NARODOWY BANK POLSKI

Monetary Policy Council

July 2022

Inflation Report

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Warsaw, 2022

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 30 June 2022 and the flash estimates of CPI in Poland and HICP in the euro area in June 2022, while the projection of inflation and GDP presented in Chapter 4 has been prepared taking into account data available until 22 June 2022.

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

Contents

Summary

In the first half of 2022, growth in global activity gradually slowed down, although economic conditions in the largest advanced economies were still relatively favourable. However, they deteriorated strongly in some emerging market economies, including China. World activity was adversely affected by intensified cost pressures (including higher energy prices), persistent disruptions to global supply chains and the economic fallout from Russia's military aggression against Ukraine. Meanwhile, the improved epidemic situation and the easing of sanitary restrictions, together with low unemployment and sound financial situation of households contributed to better economic conditions in some countries, including the United States and the euro area.

At the same time, global consumer price inflation continued to rise sharply, reaching in May the highest level in several decades. Inflation is underpinned by the strong growth in energy and food prices. Core inflation is also rising in many economies, which, apart from the effects of past increases in energy prices, is fuelled by the impact of the persistent disruptions to global supply chains, high international transport costs and a surge in demand following the pandemic crisis. In some countries, consumer price growth is additionally boosted by rising labour costs.

In the first months of 2022, prices of energy and agricultural commodities increased, largely due to the consequences of the Russian aggression against Ukraine. In effect, in June, the Brent crude oil price was more than twice as high as before the pandemic, the global coal price – almost 7 times higher and the price of gas – nearly 8 times higher.

Amid a marked rise in global inflation, central banks are tightening monetary policy. Many central banks in advanced and emerging market economies are raising interest rates. Financial market participants are expecting interest rates in the key economies to rise significantly in the coming years.

In recent months, sentiment in global financial markets has deteriorated on the back of a further steep rise in inflation prompting monetary tightening by many central banks, a gradual slowdown in activity growth in the world economy, and geopolitical tensions related to the ongoing Russian military aggression against Ukraine. In these circumstances, government bond yields in most economies have increased sharply, reaching levels higher than before the pandemic. Meanwhile, the euro exchange rate against the US dollar has weakened to the lowest level in several years.

In Poland, like in many other economies around the world, in the first half of 2022, consumer price growth continued to rise. In May 2022, CPI inflation amounted to 13.9% y/y, and in June – according to Statistics Poland flash estimate – it stood at 15.6% y/y. The recent rise in inflation was mainly due to the strong growth in global commodity prices, which intensified after the start of Russia's military aggression against Ukraine at the end of February 2022. Higher commodity prices were reflected, in particular, in faster growth in food and energy prices, but also contributed to higher operating costs of enterprises. The favourable domestic economic conditions facilitated the rising costs to feed into consumer prices. As a

result, core inflation increased further as well. In addition, inflation was boosted by the persisting global supply chain disruptions. At the same time, growth in CPI inflation was restrained by the Anti-inflationary Shield.

In 2022 Q1, economic activity in Poland continued to grow at a robust pace. GDP growth accelerated to 8.5% y/y, with a large positive contribution from the solid growth in inventories. At the same time, consumption and investment growth slowed down, and the negative contribution of net exports deepened. Growth in consumption was supported by a very good situation in the labour market, as reflected in a further decline in unemployment and a strong wage growth, as well as additional demand created by the inflow of refugees from Ukraine. Yet a significant deterioration in consumer sentiment in the wake of the Russia's military aggression against Ukraine acted in the opposite direction. In turn, growth in domestic demand and a relatively high capacity utilisation were conducive to growth in investment, which however was constrained by large increase in costs and supply-side problems. Higher growth in imports than in exports was due, among others, to the high prices of imported goods, in particular those of commodities and fuels.

In 2021, the general government deficit was 1.9% of GDP, compared to 6.9% of GDP in 2020, which was mainly due to the phasing out of the anti-crisis support related to the COVID-19 pandemic and the economic recovery. Despite the good situation of the state budget in the first months of 2022, in accordance with the government's assumptions, the deficit of the whole general government in 2022 is set to increase. This reflects, in particular, the cost of the anti-inflationary measures undertaken by the government and the assistance provided to refugees from Ukraine.

Amid a strong rebound in economic activity in Poland, at the beginning of 2022, there was a further increase in demand for labour. Both the number of employed persons in the economy and employment in the enterprise sector rose, while the seasonally adjusted unemployment rate fell to record-low levels. Due to the strong position of employees in the labour market, wages increased considerably, in particular in the enterprise sector.

As in many other economies around the world, government bond yields in Poland rose significantly in the first half of 2022. This was mainly driven by the tightening of monetary policy and expectations of further interest rate increases, as well as a deterioration in sentiment in the world's financial markets. Adverse sentiment in international markets also contributed to a considerable drop in equity prices on the Warsaw Stock Exchange. After a significant weakening at the beginning of March 2022 related to the Russia's military aggression, in the following months the zloty exchange rate strengthened somewhat.

The growth rate of the broad money (M3) declined in 2022 Q1. Amidst deteriorating consumer sentiment, rising interest rates on loans and tighter lending policy, the growth rate of household loans is decreasing. The annual growth of corporate loans, in turn, markedly increased in 2022 Q1, mainly driven by a substantial acceleration of current loan growth.

In 2022 Q1, the current account balance declined, which mainly reflected a widening in the trade in goods deficit due to the increased value of imports, primarily of fuels and supply goods, largely related to rising global commodity prices. At the same time, a surplus in trade in services continued. The external imbalance indicators evidence that the Polish economy is well balanced.

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

Chapter 4 of the *Report* presents the projection for inflation and GDP based on the NECMOD model, which is one of the inputs into the Council's decision-making process on the NBP interest rates. In line with the projection prepared under the assumption of unchanged NBP interest rates and taking into account data available until 22 June 2022, there is a 50-percent probability that the annual price growth will be in the range of 13.2-15.4% in 2022 (against 9.3-12.2% in the March 2022 projection), 9.8-15.1% in 2023 (compared to 7.0-11.0%) and 2.2-6.0% in 2024 (compared to 2.8-5.7%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 3.9-5.5% in 2022 (against 3.4-5.3% in the March 2022 projection), 0.2-2.3% in 2023 (compared to 1.9-4.1%) and 1.0-3.5% in 2024 (compared to 1.4-4.0%).

1. External developments

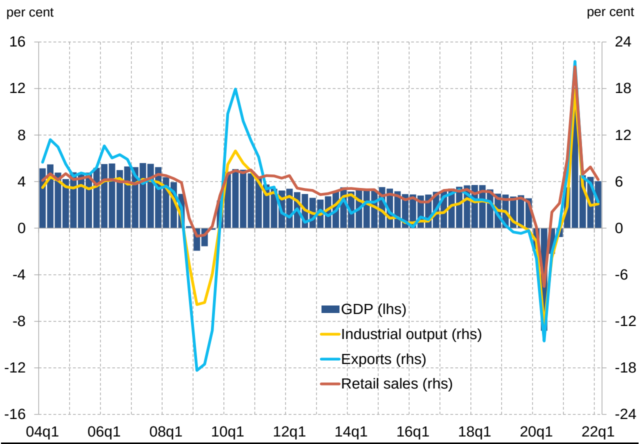
1.1 Economic activity abroad

In the first half of 2022, growth in global activity gradually slowed down, although economic conditions in the largest advanced economies were still relatively favourable. However, they deteriorated strongly in some emerging market economies, including China. This was accompanied by a deceleration in global trade (Figure 1.1).

World activity was adversely affected by intensified cost pressures (including higher energy prices), persistent disruptions to global supply chains and the economic fallout from Russia's military aggression against Ukraine (see also Chapter 1.3 *Global commodity markets*). Meanwhile, the improved epidemic situation and the easing of sanitary restrictions, together with low unemployment and sound financial situation of households contributed to better economic conditions in some countries, including the United States and the euro area.

In the euro area, GDP growth accelerated to 5.4% y/y in 2022 Q1 (from 4.7% y/y in 2021 Q4; Figure 1.2)[1] driven by domestic demand, supported – particularly towards the end of the quarter – by less severe sanitary restrictions than in the previous year, which was fostering mobility of the population and activity in the service sector. At the same time, the contribution of net exports to GDP growth – given the escalation of disruptions to global supply chains – was minor

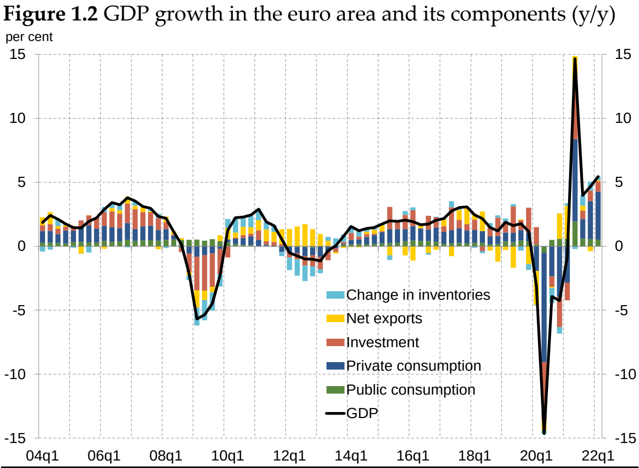
Figure 1.1 Global GDP growth and economic activity indicators (y/y)



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

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

Figure 1.2 GDP growth in the euro area and its components (y/y)



Source: Eurostat data, NBP calculations.

[1] In quarterly terms, GDP growth in the euro area accelerated to 0.6% q/q in 2022 Q1 (compared to 0.2% q/q in 2021 Q4, sa), but growth in the group of key economies (Germany, France, Italy, Spain) was moderate and amounted to 0.1% q/q (as compared to 0.4% q/q in 2021 Q4, sa, GDP-weighted average).

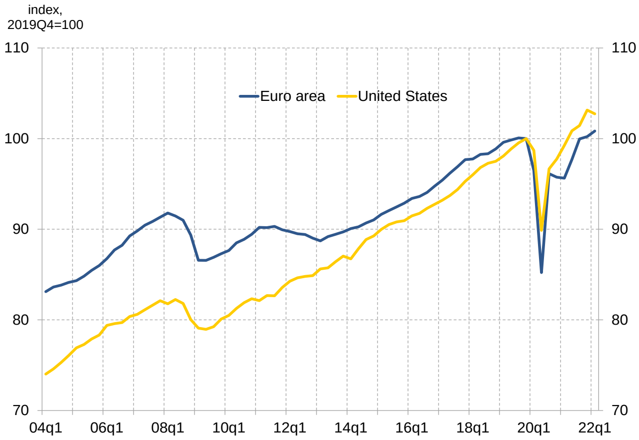
(0.1 percentage points). Monthly data released in 2022 Q2, including indicators of business and consumer sentiment, signal moderate pace of quarterly GDP growth in the euro area.

In the United States, in contrast, the pace of GDP growth declined to 3.5% y/y in 2022 Q1 (compared to 5.5% y/y in 2021 Q4; Figure 1.3).[2] This was related to the widening trade deficit due to sharply rising imports. Alongside that, although consumption growth slowed down slightly, domestic demand and employment increased markedly. Monthly data incoming in 2022 Q2 indicate that labour market situation remained favourable and consumption increased.

In the Central and Eastern European countries outside the euro area, economic recovery continued in 2022 Q1. GDP growth picked up to 6.1% y/y (from 4.6% y/y in 2021 Q4). Growth was primarily driven by private consumption and rising inventories, while the contribution of net exports was negative in most of these countries. Data referring to 2022 Q2 point to deteriorating consumer sentiment, which may be indicative of a slowdown in activity growth in the region.

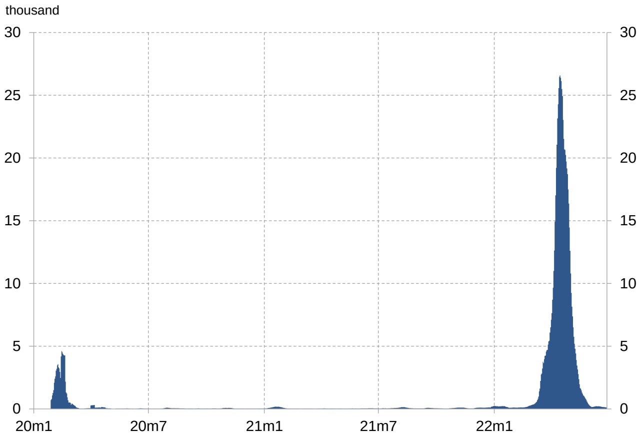
In China, GDP growth amounted to 4.8% y/y in 2022 Q1 (compared to 4.0% y/y in 2021 Q4), yet economic conditions deteriorated markedly at the end of the quarter and data from 2022 Q2 point to a significant decline in activity. In particular, the sharp rise in COVID-19 cases (Figure 1.4) amid restrictive sanitary policies led to disruptions in the operation of, among others, factories and ports, which has an adverse effect on global supply chains and world trade (Figure 1.5).

Figure 1.3 GDP volume in selected advanced economies



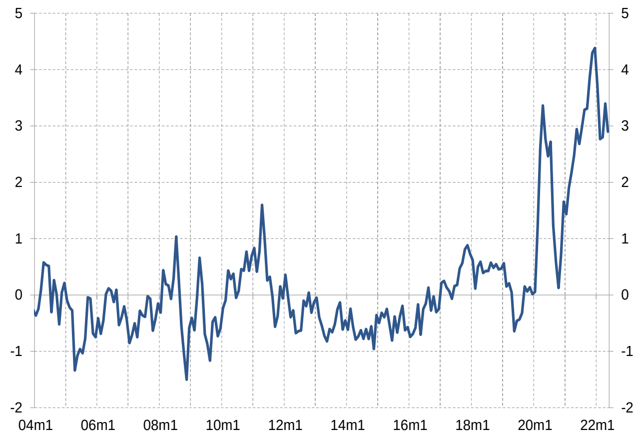
Source: Bureau of Economic Analysis and Eurostat data, NBP calculations.

Figure 1.4 Daily number of new coronavirus infections in China



Source: data by Center for Systems Science and Engineering at Johns Hopkins University, Our World in Data.

Figure 1.5 Global Supply Chain Pressure Index (GSCPI)



Source: data by Federal Reserve Bank of New York.

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

[2] In quarterly terms, GDP in the United States decreased by 1.6% q/q (saar) in 2022 Q1, but domestic demand growth slightly accelerated due to stronger growth of private investment.

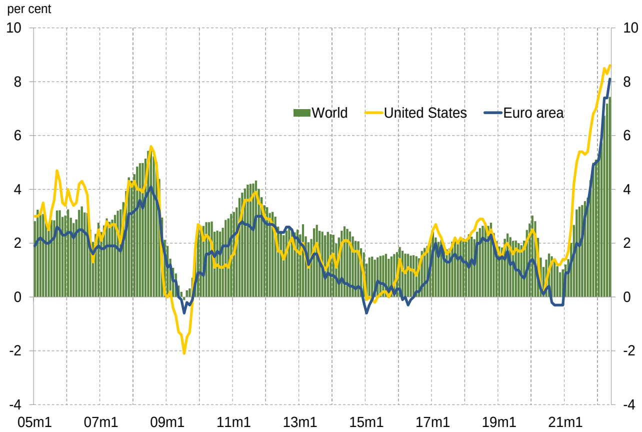
1.2 Inflation developments abroad

In recent months, global consumer price inflation has continued to rise sharply, reaching in May the highest level in several decades (Figure 1.6). Inflation is underpinned by the strong growth in energy and food prices (see also Chapter 1.3 *Global commodity markets*). Core inflation is also rising in many economies, which, apart from the effects of past increases in energy prices, is fuelled by the impact of the persistent disruptions in global supply chains, high international transport costs and a surge in demand following the pandemic crisis (see also Chapter 1.1 *Economic activity abroad;* Figure 1.7). In some countries, consumer price growth is additionally boosted by rising labour costs. Many of the above factors have in the first instance translated into a sharp pickup in producer price inflation, which remains high in most economies (Figure 1.8).

Under these conditions, HICP inflation in the euro area increased to 8.1% y/y in May 2022,[3] running at the highest level on record. In the United States, in turn, CPI inflation rose to 8.6% y/y and was at its highest in 40 years. In both these economies, core inflation is also markedly elevated. Its growth has so far been significantly faster in the United States, but in recent months the core inflation index has risen substantially in the euro area as well.

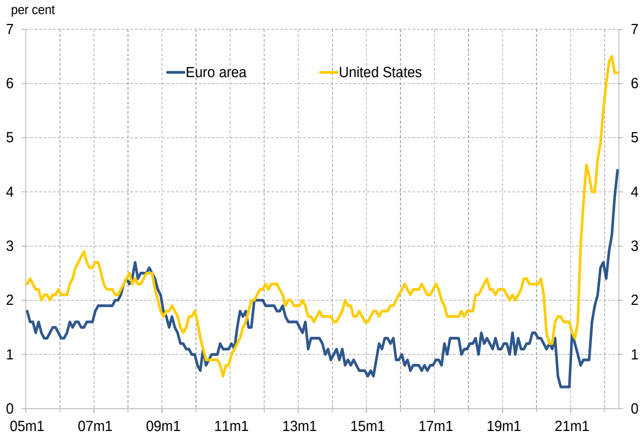
Also in Central and Eastern Europe, in particular in the Baltic countries, inflation has continued to climb steeply; in most countries of this region it is currently in double digits. In May 2022, HICP inflation stood at 20.1% y/y in Estonia, 18.5% y/y in Lithuania and 16.8% y/y in Latvia.[4] At the same time, CPI inflation was running at 16.0% y/y in the Czech Republic and 14.5% y/y in Romania. In Hungary, in turn, where caps on some staple food

Figure 1.6 CPI inflation globally and in selected economies (y/y)



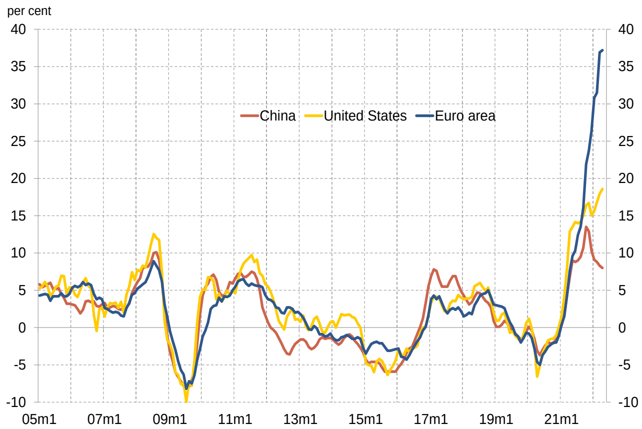
Source: Bloomberg and IMF data, NBP calculations.
World – average consumer price inflation in economies comprising over 80% of global GDP, weighted by 2019 GDP. The United States – annual CPI inflation. Euro area – annual HICP inflation.

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



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

Figure 1.8 Producer price inflation index in selected economies (y/y)



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

[3] In turn, in June 2022, according to the flash Eurostat estimate, HICP inflation in the euro area stood at 8.6% y/y.
[4] According to the flash Eurostat estimate, in June 2022, HICP inflation in Estonia was running at 22.0% y/y, in Lithuania at 20.5%, and in Latvia at 19.0% y/y.

and fuel prices are in force, CPI growth in May was slightly lower (10.7% y/y; Figure 1.9).

1.3 Global commodity markets

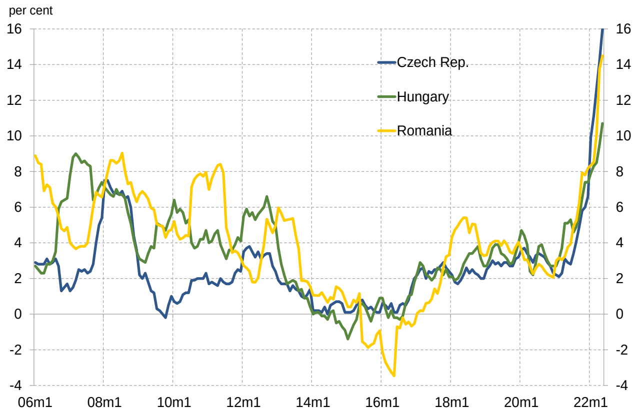
In the first months of 2022, prices of energy and agricultural commodities increased, largely due to the consequences of the Russian aggression against Ukraine.

The Brent crude oil price rose sharply in the first half of 2022; in June it was over 60% higher on average than a year earlier and more than twice as high as before the pandemic (i.e. in February 2020; Figure 1.10). In addition to factors linked to the Russian military aggression against Ukraine,[5] oil price growth was also fuelled by the still growing demand for this commodity related to increasing global economic activity amid limited production by many OPEC countries. Oil prices have been rising in recent months despite the decision by, among others, the United States, to release some of its strategic petroleum reserves.

Global natural gas prices, after soaring in March 2022 to their all-time highs in the wake of the launch of the Russian invasion of Ukraine, have recently fallen.[6] Yet, despite some decline, they were still significantly higher than in previous years (in June 2022, the price of gas was more than twice as high as a year earlier and nearly 8 times as high as before the pandemic; Figure 1.11). The high prices of gas mainly reflected its limited supply from Russia.

The persistently high gas prices continued to translate into relatively higher profitability of power generation from coal. Together with the EU

Figure 1.9 CPI inflation in the Czech Republic, Romania and Hungary (y/y)

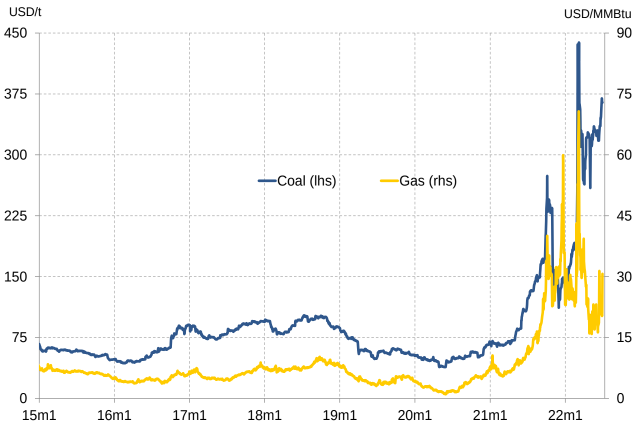


Source: Bloomberg data.

Figure 1.10 Brent oil barrel price

Source: Bloomberg data.

Figure 1.11 Hard coal and natural gas prices



Source: Bloomberg data, NBP calculations.

Natural gas prices express prices of ICE UK Natural Gas Futures Europe. USD/t – price expressed in US dollar per metric tonne. USD/MMBtu – price expressed in US dollar per million of British Thermal Unit, i.e. unit representing a quantity of energy required to raise the temperature of 1 pound (approx. 0.45 kg) of water by 1°F (slightly more than 0.5°C).

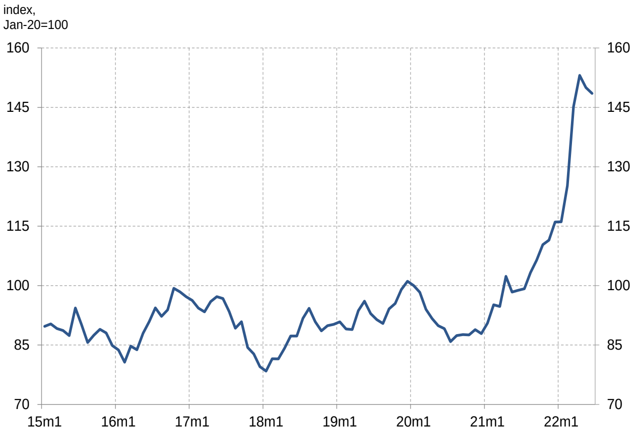
[5] In particular, as part of sanctions related to Russia's military aggression against Ukraine, an EU embargo on import of Russian seaborne crude oil and refined petroleum products was announced in June 2022. Together with the halting of oil imports through the pipeline by Poland and Germany, this means that EU has reduced its imports of oil and petroleum products from Russia by around 90%. In most EU countries, the embargo is due to take effect after a transitional period of 6 to 8 months. The marked reduction in oil imports from Russia by the EU has boosted the demand of European economies for this commodity from other countries.

[6] The recent decline in prices has mainly been due to the cyclical decrease in demand related to the end of the heating season in the northern hemisphere. Despite the seasonal decline, gas prices in June 2022 were the highest ever recorded for that month.

embargo on imports of Russian coal,[7] introduced in April 2022, this led to an increase in the prices of this commodity. As a result, in June 2022, the average price of coal was more than 3 times as high as a year earlier and almost 7 times higher than in February 2020.

In the first half of 2022, there was also a significant rise in agricultural commodity prices (Figure 1.12). Factors contributing to this included the restricted supply of some of them due to the war in Ukraine and cost pressures related to the sharply rising prices of energy commodities (see also Box 2: *Developments in food prices in the context of Russia's military aggression against Ukraine*). As a result, in June 2022 the index of agricultural commodity prices was 50.3% higher than a year ago. Recent months have seen particularly large increases in the prices of wheat, rapeseed, pig meat and dairy products.

Figure 1.12 Index of agricultural commodity prices



Source: Bloomberg data, NBP calculations.

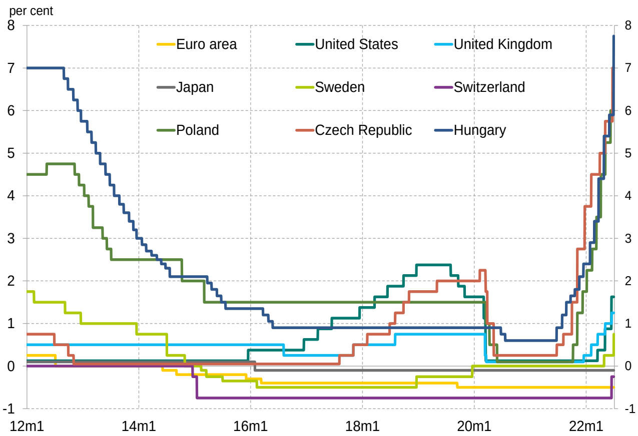
Index of agricultural prices includes prices of wheat, colza, pork, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter and frozen concentrated orange juice. The weights reflect the consumption structure of Polish households.

1.4 Monetary policy abroad

Against the background of a marked rise in global inflation, central banks are tightening monetary policy (see Chapter 1.2 *Inflation developments abroad*). Many central banks in advanced and emerging market economies are raising interest rates and reducing the reinvestment of principal from maturing securities (Figure 1.13). Financial market participants are expecting interest rates in key economies to rise significantly in the coming years (Figure 1.14).

The European Central Bank (ECB) is maintaining the deposit rate at -0.50%, but has announced interest rate increases in July and September 2022, including an increase in the deposit rate to at least zero. In addition, at the beginning of July, the ECB terminated net purchases under its asset purchase programme (APP) and is currently reinvesting all

Figure 1.13 Interest rates of selected central banks



Source: Bloomberg data.

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

[7] As part of a package of sanctions announced on 8 April, the EU introduced an embargo on coal imports from Russia. For existing contracts, a 4-month notice of termination was introduced.

principal payments from maturing securities[8] (Figure 1.15), while announcing the development of a new instrument aiming to counter fragmentation in the debt market in the euro area.

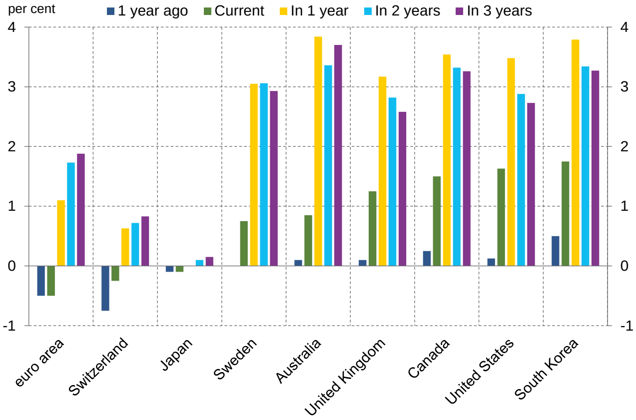
The US Federal Reserve (the Fed) has been raising interest rates since March 2022, bringing the current *fed funds* range to 1.50-1.75%. Moreover, the Fed has announced further interest rate rises in the coming months. The Fed has also embarked on a gradual reduction of the balance sheet by limiting asset reinvestment, which additionally tightens monetary conditions.[9]

In recent months, central banks of other advanced economies – including the United Kingdom, Sweden, Norway, Canada and Australia – have also raised interest rates, signalled further increases in the coming period and limited the reinvestment of redemptions from maturing securities. Similarly, in June, the Swiss National Bank has begun phasing out its monetary accommodation by raising interest rates for the first time since 2007. Central banks in Central and Eastern Europe and many emerging market economies outside Europe are tightening monetary policy as well.

1.5 International financial markets

In recent months, sentiment in global financial markets has deteriorated on the back of a further steep rise in inflation prompting monetary tightening by many central banks, a gradual slowdown in global activity growth, and geopolitical tensions related to the ongoing Russian military aggression against Ukraine (see also Chapter 1.1 *Economic activity abroad*, Chapter

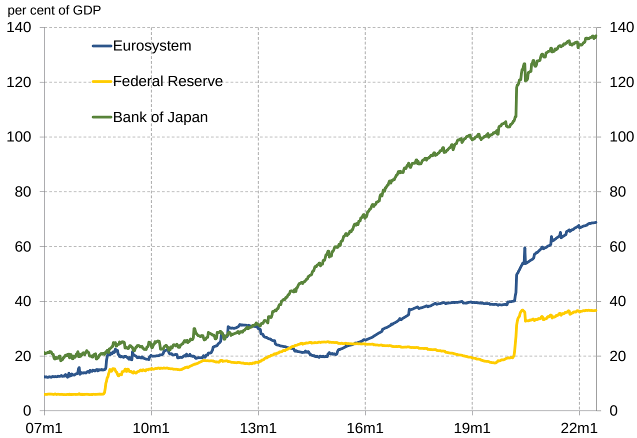
Figure 1.14 Current and expected level of central banks' interest rates in selected advanced economies



Source: Bloomberg data.

Central bank interest rate: for the United States – the midpoint of the fed funds range; for the euro area – the deposit facility; for Japan – the Complementary Deposit Facility; for Switzerland – the policy rate; for the United Kingdom – the Bank Rate; for Sweden – the policy rate; for Canada – the overnight rate target; for Australia – the cash rate target; for South Korea – Base Rate. Market expectatations according to Bloomberg based on OIS, as of 30 June 2022. The level of interest rates a 1 year ago refers to the level of interest rates at the end of June 2021.

Figure 1.15 Total assets of major central banks as a per cent of GDP



Source: Bloomberg data.

[8] The reinvestments concern portfolios of securities purchased under the APP and the pandemic emergency purchase programme (PEPP). The press release following the meeting of the ECB Governing Council on 9 June 2022 indicated that the ECB would reinvest, in full, the principal payments from securities purchased under the APP for an extended period after the possible onset of interest rate rises and, in any case, for as long as necessary. As concerns the PEPP programme, the ECB intends to flexibly reinvest principal payments from maturing securities purchased under this programme until at least the end of 2024.

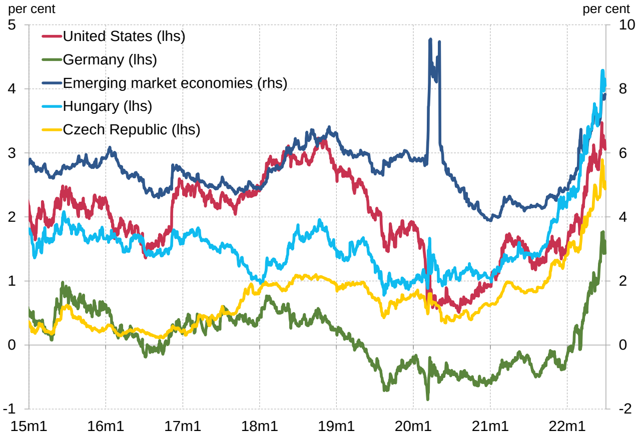
[9] According to the plan published in May 2022, the Fed's balance sheet will be reduced every month between June and August by USD 30 billion from the Treasury bond portfolio and by USD 17.5 billion from the MBS portfolio and, subsequently, by USD 60 billion and USD 35 billion, respectively.

1.2 *Inflation developments abroad* and Chapter 1.4 *Monetary policy abroad*).

In these circumstances, government bond yields in most economies have recently increased sharply, reaching levels higher than before the pandemic (Figure 1.16). In some economies, including in Central and Eastern Europe, bond yields are currently higher than their long-term averages. At the same time, equity prices, both in advanced and emerging market economies, have declined markedly in recent months (Figure 1.17).

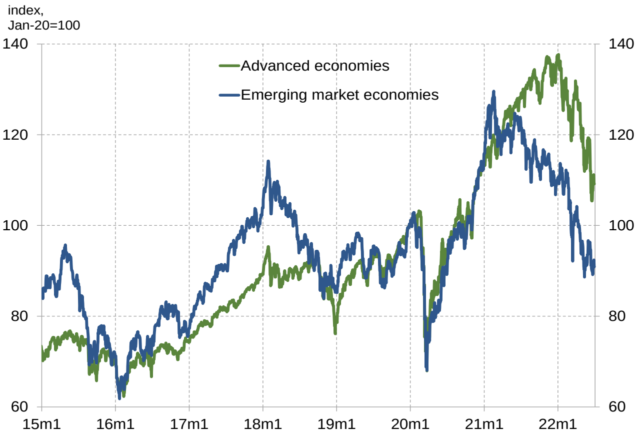
Meanwhile, the euro exchange rate against the US dollar has weakened to the lowest level in several years. This was due to the monetary policy tightening in the United States amid the very gradual withdrawal of monetary accommodation by the ECB, including the expected faster and steeper rise in interest rates in the United States than in the euro area. The currencies of emerging market economies have also weakened against the US dollar on account of the monetary tightening by the Federal Reserve and the heightened risk aversion related to the ongoing Russian invasion of Ukraine (Figure 1.18).

Figure 1.16 Yields on long-term government bonds



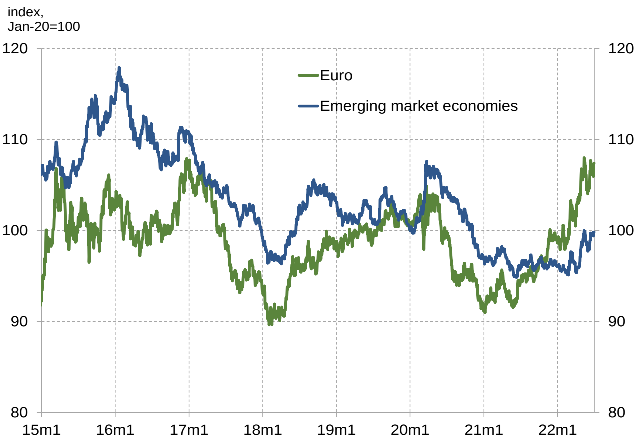
Source: Bloomberg data.
For the United States, Germany, the Czech Republic and Hungary – 10 year government bond yield; emerging market economies – *Bloomberg Barclays Emerging Markets Sovereigns*.

Figure 1.17 Equity prices



Source: Bloomberg data.
Advanced economies – *MSCI World Equity Index*; emerging market economies – *MSCI Emerging Markets Equity Index*.

Figure 1.18 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*.

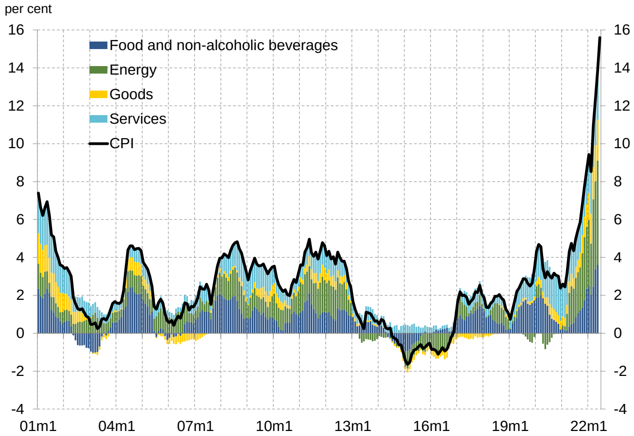
2. Domestic economy

2.1 Inflation developments

Like in many other economies around the world, in the first half of 2022, consumer price growth in Poland continued to rise (see Chapter 1.2 *Inflation developments abroad*).

In May 2022, CPI inflation amounted to 13.9% y/y (against 9.4% y/y in January 2022; Figure 2.1).[10] The rise in inflation was mainly due to the strong growth in global commodity prices, which intensified after the start of the Russia's military aggression against Ukraine at the end of February 2022 (see chapter 1.3 *Global commodity markets*). Higher commodity prices were reflected, in particular, in faster growth in food and energy prices, but also contributed to higher operating costs of enterprises.[11] The favourable domestic economic conditions facilitated the rising costs to feed into consumer prices.[12] As a result, core inflation also increased further (see Chapter 2.2 *Demand and output*). Inflation was also boosted by the persisting global supply chain disruptions (see Box 1: *Global supply chain disruptions and inflation*). At the same time, CPI inflation was restrained by the Anti-inflationary Shield.[13]

Figure 2.1 Composition of CPI inflation (y/y)



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

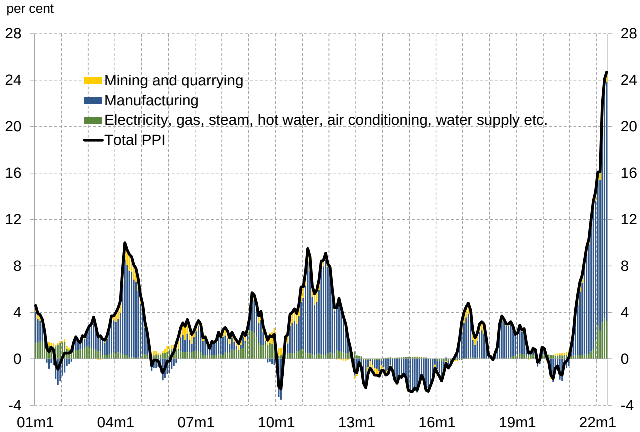
[10] In June 2022 – according to Statistics Poland flash estimate – CPI inflation stood at 15.6% y/y. The rise in inflation was mainly driven by an increase in price growth of energy, including fuels and energy carriers.
[11] Amid a further rise in the prices of commodities and many intermediate goods, the growth in industrial producer prices in Poland – like in many other economies – have picked up in recent months (to 24.7% y/y in May 2022 from 16.1% y/y in January 2022; Figure 2.2).
[12] When setting their prices, enterprises may not have the possibility to immediately adjust them to the changing market conditions, including, in particular, to rising costs. In a period of high inflation, nominal rigidities can therefore lead to greater changes in prices than justified from a purely economic calculation.
[13] The Anti-inflationary Shield is a package of fiscal policy solutions aimed at reducing CPI inflation and mitigating its fallout. It has envisaged, among others, temporary cuts in the VAT rates for electricity, heat energy, natural gas, motor fuels, fertilizers, and staple foods, abolition of excise duty on electricity for households, lowering excise tax on motor fuels and light liquid fuel to the minimum level required by EU provisions and compensation for natural gas distributors for price caps on this commodity for tariff-protected

Price inflation of food and non-alcoholic beverages rose to 13.5% y/y in May 2022 from 9.3% y/y in January 2022, which was driven by higher growth in both unprocessed and processed food prices. Faster price growth was largely a result of the rise in global prices of the majority of agricultural commodities in the wake of the Russia's attack on Ukraine (see Box 2: *Developments in food prices in the context of Russia's military aggression against Ukraine*). The rise in production costs – in particular, of nitrogen and potassium fertilizers, energy, and labour costs – acted in the same direction as well.

The recent months have also seen a pickup in energy price growth (reaching 32.8% y/y in May 2022 compared to 21.2% y/y in January 2022; Figure 2.3). This was mainly due to higher growth in prices of fuels for personal transport equipment as well as liquid and solid fuels and liquid gas, driven by the further growth in global energy commodity prices following the Russian aggression. The growth in electricity and natural gas prices, attributable to the higher tariffs on the sale and distribution of these energy carriers introduced in January 2022, also continued to add to energy price inflation.[14]

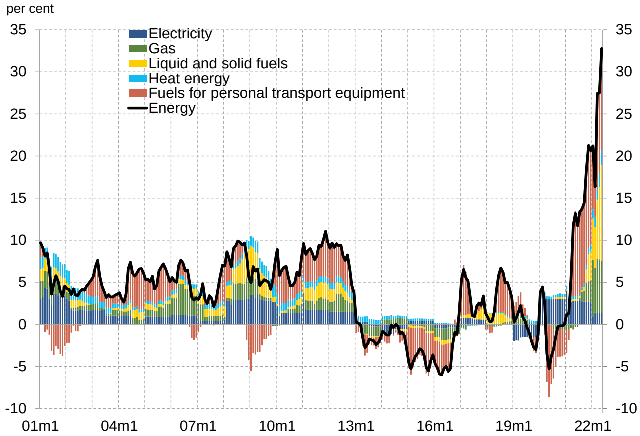
Inflation excluding food and energy prices rose in May 2022 to 8.5% y/y (from 6.1% y/y in January 2022; Figure 2.4), driven by rising costs of enterprises, which amid favourable economic conditions and high demand could be passed into the prices of final goods. Higher annual growth in the prices of both non-food goods and services contributed to the rise in inflation excluding food and energy prices. This was accompanied by an increase in the remaining measures of core inflation.

Figure 2.2 Composition of PPI inflation (y/y)



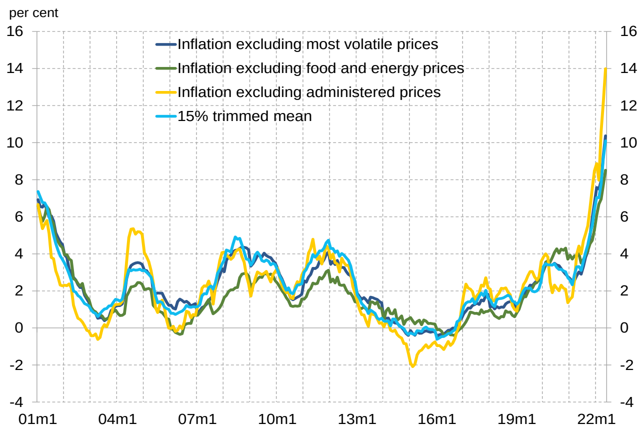
Source: Statistics Poland (GUS) and Eurostat data.

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



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

Figure 2.4 Core inflation indices (y/y)



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

recipients. The adopted solutions are in force until the end of July 2022, but legislative work is currently underway aimed at extending their validity until the end of October 2022.

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

Since the previous *Inflation Report*, inflation expectations of financial sector analysts surveyed by Refinitiv and of participants to the NBP Survey of Professional Forecasters have risen significantly (Table 2.1). However, the surveyed analysts expect inflation to gradually decline from 2023, although it will remain above the upper limit for deviations from the inflation target until at least the middle of 2024. Following a strong temporary rise in March 2022, directly after the start of the Russian military aggression against Ukraine, in 2022 Q2 inflation expectations of consumers as measured by balance statistics were close to the January 2022 level. Similarly, the opinions of enterprises as measured by balance statistics, after a rise in 2022 Q1, in 2022 Q2 shifted towards lower inflation and were close to the level observed in 2021 Q4; Figure 2.5).

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

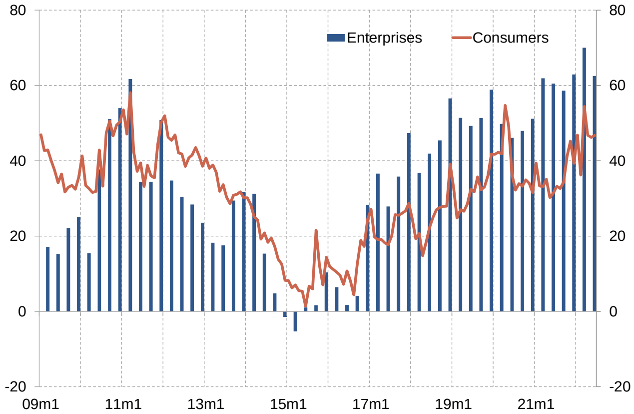
	Survey conducted in:				
	21q2	21q3	21q4	22q1	22q2
Refinitiv Survey, inflation expected in 4 quarters	3.4	3.5	5.9	9.0	10.5
NBP Survey, inflation expected in 4 quarters	3.4 (2.7-3.9)	4.1 (3.3-4.8)	5.9 (4.7-7.2)	8.8 (7.2-10.9)	9.7 (7.3-11.9)
NBP Survey, inflation expected in 8 quarters	3.1 (2.3-3.8)	3.4 (2.4-4.3)	3.8 (2.8-5.2)	4.9 (3.4-6.6)	5.7 (3.5-8.4)

Source: NBP and Refinitiv data.

Inflation expectations of the financial sector analysts are proxied by the median forecast of the analysts surveyed by Refinitiv in the last month of a given quarter.

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

Figure 2.5 Balance statistics of consumer and enterprise inflation expectations



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

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

Box 1: Global supply chain disruptions and inflation

One of the most important factors currently boosting inflation around the world is global supply chain disruptions (also known as international supply chains). These disruptions were triggered by the pandemic and then by Russia's military aggression against Ukraine. Their impact on inflation proved to be stronger and more persistent than initially expected. This changes the impact of globalisation – so far perceived as acting in one direction – on the prices of goods and services. In recent decades, globalisation processes have systematically reduced inflation, just due to the development of global supply chains.

The liberalisation of capital and trade flows as well as the development of information and communications technology (ICT) led to the international fragmentation of production, affecting in particular the capital goods market, but also having an impact on the consumer goods market. It consisted of dividing the production processes into highly specialised stages, which were located in economies characterised by comparative advantages (e.g. labour-intensive stages were located in countries with low labour costs). The greater availability of ICT technology enabled the efficient management of production and the logistics network, which was essential for the functioning of enterprises within global supply chains and using the so-called just-in-time model.

The resulting highly specialised international production reduced global inflation through at least three channels. The first of these was related to increased competition between suppliers of intermediate goods. In particular, enterprises offering standardised intermediate goods and occupying the so-called middle parts of the supply chain may experience strong pressure from competitors. In order to maintain price competitiveness in export markets, these firms lower their margins, which leads to a decline in the prices of materials and components of production. Lower costs of intermediate goods can, in turn, be transmitted to the next stages of the international production process, which as a result lowers the price of the final product. The second channel through which globalisation processes impact inflation concerns trade openness, i.e. increased intensity of trade flows between economies, which brings about greater diversity of the available finished goods. This makes it easier for consumers to choose cheaper substitutes and may strengthen competition between producers. The third channel is connected with technological development driven by the freer flow of direct investment, human capital, and intangible assets.

However, the COVID-19 pandemic significantly disrupted global supply chains, which was due to the combined impact of temporary severe supply constraints and a rapid rebound in demand for intermediate and final goods following an unprecedented slump in economic activity in 2020 Q2. The sanitary restrictions imposed at that time initiated the substitution of demand for services with demand for consumption goods. Given such strong demand, disruptions at the initial stages of production driven, among others, by production stoppages in China, proved to be of key importance. These disruptions were accompanied by strong imbalances in the sea freight market, which is crucial for the effective functioning of global supply chains. Globally, this was reflected in sharp increases in freight prices boosting costs of using intermediate goods, which in turn translated into a decline in the

Figure B.1.1 Global Supply Chain Pressure Index

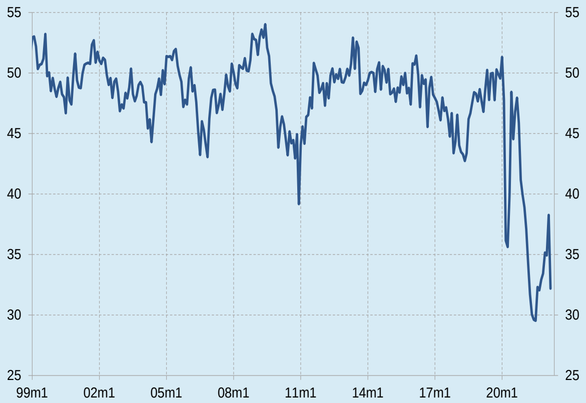
Source: Federal Reserve Bank of New York.

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

efficiency of supply chains, as seen in a significant deterioration in the GSCPI (Global Supply Chain Pressure Index[15]; Figure B.1.1).

Supply chain problems also translated into longer delivery times reported by Polish companies, which were indicated by the decline of the SDTI (Suppliers' Delivery Time Index)[16] for Poland to historically low levels (Figure B.1.2). Consequently, this led to shortages of intermediate goods, as evidenced by the record high percentage of companies reporting supply problems (Figure B.1.3).

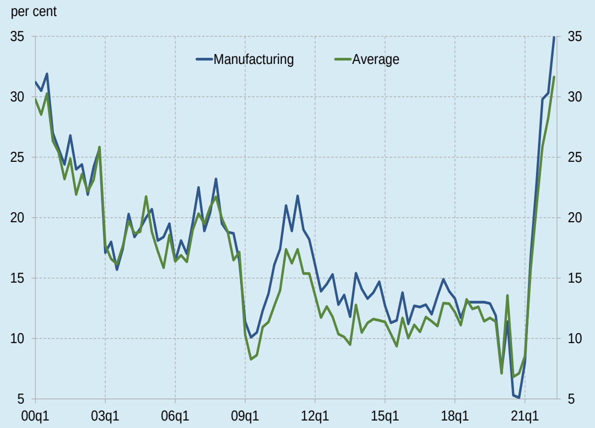
Figure B.1.2 Suppliers' Delivery Time Index for Poland



Source: IHS Markit.

Note: Values below 50 mean an extension in delivery time (deterioration in the situation), while values above 50 mean a shortening of the delivery time (improvement in the situation).

Figure B.1.3 Share of enterprises in manufacturing industry reporting problems with the availability of intermediate goods in Poland



Source: own study based on European Commission data.

Note: The average was calculated based on observations for two-digit industries according the NACE classification.

Global supply chain disruptions have a pro-inflationary effect on the economy and this effect is inert.[17] In macroeconomic terms, these disruptions may be interpreted as a negative supply shock. Shortages of intermediate goods used in production usually result in their rising costs, which may stem from several reasons. Firstly, faced with the shortage of the intermediate goods used so far, in order to continue production enterprises substitute parts and materials with their more expensive counterparts. Secondly, shortages of materials may be due to logistics problems, whose solution involves higher transport costs. Apart from the supply-side nature of these disruptions, the impact of the price adjustment mechanism also cannot be ruled out as – amid limited productive capacity and high demand – enterprises may increase the prices of their products.

Producer prices are the most responsive to supply chain disruptions, which is directly linked to the nature of this shock and its transmission mechanism. Higher material and import intensity of industrial goods production results from the greater role of intermediate goods in their production, which is why potential problems with their availability increase the prices of the offered industrial goods to the greatest extent. Next, this shock is transmitted to successive stages of the production process, accelerating, primarily, price growth of consumer goods. Prices of services, for which the effect of supply chain disruptions is observed with a delay, are much less sensitive to the shock.

[15] The GSCPI index illustrates the tensions in global supply chains. More on the construction of the index can be found on the website of the Federal Reserve Bank of New York.

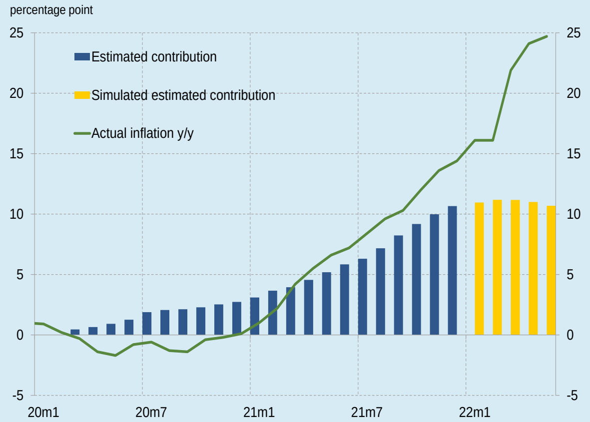
[16] The SDTI index is a sub-index of the PMI and illustrates the agreed delivery times in a given month compared to the situation a month earlier.

[17] The discussed results of the Mućk and Postek (2022a) study concern the impact of global supply chain disruptions on European economies.

It can be expected that the global supply chain disruptions observed so far will significantly boost price growth in the Polish economy in the coming quarters (Mućk and Postek, 2022b). Firstly, the estimated effect of the disruptions indicates their rather inertial impact on inflation, being the strongest on average after 4-6 quarters (Mućk and Postek, 2022a). This means that the effect of the historically greatest problems in supply chains seen in the first half of 2022 may continue to boost inflation in the first half of 2023. Secondly, the strongly inert nature of the disruptions experienced so far is also confirmed by the results of an additional simulation of the contribution of these shocks to CPI and PPI growth. According to these findings, the disruptions in the supply markets observed until the end of 2021, and therefore before the Russian military aggression against Ukraine, will significantly boost CPI and PPI throughout the whole of 2022. Thirdly, the war in Ukraine alone additionally reduces the effectiveness of the functioning of global supply chains, and is a further pro-inflationary impulse.

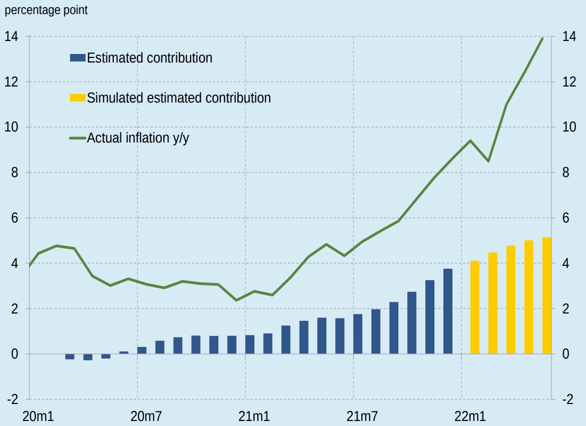
In particular, in December 2021, PPI growth stood at 14.5%, while the upper limit for estimated contribution of the disruptions amounted to 10.7 p.p. in this period (Figure B.1.4).[18] In turn, CPI inflation stood at 8.6% in December 2021, with the effects of supply chain disruptions accounting for a maximum of 3.8 p.p. (Figure B.1.5). The global supply chain disruptions that materialised by the end of 2021 are contributing to higher inflation also in 2022. At the same time, in the first half of 2022 there were further severe disruptions, including those related to the Russian military aggression against Ukraine, the sanctions imposed on Russia, and the so-called "zero Covid" policy in China, which could increase and prolong the inflationary effects of the global supply chain disruptions.

Figure B.1.4 Simulated maximum contribution of global supply chain disruptions to PPI inflation in Poland (y/y)



Source: Mućk and Postek (2022b).
Note: It was assumed that tensions resulting from an extension of delivery time will be reduced by half in about 8 months.

Figure B.1.5 Simulated maximum contribution of global supply chain disruptions to CPI inflation in Poland (y/y)



Source: Mućk and Postek (2022b).
Note: It was assumed that tensions resulting from an extension of delivery time will be reduced by half in about 8 months.

Literature:

1. Federal Reserve Bank of New York, Global Supply Chain Pressure Index.
2. Mućk J., Postek Ł., (2022a), Global value chains shocks and inflation in Europe, *mimeo*.
3. Mućk J., Postek Ł., (2022b), Supply chains disruptions and inflation in Poland, *mimeo*.

[18] The research method applied allows an estimate only of the upper limit of the contribution of global supply chain disruptions on inflation.

Box 2: Developments in food prices in the context of Russia's military aggression against Ukraine

From January 2015 to June 2020, agricultural commodity prices were relatively stable. In particular, they remained largely unresponsive to the direct effects of the outbreak of the Covid-19 pandemic (Figure B.2.1). However, since the second half of 2020, they began to grow steadily. In January 2022, the last month before the Russian military aggression against Ukraine, the NBP index of agricultural commodity prices was 35.2% higher than in July 2020.[19] Its further rise, by 27.9% up to June 2022 (thus in only 5 months), was driven by Russia's military aggression against Ukraine.[20]

Before the outbreak of the war, food prices were primarily determined by fundamental factors, which are specific for individual markets. For example, wheat prices rose due to unfavourable weather conditions (heatwaves) in key cultivation areas. Consequently, the world's harvests in the 2021/2022 season did not balance global consumption, leading to a fall in inventories.[21] Similar conditions prevailed in the European rapeseed market.[22] The prices of frozen orange juice, coffee and sugar also increased as a result of unfavourable weather conditions. In turn, high import demand from Asian countries contributed to a price hikes of dairy products. Agricultural commodity prices were additionally boosted by the sharp growth in energy prices driven by the limited supply of energy commodities amid the post-pandemic recovery in global economic activity.[23] In effect, crude oil prices rose rapidly, and from the second half of 2021 so did the prices of natural gas. Following its higher quotations, the prices of fertilizers increased sharply, particularly those produced with the use of natural gas (in January 2022 urea prices rose by 219.4% y/y).

Russia's military aggression against Ukraine pushed growth in global prices of agricultural commodities even higher. In the wake of the outbreak of the armed conflict, the FAO FPI index soared in March 2022 by a record 13.2% m/m, reaching an all-time high.[24] The NBP index of agricultural commodity prices showed a similar trend. In June 2022, it was 27.9% higher than in January 2022, and in the period between February and June 2022 it picked up on average by 47.4% y/y.

Amid tight demand-supply balance, in the short-term, the rapid growth in prices of selected agricultural commodities was triggered by concerns about their future availability in the global markets. They resulted from production disruptions driven by the military operations. Moreover, disturbances in transport caused by the blockades of major Black Sea ports[25] limited the export of agricultural commodities from Ukraine (an important producer of, among others, cereals, oilseeds and oils[26]). For example, wheat prices in June 2022 were 47.2% higher

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[19] The NBP index of agricultural commodity prices is based on prices of selected agricultural products, that are quoted mainly in European markets. It includes exchange prices of wheat, colza, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter, frozen concentrated orange juice and wholesale prices of pig meat. The weights reflect the consumption structure of households in Poland.

[20] The NBP index of agricultural commodity prices for June 2022 in Box 2 was calculated using data available up to 17 June 2022.

[21] According to estimates of the US Department of Agriculture, global demand for wheat in the 2021/22 season exceeded its supply by approx. 12.2 million tonnes.

[22] According to estimates of the European Commission, European demand for rapeseed in the 2021/22 season exceeded its supply by approx. 4.4 million tonnes.

[23] Supply constraints were to a large extent part of a deliberate policy by OPEC+ and Russia.

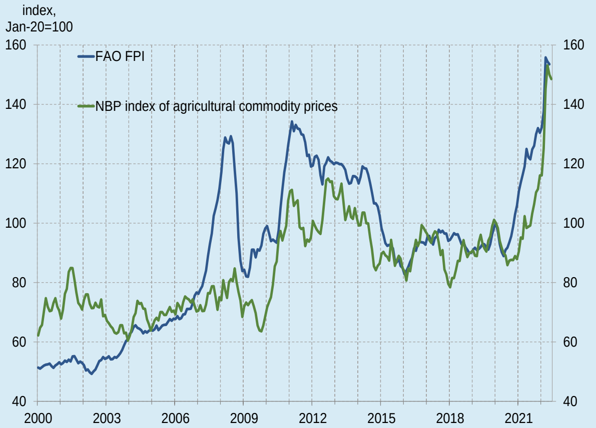
[24] It is worth stressing that the FAO FPI index had already reached its highest ever level in February 2022, due, among others, to the increased uncertainty regarding the export possibilities in the Black Sea basin.

[25] According to analyses of the Centre for Eastern Studies, before the Russian aggression approx. 99% and 91% of cereals and vegetable oils respectively were exported by sea, and monthly exports were at the level of 5–6 million tonnes for cereals and 500–600 thousand tonnes for vegetable oils. In March 2022, only 1.4 million tonnes of cereals were exported, while in April cereal exports reached only 1.1 million tonnes. At the same time, Ukraine has a total stock of wheat and maize amounting to 21 million tonnes, which creates a challenge for its warehouse infrastructure with the currently very limited export possibilities.

[26] Ukraine is an important supplier of wheat, maize, rapeseed and sunflower oil. According to the International Trade Centre data, Ukraine accounts for 10%, 15%, 16% and 48% of global exports of these products, respectively.

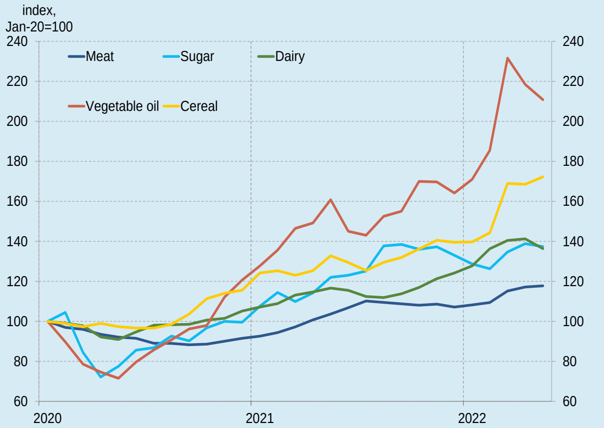
than in January 2022 due to the expected significant fall in global harvests[27] and transport problems. The situation was similar in the maize and oilseeds markets. Rapeseed prices were additionally boosted by rising crude oil prices, which led to increased demand for biofuels produced from rapeseed. Recently, prices of European pig meat have also risen sharply as a result of the low current and forecast pig population related to, among others, growing breeding costs.[28] Dairy prices have been running at high levels as well due to the expected low supply in Western Europe, Australia and New Zealand amid modest stocks and growing demand.

Figure B.2.1 NBP and FAO FPI indices of agricultural commodity prices



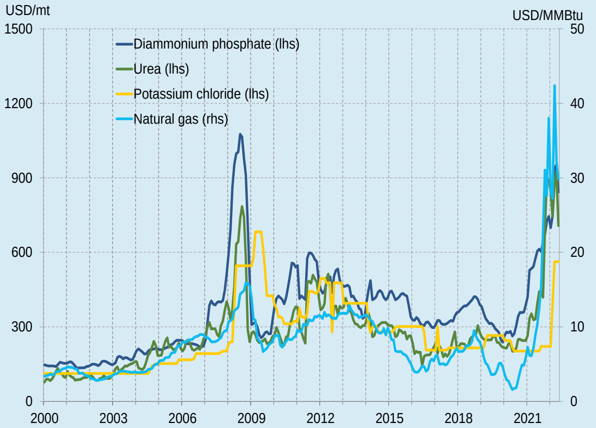
Source: Bloomberg and FAO data, NBP calculations.

Figure B.2.2 Components of FAO FPI agricultural commodity price index



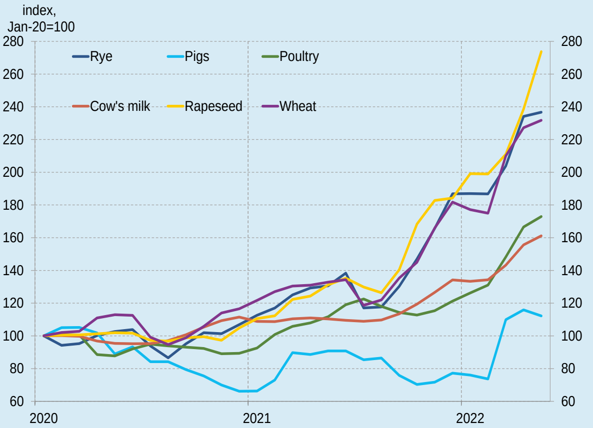
Source: FAO data, NBP calculations.

Figure B.2.3 Prices of natural gas and artificial fertilizers



Source: World Bank data, NBP calculations.

Figure B.2.4 Procurement prices of agricultural products in Poland



Source: Statistics Poland (GUS) and Ministry of Agriculture and Rural Development data, NBP calculations.

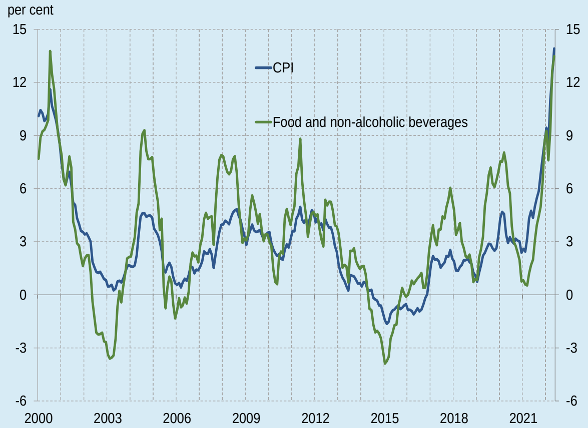
Russia's military aggression against Ukraine impacts also on agricultural commodity prices indirectly – via intensified cost pressure. This results mainly from persistently strong growth in energy commodity prices, particularly crude oil and natural gas prices (Figure B.2.3). According to the World Bank data, in May 2022, prices of Brent oil and natural gas in Europe rose by over 65% y/y and 235% y/y respectively, making transport, heating of production premises and the production of nitrogen fertilizers much more expensive. There was also a significant increase in the prices of potassium fertilizers, which Russia and Belarus are important suppliers of,

[27] According to forecasts of the US Department of Agriculture, global demand for wheat in the 2022/23 season will once again exceed its supply (by 12.6 million tonnes). Production in Ukraine will decline by 34.9% y/y, and exports will fall by 47.4% y/y due to the blockade of its ports.
[28] In December 2021 the pig population in 27 EU countries fell by approx. 3.0% y/y. In 2022 EU pig meat production will also decline by approx. 3.0% y/y.

accounting for approx. 37% of global exports.[29] Prices of feed grains grew sharply as well, among others, feed wheat (by approx. 51% y/y in March 2022) and soybean meal (by over 10% y/y), contributing to a further decline in profitability of livestock production.

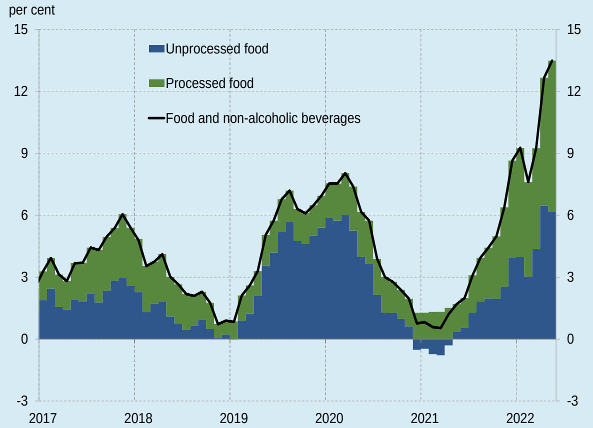
Despite the fact that Poland is self-sufficient in agricultural production, price developments in the global markets influence domestic prices due to ties in international trade. According to Statistics Poland, for many years Poland remains a net exporter of agricultural and food products. Available data for 2021 show that the trade balance in these products increased by 9.7% y/y to reach a record high of EUR 12.7 billion. The growth trend continued in 2022 Q1. Owing to the strong ties of the Polish market with international markets, changes in global prices of agricultural produce and animal products (Figure B.2.2) are to a large extent reflected in wholesale and retail food prices in Poland (Figure B.2.4, Figure B.2.5). As a consequence, the rapidly growing global prices of agricultural commodities and further significant rise in cost pressure pushed up food and non-alcoholic beverages price inflation in Poland from 9.3% y/y in January 2022 to 13.5% y/y in May 2022.

Figure B.2.5 CPI and food and non-alcoholic beverages inflation (y/y)



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

Figure B.2.6 Composition of food and non-alcoholic beverages inflation (y/y)



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

In three months following the onset of the Russian military aggression against Ukraine, food prices rose by 7.9% (and the fastest in April 2022 by 4.1% m/m). Food price inflation was boosted by faster growth in the prices of both processed food (to 13.6% y/y compared to 8.5% y/y in February 2022) and unprocessed food (to 13.3% y/y compared to 6.5% y/y, Figure B.2.6). Particularly sharp increases were seen in price growth of bread and cereals (by 6.4 p.p. to 16.2% y/y), milk, cheese and eggs (by 5.9 p.p. to 14.7% y/y), and oils and fats (by 8.7 p.p. to 32.0% y/y). In recent months, meat prices have also risen significantly (in May they were 18.4% y/y higher, including poultry 41.1% y/y, pork 16.7% y/y and dried, salted or smoked meat 10.7% y/y).

Despite the recent growth in food prices, their level in Poland is still significantly lower than in the majority of EU countries. According to preliminary Eurostat data, after taking into account the differences in purchasing power of the population, food prices in Poland in 2021 remained approx. 29% lower than the EU average. At the same time, they were among the lowest in Europe – a lower price level was recorded only in Romania and North Macedonia (by 32% and 36% respectively compared to the average price level in 27 EU countries). Food products in Poland are, in particular, cheaper than in other Central and Eastern European countries. Although the quoted statistics relate to 2021, taking into account the global character of current shocks to food prices, it can be expected that the price differences between countries will also persist in 2022.

[29] In annual terms, prices of urea and potassium chloride were higher in May 2022 by 113.3% and 177.8%, respectively.

2.2 Demand and output

In 2022 Q1, economic activity continued to grow at a robust pace. GDP growth accelerated to 8.5% y/y (from 7.6% y/y in 2021 Q4), with a large positive contribution from the solid growth in inventories (Table 2.2; Figure 2.6). At the same time, consumption and investment growth slowed down, and the negative contribution of net exports deepened.

Despite a weakening compared to the previous quarter, at the beginning of 2022, strong growth in consumer demand continued (household consumption increased by 6.6% y/y in 2022 Q1 compared to 8.0% y/y in 2021 Q4; Figure 2.7).[30] Annual growth in consumption was boosted, in part, by the low statistical base effect related to the restrictions on trade in the previous year and additional demand created by the inflow of refugees from Ukraine. Moreover, consumption growth was supported by a very good situation in the labour market, reflected in a further decline in unemployment and a strong wage growth (see Chapter 2.4 *Labour market*). However, a significant deterioration in consumer sentiment in the wake of the Russia's military aggression against Ukraine at the end of February acted in the opposite direction (Figure 2.8).

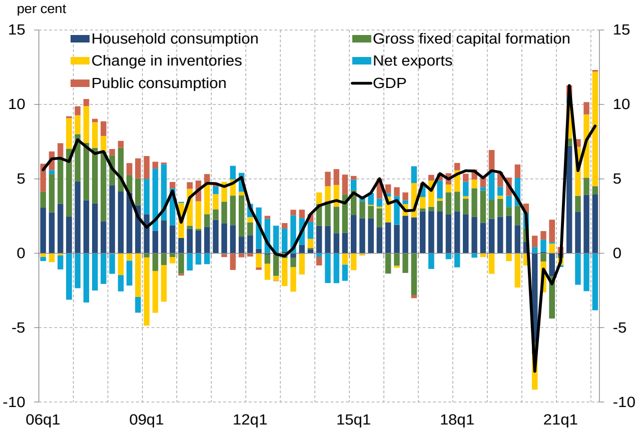
In 2022 Q1, growth in gross fixed capital formation slowed down to 4.3% y/y (compared to 5.2% y/y in 2021 Q4; Figure 2.9). Nevertheless, both public and private investment increased, supported by growth in domestic demand and a relatively high capacity utilisation. Yet the supply-side problems of the automotive industry remained a significant barrier for investment, resulting in a decline in enterprises' investment in means of transport. Strong growth in costs, caused by, among others, high prices of electricity, fuels, gas and commodities, was another factor constraining

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
GDP	**2.6**	**-7.9**	**-1.1**	**-2.1**	**-0.6**	**11.3**	**5.5**	**7.6**	**8.5**
Private consumption	0.8	-6.0	0.1	-1.5	-0.2	7.2	2.8	3.9	3.9
Public consumption	0.6	0.8	0.6	1.5	0.4	0.8	0.5	0.8	0.1
Gross fixed capital	0.9	-0.8	-0.6	-2.8	-0.2	0.5	1.1	1.1	0.6
Change in inventories	-0.8	-2.4	-2.1	0.6	-0.5	2.4	3.3	4.2	7.7
Net exports	1.1	0.4	0.8	0.1	-0.1	0.4	-2.1	-2.5	-3.8

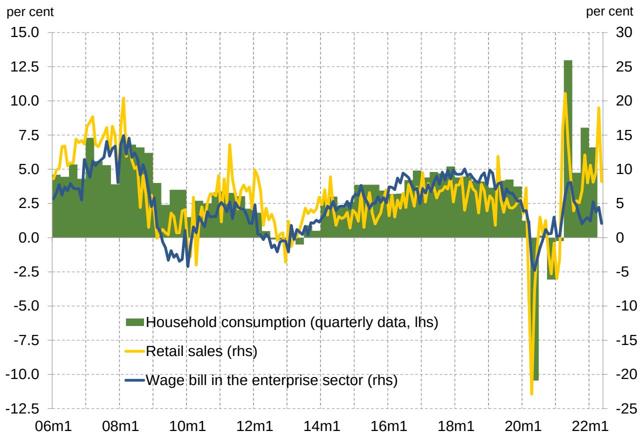
Source: Statistics Poland (GUS) data, NBP calculations.

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



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

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



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

[30] In April 2022, retail sales rose by 19.0% y/y and in May by 8.2% y/y (compared to 9.0% y/y in 2022 Q1), which may indicate the continuation of high consumption growth in 2022 Q2.

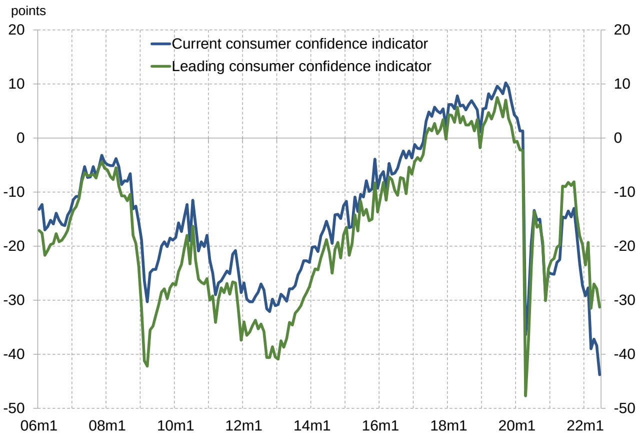
corporate investment activity in 2022 Q1 (Figure 2.10; see Chapter 1.3 *Global commodity markets*).

Despite these conditions, the favourable demand situation translated into an increase in enterprises' sales revenue. Consequently, enterprises maintained very good profitability indicators, and their net financial result rose, reaching the record high level in 2022 Q1.

At the same time, the Russia's military aggression against Ukraine triggered a sharp deterioration in business confidence. The adverse effects of war on business activity primarily included the further rise in the prices of commodities and materials and problems with their availability, and to a lesser extent, also the halted trade with Russia, Belarus and Ukraine, as well as – in certain sectors – the outflow of Ukrainian employees[31]. In these conditions, enterprises face significant uncertainty, which, however, has declined slightly in the recent period. This is evidenced by NBP survey data which indicate that in 2022 Q2 the assessment of the negative impact of war in Ukraine on business activity softened. At the same time, problems generated by the rise in costs of commodities and materials, as well as inflation, became even more severe.

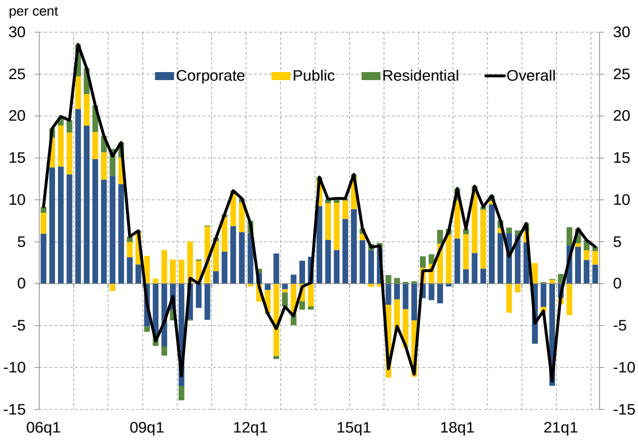
The negative contribution of net exports to GDP growth deepened to -3.8 percentage points in 2022 Q1 (from -2.5 percentage points in 2021 Q4), reflecting much higher import growth than export growth. The strong rise in the value of imports (Figure 2.11) was a result, among others, of high prices of imported goods, in particular of materials and fuels, amid the persistence of strong domestic demand.[32] Export growth, in turn, was reduced by disruptions to supply chains, among others, in the automotive industry. Moreover, in the wake of the Russia's invasion of Ukraine, March saw a sharp

Figure 2.8 Consumer confidence indicators



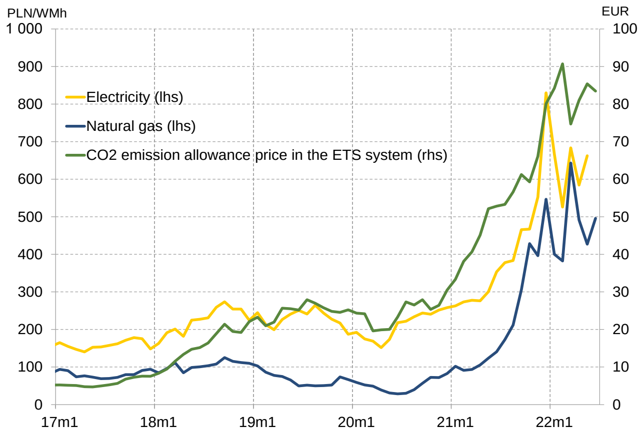
Source: Statistics Poland (GUS) data.

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



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

Figure 2.10 Natural gas and electricity prices on the Towarowa Giełda Energii (commodity exchange) and price of the CO2 emission allowance in the EU ETS



Source: TGE, Bloomberg data.
Data until 29 June.

[31] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2022.
[32] In April 2022, annual growth in the value of imports picked up compared to March, particularly in the fuels and food categories, while growth in the value of exports declined.

slump in exports to these countries as well as to Belarus.[33]

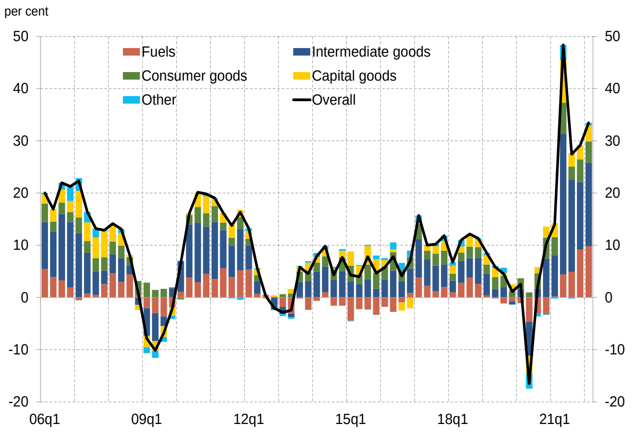
In 2022 Q1, gross value added increased in all the main sectors of the economy (total gross value added increased by 8.3% y/y against 7.5% y/y in 2021 Q4; Figure 2.12). Activity growth in industry, construction[34] and in the market services sector rose.

2.3 Public finance

In 2021, the general government deficit (in ESA 2010 terms) was 1.9% of GDP (PLN 49.0 billion), compared to 6.9% of GDP (PLN 161.7 billion) in 2020 (Figure 2.13). The marked improvement in the sector's performance was mainly due to the phasing out of the anti-crisis support for households and enterprises related to the COVID-19 pandemic and the economic recovery, resulting in a rise in tax revenues. Last year's result of the general government in relation to GDP was one of the most robust in the EU – in 2021 the average deficit in the EU was 4.7% of GDP[35] (Figure 2.14).

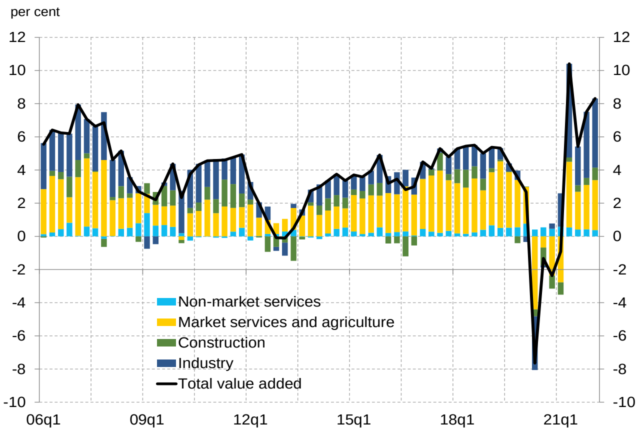
According to preliminary data of the Ministry of Finance, in the period from January to May 2022, the state budget surplus stood at PLN 12.1 billion, and tax revenues were 18.1% y/y higher. This took place despite the changes introduced under the Polish Deal as of the beginning of 2022, which lowered budget tax receipts from PIT[36], and also despite the lowering of excise duty and VAT rates (on selected basic goods[37]) under the Anti-inflationary Shield. The rise in tax revenues to the

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



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

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



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

[33] In April 2022, annual growth in exports to Russia and Belarus continued to decline, whereas the value of exports to Ukraine already recorded a slightly positive growth in annual terms.
[34] Data for April and May indicate a slight slowdown in annual industrial output growth compared to 2022 Q1 (in April this growth amounted to 12.4% y/y and in May 15.0% y/y compared to 16.0% y/y in 2022 Q1). In turn, growth in construction and assembly output declined significantly (in April it stood at 9.0% y/y and in May at 13.0% y/y compared to 23.3% y/y in 2022 Q1).
[35] In 2021, in the EU this indicator was on average 2.1 percentage points lower than in 2020; in Poland it was 5.0 percentage points lower.
[36] In particular, PIT (personal income tax) receipts to the budget were lowered by the increase in the personal income tax-free income from PLN 8,000 to PLN 30,000 for those who settle their taxes according to the tax scale, as well as by the increase in the income threshold beyond which the 32% PIT rate applies from PLN 85,528 to PLN 120,000.
[37] In January 2022, VAT rates were lowered for natural gas and electricity; then VAT rates were lowered for other goods, in particular, staple foods and fuels.

state budget was driven by the favourable economic conditions amid high inflation.

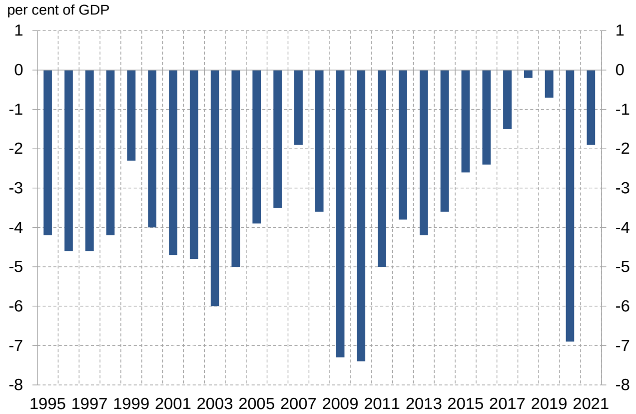
Despite the good situation of the state budget in the first months of 2022, in accordance with the government's assumptions presented in the April 2022 update of the *Convergence Programme*, the deficit of the general government in 2022 is set to increase to 4.3% of GDP. The deterioration in the performance of the sector reflects, in particular, the cost of the anti-inflationary measures undertaken by the government and the assistance provided to refugees from Ukraine. Moreover, the tax changes introduced under the Polish Deal are a factor reducing the sector's tax receipts. The government's planned reduction of the lower PIT rate (from 17% to 12%) from July 2022 will entail a further permanent reduction of the sector's tax revenues.

The general government debt to GDP ratio declined in 2021 to 53.8% of GDP (against 57.1% of GDP at the end of 2020) – above all due to the sharp rise in nominal GDP. In line with the government's assumptions, the debt to GDP ratio in 2022 and subsequent years will follow a declining path.

2.4 Labour market

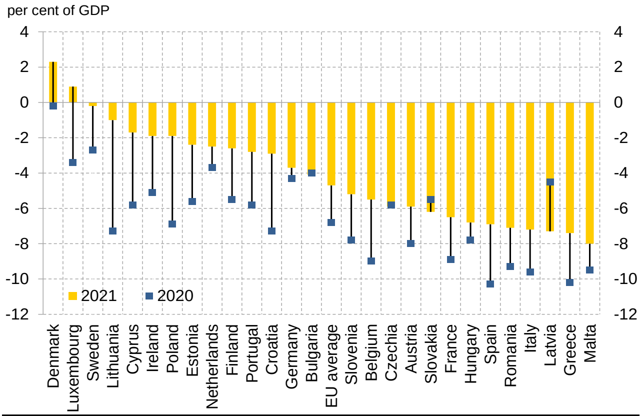
At the beginning of 2022, amid a strong rebound in economic activity in Poland, there was a further increase in demand for labour. According to the LFS data, in 2022 Q1 the number of employed persons rose again[38], which was a result of a higher number of employed in services and industry, alongside their continued decline in agriculture (Figure 2.15). Monthly data from the enterprise sector (ES) point to further growth in employment in 2022 Q2 (Figure 2.16), although NBP surveys[39] signal a possible slight weakening of the current

Figure 2.13 General government balance in ESA 2010 terms



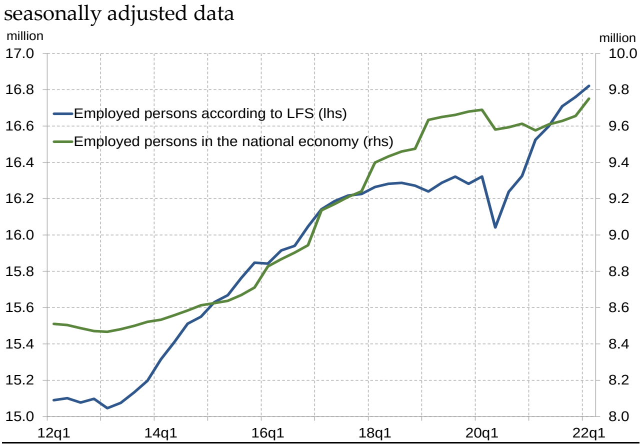
Source: Eurostat data.

Figure 2.14 General government balance in ESA 2010 terms in EU countries in the years 2020 and 2021



Source: Eurostat data, NBP calculations.

Figure 2.15 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 labor 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.

[38] The number of employed persons according to the LFS survey increased in 2022 Q1 by 281,000 in annual terms, i.e. by 1.7% y/y. The increase in the number of employed persons and employment growth were also visible in the reporting data from the national economy and Statistics Poland surveys concerning demand for labour, which point to the increase both in jobs filled and vacancies.

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

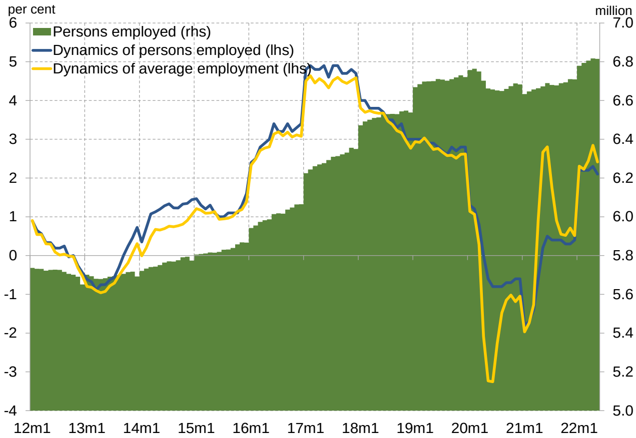
very strong demand for labour in the coming months.[40]

Against this background, the seasonally adjusted unemployment rate continued to fall and reached record lows. According to the LFS, in 2022 Q1 it declined to 2.9% (from 3.0% in 2021 Q4), while the registered unemployment rate in May 2022 stood at 5.1% (Figure 2.17).

Due to the strong position of employees in the labour market, wages rose considerably. The average nominal wage in the national economy (NE) in 2022 Q1 increased by 9.7% y/y (against 9.8% y/y in 2021 Q4; Figure 2.18). Particularly strong growth in wages was recorded in the ES[41] (11.7% y/y in 2022 Q1, 14.1% y/y in April and 13.5% y/y in May 2022). NBP survey results point to a persistent wage pressure also in the subsequent months.

The wage pressure may be partially mitigated by the increasing labour supply. This is due to rising labour force participation, in particular with regard to women and pre-retirees (according to the LFS, in 2022 Q1 the number of economically active people was 130,000 persons higher, i.e. by 0.8%, than a year earlier). Moreover, the number of migrants in the domestic labour market increased, in particular due to the influx of refugees from Ukraine. However, at the beginning of April 2022, the number of refugees in Poland stabilised, while since mid-May it slightly went down. According to estimates[42], at the beginning of May 2022, Poland hosted approx. 1.4-1.6 million Ukrainian refugees[43], out of whom 255,100 took up a job before 24 June (Figure 2.19).[44] At the same time, there has been an outflow of some Ukrainian workers – mainly men

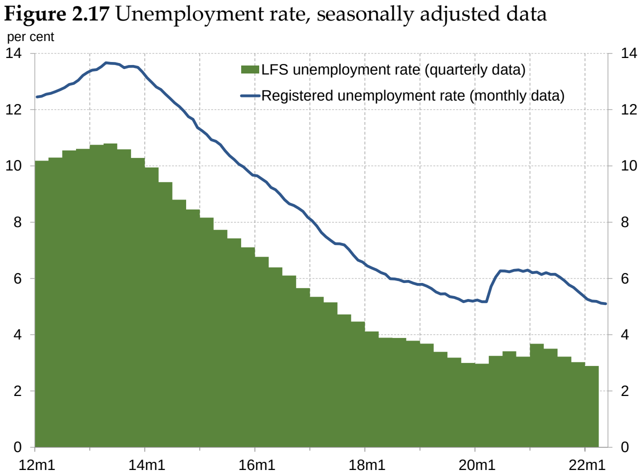
Figure 2.16 Annual growth rates in the number of persons employed and average employment, and the number of persons employed in the enterprise sector (ES)



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.

Figure 2.17 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 labor 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.

[40] A similar change may be suggested by the negative growth in the number of seasonally-adjusted job offers submitted during a month to employment offices, which in April 2022 stood at -11.6% m/m, and in May at -3.4% m/m.

[41] High wage growth in some sections could have been due to non-market factors. In particular, the adaptation to EU regulations had a crucial impact on wages in transport, which increased by 23.5% y/y in May 2022.

[42] Estimates of the Centre of Migration Research of the University of Warsaw of 2 May 2022 and the Ministry of Family and Social Policy of 5 May 2022.

[43] According to data from the Chancellery of the Prime Minister of Poland, up to 28 June 2022, 1.203 million refugees from Ukraine had submitted a request for the assignment of the Polish personal identification number (PESEL). Among the registered applicants 44.7% were children, while people over 65 constituted 3.7%. The percentage of women among people aged 18-65 was 89.3%.

[44] Number of people employed on the basis of the Act of 12 March 2022 on assistance to citizens of Ukraine in connection with the armed conflict on the territory of that country, data from the Ministry of Family and Social Policy.

– which in a short term could lead to staff shortages in some sectors (mainly in construction and transport).

Despite the marked rise in wages, growth in unit labour costs in the economy in 2022 Q1 declined to 2.9% y/y (from 5.0% y/y in 2021 Q4) on account of increasing labour productivity. Meanwhile, annual growth in unit labour costs in industry has remained negative in recent months.

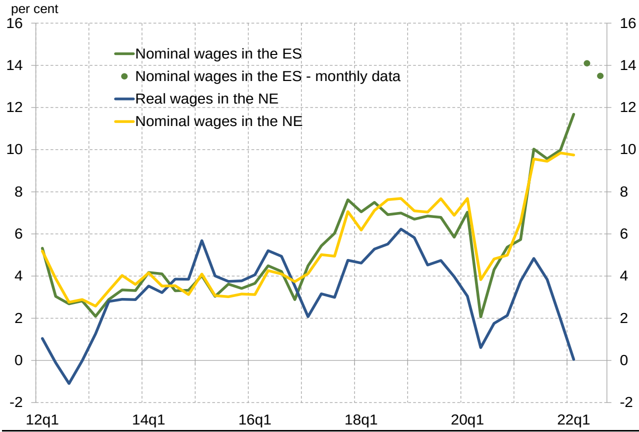
2.5 Financial market and asset prices

As in many other economies around the world, government bond yields in Poland rose significantly in the first half of 2022 (Figure 2.20). The rise in bond yields was mainly driven by the tightening of monetary policy and expectations of further interest rate increases (Figure 2.21), as well as a deterioration in sentiment and a fall in the prices of bonds in the world's financial markets (see Chapter 1.2 *Inflation developments abroad*, Chapter 1.4 *Monetary policy abroad*, Chapter 1.5 *International financial markets* and Chapter 2.1 *Inflation developments*). Adverse sentiment in international markets also contributed to a considerable drop in equity prices on the Warsaw Stock Exchange.

After a significant weakening at the beginning of March 2022 related to the Russia's military aggression, in the following months the zloty exchange rate strengthened somewhat (Figure 2.22), supported by the NBP interest rate increases. Over the recent past, however, in the opposite direction worked the global appreciation of the US dollar due to, among others, the tightening of US monetary policy.

In the housing market, in turn, mounting construction costs led to a further rise in flats prices in 2022 Q1[45] (Figure 2.23). According to NBP data,[46]

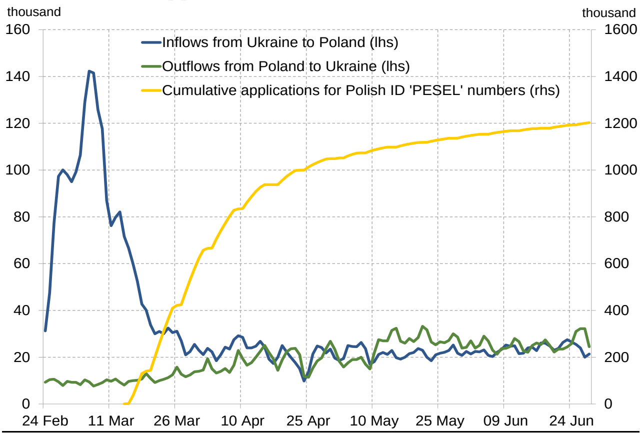
Figure 2.18 Annual nominal and real wage growth rates in the national economy (NE) and in the enterprise sector (ES)



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 April and May 2022 (dots).

Figure 2.19 Daily border crossings between Poland and Ukraine and cumulative applications for Polish ID numbers (PESEL)



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

Figure 2.20 Yields on Polish government bonds

Source: Bloomberg data.

[45] More information about the situation in the Polish housing market can be found in the NBP publication entitled *Information on home prices and the situation in the residential and commercial real estate market in Poland in 2022 Q1*, NBP, June 2022.
[46] The discussed data on home prices include transactions concluded between December 2021 and February 2022, so 2022 Q1 analysed in the chapter does not fully coincide with the calendar quarter.

growth in average transaction price increased to 14.3% y/y (against 13.6% y/y in 2021 Q4).[47]

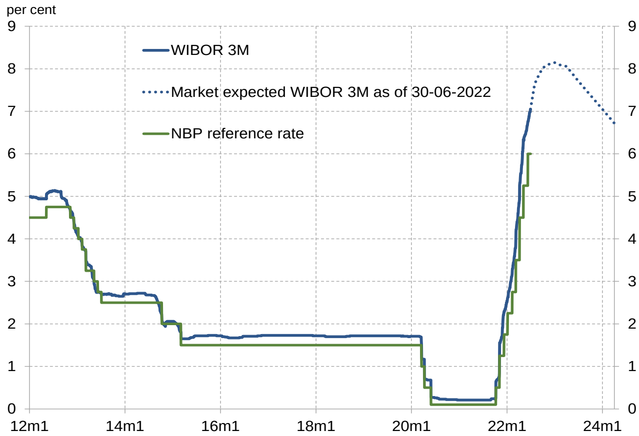
2.6 Money and credit[48]

In 2022 Q1, the growth rate of the broad money (M3) declined (to 7.5% from 8.9% in 2021 Q4; Figure 2.24). Meanwhile, due to the elevated uncertainty caused by the Russian aggression against Ukraine, in February and March households withdrew some funds from banks, which translated into the shift in the structure of the M3 aggregate. The increase in cash in circulation (its growth rate accelerated to 13.2% in 2022 Q1 from 11.8% in 2021 Q4) was reflected in a fall of the annual growth rate of household deposits (to 4.0% in 2022 Q1 from 6.9% in 2021 Q4). The growth in corporate deposits decelerated as well (it amounted to 6.8% in 2022 Q1 compared to 9.1% in 2021 Q4).[49]

In 2022 Q1, the growth rate of all main M3 counterparts was positive. Loans and claims, whose increase was the highest in several quarters (Figure 2.25)[50], had the largest contribution to growth of the broad money.

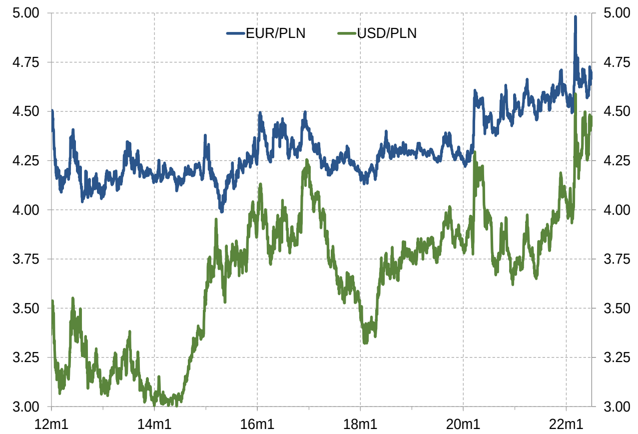
Amidst deteriorating consumer sentiment (see Chapter 2.2 *Demand and output*), rising interest rates on loans and tighter lending policy[51], the growth rate of household loans is decreasing and in 2022 Q1 it amounted to 4.2% (compared to 4.9% in 2021 Q4;[52] Figure 2.26). Lending is slowing down

Figure 2.21 NBP reference rate and WIBOR 3M with expectations based on FRA contracts



Source: NBP and Bloomberg data.

Figure 2.22 Exchange rates of the euro and the US dollar in zloty



Source: Bloomberg data.

[47] These data apply to average transaction price of flats (PLN/m^2) in 17 cities (16 voivodeship capitals and Gdynia) in the primary and secondary markets weighted by housing stock. In quarterly terms, price growth was running at 3.4% q/q in 2022 Q1 (against 4.4% q/q in 2021 Q4).
[48] 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.
[49] In April and May 2022, the growth in the M3 money aggregate amounted to 7.6% and 7.1%, respectively. At the same time, the growth in cash in circulation was 15.2% and 12.8%, while growth in household deposits amounted to 1.8% and 1.7%, and in corporate deposits stood at 7.8% both in April and in May.
[50] Data for April and May 2022 suggest that loans and claims may contribute most to the growth in the broad money aggregate M3 also in 2022 Q2.
[51] In 2022 Q1 and Q2, banks considerably tightened their credit underwriting standards for housing loans, which was mainly driven by the worsening economic outlook. See *Senior loan officer opinion survey on bank lending practices and credit conditions. 2nd quarter 2022*, NBP, April 2022.
[52] In April and May 2022, the growth in loans to households declined further (to 2.9% and 1.9%, including housing loans to 4.5% and 3.5%, and consumer loans to 2.2% and 1.5%, respectively).

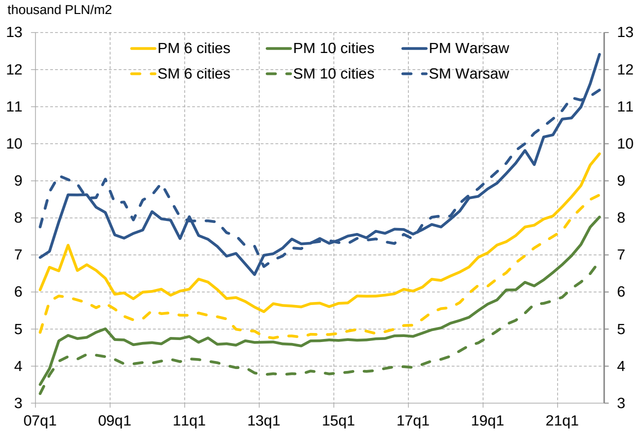
for both housing and consumer loans. In particular, the demand for housing loans (in terms of both the number of loan applications and the amount of loans granted)[53] dropped markedly. As a result, the housing loan growth decreased to 6.0% in 2022 Q1 (compared to 6.8% in 2021 Q4). At the same time, the consumer loan growth declined to 3.1% in 2022 Q1 (compared to 3.3% in 2021 Q4).

The annual growth of corporate loans, in turn, markedly increased in 2022 Q1 (to 6.7% against 2.2% in 2021 Q4; Figure 2.27). The main contributing factor was a substantial acceleration of current loan growth (to 17.0% in 2022 Q1 from 9.0% in 2021 Q4) related to a rise in large enterprises' financing needs for inventories and working capital, caused by the increasing global prices of commodities and some goods, as well as the persisting supply chain disruptions.[54] The growth rate of investment loans also rose significantly, although it remained slightly negative in 2022 Q1, on average (it was -0.1% in 2022 Q1 compared to -2.3% in 2021 Q4).[55]

2.7 Balance of payments[56]

In 2022 Q1, the current account balance declined to -2.8% of GDP (from -0.7% of GDP in 2021 Q4). This mainly reflected a widening in the trade in goods deficit (the balance of trade in goods amounted to -1.6% of GDP in 2022 Q1 compared -0.1% of GDP in 2022 Q4; Figure 2.28). The deterioration of the balance of trade in goods resulted from the increased value of imports, primarily of fuels and supply goods, largely due to rising global commodity prices and a temporary depreciation of the zloty exchange rate driven by

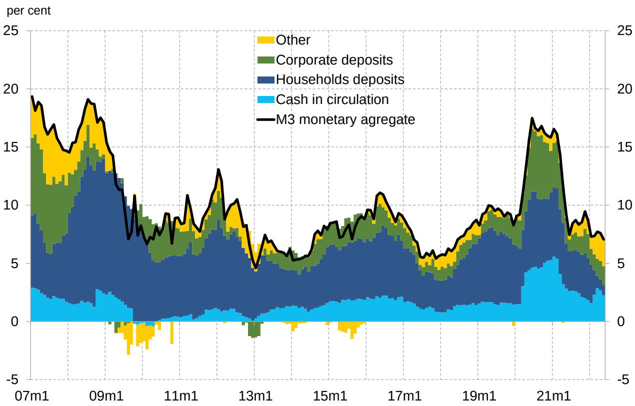
Figure 2.23 Nominal transaction prices of flats in major cities in Poland



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.

Figure 2.24 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.

[53] According to Credit Information Bureau (BIK), in 2022 Q1, the value of inquiries about housing loans decreased, on average, by 15.3% y/y, while in April and May 2022 this indicator amounted to, respectively, -38.8% and -51.6%, and the fall may have been additionally driven by the tighter credit risk assessment requirements of the Polish Financial Supervision Authority in force since April.

[54] See *Senior loan officer opinion survey on bank lending practices and credit conditions. 2nd quarter 2022*, NBP, April 2022 and *NBP Quick Monitoring, Economic climate in the enterprise sector*, NBP, April 2022.

[55] In April and May 2022, growth in corporate loans accelerated to 12.1% and 12.0%, respectively. In particular, the pace of current loans growth increased to 25.7% in April and 27.8% in May, and investment loans – to 3.2% and 2.4%, respectively.

[56] In this chapter, data on the balance of payments in relation to GDP are presented in terms of a four-quarter rolling sum.

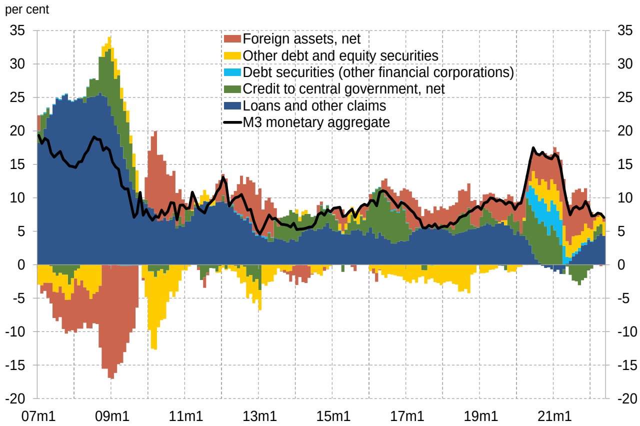
the rise in global risk aversion following the Russia's military aggression against Ukraine (see Chapter 1.5 *International financial markets* and Chapter 2.5 *Financial market and asset prices*). The balance of trade in goods was also negatively affected by the decline in exports to Russia and Belarus as a result of sanctions imposed on those countries (see Chapter 2.2 *Demand and output*).

At the same time, other components of the current account balance were relatively stable. In particular, a surplus in trade in services continued (in 2022 Q1 it amounted to 4.6% of GDP) as well as a deficit in the primary income account (in 2022 Q1 it amounted to -5.0% of GDP), which was mainly the result of foreign investors' income from their capital investments in Polish enterprises.[57]

In 2022 Q1, the financial account balance declined to -2.6% of GDP compared to 0.2% of GDP in the preceding quarter (Figure 2.29).

The external imbalance indicators evidence that the Polish economy is well balanced (Table 2.3). In 2022 Q1, Poland's net international investment position (as measured in relation to GDP) improved again, and the foreign debt to GDP ratio fell to its lowest level since 2008.

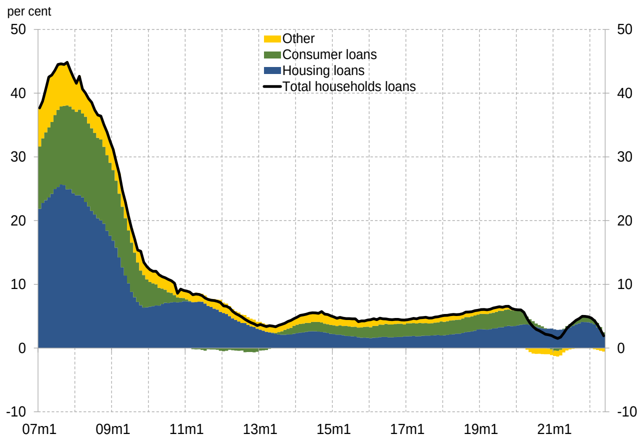
Figure 2.25 Composition of growth in M3 counterparts (y/y)



Source: NBP data.

Other financial corporations cover i.a. Polish Development Fund (PFR), pension funds, insurance corporations and investment funds.

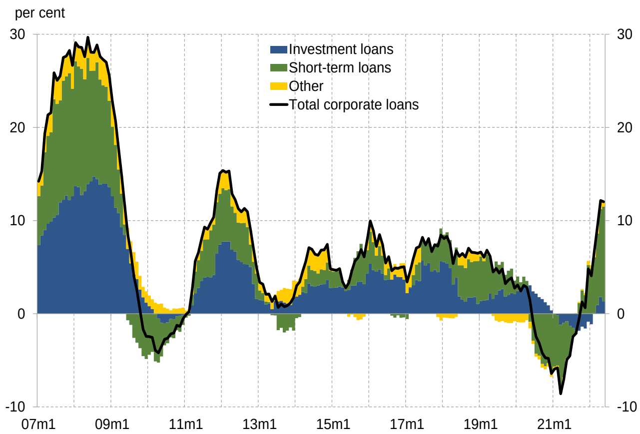
Figure 2.26 Composition of growth in household loans (y/y)



Source: NBP data.

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

Figure 2.27 Composition of growth in corporate loans (y/y)

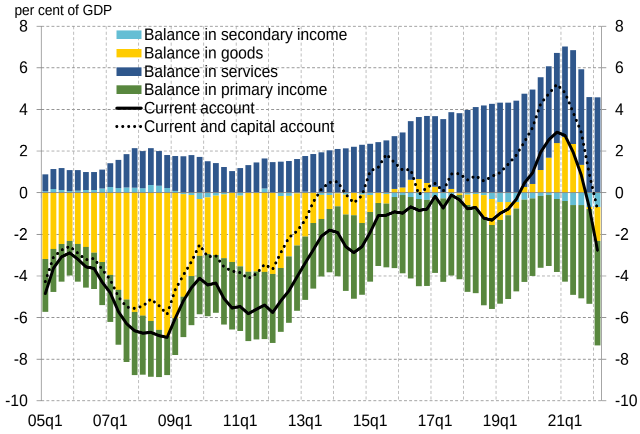


Source: NBP data.

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.

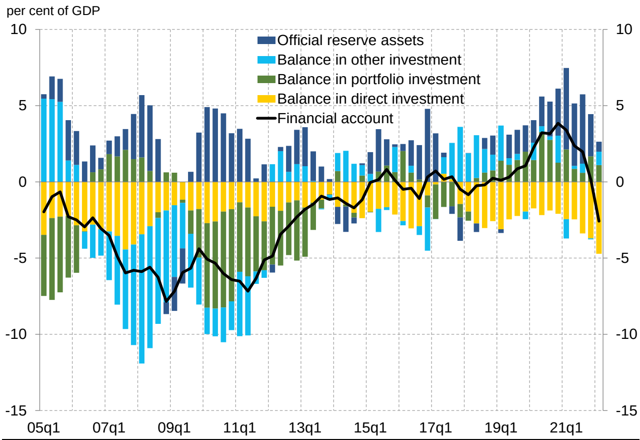
[57] On the other hand, the capital account continued to show a surplus, resulting from the inflow of EU funds (in 2022 Q1 it reached 1.2% of GDP).

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



Source: NBP data.

Figure 2.29 Financial account balance (4-quarter rolling sum)



Source: NBP data.

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

Table 2.3 Selected external imbalance indicators (4-quarter rolling sum in per cent, unless indicated otherwise)

	2020				2021				2022
	q1	q2	q3	q4	q1	q2	q3	q4	q1
Current account balance/GDP	1,0	1,9	2,5	2,9	2,8	1,9	0,9	-0,7	-2,8
Current and capital account balance/GDP	3,1	4,3	4,8	5,2	4,8	3,9	2,9	0,9	-0,8
Trade balance/GDP	5,0	5,5	6,1	6,7	7,0	6,9	5,9	4,5	2,9
Official reserve assets (in monthly imports of goods and services)	5,1	5,5	5,8	6,1	6,4	5,6	5,8	5,5	5,0
Foreign debt/GDP	59	58	59	60	61	57	58	57	56
Net international investment position/GDP	-47	-46	-45	-44	-43	-42	-41	-40	-39
Official reserve assets/short-term foreign debt minus forecast current account balance	138	136	125	120	109	100	105	113	122
Official reserve assets/short-term foreign debt	117	121	119	125	125	122	131	139	144

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 March – July 2022

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

Minutes of the Monetary Policy Council decision-making meeting held on 8 March 2022

At the Council meeting, it was observed that after a strong growth of global economy in 2021, at the beginning of 2022 economic activity has softened somewhat in some countries, amid a surge in the pandemic. However, it was noted that along with the improving epidemic situation in the United States and the euro area, economic sentiment indicators in these economies had picked up, signalling improving conditions, both in the industrial and the services sector.

During the meeting it was stressed that after the outbreak of the Russian military aggression against Ukraine, uncertainty regarding further course of global macroeconomic situation had increased significantly, including in Europe. It was assessed that Russian aggression and the related economic sanctions would contribute to slowing down the activity growth in many economies. Yet the scale of the impact would depend on the duration and course of the aggression, the range of sanctions imposed and the way economic agents adapt to these conditions.

It was pointed out that the Russian military aggression against Ukraine had contributed to a marked deterioration of sentiment in global financial markets, which had a downward effect on the prices of many assets and led to a depreciation of many currencies, including those of the Central and Eastern Europe region. This was accompanied by another strong increase in global commodity prices related to the expected reduction in supply of commodities from Russia and Ukraine. In particular, it was pointed out that at the beginning of March the prices of gas in Europe were more than twice as high as in January, and that Brent oil prices had temporarily reached the highest level since 2008. Coal prices had also risen sharply. At the same time, the prices of agricultural commodities – including wheat and maize – also markedly increased. It was observed that the upward pressure on the prices of agricultural commodities would be driven not only by their limited supply from Russia and Ukraine, but also by rising prices of nitrogenous fertilisers which are produced using natural gas. It was also pointed out that international transport prices were still elevated, and that disruptions in global supply chains continued and might be intensified by Russian military aggression against Ukraine.

In the opinion of the Council, amid the Russian military aggression against Ukraine the risk of further rise in global inflation, including in the external environment of the Polish economy, has grown. It was observed that already before the start of the Russian aggression, inflation in many countries had reached its highest levels in decades. In the euro area, HICP inflation rose to 5.8% in February, and in the United States, CPI inflation rose to 7.5% in January. It was pointed out that the accelerated price growth in these economies resulted mainly from supply-side factors –

including, in particular, more expensive commodities – yet the recovery in demand and low unemployment level had been also driving the prices upwards, leading to a significant increase in core inflation.

The Council members indicated that amidst a marked increase in inflation, many central banks were withdrawing monetary accommodation. It was highlighted that the central banks in Central and Eastern Europe continued to raise interest rates, and that the ECB kept negative interest rates, although it had been reducing the scale of asset purchases. It was also pointed out that the US Federal Reserve had signalled the termination of asset purchases in March and a start of interest rate increases.

When analysing the situation in the Polish economy, Council members pointed out that according to available data, the economic situation remained favourable. It was observed that GDP growth in 2021 Q4 amounted to 7.3% according to preliminary estimate by Statistics Poland, on the back of a marked increase in consumption and investment. It was emphasised that the favourable economic conditions had continued into early 2022, as evidenced by a rapid growth in retail sales and industrial output. At the same time, attention was drawn to the favourable situation in the labour market, reflected in a further increase in employment and a marked increase in the average wage in the corporate sector, although wages were growing slightly slower in January than in December 2021.

It was indicated that Russian military aggression against Ukraine and the related sanctions would have a negative impact on economic activity in Poland, although the scale of this impact was surrounded with considerable uncertainty. It was pointed out that a decline in exports to Russia, Belarus and Ukraine would have a dampening effect on GDP growth. Yet, it was indicated that this influence was bound to be limited due to the small share of exports to these economies in Poland's foreign trade. However, it was noted that exports to other economies may also slow down, due to the intensified disruptions in supply chains and subdued growth of external demand due to a probable weakening of the economic conditions in countries that are Poland's main trading partners. In addition, activity growth may be slowed down by a moderation in private sector investment – given the heightened uncertainty about the economic outlook – and slower consumption growth amid persistently higher inflation.

At the same time, it was pointed out that in the aftermath of Russian aggression against Ukraine, some factors will support activity growth in Poland. In this context, attention was drawn to the considerable inflow of refugees to Poland, which would generate additional demand for consumer goods and services and would require higher investments related to the migrants, including investment in expanding the health care system, education and increasing the availability of housing. It was also pointed out that defence spending would be increased. Moreover, Council members observed that the inflow of refugees would contribute to increasing supply in the domestic labour market.

The majority of the Council members observed that despite the negative impact of Russian aggression against Ukraine, NBP's March projection pointed to a likely continuation of the relatively favourable economic situation in the coming quarters, despite somewhat slower economic growth. Certain Council members judged that the scale of the weakening of economic activity might be greater than indicated by the central path of the March projection.

During the meeting it was pointed out that inflation in Poland – according to the Statistics Poland flash estimate – increased to 9.2% in January 2022. Council members emphasised that the markedly elevated inflation was mainly driven by a significant rise in the prices of energy and agricultural commodities as well as regulated tariffs for electrical energy, natural gas and heating. At the same time, it was pointed out that prices were also boosted by the ongoing economic recovery, including increased demand stimulated by rising household incomes. It was further observed that the markedly elevated price growth encompassed an increasingly broader group of goods and services, which was accompanied by a rise in core inflation. At the same time, it was noted that the reduction in some of the tax rates under the Anti-inflationary Shield had a curbing effect on inflation.

With regard to the prospects of inflation in Poland, Council members pointed out that according to the NBP March projection, inflation in 2022 and the subsequent years would be higher than previously forecast. It was indicated that in 2022 inflation would be running at a substantially elevated level, which – in addition to the factors that had already boosted price growth – would result from the economic fallout of Russian military aggression against Ukraine. In particular, it was highlighted that the Russian aggression had contributed to a sharp rise in commodity prices, a weakening of the zloty and intensification of disruptions to supply chains. At the same time, according to the NBP March projection, despite being higher than previously expected, inflation will gradually subside in the coming years. This process will be facilitated by the fading of some of the global shocks currently driving up price growth, and the increases in the NBP interest rates. It was observed that declining inflation should also be supported by the appreciation of the zloty, since in the Council's opinion, the market pressure on the weakening of the zloty – observed in the first days following the launch of the Russian military aggression against Ukraine – was not in line with the fundamentals of the Polish economy.

At the same time, the Council members observed that the inflation outlook was subject to high uncertainty in the current environment. Developments in price processes would depend, in particular, on evolution of global commodity prices, which at the moment were highly volatile, the impact of Russia's aggression against Ukraine on global and domestic economic conditions, as well as regulatory factors affecting prices.

Council members assessed that in view of the additional shocks having an upward effect on price growth, and taking into account the expected relatively favourable economic situation in Poland, there persists a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. Consequently, Council members concluded that, in order to bring inflation down to the NBP inflation target in the medium term, the NBP interest rates should be raised again. The increase in the NBP interest rates will also curb inflation expectations and should support appreciation of the zloty.

The Council decided to increase the NBP reference rate by 0.75 percentage points, i.e. to 3.50% and set the remaining NBP interest rates at the following levels: the lombard rate at 4.00%, the deposit rate at 3.00%, the rediscount rate at 3.55% and the discount rate at 3.60%.

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

Minutes of the Monetary Policy Council decision making meeting held on 6 April 2022

At the Council meeting, it was observed that the global economic recovery continued at the beginning of 2022, particularly in the United States and in the euro area, although the activity growth slowed down in some economies. Global economic conditions were adversely affected by the prolonged disruptions in international trade and high commodity prices. Council members emphasised that Russian military aggression against Ukraine had contributed to a substantial rise in uncertainty surrounding further global macroeconomic developments. It was noted that this was accompanied by a significant deterioration in sentiment in some economies, and heightened volatility in international financial and commodity markets. At the same time, prices of many commodities continued to increase, and disruptions in international trade have intensified. It was emphasised that forecasts accounting for the impact of the Russian aggression on global economic conditions indicated that activity in the coming quarters would be weaker than previously expected.

During the meeting it was pointed out that at the beginning of 2022 many economies had seen the highest price growth in decades. High commodity prices as well as prolonged disruptions in global supply chains and international transport have remained the main source of global inflation growth. In some economies, rising prices were also driven by growing labour costs, hence core inflation was also increasing. At the same time, it was emphasised that Russian military aggression against Ukraine was contributing to further global inflation growth, mainly due to the related rise in global commodity prices and intensification of disruptions in international trade. In particular, Council members pointed out that oil and natural gas prices were substantially higher than before the Russian aggression. Agricultural commodity prices had also sharply increased– especially wheat – and the global index of agricultural commodity prices had reached the highest level on record. It was noted that the impact of the Russian aggression on Ukraine on prices had already been partially reflected in the March readings of inflation, which had risen substantially in many countries. In particular, it was stressed that HICP inflation in the euro area – according to preliminary data – had risen to 7.5% in March. It was also observed that in some of the euro area economies, including Lithuania, Latvia, Estonia and the Netherlands, price growth in March 2022 was in double digits. At the same time, available forecasts suggest that the upward influence of Russia's aggression on global inflation would be sustained in the subsequent quarters, which would translate into higher than previously anticipated price growth in Poland's external environment.

The Council members pointed out that amidst a strong increase in global inflation, many central banks were withdrawing monetary accommodation. In particular, it was stressed that in March the US Federal Reserve had concluded net asset purchases and had increased interest rates for the first time in over 3 years. It was also indicated that the ECB kept negative interest rates, although in March it had reduced the planned scale of asset purchases, while signalling the possibility of the programme's termination in 2022 Q3. It was noted that banks in Central and Eastern Europe continued to raise interest rates.

When analysing the situation in the Polish economy, Council members pointed out that, according to available data, in 2022 Q1 economic activity remained high, following the strong GDP growth in 2021 Q4. In particular, it was indicated that the robust growth in industrial output had continued in February 2022. It was also observed that retail sales growth remained high, driven, among others, by increased purchases of essential goods and fuels in reaction to the Russian aggression against Ukraine. At the same time, high frequency data point to a further, increased spending on these products in March, when their consumption was additionally boosted by purchases for refugees arriving from Ukraine.

The Council members assessed that the inflow of refugees from Ukraine would also affect the domestic labour market. It was observed that the current situation is favourable for employees: employment continued to rise, wage growth was still robust, and almost half of the enterprises reported vacancies. It was assessed that, although in the short run the outflow of Ukrainians, returning to their homeland to join the fight, might generate temporary bottlenecks in some industries (particularly construction and transport), in the longer run migration should have a positive impact on labour supply in Poland.

In reference to the economic activity outlook, the Council members assessed that Russian military aggression against Ukraine would weaken economic growth in Poland, although the scale of this effect was highly uncertain. Among the factors adding to the uncertainty was the persistence of consumer and business confidence deterioration observed after the onset of Russian aggression and its impact on real macroeconomic processes. It was assessed that the pace of economic growth would be negatively affected by the rise in the prices of commodities and some products, boosting corporate costs and limiting household disposable income. It was pointed out that the reduction in exports to Russia and Ukraine might also contribute to the weakening of economic activity. However, the share of exports to these economies in Polish foreign trade is relatively small, which should limit the negative impact of the reduced sales to these markets on economic activity in Poland. It was also emphasised that at the same time there would be factors supporting the domestic economic conditions, including, additional consumer demand generated by the refugees as well as potential spending necessary to provide them with access to basic services. A the meeting, it was pointed out that economic activity growth would also be supported by fiscal policy measures, among others, the lowering of the personal income tax rate and the planned increase in expenditure on national defence.

At the meeting, it was pointed out that according to Statistics Poland flash estimate, inflation in Poland had risen significantly in March and was running at 10.9% y/y. The Council members emphasised that the increase in inflation in March had been mainly driven by the consequences of Russian military aggression against Ukraine, which was reflected in record high fuel price growth – which reached 28% in monthly terms – and robust growth in the prices of other energy carriers. It was pointed out that this was accompanied by an increase in consumer inflation expectations. At the same time, attention was drawn to the fact that the earlier rise in the prices of energy and agricultural commodities as well as regulated tariffs for electricity, natural gas and heating, continued to contribute to significantly elevated inflation. Council members also observed that prices were also boosted by the ongoing economic recovery, including increased demand stimulated by rising household income. It was further noted that the markedly elevated price growth encompassed an ever broader group of goods and services, which was accompanied by a rise in core inflation. However, it was also pointed out that inflation was being mitigated by the reduction in tax rates under the Anti-Inflation Shield.

With regard to the inflation outlook in Poland, Council members stressed that inflation would remain markedly elevated in 2022, which – apart from factors that had been previously amplifying inflation – was due to the economic consequences of Russian military aggression against Ukraine. At the same time, according to the Council's assessment, inflation will gradually decline in the coming years, although it will be higher than previously expected. The gradual decrease in price growth will result from the fading of some of the global shocks currently boosting prices, as well as from the increases in the NBP interest rates. The decrease in inflation should also be supported by appreciation of zloty exchange rate, which, in the Council's assessment will be consistent with the fundamentals of the Polish economy. At the same time, the Council members stressed that in the current circumstances there was heightened uncertainty regarding future developments of inflation, which was related, among others, to changes in commodity prices, the impact of Russian aggression against Ukraine on the global and domestic economic conditions, as well as regulatory factors affecting prices.

Council members assessed that in view of the above circumstances, including higher than expected price growth – which shifts the expected inflation path upwards in the coming quarters – and taking into account the expected relatively favourable economic situation in Poland, there remains a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. Consequently, the Council concluded that, in order to bring inflation down to the NBP inflation target in the medium term, the NBP interest rates should continue to be raised. The increase in NBP interest rates is curbing inflation expectations and should support the appreciation of the zloty.

The Council decided to increase the NBP reference rate by 1.00 percentage points, i.e. to 4.50% and set the remaining NBP interest rates at the following levels: the lombard rate at 5.00%, the deposit rate at 4.00%, the rediscount rate at 4.55%, and the discount rate at 4.60%.

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

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

At the Council meeting, it was observed that in 2022 Q1 conditions in the global economy remained relatively favourable, although prolonged disruptions in international trade, partially related to the successive waves of the pandemic in China, and high commodity prices had a negative impact on the global economic situation. The Council members highlighted that Russian military aggression against Ukraine had contributed to an intensification of these factors and to a substantial rise in uncertainty surrounding further global macroeconomic developments as well as led to a deterioration in economic sentiment. Consequently, activity growth slowed down in some economies in 2022 Q1 and GDP growth forecasts had been revised downwards. At the same time, it was pointed out that although in the United States GDP growth was lower in 2022 Q1 than in the previous quarter, further growth in domestic demand indicated that economic conditions remained good. It was observed that in the euro area GDP continued to grow in 2022 Q1, supported, among others, by a rebound in activity in the German economy following its decline in 2021 Q4.

During the meeting it was pointed out that in the recent period inflation in many countries was still rising, reaching the highest levels in decades. At the same time, price growth forecasts for the coming quarters were significantly revised upwards. High commodity prices as well as prolonged disruptions in global supply chains and international transport remained the main source of rising inflation around the world. The impact of these factors on inflation processes in the recent period had intensified due to the Russian aggression against Ukraine. In particular, oil prices had risen once again, despite the decision of the United States to begin selling its oil supplies. At the same time, European prices of coal and gas were several times higher than a year ago. This was accompanied by a rapid growth in the prices of agricultural commodities, reflected in the agricultural commodity price index running at its highest level on record. The Council members observed that, apart from the factors indicated, in some of the economies rising labour costs were also contributing to the surge in inflation.

At the Council meeting, it was stressed that, according to Eurostat preliminary data, in April 2022 HICP inflation in the euro area reached 7.5%. At the same time, in some economies of this currency area price growth was in double digits. Inflation remained high in the United States as well. At the same time, it was underlined that growth in core inflation that accounted for a significant part of consumer price inflation was observed both in the United States and in the euro area.

The Council members pointed out that amidst a strong increase in inflation, many central banks were tightening their monetary policy, although the decisions of the major central banks were not uniform. The US Federal Reserve had concluded its net asset purchases and had raised interest rates for the second time in May. On the other hand, the ECB was keeping the deposit rate negative, although it had reduced the scale of its asset purchases. At the same time, the financial markets were expecting interest rate increases in the euro area later in the year. It was highlighted that recently central banks in Central-Eastern Europe region had continued to increase interest rates.

When analysing the situation in the Polish economy, the Council members pointed out that, according to available data, the good economic conditions had continued in 2022 Q1. It was emphasised that, despite the Russian military aggression against Ukraine, which had contributed to a weakening in sentiment of economic entities, data for March had indicated a further significant rise in economic activity. In particular, retail sales had grown in real terms by 9.6%, which was partly supported by the inflow of refugees. In turn, industrial output had increased in March by 17.3% y/y. Construction and assembly output had also risen significantly.

At the Council meeting it was pointed out that the situation of employees in the domestic labour market remained favourable. Steady employment growth in the enterprise sector continued, the number of job offers was increasing and unemployment was at a record low. It was pointed out that wage growth had picked up to 12.4% y/y in March. At the same time, it was pointed out that the high wage growth could be partly attributed to significant wage growth in mining and transport. It was also observed that although wages were currently growing rapidly, wage pressure had somewhat eased in the enterprise sector, while still remaining at high levels. At the same time, it was pointed out that the easing of this pressure, at least in some sectors, should be supported by the gradual professional activation of refugees.

At the meeting the Council members assessed that a continuation of the favourable economic conditions might be expected in the coming quarters, although a gradual slowdown of economic growth was forecast. It was pointed out that in April consumer sentiment had slightly improved following a significant decline in March. It was assessed that the pace of economic growth would be negatively affected by the rise in the prices of commodities and some products, boosting corporate costs and limiting household disposable income. It was pointed out that the reduction in exports to Russia and Ukraine as well as the expected global economic slowdown might also contribute to the weakening of economic activity. At the same time, the domestic economic conditions would be supported by additional consumer demand due to the inflow of refugees as well as expenditure necessary to provide them with access to some services. It was pointed out that domestic demand and economic conditions would also be supported by fiscal policy measures, among others, the lowering of the personal income tax rate and the planned increase in expenditure on national defence.

Council members also emphasised that currently both domestic and global economic outlook was subject to significant uncertainty stemming from the impact of Russian military aggression against Ukraine. It was pointed out that one of the factors of uncertainty was further development of commodity prices and the decisions about the import of energy carriers, including a potential embargo on Russian oil imports. In this context, the Council members pointed out that the direct deliveries of natural gas from Russia to Poland had been stopped. However, it was highlighted that given the available technical possibilities of obtaining gas from other sources and the relatively high level of stocks in gas storage facilities in Poland, according to the current forecasts it should not have a significant negative effect on domestic economic activity in the coming quarters.

At the Council meeting it was observed that according to Statistics Poland flash estimate, inflation in Poland had increased to 12.3% y/y in April 2022, which was mainly driven by a strong growth in food prices, largely related to a rise in global agricultural commodities prices amid Russian military aggression against Ukraine. It was pointed out that food prices were probably also boosted by increased demand generated by the inflow of Ukrainian refugees to Poland. At the same time, it was emphasised that the earlier increases in energy commodities prices as well as in regulated tariffs on electricity, natural gas and thermal energy, continued to contribute to markedly elevated inflation. Inflation, especially with respect to the prices of goods, was also significantly boosted by disruptions in international trade – aggravated not only by the war in Ukraine, but also by the shutdown of factories and ports in China due to the pandemic – as well as high transport costs. Council members highlighted that the ongoing economic recovery, including an increase in demand driven by rising household incomes, had also had a positive contribution to the price growth. It was further noted that the markedly elevated price growth encompassed an ever broader group of goods and services, which was accompanied by a rise in core inflation. However, it was also highlighted that inflation was being mitigated by the reduction in tax rates under the Anti-Inflation Shield. Yet, at the same time, certain Council members pointed out that expected more expansionary fiscal policy would have pro-inflationary effects.

With regard to the inflation outlook in Poland, the Council members stressed that in the coming quarters inflation would remain markedly elevated due to a further impact of the factors currently amplifying price growth, including those related the Russian military aggression against Ukraine. In the Council's assessment, in the coming years inflation will gradually decline, although it will be higher than previously expected. The gradual decrease in price growth will result from the expected fading of some of the global shocks currently boosting prices, as well as from the increases in the NBP interest rates. The decrease in inflation should also be supported by appreciation of zloty exchange rate, which, in the Council's assessment, will be consistent with the fundamentals of the Polish economy. At the same time, the Council members stressed that high uncertainty regarding future developments of inflation prevailed, as related, among others, to changes in commodity prices, impact of the Russian aggression against Ukraine on the global and domestic economic conditions, as well as regulatory factors affecting prices.

The Council members assessed that in view of the above circumstances, including higher than expected price growth – which shifts the expected inflation path upwards in the coming quarters – and taking into account the expected relatively favourable economic situation in Poland, there remains a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. Consequently, the Council concluded that, in order to bring inflation down to the NBP inflation target in the medium term, the NBP interest rates should continue to be raised. The increase in NBP interest rates is curbing inflation expectations and should support the appreciation of the zloty.

The Council decided to increase the NBP reference rate by 0.75 percentage points, i.e. to 5.25% and set the remaining NBP interest rates at the following levels: the lombard rate at 5.75%, the deposit rate at 4.75%, the rediscount rate at 5.30%, and the discount rate at 5.35%.

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

Minutes of the Monetary Policy Council decision-making meeting held on 8 June 2022

During the discussion at the Council meeting, the situation in the external environment of the Polish economy was assessed. It was observed that growth in global economic activity was slowing down. It was pointed out that recent months had seen a marked deterioration in economic conditions in some emerging economies, including in China, while relatively favourable economic conditions persisted in the largest developed economies. The Council members highlighted that global economic activity continued to be curbed by high prices of commodities and components used in production, persisting global supply chain disruptions and the consequences of the Russian military aggression against Ukraine.

It was pointed out that in 2022 Q1 the euro area had recorded moderate GDP growth, which resulted, on the one hand, from the gradual easing of the pandemic restrictions imposed in the euro area economy and, on the other hand, from the persisting supply chain disruptions, which had intensified in recent months due to the war in Ukraine and the zero-covid policy in China. At the same time, the situation in the euro area labour market continued to improve, with the unemployment rate declining to a very low level. The labour market situation remained favourable also in the United States, which translated into accelerating wage growth. It was pointed out that despite a decline in GDP in 2022 Q1, growth in private consumption and investment in the US economy was positive, and April had seen both retail sales and industrial output pick up.

The Council members drew attention to a further rise in inflation worldwide, which in some countries reached the highest levels for decades. In particular, it was indicated that in May 2022 the euro area had seen HICP inflation rise to 8.1% (with some euro area economies recording double-digit inflation). In the United States inflation continued to run at a historically high level, although CPI inflation had declined slightly in April.

It was emphasised that high commodity prices, prolonged disruptions in global supply chains and international transport, exacerbated by the effects of the war, remained the main source of rising inflation. In this context, some Council members drew attention to the European partial embargo imposed on Russian oil, which affected oil prices, and the decision of the OPEC countries to increase oil supply, which – in turn – should ease somewhat the tensions in the oil market.

It was stressed that the price of oil had increased by more than 50% over the year, and by almost 200% over the past two years. European prices of coal and gas were also several times higher. Moreover, it was emphasised that the shock in energy commodity prices and the war in Ukraine had resulted in a sharp rise also in agricultural commodity prices.

It was noted that in many economies a relatively high aggregate demand, financed partly with savings accumulated during the pandemic and partly with growing income, amidst a very good labour market situation, supported the transmission of supply shocks to inflation. It was emphasised that as a result, core inflation was also on the rise. At the same time, inflation forecasts for the coming quarters were significantly revised upwards.

At the meeting it was pointed out that amid a strong rise in inflation, many central banks were tightening their monetary policy. In particular, the US Federal Reserve had ended its net asset purchases and was continuing its interest rate hikes. On the other hand, the ECB had so far kept negative interest rates, yet had reduced the scale of its asset purchases. Central banks in many economies, including in Central and Eastern Europe, had continued to increase interest rates.

While analysing the situation in the Polish economy, the Council members pointed out that according to the Statistics Poland preliminary estimate, in 2022 Q1 GDP growth amounted to 8.5% y/y. However, the data on its structure indicated that the rise in inventories had a large contribution to GDP growth, whereas consumption and investment growth had declined. It was assessed that the large growth in inventories was likely the result of companies accumulating raw materials and semi-products due to the uncertainty about their future prices and serious disruptions in supply chains.

The Council members emphasised that data available for 2022 Q2 suggested continuation of favourable economic conditions, although the pace of economic activity was gradually declining. Attention was drawn, in particular, to the fact that in April growth in industrial output had slowed down somewhat, and that in May the PMI index for industry had fallen below the level of 50 points. Data for construction were also markedly worse, with a significant slowdown in the growth of construction and assembly production. At the same time, April saw a significant growth in retail sales which was, on the one hand, the result of the inflow of refugees and the pandemic-related base effects and, on the other hand, the result of the constantly rising household income. It was emphasised that the situation in the domestic labour market continued to be very good, which was confirmed by the LFS data for 2022 Q1 and the incoming monthly data. In April employment continued to rise, accompanied by a further fall in unemployment and a marked rise in wages.

The Council members assessed that the outlook for the Polish economy in the coming quarters was still relatively favourable, although a slowdown in economic growth was anticipated. At the same time, it was noted that forecasts of the macroeconomic situation both in Poland and worldwide are fraught with high uncertainty. It was pointed out that the pace of economic growth would still be negatively affected by growing prices of commodities and certain products, resulting in a rise in enterprises' costs and limiting the growth in real disposable income of households. Economic activity would also be curbed by the forecast slowdown in global economic growth. It was emphasised that a more in-depth analysis of the medium-term scenario for the Polish economy would be possible in July, after the projection of inflation and GDP is published.

It was pointed out at the meeting that in May 2022 inflation in Poland had risen to 13.9% y/y. It was emphasised that heightened inflation in Poland – as in other countries – was mainly driven by a sharp rise in global prices of energy and agricultural commodities which was largely the result of the Russian military aggression against Ukraine. Other global factors affecting consumer prices were supply chain disruptions and high costs of international transport. Another factor boosting inflation in Poland was the earlier increases in regulated domestic tariffs on electricity, natural gas and thermal energy. Consequently – as pointed out by the Council members – in May the annual growth of energy prices reached 33% and that of food prices exceeded 13%. At the same time, price growth was supported by high demand, which facilitates enterprises to pass growing costs to prices of final products, resulting also in higher core inflation. On the other hand, inflation was mitigated by the reduction in some tax rates under the Anti-Inflation Shield.

With regard to the outlook for inflation in Poland, the Council members stressed that in the coming quarters inflation would remain markedly elevated due to the further impact of the factors currently boosting price growth, including those related to the Russian military aggression against Ukraine. It was emphasised that high uncertainty regarding future inflation prevailed, among others, due to uncertainty concerning changes in commodity prices, the impact of war in Ukraine on the global and domestic economic conditions, as well as due to regulatory changes affecting prices, including the decision on solutions provided for in the Anti-Inflation Shield. At the same time, the Council members pointed out that the NBP interest rates increases, together with fading of the impact of shocks currently boosting prices would contribute to a gradual fall in inflation in the coming years. The decrease in inflation should also be supported by appreciation of zloty exchange rate, which, in the Council's assessment, would be consistent with the fundamentals of the Polish economy. However, certain Council members pointed out that expected more expansionary fiscal policy would have pro-inflationary effects.

Certain Council members also pointed out that the government measures aimed at shielding mortgage borrowers, i.a. by introduction of the so-called repayment holidays, would hinder the efforts to permanently lower inflation. At the same time, they indicated that the planned changes in reference rates could, depending on the adopted solutions, weaken the monetary transmission mechanism.

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

The Council decided to increase the NBP reference rate by 0.75 percentage points, i.e. to 6.00% and set the remaining NBP interest rates at the following levels: the lombard rate at 6.50%, the deposit rate at 5.50%, the rediscount rate at 6.05%, and the discount rate at 6.10%.

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

Information from the meeting of the Monetary Policy Council held on 7 July 2022

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

In 2021 Q2, economic conditions in the largest advanced economies were relatively favourable. At the same time, however, in some emerging market economies, including China, the pace of activity growth deteriorated markedly. Recently, signals of notable worsening of the global growth outlook have intensified. Activity in the global economy and its prospects are under the negative impact of high prices of commodities and of production components, persisting disruptions in the functioning of global supply chains and the repercussions of Russia's military aggression against Ukraine.

Global inflation continues to rise, reaching in many economies the highest levels in decades. At the same time, inflation forecasts for the coming quarters are being still revised upwards. The main source of growing inflation continue to be high commodity prices as well as prolonged disruptions in global supply chains and international transport, amplified by the effects of war. In some economies, rising prices are also driven by high demand growth and increasing labour costs. As a consequence, core inflation is also increasing.

Amidst a strong increase in inflation, many central banks have been tightening their monetary policy in the recent period. The US Federal Reserve increased interest rates. In turn, the ECB concluded net asset purchases. Central banks in many economies, including in the Central-Eastern Europe region, continued to increase interest rates.

In Poland, available monthly data indicate that economic conditions remained favourable in 2022 Q2, however, economic activity growth decelerated. This is accompanied by the lowest unemployment rate on record and a marked rise in wages. A further slowdown of economic growth is forecast for the coming quarters, while both the domestic and global economic outlook is subject to significant uncertainty.

Inflation in Poland – according to Statistics Poland flash estimate – increased in June 2022 to 15.6% y/y. High inflation results mainly from an earlier strong rise in global energy and agricultural commodity prices – driven, to a large extent, by the repercussions of Russian military aggression against Ukraine – and earlier increases in regulated tariffs on electricity, natural gas and thermal energy. Consequences of disruptions in global supply chains and high shipping costs in international trade also boost inflation. At the same time, continued robust demand which enables enterprises to pass rising costs on to the final prices has had also a positive contribution to the price growth in Poland. In turn, a curbing impact on inflation has been exerted by areduction in some tax rates as part of the Anti-inflationary Shield. In the coming quarters, it is expected that the impact of factors currently amplifying price growth will persist, including those related to the Russian military aggression against Ukraine. Meanwhile, the NBP interest rates increases, together with fading of the impact of shocks currently boosting prices will contribute to a gradual decline in inflation in the coming years. The decrease in inflation would also be supported by appreciation of zloty exchange rate, which, in the Council's assessment, would be consistent with the fundamentals of the Polish economy.

The Council became acquainted with the results of the July 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 22 June 2022, there is a 50-percent probability that the annual price growth will be in the range of 13.2–15.4% in 2022 (against 9.3–12.2% in the March 2022 projection), 9.8-15.1% in 2023 (compared to 7.0-11.0%) and 2.2-6.0% in 2024 (compared to 2.8–5.7%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 3.9-5.5% in 2022 (against 3.4–5.3% in the March 2022 projection), 0.2-2.3% in 2023 (compared to 1.9-4.1%) and 1.0-3.5 % in 2024 (compared to 1.4–4.0%).

The Council assessed, that there persists a risk of inflation running above the NBP inflation target in the monetary policy transmission horizon. In order to reduce this risk, i.e. striving to decrease inflation to the NBP target in the medium term, the Council decided to increase NBP interest rates again. The increase of the NBP interest rates will also curb inflation expectations.

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

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

The Council adopted the *Inflation Report – July 2022*.

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 July projection based on the NECMOD model covers the period from 2022 Q2 to 2024 Q4. The starting point for the projection is 2022 Q1.

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 22 June 2022.

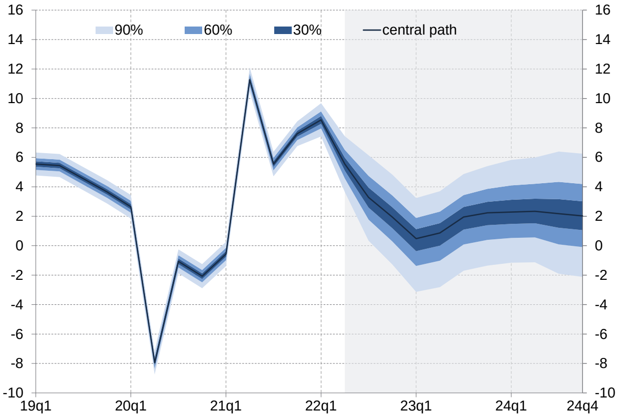
4.1 Summary

The central scenario of the current projection is significantly affected by the macroeconomic effects of Russia's armed aggression against Ukraine, including, in particular, the continued strong growth in global energy and agricultural commodity prices. The functioning of many economies around the world, including the Polish economy, is negatively affected by Russia's reduction of gas supplies to Europe, the significant increase in uncertainty impacting on the decisions of economic entities regarding the allocation of resources, and also the disruptions in trade with Ukraine, Russia and Belarus as a result of the Russian aggression.

Domestic price-setting in 2022 continues to be affected by the high costs of CO_2 emission allowances and prolonged disruptions to global supply chains, which have intensified in the recent period. As demand in the economy recovers strongly after a period of severe restrictions imposed due to the outbreak of the pandemic, the above-mentioned supply constraints result in an imbalance in many markets, leading to intensified price and cost pressure and a marked rise in CPI inflation in 2022. The scale of the increase in energy and food price inflation this year will be mitigated by the Anti-inflationary Shield.

In 2023-2024 CPI inflation will decline as factors boosting its level this year subside, although it will not return to the band of deviations from the NBP inflation target defined as 2.5% +/-1 p.p. until almost the end of the projection horizon. A gradual decline in inflation is supported by the slowing in aggregate demand growth in the economy, reduced cost pressure in the labour market, the assumed gradual decline in global commodity prices and easing of the price effects of supply chain disruption.

Figure 4.1 GDP (y/y, %)



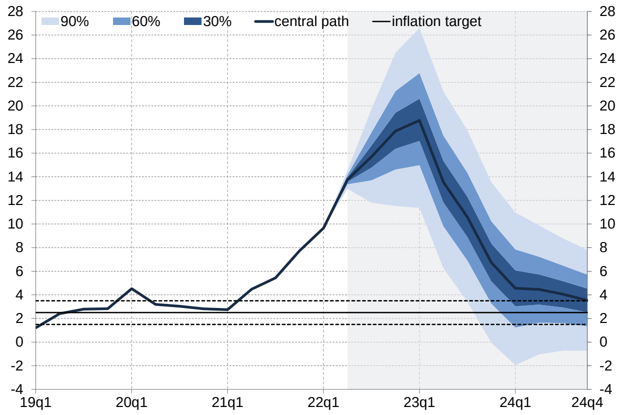
Source: Statistics Poland (GUS) data, NBP calculations.

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.).

Following a strong rebound in economic activity in 2021, GDP growth rate is expected to slow significantly over the projection horizon. In the coming quarters the domestic economic conditions will continue to be affected by a strong negative supply shock, which at the same time will push up prices markedly. In the longer-term projection horizon, the expected slowdown in GDP growth in the major developed economies and the marked decline in the inflow of European funds due to the end phase of disbursement under the EU financial framework for 2014-2020, will have an increasingly unfavourable impact on domestic economic activity. The scale of the decline in domestic GDP growth will be mitigated by changes in fiscal policy introduced under the Anti-inflationary Shield and the Polish Deal, the planned increase in defence spending and the increased inflow of migrants from Ukraine to Poland.

The economic outlook and CPI inflation path in Poland depend to the greatest extent on the scale of disruptions to the world economy triggered by Russia's military aggression against Ukraine. An additional important source of risk to inflation is the possible extension of the Anti-inflationary Shield. The balance of uncertainty factors indicates a higher probability of economic activity running below the central path over the projection horizon and a close to symmetric distribution of risks to CPI inflation (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

Growing commodity prices and more severe disruptions in global supply chains, resulting from the Russian aggression against Ukraine, slowed down GDP growth in the major developed economies in 2022 Q2. These factors, including Russia's recent decision to limit gas supplies to Western Europe, will curb economic activity also in the coming quarters, on top of monetary policy tightening by the major central banks (Table 4.1, Figure 4.3). As a result, GDP growth in the major developed economies will slow down markedly over the projection horizon.

In 2022 economic activity is also expected to slow down significantly in the major emerging economies. In particular, strict epidemic restrictions have a negative impact on China's industrial sector, disrupting the international transport of goods. The Russian economy is in a recession driven by the sanctions imposed on Russia following its military aggression against Ukraine. Compared with the developed countries, the emerging economies have fewer possibilities to support economic activity by expansionary fiscal policy, with the simultaneous need for stronger tightening of monetary policy amid high inflation.

Table 4.1 GDP abroad – July projection versus March projection

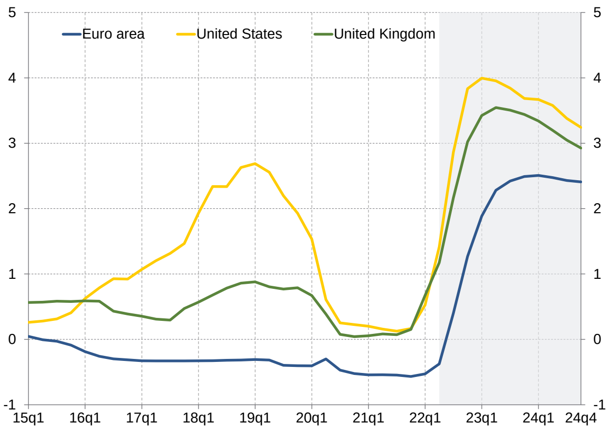
	2022	2023	2024
GDP in Euro Area (y/y, %)			
July 2022	2.9	1.1	1.8
March 2022	3.2	2.4	1.4
GDP in United States (y/y, %)			
July 2022	2.4	1.7	1.8
March 2022	3.6	2.3	1.8
GDP in United Kingdom (y/y, %)			
July 2022	3.4	0.6	1.5
March 2022	3.9	2.0	1.5

Source: NBP calculations.

Inflation and commodity markets

Concerns about the availability of energy commodities in the aftermath of the Russian military aggression against Ukraine, including the sanctions imposed on coal and crude oil imports as well as the cuts of natural gas supplies by Russia, have considerably pushed up the prices of these commodities in the global markets (Figure 4.4). High prices of energy commodities are also driven by their insufficient supply from other countries amid a rapid rebound in demand for energy following the pandemic-driven crisis. Prices of natural gas are additionally affected by low natural gas supplies in Europe and the current climate policy of the European Union, focused on limiting CO_2 emissions, resulting in increased demand for less carbon-intensive energy sources. Futures quotes suggest that in the quarters to come energy commodity prices in the world markets will start to decline gradually. Yet, over the whole of the projection horizon they will still exceed the pre-pandemic levels[58] (Figure 4.4). The scenario of declining crude oil prices in the long-term horizon is supported by the expected increase in oil production in the OPEC countries and in the

Figure 4.3 Interest rates abroad (%)



Source: Bloomberg data, NBP calculations.

[58] The forecast of global prices of crude oil, natural gas and hard coal is based on futures prices of these commodities on the ICE Futures Europe.

United States, conducive to restoring the balance of supply and demand. The decline in oil prices will also be supported by the increased use of renewable energy sources.

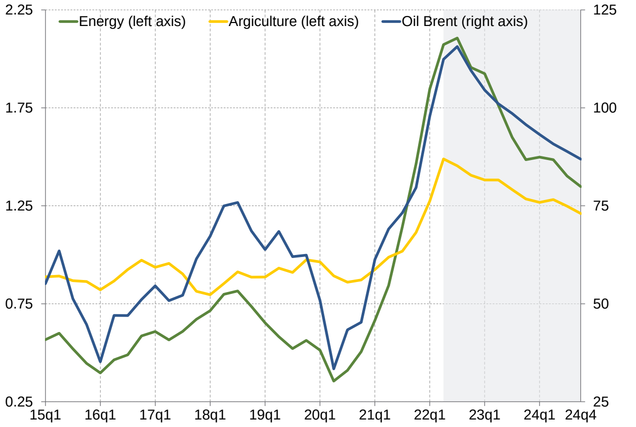
Amid limited supply, increased demand and growing costs of production, global agricultural commodity prices were very high even before the Russian military aggression against Ukraine (Figure 4.4). The Russian aggression gave them an additional, significant boost. This concerns, in particular, wheat prices, which have risen considerably on account of concerns about its supply and the possibilities of transport from Russia and Ukraine, which are the key wheat exporters. The prices of many agricultural commodities are additionally boosted by high crude oil and natural gas prices affecting the costs of transport, electricity and artificial fertilisers. In the long-term projection horizon, along with falling prices of energy commodities and the decreasing scale of disruptions caused by the Russian military aggression, global agricultural commodity prices should gradually fall (Figure 4.4).

In the first half of 2022, the global economy saw a further acceleration in consumer and producer prices. This was driven by growing commodity prices and shortages of goods resulting from prolonged disruptions in global supply chains coupled with persistently high demand for durable goods (see Chapter 1.2 *Inflation developments abroad*, Figure 4.5). Over the longer-term projection horizon, along with the gradual fading of factors boosting inflation and a slowdown in economic activity, the average annual price growth will gradually fall (Figure 4.5).

Uncertainty

Europe and the whole world continue to see significant geopolitical risks related to the Russian military aggression against Ukraine. The hostilities, growing political tensions and economic sanctions imposed on Russia disturb the functioning of the global economy as well as the

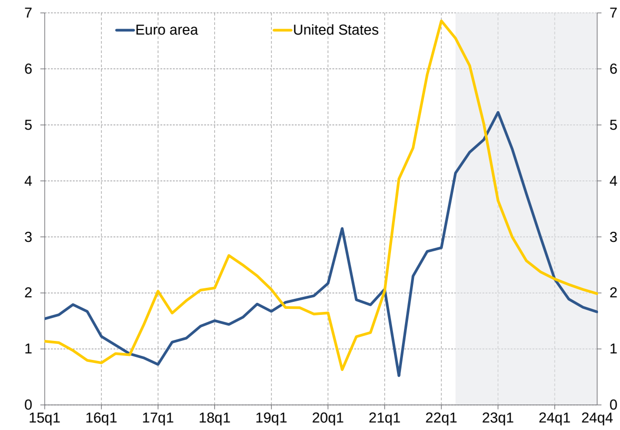
Figure 4.4 Energy commodities price index (USD, 2011=1) and index of agricultural prices (EUR, 2011=1) in global markets and Brent oil prices (USD/b)



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.

Figure 4.5 Change in gross value added deflator (y/y, %)



Source: Bloomberg, Eurostat data, NBP calculations.

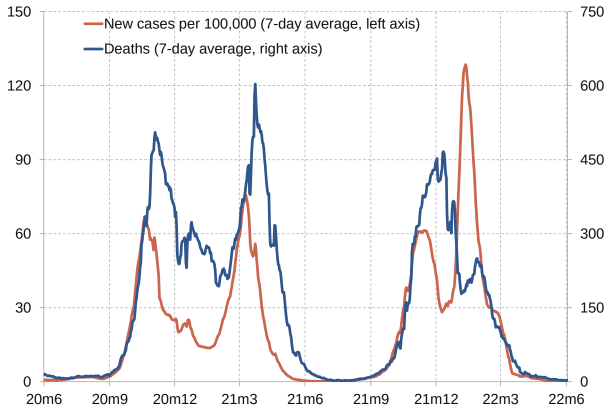
prices and supply of energy and agricultural commodities. These risks are more extensively discussed in Chapter 4.5 *Forecast uncertainty sources*.

4.3 Polish economy in 2022-2024

Assumptions regarding the development of the pandemic and scope of government restrictions

Due to the marked improvement in the epidemic situation in Poland, on 28 March 2022 most of the pandemic restrictions were lifted, along with the quarantine and isolation requirement. In addition the epidemic state, which was in force for over two years was replaced in May 2022 by the state of epidemic threat (Figure 4.6). In light of these events, the assumption made in the previous projection was maintained that future increases in COVID-19 cases and a possible return of some restrictions would not significantly affect the size of demand and the possibility of its realisation in the domestic economy.

Figure 4.6 New cases of COVID-19 per 100,000 population in Poland and number of deaths



Source: Ministry of Health, European Centre for Disease Prevention and Control data, NBP calculations.

Legislative changes affecting the projected paths of GDP and CPI inflation

The projected paths of GDP growth and CPI inflation will be significantly affected by a series of legislative changes in the coming years. These activities entail either permanent or temporary fiscal expansion, which is only partly limited by the effects of the tapering of the expenditures made in 2021 to support households and companies in the fight against the effects of the COVID-19 pandemic (Table 4.2).

Table 4.2 Cost of selected legislative changes in 2022 for the public finance sector and the banking sector (in % of GDP)

Cost of selected legislative changes in 2022	
for the public finance sector (in % of GDP)	
Polish Deal	1.0
Anti-inflationary Shield*	1.5
Assistance for Ukrainian citizens	0.4
Total cost of the above changes for the public finance sector	**2.9**
for the banking sector (in % of GDP)	
Act on crowdfunding for business ventures and assistance to borrowers**	0.3 – 0.5

Source: NBP calculations based on government estimates.

*) Anti-inflationary Shield along with coal subsidies and fertilizer subsidies for farmers.

**) Costs for the banking sector include: interest losses due to the temporary suspension of loan repayments (depending on the number of borrowers who take advantage of this possibility), payments to the Borrowers' Support Fund and the creation of an institutional protection scheme for commercial banks.

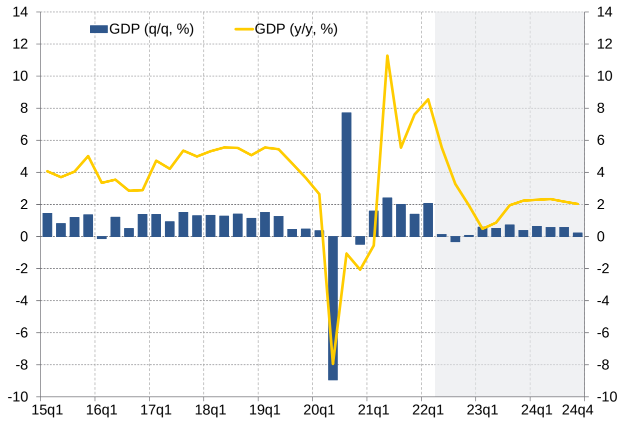
The current projection assumes that the tax solutions adopted under the Anti-inflationary Shield will be in force until the end of October 2022. In particular, this concerns the abolition of excise duty on electricity for households, a reduction of excise duty on engine fuels and a cut in the VAT rates for staple food products, electricity, heat energy, natural gas, and fuels. Over the projection horizon the sale of fuels will also by exempt from retail sales tax. The possibility that the government will extend the period that these solutions will remain in place continues to be a significant source of uncertainty for the projection.

It is estimated that as a result of the direct impact of the Anti-inflationary Shield, consumer price growth will slow down in annual average terms by 3.2 p.p. in 2022 compared to the scenario which does not take into account this support package and will grow at a similar rate in 2023. The public finance cost of the laws enacted under the Anti-inflationary Shield, covering the above-mentioned tax changes and the disbursement of additional shielding measures and compensation for sellers of natural gas is estimated at 1.5% of GDP.

The projection scenario will also be significantly affected by the entry into force of the Polish Deal, under which a series of changes in the Polish tax system have been introduced as of January and July 2022. These include changes to income tax on natural and legal persons and health insurance contribution, increasing the public finance deficit by 1.0% of GDP in 2022 and by a further 0.5% of GDP in 2023. The new regulations help to improve the financial situation of the majority of households, particularly lower and middle income households, and thus households with a higher propensity to consume. These changes, along with the increased transfers under the Family Welfare Capital scheme, will have a favourable impact on the path of household consumption over the projection horizon. At the same time, under the Polish Deal, financial support for home buyers in the form of a guarantee of their own contribution and repayment of part of the loan will have a positive impact on residential investment.

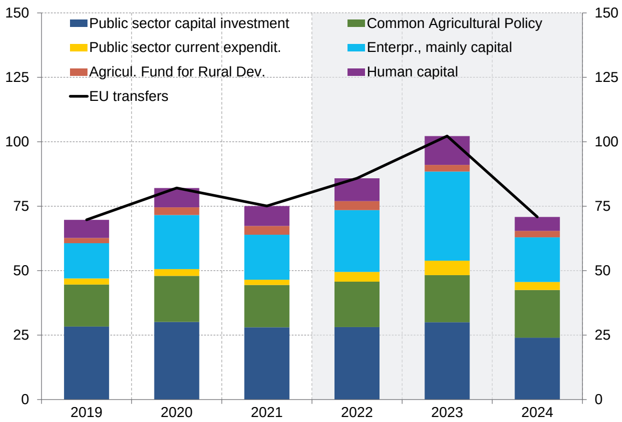
The Russian military aggression caused a large inflow of refugees from Ukraine to Poland, resulting in the Polish government's decision to allocate public funds to provide assistance to them (in accordance with the assumptions of the Convergence Programme, this aid will reach 0.4% of GDP in 2022). It takes the form of social transfers

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.

for refugees, expenditure related to their education, accommodation, meals and health care, and also provision of accommodation to private persons. It is also assumed that some of the refugees will remain in Poland for longer, which means that some of this expenditure will also be incurred in 2023.

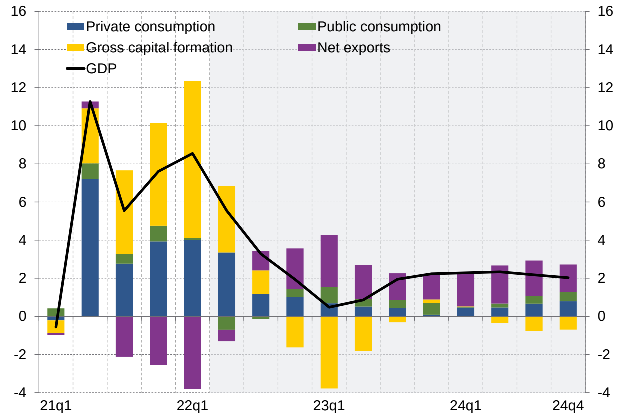
A consequence of the Russian military aggression against Ukraine is also the adoption in March 2022 of the Homeland Defence Act, which assumes an increase in the size of the Polish army and the modernisation of the armed forces. The expenditure on national defence is planned to increase from the current level of 2% of GDP to 3% of GDP from 2023, which will boost general government consumption and investment in the coming years.

The Act on crowdfunding for business ventures and assistance to borrowers, adopted in June 2022, which among other things allows the suspension of a total of eight residential mortgage loan instalments in 2022 and 2023. Although it affects projection scenario considerably, it is not to put a burden on public finances. The new regulations will translate into a temporary increase in household disposable income, which at the same time will represent a significant burden for the banking sector. Under the extreme assumption that all eligible borrowers would take advantage of the opportunity to suspend their mortgage loan instalments, the cost of this law for the banking sector would reach 0.5% of GDP in 2022 and 0.3% of GDP in 2023 (Table 4.2).

Economic activity

Following a strong rebound in economic activity, in the years 2022-2024 GDP growth in Poland will slow down significantly (See Figure 4.7, Figure 4.9). In the coming quarters the domestic economic conditions will be affected by the negative supply shock resulting from the impact of Russia's military aggression against Ukraine enhancing the earlier increases in global prices of energy

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

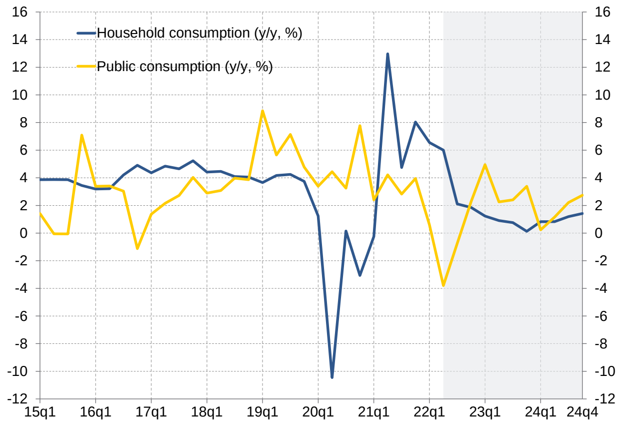


Source: Statistics Poland (GUS) data, NBP calculations.

commodities and CO_2 emission allowances as well as disruptions in supply chains. The above factors affect the outlook for economic growth in Poland directly and indirectly through the expected slowdown in activity in the euro area and other major economies. The expected significant decline in the inflow of European funds will also negatively affect the GDP path in 2024 as expenditure of funds under the EU financial framework for 2014-2020 will come to an end (Figure 4.8). On the other hand, the scale of the decline in domestic GDP growth will be mitigated by the changes in fiscal policy. These will include measures introduced under the Anti-inflationary Shield and the Polish Deal as well as planned increases in expenditure on national defence. The higher inflow of Ukrainian migrants to Poland combined with the growth in public expenditure to support them will also have a favourable impact on the domestic economic conditions (see section *Legislative changes affecting the projected paths of GDP and CPI inflation*).

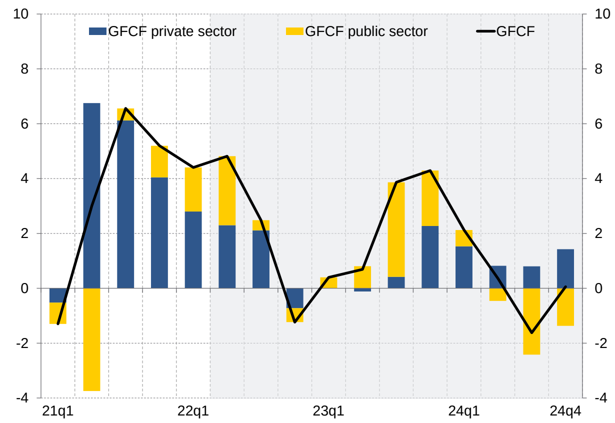
In the coming years, a marked decline in household consumption growth is expected compared to the high values observed in 2021 and the beginning of 2022 (Figure 4.10). Consumer spending will be limited by the expected high CPI inflation, which will reduce the purchasing power of households, deteriorating consumer sentiment due to the Russian military aggression against Ukraine, and the NBP interest rate hikes that have taken place so far, increasing peoples' propensity to save. On the other hand, in the coming quarters the private consumption path will be increased by the consumption expenditure of migrants from Ukraine,[59] financed both from their own funds and by family benefits granted to them. The tax changes resulting from the Polish Deal, and in 2022 also the temporary reduction in indirect taxes and additional shielding measures under the Anti-inflationary Shield, will as well have a favourable

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.

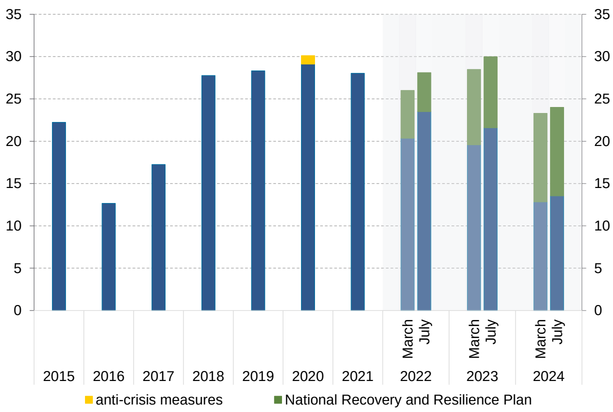
[59] The expenditure of refugees from Ukraine will increase private consumption as refugees will likely be classified as residents by Statistics Poland (GUS).

impact on consumption growth. Household consumption will also be supported by the government's decision to temporarily suspend mortgage loan instalments for borrowers in 2022 and 2023 (see section *Legislative changes affecting the projected paths of GDP and CPI inflation*).

Private investment growth will remain under a strong negative influence of the direct and indirect effects of Russia's military aggression against Ukraine, running on average close to 1% y/y (Figure 4.11). In the coming quarters, fixed capital formation of enterprises will be limited by the increased uncertainty, high global commodity prices and higher volatility of the exchange rate. Continued global supply chain disruptions, a marked deterioration in the external environment of the Polish economy as well as the outflow of Ukrainian construction workers from the domestic labour market will also have a negative impact on this category. At the same time, the effects of the previous NBP interest rate increases, which are spread over time, limiting the ability to access credit and increasing its current cost, will be a factor reducing private investment outlays. The negative impact of the above factors will be partially mitigated by the need to increase the productive capital of enterprises due to lower level of investment during the pandemic, low degree of automation and robotisation of Polish industry, and rising labour costs.

In turn, the path of public investment in the July projection is determined by the level of absorption of EU funds (Figure 4.12) and future purchases of military equipment under the planned increase in defence spending (see section *Legislative changes affecting the projected paths of GDP and CPI inflation*). As a result, 2023 will see a rise in investment outlays of the public sector, followed by their decline in 2024 due to the decrease in capital transfers from the EU as expenditure of funds under the EU financial framework for 2014-2020 will come to an end (Figure 4.11).

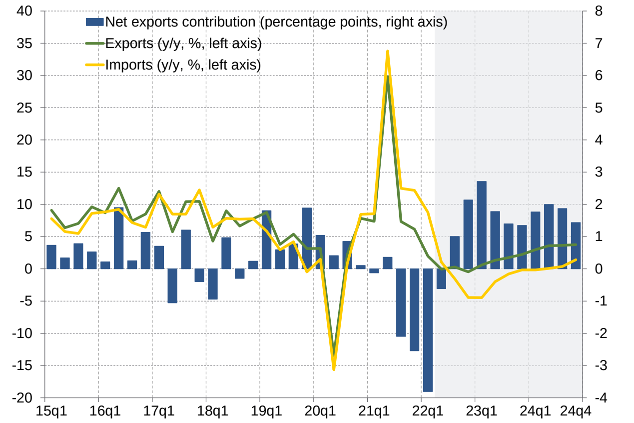
Figure 4.12 Use of EU funds for public investment (PLN billion)



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

The sanctions imposed on Belarus and Russia as well as the Russian military actions on the territory of Ukraine have significantly reduced Polish exports to these countries. The negative impact of these factors will also continue in the coming quarters, with foreign sales additionally constrained by the weakening demand from the world's major economies (Figure 4.13). However, at the same time, due to a marked slowdown in domestic demand and stronger cyclical response of imports than exports, the contribution of net exports to GDP growth will pick up in the years 2023-2024, achieving positive values.

Figure 4.13 Foreign trade



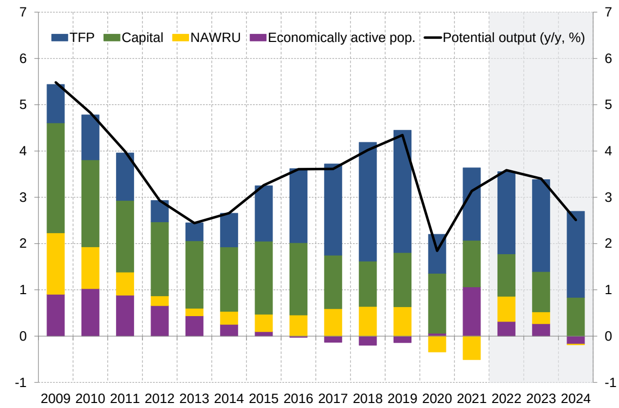
Source: Statistics Poland (GUS) data, NBP calculations.

Potential output and the output gap

Growth of potential GDP in the years 2022-2023 will temporarily pick-up as the negative impact of the pandemic on the productivity of the Polish economy decreases. In 2024 the effect of the post-pandemic recovery of production capacity will largely fade and potential output growth will decline again (Figure 4.14).

In the years 2022-2023 potential output growth rate of the domestic economy will accelerate on the back of higher total factor productivity (TFP) growth and a decline in the equilibrium unemployment rate (NAWRU). Yet, both categories will not return to the level observed before the COVID-19 pandemic. Productivity of the domestic economy will continue to be curbed by disruptions in global supply chains, aggravated by the consequences of the Russian military aggression against Ukraine and China's zero-covid policy. On the other hand, potential output of the domestic economy will be boosted by growing labour force participation. The transmission of the inflow of refugees from Ukraine[60] into the labour supply, which will be spread over time, will act in the same direction, offsetting the negative impact of the simultaneous

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.

[60] The inflow of immigrants from Ukraine – due to the survey methodology – will be reflected in the LFS survey to a limited extent only. As a result, the projection assumes that it will be reflected in the TFP growth.

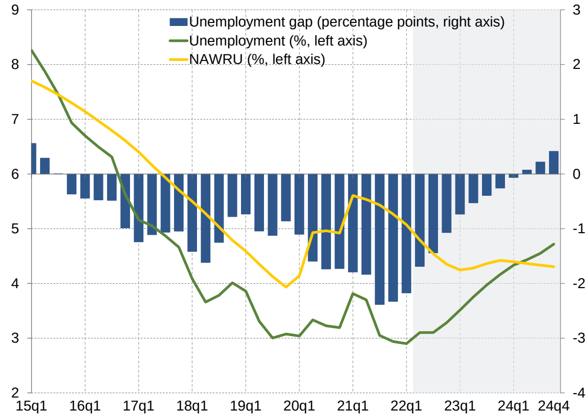
outflow of migrants (mainly men) from certain sectors.

As a result of high economic growth in 2021 and in 2022 Q1, the output gap will reach 1.7% of potential GDP in 2022 (Figure 4.16). In the coming years the slowdown in the economic activity will translate into a renewed narrowing of the output gap, which will already be negative in the years 2023-2024. Such a development of the output gap means that demand factors which now boost CPI inflation will push it down in the further projection horizon.

Labour market

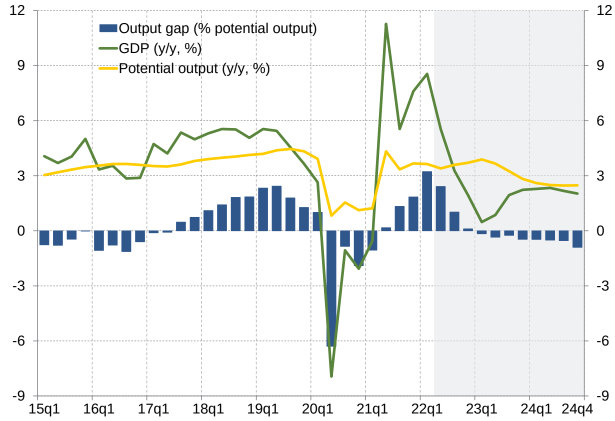
In 2022 Q1 the situation in the labour market continued to improve – in year-on-year terms the number of working people significantly increased and the number of the unemployed and economically inactive decreased (Figure 4.15, Figure 4.17).[61] The NBP surveys[62] show that enterprises' plans concerning future employment have deteriorated, yet still remain at a high level compared to historical data. It is therefore expected that the robust situation in the labour market will continue. Yet, in the longer projection horizon, amid a strong slowdown in domestic economic activity, demand for labour will decrease. The decline in the number of working people will also be driven by the decreasing labour participation rate observed since 2023, which is negatively affected by demographic trends (Figure 4.18). The negative impact of changes in the age structure of the population on the labour market will be partly offset by the positive effect of reduced tax burdens under the Polish Deal. The expected increase in employment of Ukrainian immigrants over the projection horizon will also mitigate the decline in the domestic labour force, yet – due to the survey

Figure 4.15 Unemployment



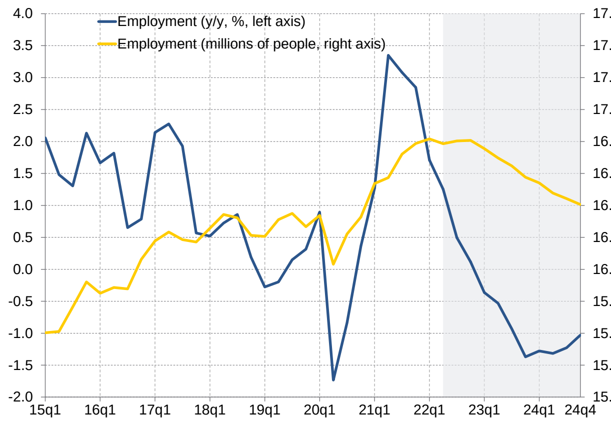
Source: Statistics Poland (GUS) data, NBP calculations.
$NAWRU_t$ – non-accelerating wage rate of unemployment in the equilibrium.

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.

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

methodology – it will be reflected in the LFS statistics to a limited extent only.

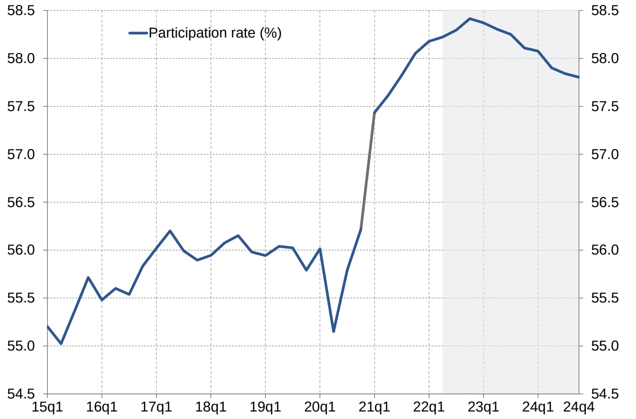
In 2022 Q1 the average wage in the national economy rose by 9.7% y/y. It can be expected that amid staff shortages experienced by many sectors as well as rapidly rising prices, wage growth will remain at a high level in 2022 (Figure 4.19). This is indicated by the results of business surveys, in which a considerable number of enterprises plan to increase wages in 2022 Q2 while maintaining a high planned average wage growth.[63] On the other hand, over the projection horizon wage pressure will be limited by the inflow of Ukrainian refugees, as they will gradually find employment in the Polish labour market. In the years 2023-2024, along with the declining economic growth rate, rising unemployment and the fall in inflation, wage growth will decline.

CPI inflation

Price-formation processes are still affected by the strong negative supply shock aggravated by the effects of the Russian military aggression against Ukraine. This is reflected in high global prices of energy and agricultural commodities, increased prices of CO_2 emission allowances and prolonged tensions in global supply chains. The currently observed high inflation is also affected, albeit to a lesser extent, by demand factors. They are related to the strong rebound in economic activity following the COVID-19 pandemic, which is reflected in the positive output gap (2.4% of potential GDP in 2022 Q2).

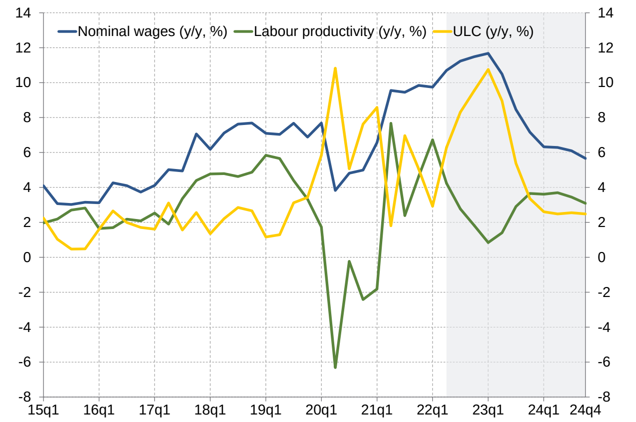
As a result of the above circumstances, the double-digit inflation will persist also in 2023. In the further projection horizon, along with the slowing GDP growth, the annual growth in CPI will decline. Under the assumption of unchanged NBP interest rates (including the reference rate at 6.0%) CPI inflation will not return to the band of deviations from the NBP inflation target defined as

Figure 4.18 Labour force participation



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

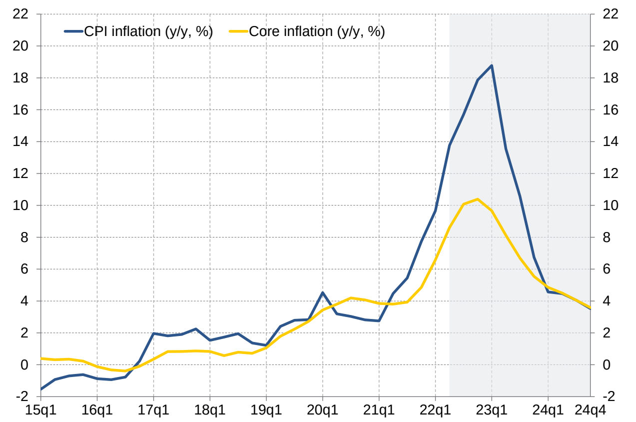
Figure 4.19 Unit labour cost



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

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

Figure 4.20 CPI and core inflation



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

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

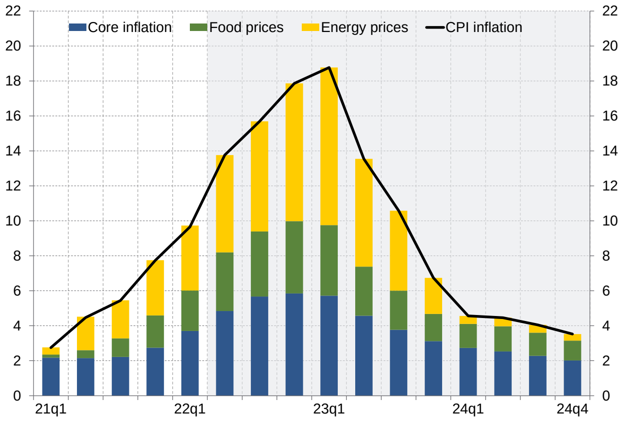
2.5% +/-1 p.p. until almost the end of the projection horizon. Inflation will not reach the upper limit of this band until 2024 Q4 (Figure 4.20, Figure 4.21). The highest inflation in many years observed currently increases its persistence by rising inflation expectations translating into stronger wage pressure and increased acceptance of price increases.

Strong growth in prices of energy commodities in the global markets, being the result of the Russian military aggression against Ukraine, in 2022 is passed through to both domestic prices of fuels for private means of transport as well as higher gas and electricity bills for households (Figure 4.23). The increase in the capacity and cogeneration charges as of January 2022 and higher prices of CO2 emission allowances act in the same direction. The rise in regulated energy prices (i.e. tariffs for natural gas, electricity and thermal energy) in 2022 is partly mitigated by the impact of the Anti-inflationary Shield (see section *Legislation changes affecting the projected paths of GDP and CPI inflation*).

The record high increase in the global prices of agricultural commodities and the mounting cost pressure as a result of the Russian military aggression against Ukraine also lead to high food and non-alcoholic beverages inflation in the domestic market (Figure 4.23). There is a rapid rise in processed food prices driven by growing costs of energy and labour in the food processing sector as well as increasing prices of feed grains. High prices of means of production, in particular of fertilizers and energy, are also a driving force behind the dynamic rise in unprocessed food prices. The impact of the above factors on food price inflation, as in the case of energy prices, is temporarily mitigated by the reduced VAT rate on food products under the Anti-inflationary Shield.

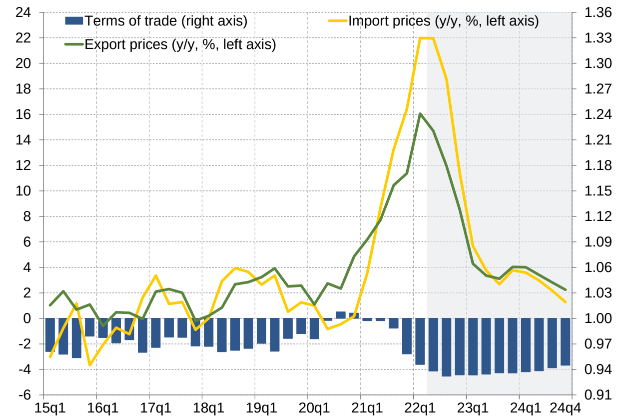
In the situation of post-pandemic recovery in demand in the economy, the spilling of exogenous price shocks in the energy and food market over other price categories has considerably accelerated, which is reflected in a marked increase in all core

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



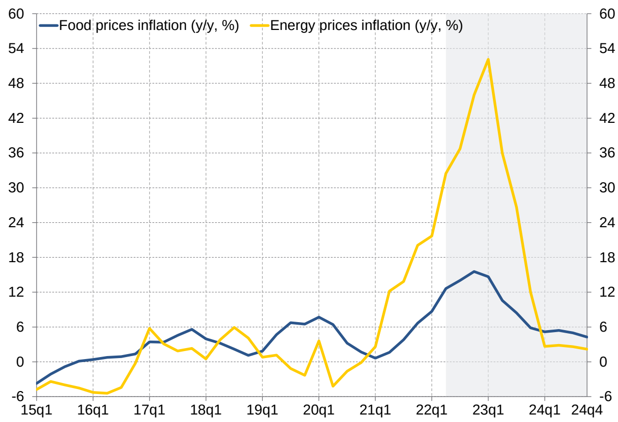
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.22 Export and import prices



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

Figure 4.23 Food and energy price inflation



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

inflation measures (Figure 4.20). Price pressure is mounting on the back of persisting supply constraints and disruptions in international transport. The impact of these factors on domestic inflation has intensified as a result of the Russian military aggression against Ukraine and subsequent outbreaks of the pandemic in China, leading to high growth in import prices (Figure 4.22).

Over the further projection horizon, as the impact of the factors boosting inflation in 2022 fade, CPI inflation will embark on a downward path. Yet, almost all over the projection horizon it will exceed 3.5% y/y, reaching the upper limit of the band of deviations from the NBP inflation target only in 2024 Q4.

Besides the slowing growth in aggregate demand in the economy, reflected in the narrowing positive output gap, the gradual decline in inflation is also supported by the assumed fall in global prices of energy and agricultural commodities in 2023-2024. Yet, the prices of these commodities will continue to exceed the pre-pandemic levels. Due to the tariffication process and adjustment to the earlier increases in prices of commodities and CO2 emission allowances, the decline in the growth rate of electricity and natural gas prices for households will be spread over time. Annual energy – and food – price inflation in 2023 will be boosted by the base effect of those categories connected with the merely temporary impact of the Anti-inflationary Shield on price levels in 2022. The downward trend of 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.

4.4 Current versus previous projection

Data and information released after the cut-off date of the March projection have contributed to an upward revision of the CPI inflation forecast for the years 2022-2023 without significantly changing the forecast for the last year of the projection. On the

Table 4.3 July projection versus March projection

	2022	2023	2024
GDP (y/y, %)			
July 2022	4.7	1.4	2.2
March 2022	4.4	3.0	2.7
CPI inflation (y/y, %)			
July 2022	14.2	12.3	4.1
March 2022	10.8	9.0	4.2

Source: NBP calculations.

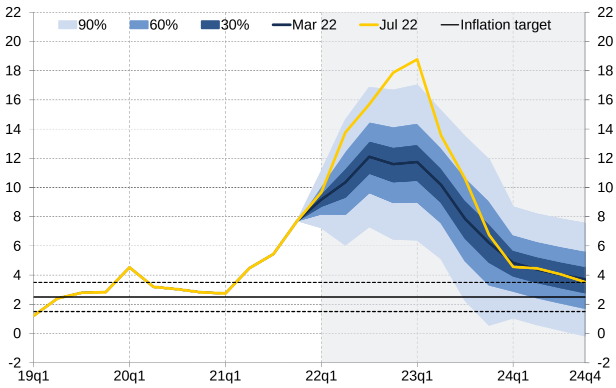
other hand, projected GDP growth was revised upwards in 2022 and downwards in the years 2023-2024, with a smaller scale of revisions than in the case of CPI inflation (Table 4.3, Figure 4.24, Figure 4.25, Figure 4.26 and Figure 4.27). Changes to forecasts between the previous and the current round were largely driven by the course of the Russian military aggression against Ukraine and its impact on the economy (at the cut-off date of the previous projection the hostilities had been going on for several days only).

The upward revision of CPI inflation forecast in the years 2022-2023 includes all its main components. Higher energy prices are driven by the ban on coal imports from Russia and Belarus to Poland imposed by the Act of 13 April 2022 and the resolution adopted by the Polish government on 13 May 2022 on the termination of the agreement on imports of Russian gas. In fact Poland ceased to import Russian natural gas as of 27 April 2022 after the unilateral termination by Gazprom of the Yamal Gas Pipeline Contract which was supposed to expire at the end of 2022. The continuation of Russia's military aggression against Ukraine, resulting in extremely limited supply of some agricultural products in the global markets, also contributed to the upward revision of food price inflation. This revision is also the result of further growth in costs of agricultural production, including higher prices of feed grains and artificial fertilizers (whose important exporters are Russia and Belarus) and energy. Growing production costs and prices of imported goods and services also translate into the upward revision of core inflation in the years 2022-2023.

A stronger than expected slowdown in domestic economic activity in the years 2023-2024, reflected in a faster decline of the output gap, will translate into lower consumer price growth and the return in 2024 of the inflation path to the level close to the results of the March projection.

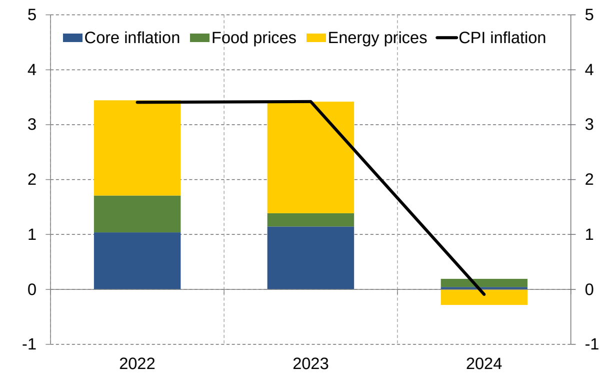
The projected GDP growth in the years 2023-2024 is below the level of the previous forecasting round

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



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

Figure 4.25 Decomposition of deviations between July and March 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.

despite better than expected data on business conditions at the beginning of the year. This is supported by the structure of GDP growth for 2022 Q1, with a record high (the highest in the history of the available data) increase in inventories, which will naturally decline in the subsequent quarters.

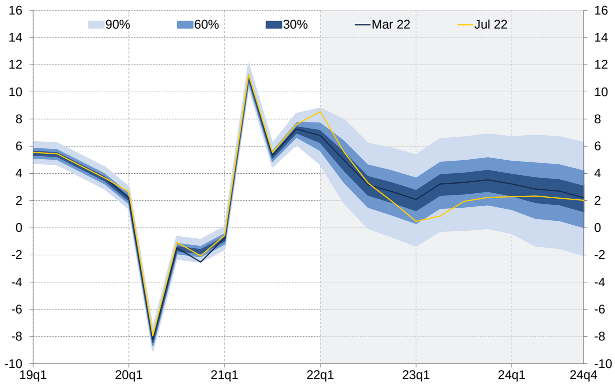
The decline in GDP growth forecast will also be driven by a stronger than expected slowdown in economic activity abroad related to the intensified supply disruptions and the prolonged period of heightened inflation in the global economy. The revision of the GDP forecast for Germany is higher than for other euro area countries due to the more important role of industry in this economy and stronger dependence of gas imports from Russia.

The downward revision of GDP growth forecast is also caused by higher inflation curbing the growth of household disposable income, translating, in turn, into lower growth in private consumption. NBP interest rate hikes implemented after the cut-off date of the previous projection, are also a driving force behind the downward revision of GDP forecast.

These hikes curb private consumption growth through the rise of the relative price of current consumption compared to future consumption, including lower affordability of credit and its higher cost. The same mechanism of intertemporal substitution is observed in the case of investment and inventories due to higher costs of raising capital. Yet, the higher path of inflation, pushing down real interest rates, weakens their negative impact on growth in domestic demand.

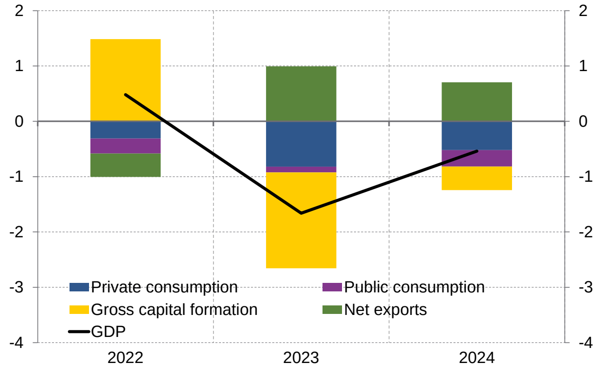
The scale of the downward revision of GDP growth will be mitigated by legislative changes introduced after the cut-off date of the March projection. They include adjustments to the Polish Deal, support for borrowers, the planned increase in defence spending, the increase in public expenditure on assistance to the refugees and an extension of the government's Anti-inflationary Shield (see section

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



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

Figure 4.27 Decomposition of deviations between July and March 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.

Legislation changes affecting the projected paths of GDP and CPI inflation).

4.5 Forecast uncertainty sources

The central scenario of the projection, presenting the most likely macroeconomic developments in Poland, is subject to uncertainty reflected in the fan charts (Figure 4.1, Figure 4.2). The economic outlook and CPI inflation path in Poland is to the greatest extent dependent on the scale of disruptions to the global economy triggered by Russia's military aggression against Ukraine. The repercussions of China's continued restrictive epidemic policy to combat the COVID-19 pandemic remain an additional risk factor. The balance of uncertainty factors indicates a higher probability of economic activity running below the central path and a close to symmetric distribution of risks to CPI inflation over the projection horizon (Table 4.4).

Table 4.4 Probability of inflation running:

	Below 1.50%	Below 2.50%	Below 3.50%	Below the central projection	In the range (1.5-3.5%)
22q2	0.00	0.00	0.00	0.50	0.00
22q3	0.00	0.00	0.00	0.49	0.00
22q4	0.00	0.00	0.00	0.49	0.00
23q1	0.00	0.00	0.00	0.49	0.00
23q2	0.00	0.01	0.01	0.49	0.01
23q3	0.02	0.03	0.05	0.49	0.03
23q4	0.10	0.15	0.22	0.50	0.11
24q1	0.22	0.30	0.40	0.50	0.18
24q2	0.19	0.28	0.39	0.50	0.20
24q3	0.19	0.30	0.43	0.50	0.24
24q4	0.22	0.35	0.50	0.50	0.28

Source: NBP calculations.

Russia's military aggression against Ukraine

The further course of Russia's military aggression against Ukraine, the uncertainty that it entails and the consequences of the sanctions are the most serious risk to global and domestic economic activity and inflation process.

Due to the European economy's heavy reliance on energy commodities extracted in Russia, changes in the volume of imports from this country are of key significance for their price-setting on internal markets. In particular, a sudden cutoff of natural gas supplies to Western Europe could cause a recession in the euro area, including the German economy[64], significantly slowing down global economic growth. On the other hand, Russia's rapid resumption of full natural gas transmission via the Nord Stream 1 pipeline would contribute to higher global economic growth than assumed in the projection. A different path of energy commodity prices than assumed in the projection would translate into a change in domestic energy prices and, indirectly, also in the other major components of inflation.

The scale of production and the possibility of exporting agricultural commodities (including wheat, maize, oilseeds) from the Ukrainian territory are also subject to high degree of uncertainty. The Russian aggression has limited crop acreage, some agricultural equipment has been destroyed, and the low availability and high price of fertilizers are further reducing crop yields. The future level of plant production will not only affect their prices in the global markets, but will also be passed through to the prices of

[64] Estimates of the European Commission indicate that the euro area would experience a severe, albeit short-lived, recession if gas supplies from Russia were halted (https://ec.europa.eu/info/system/files/economy-finance/ip173_en.pdf).

meat and dairy products due to the shortage of livestock feed.

At the same time, the further course of Russia's military aggression against Ukraine has a key impact on the possibility of importing many other commodities from Russia and Ukraine, including metals used in the car industry such as platinum, palladium and nickel. The availability of these commodities is of great significance for the future scale of global supply chain disruptions and world trade prices.

An escalation or prolongation of the Russian military aggression would therefore mean increased disruptions to global supply chains and higher prices of commodities, and consequently, higher inflation in the global economy. Such a situation would lead to a deterioration in the global economic conditions. In Poland, at a time of heightened uncertainty, corporate investment and household consumption would be curbed. A deterioration in foreign trade's conditions would cause exports to fall and import prices to rise, lowering at the same time the current account balance.

A quick end to Russia's military aggression against Ukraine would lead to a fall in the prices of imported energy commodities, reduced disruptions to global supply chains and lower risk aversion in Central and Eastern Europe. Consequently, there would be an improvement in the economic conditions in Poland and abroad.

Further course of the coronavirus pandemic around the world

The future course of the pandemic also continues to be a source of risk to economic activity, although its direct impact is limited mainly to China, where a strict zero-COVID policy is in force.[65] An increase in the scale of lockdowns in China would aggravate disruptions to global supply chains, which would hamper global economic growth and boost inflation. However, if there was a strong resurgence of severe cases around the world during the autumn-winter season due to the emergence of new coronavirus mutations, an increase in the scope of epidemic restrictions might also affect some developed countries. If the epidemic policy in China was eased or an effective drug against COVID was launched, it would be possible to limit the negative impact of the pandemic on global economic growth. Such a scenario would improve the functioning of global supply chains, particularly if there was a simultaneous increase in the availability of materials and intermediate goods and a decline in their prices.

Faster recovery of economic activity in the euro area

In the coming quarters high inflation in the euro area may prompt consumers to spend savings accumulated during the pandemic faster than assumed in the central scenario. One can estimate that the accumulated excess household savings from the years 2020-2021, after taking into account inflation, stood at 5.9% of euro area GDP at the beginning of 2022. However, the central scenario assumes, as indicated in the literature, that these funds would be spent only in part on current consumption. In addition, the existing supply shortages may prompt firms to introduce mechanisms helping them to adapt to the changing economic environment (e.g. by reallocating production, changing suppliers, production technology or changing inventory management) to a greater extent than assumed in the projection. An increase in consumer and investment demand in the euro area would also

[65] The likelihood of a departure from the current epidemic policy in the coming months is low due to the Chinese Communist Party congress to be held in November this year. According to the estimates of scientists from Shanghai's Fudan University, the departure from this policy would lead to a sharp increase in hospital admissions exceeding the number of available hospital beds 16-fold.

lead to an improvement in the economic conditions in Poland.

Fiscal policy of the Polish government and the euro area countries as well as EU transfers

Economic activity could also decline over the projection horizon on the back of a further postponement of disbursement of funds under the EU's financial assistance instrument *Next Generation EU*. Disbursement of funds depends on the date when Poland fulfils the conditions, the so-called milestones, required by the European Commission.

However, an improvement in the economic conditions in the euro area – and indirectly also in Poland – compared to the central projection scenario would be supported by a stronger pro-growth impact of the funds disbursed under the *Next Generation EU* instrument and the public spending on energy infrastructure. In addition, a faster-than-expected commencement of the use of funds under the EU's 2021-2027 financial framework could also contribute to a higher path of domestic GDP growth.

Persistently elevated inflation in Poland may prompt the government to extend the Anti-inflationary Shield for the remaining months of 2022 and 2023. Such measures would lower the path of inflation in 2023, while at the same time boosting its level in 2024.

Table 4.5 Central path of inflation and GDP projection

	2021				2022				2023				2024				2021	2022	2023	2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Consumer Price Index CPI (%, y/y)	2.7	4.5	5.4	7.7	9.7	13.8	15.7	17.9	18.8	13.5	10.6	6.7	4.6	4.5	4.1	3.5	5.1	14.2	12.3	4.1
Core inflation (net of food and energy prices, %, y/y)	3.8	3.8	3.9	4.9	6.6	8.6	10.1	10.4	9.7	8.1	6.7	5.5	4.9	4.5	4.0	3.6	4.1	8.9	7.5	4.2
Food prices (%, y/y)	0.6	1.6	3.8	6.7	8.7	12.6	14.0	15.6	14.7	10.6	8.4	5.9	5.2	5.4	5.0	4.3	3.2	12.7	9.8	5.0
Energy prices (%, y/y)	2.6	12.2	13.8	20.1	21.7	32.5	36.7	46.0	52.1	36.0	26.7	12.0	2.7	2.9	2.6	2.2	12.1	33.9	30.9	2.6
GDP (%, y/y)	-0.6	11.3	5.5	7.6	8.5	5.5	3.3	1.9	0.5	0.9	1.9	2.2	2.3	2.3	2.2	2.0	5.9	4.7	1.4	2.2
Domestic demand (%, y/y)	-0.5	11.8	8.2	10.9	13.2	6.6	2.4	-0.2	-2.3	-1.0	0.6	0.9	0.6	0.4	0.3	0.6	7.6	5.2	-0.5	0.5
Household consumption (%, y/y)	-0.2	13.0	4.7	8.0	6.6	6.0	2.1	1.9	1.2	0.9	0.8	0.1	0.8	0.8	1.2	1.4	6.1	4.1	0.8	1.1
Public consumption (%, y/y)	2.4	4.2	2.8	4.0	0.6	-3.8	-0.8	2.3	5.0	2.3	2.4	3.4	0.2	1.2	2.2	2.7	3.4	0.1	3.2	1.6
Gross fixed capital formation (%, y/y)	-1.3	3.0	6.6	5.2	4.3	4.8	2.5	-1.2	0.4	0.7	3.9	4.3	2.1	0.4	-1.6	0.1	3.8	2.6	2.3	0.2
Contribution of net exports (percentage points, y/y)	-0.1	0.4	-2.1	-2.5	-3.8	-0.6	1.0	2.1	2.7	1.8	1.4	1.3	1.8	2.0	1.9	1.4	-1.2	-0.2	1.8	1.8
Exports (%, y/y)	7.4	29.8	7.3	6.1	2.0	-0.1	0.3	-0.5	0.6	1.3	1.7	2.2	3.0	3.6	3.6	3.8	11.8	0.5	1.5	3.5
Imports (%, y/y)	8.6	33.8	12.5	12.2	8.8	1.0	-1.6	-4.5	-4.5	-2.0	-0.8	-0.2	-0.2	0.1	0.4	1.4	15.9	0.9	-1.9	0.4
Gross wages (%, y/y)	6.6	9.6	9.4	9.8	9.7	10.7	11.2	11.5	11.7	10.5	8.5	7.2	6.3	6.3	6.1	5.7	8.9	10.8	9.4	6.1
Total employment (%, y/y)	1.3	3.3	3.1	2.8	1.7	1.3	0.5	0.1	-0.4	-0.5	-0.9	-1.4	-1.3	-1.3	-1.2	-1.0	2.6	0.9	-0.8	-1.2
Unemployment rate (%)	3.8	3.7	3.1	2.9	2.9	3.1	3.1	3.3	3.5	3.8	4.0	4.2	4.3	4.4	4.6	4.7	3.4	3.1	3.9	4.5
NAWRU (%)	5.6	5.5	5.4	5.3	5.1	4.8	4.5	4.4	4.2	4.3	4.4	4.4	4.4	4.4	4.3	4.3	5.5	4.7	4.3	4.3
Labour force participation rate (%, y/y)	57.4	57.6	57.8	58.1	58.2	58.2	58.3	58.4	58.4	58.3	58.3	58.1	58.1	57.9	57.8	57.8	57.7	58.3	58.3	57.9
Labour productivity (%, y/y)	-1.8	7.7	2.4	4.6	6.7	4.2	2.8	1.8	0.8	1.4	2.9	3.7	3.6	3.7	3.4	3.1	3.2	3.8	2.2	3.5
Unit labour cost (%, y/y)	8.6	1.8	7.0	5.1	2.9	6.3	8.3	9.5	10.7	9.0	5.4	3.4	2.6	2.5	2.6	2.5	5.5	6.8	7.0	2.5
Potential output (%, y/y)	1.2	4.3	3.3	3.7	3.6	3.4	3.6	3.7	3.9	3.7	3.2	2.8	2.6	2.5	2.5	2.5	3.1	3.6	3.4	2.5
Output gap (% potential GDP)	-1.1	0.2	1.3	1.8	3.2	2.4	1.0	0.1	-0.2	-0.4	-0.2	-0.5	-0.5	-0.5	-0.5	-0.9	0.6	1.7	-0.3	-0.6
Index of agricultural commodity prices (EUR; 2011=1.0)	0.92	0.99	1.02	1.11	1.27	1.49	1.45	1.41	1.38	1.38	1.33	1.29	1.27	1.28	1.25	1.21	1.01	1.41	1.35	1.25
Index of energy commodity prices (USD; 2011=1.0)	0.67	0.84	1.14	1.46	1.85	2.07	2.11	1.96	1.92	1.76	1.60	1.49	1.50	1.49	1.40	1.35	1.03	2.00	1.69	1.43
Gross value added deflator abroad (%, y/y)	2.1	0.4	2.1	2.8	3.1	4.3	4.6	4.6	4.8	4.3	3.6	2.9	2.3	2.0	1.9	1.8	1.9	4.1	3.9	2.0
GDP abroad (%, y/y)	-1.5	14.8	4.2	4.5	5.3	3.0	1.4	1.1	0.7	0.9	1.1	1.4	1.8	1.9	1.8	1.7	5.2	2.6	1.0	1.8
Current account balance (% GDP)	2.8	1.9	0.9	-0.7	-2.8	-3.9	-4.3	-3.7	-2.7	-2.0	-1.6	-1.4	-1.1	-0.7	-0.2	0.1	-0.7	-3.7	-1.4	0.1
WIBOR 3M (%)	0.21	0.21	0.22	1.53	3.50	6.16	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	0.54	5.51	6.20	6.20

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

For the majority of variables, the values up to 2022Q1 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 January – April 2022

■ Date: 4 January 2022

Subject matter of motion or resolution:

Resolution no. 1/2022 amending the resolution on the regulations of the Monetary Policy Council.

Voting of the MPC members:

For: A. Glapiński
G. M. Ancyparowicz
C. Kochalski
J. J. Kropiwnicki
E. M. Łon
R. Sura
J. Żyżyński

Against: E. Gatnar
Ł. J. Hardt
K. Zubelewicz

■ Date: 4 January 2022

Subject matter of motion or resolution:

Motion to raise the reference rate by 0.50 p.p. to 2.25% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 2.75%,
- deposit rate 1.75%,
- rediscount rate 2.30%,
- discount rate 2.35%.

MPC decision:

The motion was passed.

Voting of the MPC members:

For: A. Glapiński
G. M. Ancyparowicz
E. Gatnar
Ł. J. Hardt
C. Kochalski
J. J. Kropiwnicki
R. Sura
K. Zubelewicz

Against: E. M. Łon
J. Żyżyński

■ Date: 4 January 2022

Subject matter of motion or resolution:
Resolution no. 2/2022 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:		**Against:**	
	A. Glapiński		E. M. Łon
	G. M. Ancyparowicz		J. Żyżyński
	E. Gatnar		
	Ł. J. Hardt		
	C. Kochalski		
	J. J. Kropiwnicki		
	R. Sura		
	K. Zubelewicz		

■ Date: 4 January 2022

Subject matter of motion or resolution:
Motion to raise the basic required reserve ratio to 3.50%.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:		**Against:**	
	E. Gatnar		A. Glapiński
	Ł. J. Hardt		G. M. Ancyparowicz
	K. Zubelewicz		C. Kochalski
			J. J. Kropiwnicki
			E. M. Łon
			R. Sura
			J. Żyżyński

Date: 4 January 2022

Subject matter of motion or resolution:
Motion to set the interest rate on the required reserve funds at the level of the NBP deposit rate.

MPC decision:
The motion did not receive majority vote.

Voting of the MPC members:

For:	E. Gatnar Ł. J. Hardt J. J. Kropiwnicki K. Zubelewicz	**Against:**	A. Glapiński G. M. Ancyparowicz C. Kochalski E. M. Łon R. Sura J. Żyżyński

Date: 8 February 2022

Subject matter of motion or resolution:
Motion to raise the reference rate by 0.50 p.p. to 2.75% and to to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 3.25%,
- deposit rate 2.25%,
- rediscount rate 2.80%,
- discount rate 2.85%.

MPC decision:
The motion was passed.

Voting of the MPC members:

For:	A. Glapiński G. M. Ancyparowicz Ł. J. Hardt C. Kochalski L. Kotecki P. Litwiniuk R. Sura K. Zubelewicz J. Żyżyński	**Against:**	E. M. Łon

■ Date: 8 February 2022

Subject matter of motion or resolution:
Resolution no. 3/2022 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 G. M. Ancyparowicz Ł. J. Hardt C. Kochalski L. Kotecki P. Litwiniuk R. Sura K. Zubelewicz J. Żyżyński	**Against:**	E. M. Łon

■ Date: 8 February 2022

Subject matter of motion or resolution:
Motion to raise the basic required reserve ratio to 3.50%.

MPC decision:
The motion was passed.

Voting of the MPC members:

For:	A. Glapiński G. M. Ancyparowicz Ł. J. Hardt C. Kochalski L. Kotecki P. Litwiniuk R. Sura K. Zubelewicz J. Żyżyński	**Against:**	E. M. Łon

■ Date: 8 February 2022

Subject matter of motion or resolution:
Resolution no. 4/2022 amending the resolution on the required reserve ratios for banks, credit unions and the National Association of Credit Unions as well as the level of interest rate on the required reserve.

Voting of the MPC members:

For:	A. Glapiński G. M. Ancyparowicz Ł. J. Hardt C. Kochalski L. Kotecki P. Litwiniuk R. Sura K. Zubelewicz J. Żyżyński	**Against:**	E. M. Łon

■ Date: 8 March 2022

Subject matter of motion or resolution:
Motion to raise the reference rate by 0.75 p.p. to 3.50% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 4.00%,
- deposit rate 3.00%,
- rediscount rate 3.55%,
- discount rate 3.60%.

MPC decision:
The motion was passed.

Voting of the MPC members:

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

■ Date: 8 March 2022

Subject matter of motion or resolution:
Resolution no. 5/2022 on the reference rate, refinancing credit rate, fixed-term deposit rate, rediscount rate and discount rate at Narodowy Bank Polski.

Voting of the MPC members:

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

Against: No-one

■ Date: 6 April 2022

Subject matter of motion or resolution:
Resolution no. 6/2022 on approving the annual financial report of Narodowy Bank Polski prepared as of 31 December 2021.

Voting of the MPC members:

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

Against: No-one

Date: 6 April 2022

Subject matter of motion or resolution:

Motion to raise the reference rate by 1.00 p.p. to 4.50% and to raise in parallel the remaining NBP interest rates to the following levels:

- lombard rate 5.00%,
- deposit rate 4.00%,
- rediscount rate 4.55%,
- discount rate 4.60%.

MPC decision:

The motion was passed.

Voting of the MPC members:

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

Date: 6 April 2022

Subject matter of motion or resolution:

Resolution no. 7/2022 on the reference rate, refinancing credit rate, fixed-term deposit rate, rediscount rate and discount rate at Narodowy Bank Polski.

Voting of the MPC members:

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

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