampered by the hostilities and the increased transport and insurance costs.

A further escalation of the Russian aggression would increase the uncertainty in the global economy, which would lead to a significant increase in the scale of global supply chain disruptions. At the same time, the global prices of energy and agricultural commodities would rise above the levels assumed in the central projection scenario. Under these conditions, an increased inflationary inertia in the domestic economy would be expected, which would delay the return of the CPI inflation rate to the NBP inflation target. On the other hand, should the optimistic scenario of a quick end to the Russian military aggression against Ukraine materialise, the negative effects of the supply shock currently affecting the European economy would be less severe, which could support the acceleration of the disinflation process in Poland.

Other factors affecting global prices of energy commodities

The future path of energy commodity prices is also significantly affected by the materialisation of other risks in the global economy which are unrelated to the Russian aggression. Increased oil production in the OPEC+ countries, the United States and other major oil producers, combined with higher than average temperatures in Europe during the heating season, which would have a positive impact on supplies of natural gas, would support the improvement in the global balance between supply and demand for energy commodities. As a result, a decline in their global price level could be expected, which would contribute to a faster decline in CPI inflation and increased economic activity in Poland compared to the central projection scenario.

However, cuts in oil production by the major oil producers combined with reduced natural gas supplies in Europe driven by worse meteorological conditions would result in higher global energy commodity prices than assumed in the central projection scenario. A stronger demand recovery than assumed in the projection, directly and indirectly resulting from China's abandoning its “zero Covid” policy and the reopening of its economy, could put additional upward pressure on the prices of these commodities. Should these risks materialise, the path of energy commodity prices would run above the central projection scenario, which would contribute to a slower decline in CPI inflation in Poland. On the other hand, the improved economic conditions in the Chinese economy would boost global trade, which could partly mitigate the negative impact of higher commodity prices on the path of Poland’s exports and GDP over the projection horizon.

Effects of monetary policy tightening by the ECB and the Fed

The effects of the interest rate hikes by the ECB and the Fed on GDP outlook in the euro area and the United States are also a significant risk factor in the external environment of the Polish economy. It is estimated that there is a higher probability of a more negative impact of monetary policy tightening on economic activity in these economies than assumed in the central projection scenario. A worsening of the energy crisis in Europe and more persistent inflation in the global economy would support the materialisation of this risk. Under these assumptions, the path of household consumption and private investment in the euro area and the United States would decline amid a sharp deterioration of the labour market conditions and higher credit costs, most likely leading to recession in both of these economies.

This scenario, should it unfold, would have a negative impact on economic growth in Poland over the projection horizon, with a mixed impact on CPI inflation. On the one hand, higher-than-expected inflation abroad and a depreciation of the zloty due to further interest rate hikes by the ECB and the Fed would add to inflationary inertia in the Polish economy through higher import price growth. On the other hand, the economic downturn and lower demand pressure would support a faster disinflation in the domestic economy.

Government shielding measures

The scale and scope of the fiscal shielding measures taken by the government to mitigate the negative effects of high commodity prices and inflation on households (see section *Government shielding measures*) continues to be an important risk factor in the projection. The materialisation of this risk largely depends on the future path of global energy commodity prices. Higher prices of these commodities than assumed in the central scenario would prompt the government to temporarily increase the scale of support for consumers and other vulnerable entities, which would mitigate the negative impact of external disruptions on the domestic path of CPI inflation and economic activity. On the other hand, should the effects of the supply disruptions in the global economy subside faster, the scale and scope of the government's electricity and gas price subsidies as well as other forms of government support could also be reduced.

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	17.3	17.2	12.8	10.0	7.6	6.6	6.0	5.4	4.8	4.0	3.7	3.4	3.1	14.4	11.9	5.7	3.5
Core inflation (CPI net of food and energy prices, %, y/y)	6.6	8.5	10.0	11.3	11.8	11.1	10.0	8.4	7.1	6.3	5.6	5.0	4.4	3.9	3.5	3.1	9.1	10.3	6.0	3.7
Food prices (%, y/y)	8.7	13.4	17.4	21.9	21.7	16.4	12.1	7.1	4.9	4.5	3.8	3.5	2.1	1.9	1.6	1.3	15.4	14.2	4.2	1.7
Energy prices (%, y/y)	21.7	33.1	35.4	29.2	26.7	12.6	7.5	6.1	7.3	7.5	7.3	5.9	5.7	5.7	5.6	5.8	29.9	13.0	7.0	5.7
GDP (%, y/y)	8.6	5.8	3.6	2.0	-0.4	0.8	1.3	1.8	2.1	2.1	2.0	2.4	2.4	3.0	3.4	3.7	4.9	0.9	2.1	3.1
Domestic demand (%, y/y)	12.0	6.9	3.1	1.1	-2.5	-0.5	-0.5	0.3	1.1	0.8	1.1	1.3	1.6	3.2	3.8	4.2	5.4	-0.8	1.1	3.2
Household consumption (%, y/y)	6.7	6.4	0.9	-1.5	-1.0	-0.2	1.6	3.5	3.3	2.1	1.0	0.2	1.6	2.1	2.5	2.9	3.0	0.9	1.6	2.3
Public consumption (%, y/y)	0.3	0.6	0.1	-1.6	2.1	0.9	3.6	7.2	-1.3	0.6	1.4	2.6	3.9	4.0	3.6	3.4	-0.3	3.4	0.8	3.7
Gross fixed capital formation (%, y/y)	4.7	6.6	2.0	4.9	2.8	1.4	-1.6	-2.7	-1.9	0.0	2.6	4.2	4.4	6.0	6.8	6.9	4.5	0.0	1.2	6.0
Contribution of net exports (percentage points, y/y)	-2.7	-0.7	0.6	0.9	1.9	1.3	1.7	1.5	1.0	1.4	1.0	1.1	0.9	0.1	-0.1	-0.2	-0.4	1.6	1.1	0.1
Exports (%, y/y)	4.2	5.2	6.9	2.0	0.9	-0.3	0.0	1.5	2.3	3.9	3.3	3.9	4.0	4.1	4.1	4.1	4.5	0.7	3.3	4.1
Imports (%, y/y)	9.4	6.9	6.0	0.2	-2.4	-2.9	-3.2	-1.3	0.5	1.5	1.7	2.1	2.7	4.5	5.0	5.2	5.5	-2.3	1.4	4.3
Gross wages (%, y/y)	9.7	11.8	14.6	12.3	13.3	12.6	11.3	10.8	9.7	8.6	7.5	6.8	6.7	6.5	6.4	6.2	12.1	12.0	8.1	6.5
Total employment (%, y/y)	1.7	1.0	-0.7	0.1	-0.1	-0.5	-0.5	-1.2	-1.4	-1.3	-1.2	-0.9	-0.7	-0.4	-0.3	-0.2	0.5	-0.6	-1.2	-0.4
Unemployment rate (%)	3.0	2.8	2.9	2.9	2.9	3.1	3.4	3.7	3.9	3.9	4.1	4.3	4.3	4.3	4.3	4.3	2.9	3.3	4.0	4.3
NAWRU (%)	4.9	4.6	4.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.1	4.0	4.0
Labour force participation rate (%, y/y)	58.0	58.0	57.9	58.1	58.0	58.0	57.9	57.8	57.7	57.6	57.6	57.6	57.5	57.6	57.5	57.5	58.0	57.9	57.7	57.5
Labour productivity (%, y/y)	6.8	4.8	4.4	2.0	-0.3	1.3	1.8	3.0	3.5	3.5	3.2	3.3	3.1	3.5	3.7	3.8	4.3	1.4	3.4	3.5
Unit labour cost (%, y/y)	2.7	6.7	9.6	10.2	14.1	11.3	9.4	7.7	6.1	4.9	4.1	3.4	3.5	2.9	2.5	2.3	7.4	10.4	4.6	2.8
Potential output (%, y/y)	4.0	3.8	4.0	3.9	3.9	3.5	3.1	2.8	2.7	2.5	2.6	2.6	2.7	2.8	2.8	2.8	3.9	3.3	2.6	2.8
Output gap (% potential GDP)	4.2	2.4	1.3	0.1	0.0	-0.3	-0.5	-0.9	-0.6	-0.7	-1.1	-1.2	-0.9	-0.5	-0.5	-0.4	2.0	-0.5	-0.9	-0.6
Index of agricultural commodity prices (EUR; 2011=1.0)	1.27	1.47	1.42	1.36	1.30	1.30	1.26	1.22	1.21	1.23	1.20	1.15	1.15	1.16	1.15	1.13	1.38	1.27	1.20	1.15
Index of energy commodity prices (USD; 2011=1.0)	2.05	2.41	3.14	1.98	1.28	1.26	1.21	1.21	1.27	1.27	1.20	1.16	1.17	1.11	1.06	1.03	2.40	1.24	1.22	1.10
Gross value added deflator abroad (%, y/y)	3.5	4.8	5.1	5.2	4.9	4.2	3.9	3.4	3.3	3.1	2.9	2.7	2.3	2.1	1.8	1.7	4.7	4.1	3.0	2.0
GDP abroad (%, y/y)	5.6	3.6	2.1	1.5	0.8	0.4	0.4	0.6	1.2	1.5	1.6	1.7	1.7	1.7	1.6	1.5	3.2	0.6	1.5	1.6
Current account balance (% GDP)	-2.7	-3.5	-3.5	-3.1	-2.2	-1.7	-0.9	-0.4	-0.2	0.2	0.3	0.5	0.6	0.4	0.3	0.1	-3.1	-0.4	0.5	0.1
WIBOR 3M (%)	3.50	6.24	7.08	7.29	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.95	6.03	6.95	6.95	6.95

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

For the majority of variables, the values up to 2022Q4 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 September 2022 – January 2023

■ Date: 7 September 2022

Subject matter of motion or resolution:

Motion to raise the NBP interest rates by 0.50 p.p.

MPC decision:

The motion did not receive majority vote.

Voting of the MPC members:

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

■ Date: 7 September 2022

Subject matter of motion or resolution:

Motion to raise the reference rate by 0.25 p.p. to 6.75% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 7.25%,
- deposit rate 6.25%,
- rediscount rate 6.80%,
- discount rate 6.85%.

MPC decision:

The motion was passed.

Voting of the MPC members:

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

Date: 7 September 2022

Subject matter of motion or resolution:
Resolution no. 14/2022 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 H. J. Wnorowski	**Against:**	L. Kotecki

Date: 7 September 2022

Subject matter of motion or resolution:
Resolution no. 15/2022 on adopting monetary policy guidelines for 2023.

Voting of the MPC members:

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

■ Date: 5 October 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:	J. B. Tyrowicz	**Against:**	A. Glapiński
			I. K. Dąbrowski
			W. S. Janczyk
			C. Kochalski
			L. Kotecki
			P. Litwiniuk
			H. J. Wnorowski

■ Date: 5 October 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 0.50 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

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

■ Date: 9 November 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:	J. B. Tyrowicz	**Against:**	A. Glapiński
			I. K. Dąbrowski
			I. Duda
			W. S. Janczyk
			C. Kochalski
			L. Kotecki
			P. Litwiniuk
			G. Masłowska
			H. J. Wnorowski

■ Date: 9 November 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 0.50 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:	L. Kotecki	**Against:**	A. Glapiński
	P. Litwiniuk		I. K. Dąbrowski
	J. B. Tyrowicz		I. Duda
			W. S. Janczyk
			C. Kochalski
			G. Masłowska
			H. J. Wnorowski

Date: 7 December 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:	J. B. Tyrowicz	**Against:**	A. Glapiński I. K. Dąbrowski I. Duda W. S. Janczyk C. Kochalski L. Kotecki P. Litwiniuk G. Masłowska H. J. Wnorowski

Date: 7 December 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 0.50 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:	L. Kotecki J. B. Tyrowicz	**Against:**	A. Glapiński I. K. Dąbrowski I. Duda W. S. Janczyk C. Kochalski P. Litwiniuk G. Masłowska H. J. Wnorowski

Date: 7 December 2022

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 0.25 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For: P. Litwiniuk

Against:
A. Glapiński
I. K. Dąbrowski
I. Duda
W. S. Janczyk
C. Kochalski
L. Kotecki
G. Masłowska
J. B. Tyrowicz
H. J. Wnorowski

Date: 7 December 2022

Subject matter of motion or resolution:
Resolution no. 16/2022 on approving the financial plan of NBP for 2023.

Voting of the MPC members:

For:
A. Glapiński
I. K. Dąbrowski
I. Duda
W. S. Janczyk
C. Kochalski
L. Kotecki
P. Litwiniuk
G. Masłowska
H. J. Wnorowski

Against: J. B. Tyrowicz

■ Date: 4 January 2023

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:	J. B. Tyrowicz	**Against:**	A. Glapiński I. K. Dąbrowski I. Duda W. S. Janczyk C. Kochalski L. Kotecki P. Litwiniuk G. Masłowska H. J. Wnorowski

■ Date: 4 January 2023

Subject matter of motion or resolution:
Motion to raise the NBP interest rates by 0.50 p.p.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:	L. Kotecki J. B. Tyrowicz	**Against:**	A. Glapiński I. K. Dąbrowski I. Duda W. S. Janczyk C. Kochalski P. Litwiniuk G. Masłowska H. J. Wnorowski

■ Date: 4 January 2023

Subject matter of motion or resolution:

Motion to raise the NBP interest rates by 0.25 p.p.

MPC decision:

The motion did not receive majority vote.

Voting of the MPC members:

For:	P. Litwiniuk	**Against:**	A. Glapiński
			I. K. Dąbrowski
			I. Duda
			W. S. Janczyk
			C. Kochalski
			L. Kotecki
			G. Masłowska
			J. B. Tyrowicz
			H. J. Wnorowski

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