NARODOWY BANK POLSKI

Monetary Policy Council

November 2021

Inflation Report

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Warsaw, 2021

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. The *Report* includes data available until 27 October 2021.

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

Contents

Summary

Following the slump in economic activity a year earlier, in 2021 Q2 annual global GDP growth increased sharply, and in many economies GDP exceeded its pre-pandemic level. The recovery in activity was supported by the accommodative economic policy around the world and the opening of economies, which allowed households to realise pent-up demand. However, in some economies, including most of the euro area countries, the level of activity remained lower than prior to the pandemic. In 2021 Q3, the recovery in activity slowed down in some of the large advanced economies as well as in China. This took place amid a deterioration in the epidemic situation in these countries and persisting disruptions in the global supply chains, including insufficient supply of intermediate goods, which negatively affected business conditions in the industrial sector.

Global consumer price inflation rose significantly in recent months, and in September it reached its highest level since 2011. In particular, advanced economies saw relatively fast price growth. Inflation in the world economy was driven upwards by continued growth in the prices of energy and food resulting from a strong rise in global commodity prices. Inflation was also backed by continued disruptions in global supply chains, which – amid high demand for industrial goods – led to an increase in the prices of those goods.

The prices of energy commodities in the global markets have picked up shrply in recent months. The rise is primarily the result of the reduced supply of the commodities amid a gradual recovery in global economic activity. In effect, in October 2021, oil prices were on average twice as high as a year earlier, and natural gas and coal prices – several times higher. Also prices of the majority of agricultural commodities rose markedly over the last year.

The central banks in most of the advanced economies, including in the euro area and the United States, continue to conduct highly expansionary monetary policy. In particular, they are keeping interest rates close to zero, and some banks are keeping them below zero. Many of these banks are also conducting asset purchases, although recently some of them have signalled that they would phase out net purchases. At the same time, the central banks of certain advanced economies and many emerging market economies have raised interest rates in recent months. Financial market participants expect interest rates in some of the major economies to also rise in the coming years, although to a limited extent.

Given this background, in recent months the US dollar has strengthened against many other currencies, including euro. Concurrently, government bond yields have increased in most economies, although in many of them, including the United States, they remained lower than on average in the previous years. Yields were driven up by the strengthening of factors fuelling global inflation, which was additionally reflected in a sharp rise in market-implied long-term inflation expectations in major economies.

Like in many other economies of the world, consumer price growth in Poland has picked up in recent months. In September 2021, it stood at 5.9% y/y, and in October – according to Statistics Poland flash estimate – it amounted to 6.8% y/y. The faster consumer price growth compared to May 2021 resulted

mainly from the impact of supply-side and global factors (rises in the prices of gas, coal and oil as well as some agricultural commodities), which was reflected in stronger growth in food and energy prices. The rise in CPI was also driven by earlier increases in administered prices. Other contributory factors included favourable economic conditions and a substantial rise in household incomes. Core inflation excluding food and energy prices, following a temporary decline, rebounded to 4.2% y/y in September 2021. The realisation of pent-up demand after the easing in pandemic restrictions contributed to the increase in this category of prices. Moreover, supply shortages occurring in some markets added to the rise in the prices of non-food goods.

In 2021 Q2, annual GDP growth in Poland increased markedly (to 11.2% y/y compared to -0.8% y/y in 2021 Q1), which resulted partially from the base effects related to the deep slump in economic activity in 2020 Q2. The GDP growth was supported by the improvement in the epidemic situation from the end of April 2021 and the gradual lifting of the sanitary restrictions, as well as by the better adaptation of economic entities to pandemic conditions. In effect, the seasonally-adjusted GDP exceeded the pre-pandemic level. Available monthly data for 2021 Q3 point to a further recovery in economic activity.

The financial situation of the public finance sector in the first half of 2021 was favourable. The general government balance in ESA2010 terms improved considerably compared to the corresponding period of the previous year.

In 2021 Q2, the financial situation of the enterprise sector was also very favourable, and aggregate gross profit of the sector rose sharply in year on year terms.

Along with the ongoing economic recovery in 2021 Q2 and Q3, the demand for labour in the economy continued to rebound. In effect, situation in the labour market was favourable as indicated by rising employment in the national economy and in the enterprise sector, as well as a fall in the seasonally adjusted unemployment rate. The favourable labour market situation was reflected in a significant increase in the average nominal wage in the national economy in 2021 Q2. Data from the enterprise sector evidence that a significant wage growth also continued in 2021 Q3.

Striving to decrease inflation to the NBP target in the medium term, in October 2021 the Monetary Policy Council decided to raise NBP interest rates, including the reference rate by 0.4 percentage points to 0.50%. Financial market participants expect an increase in NBP interest rates in the coming quarters as well. In recent months, government bond yields in Poland rose markedly, similarly to many other economies. Yet at the end of October 2021, the yield on 10 year government bonds remained below the multi-year average. The zloty, like many other currencies around the world, has recently weakened against the US dollar, and also – albeit to a lesser extent – against the euro.

Annual broad money (M3) growth – which increased significantly after the outbreak of the COVID-19 pandemic – has declined recently and has been running at a level similar to that seen prior to the pandemic. In recent quarters, the growth of household loans has accelerated, while the annual growth of corporate loans has remained negative, although the pace of the decline slowed down.

In 2021 Q2, the positive current account balance decreased, which was mostly driven by the primary income balance moving further into negative territory (mainly as a result of the considerable increase in the income of foreign direct investors earned in Poland) and a reduction of surplus in the trade in goods (due to, among others, a rise in fuel prices and a marked growth in imports of processed intermediate goods). This was accompanied by the continued high surplus in trade in services. The external imbalance indicators evidence that the Polish economy is well balanced.

The *Report* is structured as follows: Chapter 1 presents the analysis of economic conditions in the external environment of the Polish economy in terms of their impact on inflation developments in Poland. These developments and the domestic factors that might affect them are described in Chapter 2. Chapter 3 includes *Minutes of the Monetary Policy Council decision-making meetings* held between July and October 2021, together with the *Information from the meeting of the Monetary Policy Council* in November 2021. Chapter 5 presents the Monetary Policy Council voting records from the meetings held between May and September 2021.

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 November projection prepared under the assumption of unchanged NBP interest rates and taking into account data available until 21 October 2021 – there is a 50-percent probability that the annual price growth will be in the range of 4.8-4.9% in 2021 (against 3.8-4.4% in the July 2021 projection), 5.1-65% in 2022 (compared to 2.5-4.1%) and 2.7-4.6% in 2023 (compared to 2.4-4.3%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.9-5.8% in 2021 (against 4.1-5.8% in the July 2021 projection), 3.8-5.9% in 2022 (compared to 4.2-6.5%) and 3.8-6.1% in 2023 (compared to 4.1-6.5%).

1. External developments

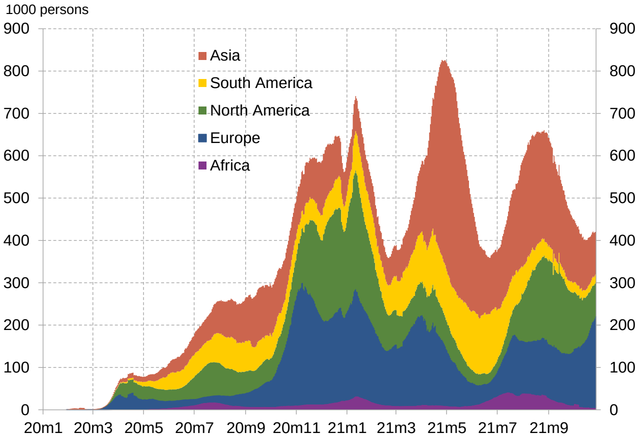
1.1 Economic activity abroad

Recent months have seen a recovery in global economic activity, although in 2021 Q3 the pace of this recovery slowed down in some countries. The epidemic situation continued to be a significant factor influencing world economic activity. Following a marked rise in the number of COVID-19 cases in July and August 2021, the global epidemic situation improved in the following months, yet it remained difficult in many countries (Figure 1.1). In the summer months, a sharp rise in the number of infections was observed particularly in the Asian countries. The summer wave of the pandemic also affected some advanced economies, including the United States and the United Kingdom, as well as certain countries of the European Union. However, due to the high vaccination rates in these countries (Figure 1.3), the rise in cases did not burden their health services as significantly as in the previous waves of the pandemic, despite much more relaxed pandemic restrictions (Figure 1.2).

Following the slump in economic activity a year earlier, in 2021 Q2 annual global GDP growth increased sharply (Figure 1.4), and in many economies GDP exceeded the pre-pandemic levels (i.e. the levels in 2019 Q4). The recovery in activity was supported by the accommodative economic policy around the world and the opening of economies, which allowed households to realise pent-up demand.

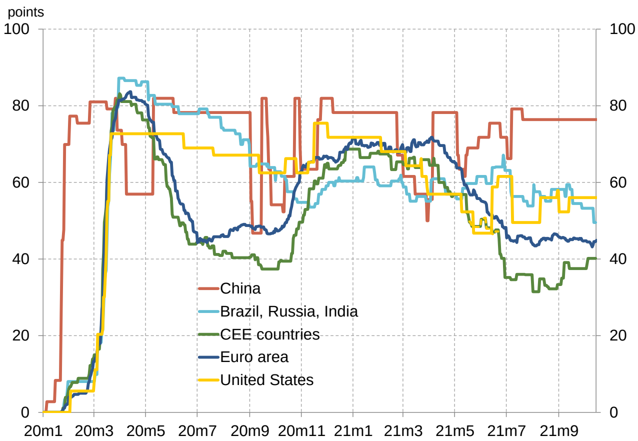
In 2021 Q3, the recovery in activity slowed down in some of the large advanced economies (including in the United States and the United Kingdom) as

Figure 1.1 Daily number of new coronavirus infections by world regions



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

Figure 1.2 Stringency index of pandemic restrictions in selected economies



Source: University of Oxford Coronavirus Government Response Tracker data, NBP calculations.

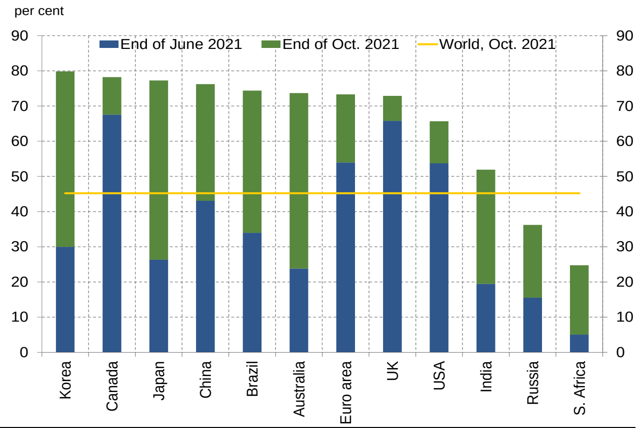
Index for a group of countries is an arithmetic mean of the index's values for respective countries. "CEE countries" – non-euro area Central and Eastern European EU member states (excluding Poland): Bulgaria, Czech Republic, Croatia, Hungary and Romania.

well as in China. This took place amid a deterioration in the epidemic situation in these countries and persisting disruptions in the global supply chains, including insufficient supply of intermediate goods, which negatively affected business conditions in the industrial sector (see Box 1: *Disruptions in global supply chains and their impact on the world economy).*

In the euro area, GDP growth reached 14.2% y/y in 2021 Q2 (following a fall in GDP of 1.2% y/y in 2021 Q1; Figure 1.5), yet the level of economic activity in the majority of member countries remained lower than before the pandemic (by an average of 2.7%).[1] The main driver of GDP growth in 2021 Q2 was domestic demand, in particular private consumption, supported by the improving situation in the labour market and the realisation of pent-up demand by households amid the lifting of pandemic restrictions.[2] A significant increase in exports also contributed to the GDP growth. In 2021 Q3, the recovery in economic activity continued, particularly in the services sector, which was backed by the further lifting of restrictions. Despite this, the pace of the recovery slowed down due to the persisting supply-side problems in the industrial and construction sectors which had a negative impact on economic activity (Figure 1.6).

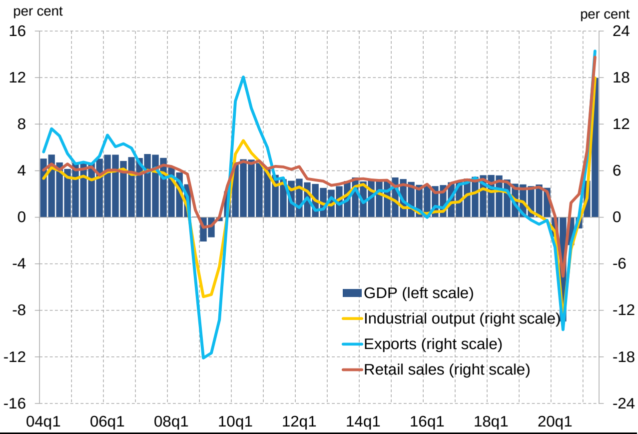
In Germany, GDP grew by 9.4% y/y in 2021 Q2 (compared to a fall of 3.1% y/y in 2020 Q1), and remained 3.3% lower than before the pandemic. The main driver of economic growth was private consumption, although GDP growth was also supported by the robust recovery in exports of goods. Confidence indicators signal a further rebound in activity in services in 2021 Q3 due to the easing of restrictions. In turn, business conditions in industry deteriorated in August 2021 reflecting the supply-side problems, particularly serious in the automotive sector.

Figure 1.3 Share of population who received at least one dose of the COVID-19 vaccine in selected countries



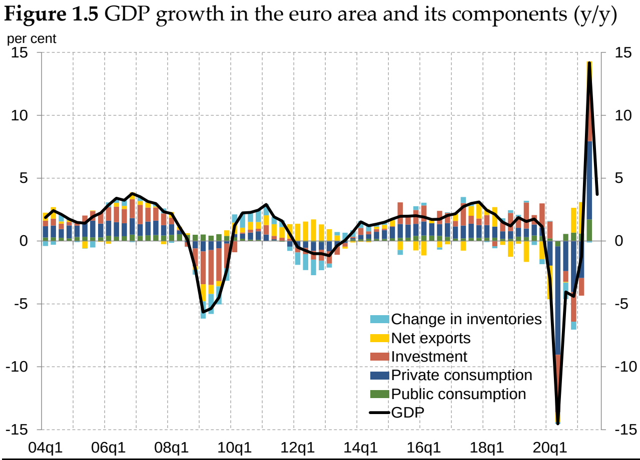
Source: data by Center for Systems Science and Engineering at Johns Hopkins University, Our World in Data.
Data available until 28th Ocrober 2021.

Figure 1.4 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 80% of global GDP in 2017, weighted by GDP. Exports – growth in global exports of goods estimated by Centraal Planbureau. Note: due to limited availablility of data from some countries during the pandemic, the economies used for calculating each time series differ slightly.

Figure 1.5 GDP growth in the euro area and its components (y/y)



Source: Eurostat data, NBP calculations.

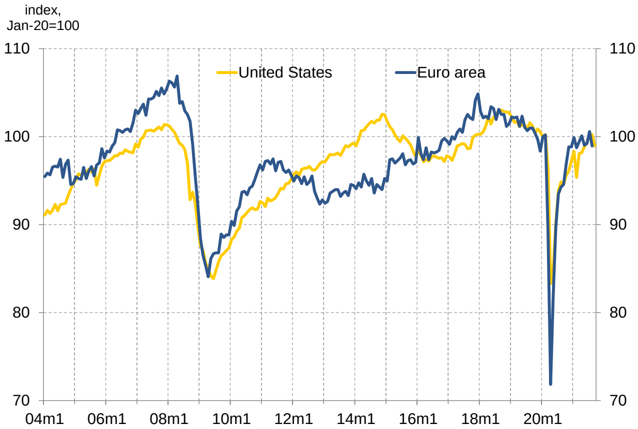
[1] According to the preliminary estimate, in 2021 Q3 GDP in the euro area grew by 3.7% y/y.
[2] However, private consumption remained 6% lower than in 2019 Q4.

In the Central and Eastern European countries outside the euro area, GDP growth in 2021 Q2 was 12.6% y/y (compared to a fall of 1.3% y/y in 2021 Q1), and the level of activity was only slightly lower than before the pandemic (Figure 1.7). GDP growth in annual terms was predominantly driven by the marked growth in consumption and the restoration of inventories. In 2021 Q3, economic activity growth remained relatively high amid a stable epidemic situation, favourable consumer conditions, and accommodative economic policy. Yet, as in other economies, the extended supply-side disruptions had a negative impact on economic activity.

In the United States, GDP growth rose to 12.2% y/y in 2021 Q2 (from 0.5% y/y in 2021 Q1), and thus GDP exceeded its pre-pandemic level (Figure 1.8). The main driver of economic growth was private consumption. At the same time, the recovery in corporate investment continued. In turn, the escalation of disruptions in the global supply chains, which were reflected in a decline in enterprises' inventories, was a factor weakening growth. Data for 2021 Q3 signal a continuation of the recovery, albeit at a slower pace.[3] The deteriorating epidemic situation, which had an adverse effect on consumer sentiment and led to a slowdown in household consumer spending growth, had a negative impact on economic conditions in this period. At the same time, despite the ongoing growth in employment, the unemployment rate remains elevated and the level of labour market participation lower than before the pandemic.

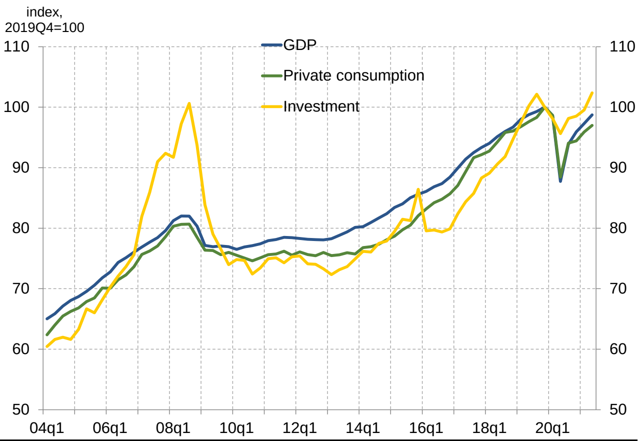
In China, GDP growth slowed down in 2021 Q3 to 4.9% (compared to 18.3% y/y in 2021 Q1 and 7.9% y/y in Q2; Figure 1.9).[4] Local epidemic restrictions, earlier economic policy tightening by the Chinese government, temporary power outages and deteriorating conditions in the real estate market –

Figure 1.6 Industrial production volume in selected economies (seasonally adjusted)



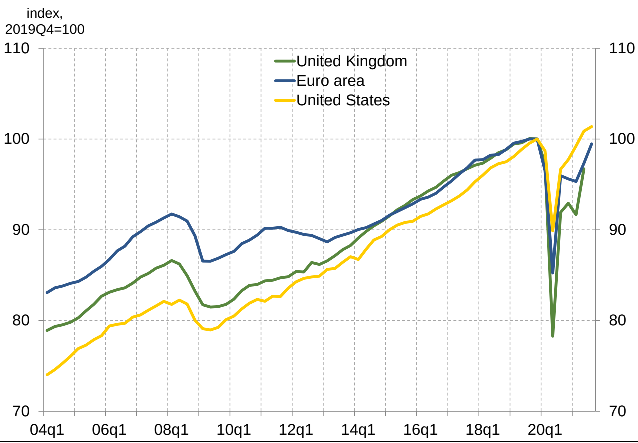
Source: Fed and Eurostat data, NBP calculations.

Figure 1.7 GDP volume and its selected components in Central and Eastern Europe countries



Source: Eurostat data, NBP calculations.
Index of combined volume of GDP, private consumption and gross fixed capital formation in non-euro area Central and Eastern European EU member states (excluding Poland): Bulgaria, Czech Republic, Croatia, Hungary and Romania.

Figure 1.8 GDP volume in selected advanced economies



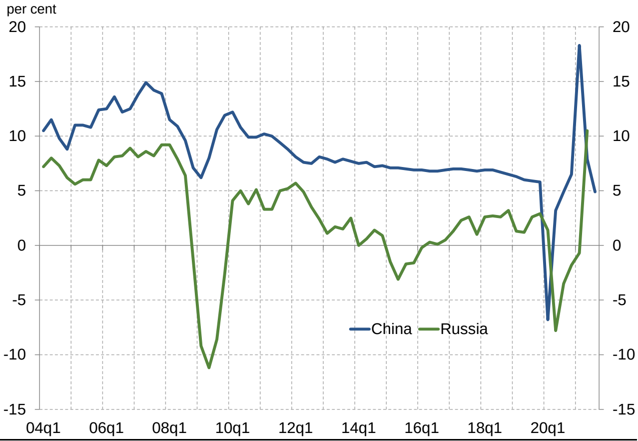
Source: Bureau of Economic Analysis, Eurostat, Office for National Statistics data, NBP calculations.

[3] According to the preliminary estimate, in 2021 Q3 GDP in the USA grew by 4.9% y/y.
[4] The largest negative pandemic shock in China took place in 2020 Q1, resulting in the strongest positive base effect appearing in 2021 Q1, and not in 2021 Q2, as was the case in most other economies.

all contributed to the decrease in economic activity growth in Q3. As a result, growth in household consumption and investment outlays slowed down. Despite the disruptions in the industrial sector and the continuing disturbances in international trade, the growth of Chinese exports remained high.

In most of the remaining large emerging market economies, GDP – despite an improvement in 2021 Q2 – still remained below the pre-pandemic level. In many of these countries, the difficult epidemic situation limited the pace of growth.

Figure 1.9 Economic growth in selected emerging market economies (y/y)



Source: Bloomberg data.

Box 1: Disruptions in global supply chains and their impact on the world economy

In 2021 Q2 and Q3, disruptions in global supply chains intensified across the world. They primarily involved shortages of certain components, mounting delays in completing orders, increases in the prices of intermediate goods and materials as well as a sharp rise in freight costs. Consequently, these disruptions are currently negatively affecting industrial production and are simultaneously one of the factors boosting global inflation.

The disruptions result from a confluence of several demand- and supply-side factors.

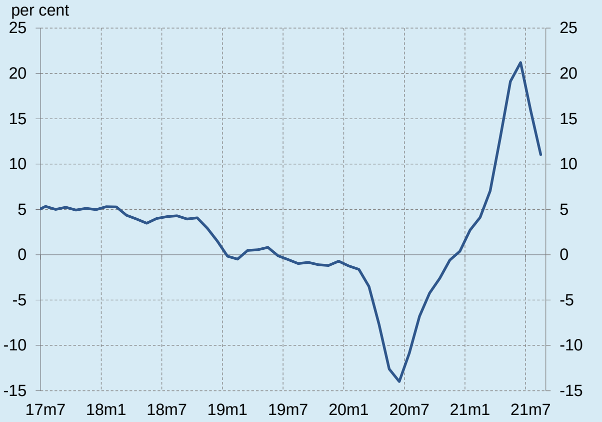
Firstly, since the second half of 2020, a recovery in consumer demand has been observed in the global economy. Amid the limited ability to consume services due to the persistently difficult epidemic situation and the restrictions in place in many countries, the increase in consumer demand encompassed mainly goods. The demand for goods was supported by a high level of household savings and the change in the structure of consumer demand amid the pandemic. As a result, global trade in goods expanded substantially (Figure B.1.1), as did demand for intermediate goods (including semiconductors used, among others, in the production of computers and cars, as well as plastics). The recovery in global demand was also one of the factors exerting upward pressure on prices of commodities around the world, including energy commodities, metals and minerals (see Chapter 1.3 *Global commodity markets*).

Secondly, the successive waves of the pandemic (and the related restrictions) affecting individual economies led to temporary closures of certain production plants and ports, including those in South-East Asia that are an important link in the global supply chains.[5]

Thirdly, the increase in the global trade volume, coupled with the detention of some containers at ports after the introduction of epidemic restrictions, resulted in their shortages in the shipping ports. High demand for transport and lack of available containers translated into a multiplication of freight rates, in particular on the routes leading from East Asia to the west coast of North America and Northern Europe (Figure B.1.2).[6]

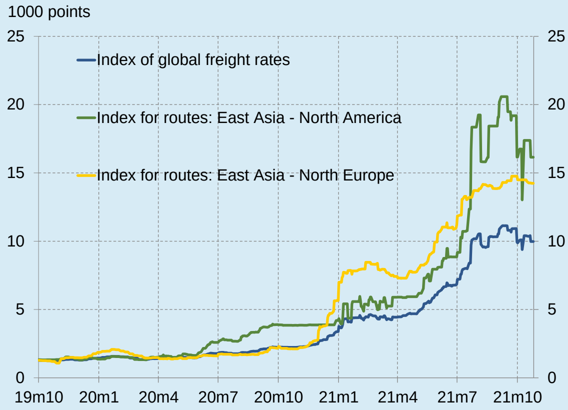
[5] At the same time, disruptions in semiconductor production were aggravated by natural disasters, such as a drought in Taiwan, a factory fire in Japan and power outages in factories in Texas.
[6] As a consequence of an uneven increases in prices, a number of carriers opted to change the previous routes to those that were the most profitable, which additionally increased congestion and unloading delays in some big ports (especially on the west coast of the USA).

Figure B.1.1 Growth in international trade volume, 3-month averages (yoy)



Source: CPB Netherlands.

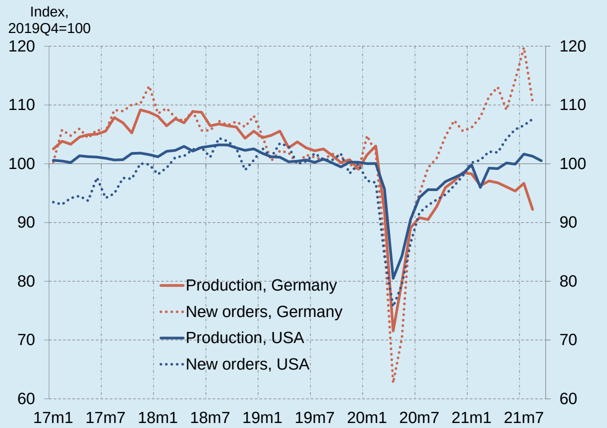
Figure B.1.2 Freight costs indices



Source: Refinitiv.

Difficulties in access to production factors have translated into failure to meet rising orders in manufacturing in recent months (Figure B.1.3). Problems with supplies of semiconductors have contributed to a particularly sharp drop in output in the automotive sector. For example, despite the rise in demand, production of passenger cars in the euro area has been recently 45% lower, and in the United States 23% lower than before the pandemic.[7] As a result, in the case of the German economy, the level of unfilled orders in manufacturing remains historically high, and most enterprises from this sector point to the shortages of materials and equipment as a factor limiting production.

Figure B.1.3 Production and orders in manufacturing in Germany and the United States



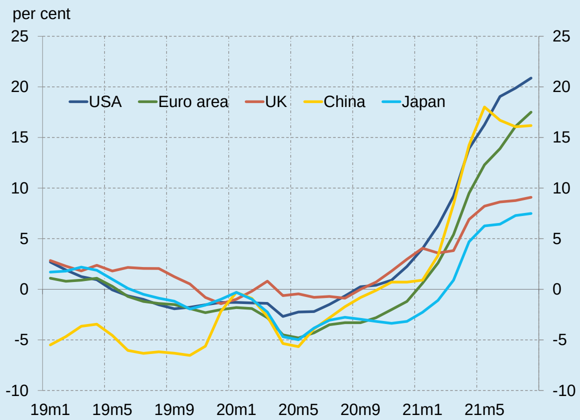
Source: Statistisches Bundesamt, Refinitiv.

At the same time, the disruptions in the global supply chains have had a downward effect on exports from many countries. According to the ECB's estimates (2021c) from September 2021, had the disturbances in question been absent in the first half of 2021, exports from the euro area would have been higher by 6.7%, and global exports (excluding the euro area) by 2.3%.

The disruptions in the global supply chains have also boosted import price growth and producer price growth, including, in particular, the prices of intermediate goods (Figure B.1.4). As a consequence, against the backdrop of the ongoing economic recovery, they are pushing up the prices of some goods in major advanced economies (Figure B.1.5)[8], which, along with a sharp rise in commodity prices, leads to substantially higher headline inflation. According to the OECD's (2021) estimates, the increase in the cost of freight, combined with the higher prices of commodities (both energy and non-energy commodities) accounted for about 1.5 percentage points of inflation in the G20 countries in 2021 Q3.

[7] Data for August 2021 (the euro area) and September 2021 (the Unites States) related to average level of production in 2019 Q4.
[8] The contribution of durable goods prices to inflation in the United States and the euro area has risen considerably in 2021 (especially in the former economy) and referred to, in particular, goods such as cars or furniture.

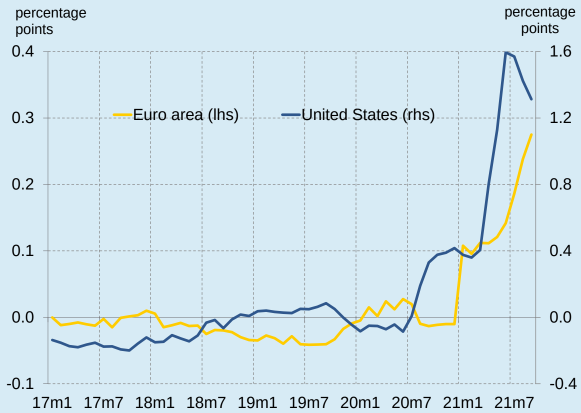
Figure B.1.4 Growth in intermediate goods producer prices in major economies (yoy)



Source: Refinitiv.

Note: producer goods prices for China.

Figure B.1.5 Contribution of durable goods to consumer inflation in the euro area and the United States



Source: Eurostat, BLS, Refinitiv, NBP calculations.

At the same time, the currently observed acceleration in the growth of producer prices of intermediate goods – given the lags resulting from the production process, price rigidity in the agreements between suppliers and the capacity to adjust corporate margins – may contribute to a further rise in consumer prices in the coming months.[9]

Looking ahead, the disruptions in the global supply chains are expected to gradually fade in 2022. The pace of this process will depend primarily on further developments in consumer demand, including the shift of global consumer demand towards services that depends on the further path of the pandemic, a normalisation of the situation in the world's ports, as well as producers' adjustments to the elevated demand for selected materials and intermediate goods, including semiconductors. Therefore, the persistence of the supply disruptions will probably be one of the factors boosting global inflation in the coming quarters.

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1.2 Inflation developments abroad

Global consumer price inflation rose significantly in recent months, and in September it reached its highest level since 2011 (Figure 1.10). Advanced economies in particular saw relatively fast price

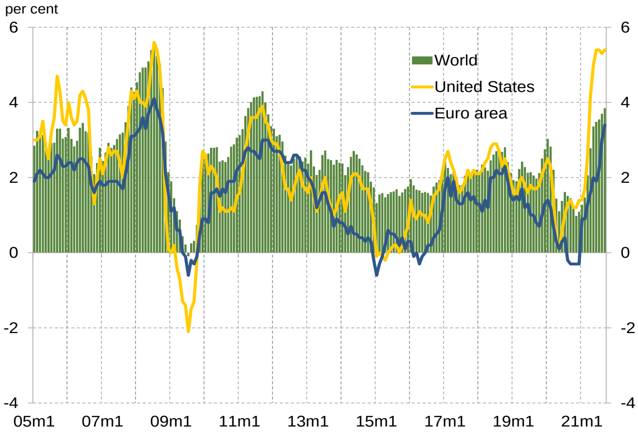
[9] For example, ECB analyses show that in the euro area developments in the producer prices of intermediate goods affect producer prices of consumer goods excluding food with a lag of approx. 6 months (ECB 2017). The growth in producer prices of consumer goods excluding food, in turn, affects the growth in consumer prices of industrial goods with a lag ranging from 6 months (ECB 2017) to 18 months (ECB 2021b).

growth. Inflation in the world economy was driven upwards by continued growth in the prices of energy and food resulting from strong rise in global commodity prices (see Chapter 1.3 *Global commodity markets*). Inflation was also backed by continued disruptions in global supply chains, which – amid strong demand for industrial goods – led to an increase in the prices of those goods (see Box 1: *Disruptions in global supply chains and their impact on the world economy*). This was reflected in high producer price inflation in many economies (Figure 1.11).

HICP inflation in the euro area has recently picked up markedly and in September stood at 3.4% y/y (compared to 1.9% y/y in June 2021)[10], reaching the highest level since 2008. In Germany in September inflation amounted to 4.1%, and in some countries of the euro area it recently exceeded 7% (Estonia, Lithuania). The rise in inflation was attributable to accelerated growth in energy and unprocessed food prices. Higher growth in the prices of energy resulted from markedly rising commodity prices and sharply rising prices of CO2 emission allowances. The last few months have also seen an increase in core inflation (to 1.9% y/y in September 2021; Figure 1.12) due to the ongoing economic recovery, which translated into higher growth in the prices of both goods and services.

Inflation in the United States has also grown, and in the summer months it reached the highest levels since 2008. In September 2021, CPI inflation stood at 5.4% y/y (compared to 5.4% y/y in June 2021), and core inflation was 4.0% y/y. Besides energy commodity prices, inflation was boosted by high growth in the prices of durable goods, especially used cars. Inflation was also driven upwards by higher growth in the prices of services including, among others, leisure and recreation as well as transport, amid the easing of most pandemic-related restrictions.

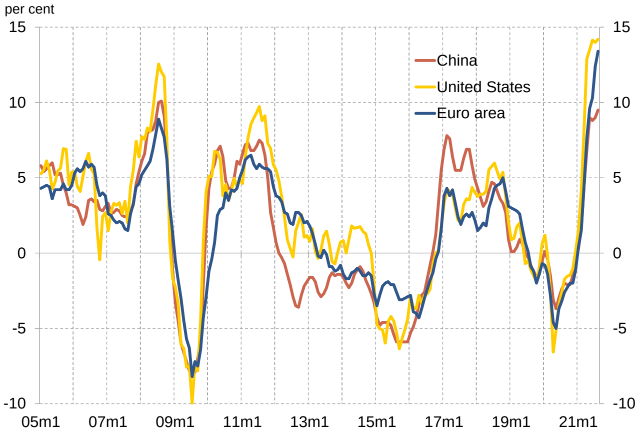
Figure 1.10 CPI inflation globally and in selected economies (y/y)



Source: Bloomberg and IMF data, NBP calculations.

World – average consumer price inflation in economies comprising over 80% of global GDP, weighted by 2017 GDP. The United States – annual CPI inflation. Euro area – annual HICP inflation.

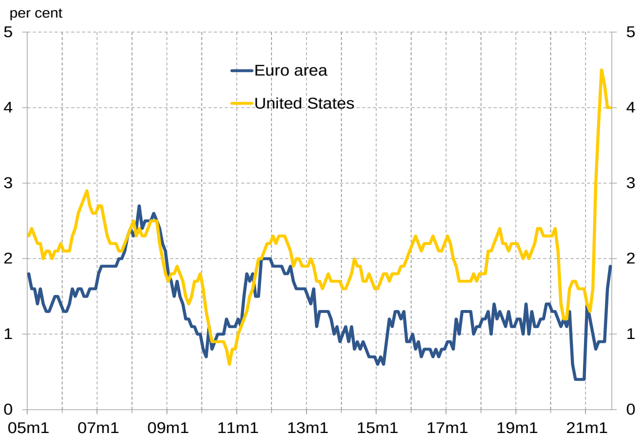
Figure 1.11 Producer price indices in selected economies (y/y)



Source: Bloomberg, Bureau of Labor Statistics data, NBP calculations.

The United States – producer price index growth in manufacturing industries. Euro area and China – producer price index growth in industry.

Figure 1.12 Core inflation in the United States and the euro area (y/y)



Source: Bloomberg and Bureau of Labor Statistics data.

The United States – annual CPI inflation less food and energy. Euro area – HICP inflation excluding energy and unprocessed food.

[10] According to the flash estimate, euro area HICP inflation in October 2021 stood at 4.1% y/y.

Inflation in non-euro area Central and Eastern European countries has also risen (Figure 1.13). In September 2021, it reached 4.9% in the Czech Republic, and 5.5% y/y in Hungary. Like in other economies, the persistence of elevated inflation was mainly attributable to the strong growth in energy prices and accelerating food price growth. Core inflation has also been rising gradually, boosted in recent months by increases in the regulated prices of utilities, as well as higher growth in the prices of services – including services related to repairs and renovations, leisure and recreation – and industrial goods amid continuing supply disruptions in the global commodities and intermediate goods markets.

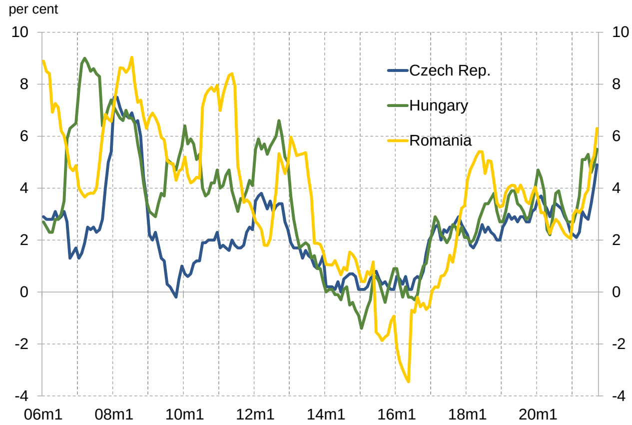
1.3 Global commodity markets

The prices of most commodities, especially energy commodities, in the global markets have risen strongly in recent months. The rise is primarily the result of the reduced supply of the commodities amid a gradual recovery of global economic activity.

Crude oil prices, after a slight drop in July and August 2021, have grown again sharply in the following months (Figure 1.14). In effect, in October 2021 oil prices were on average two times higher than a year ago. Oil prices were rising on the back of increased demand for this commodity, driven by the recovery of economic activity amid an only gradual increase in oil output by OPEC+ countries from a previously reduced level.[11] In addition, oil production in the United States was temporarily reduced by Hurricane Ida, i.e. the seasonal weather factor.

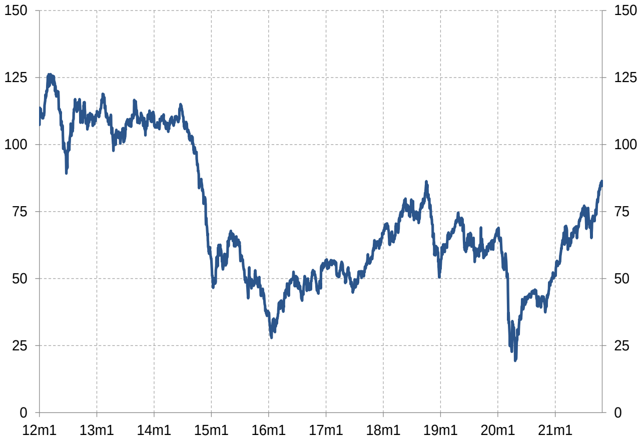
Natural gas prices have risen strongly in recent months (Figure 1.15). As a result, in October 2021 the prices were over 6 times higher than a year ago. The sharp increase in the price of natural gas was primarily driven by a limited supply of the

Figure 1.13 CPI inflation in the Czech Republic, Romania and Hungary (y/y)



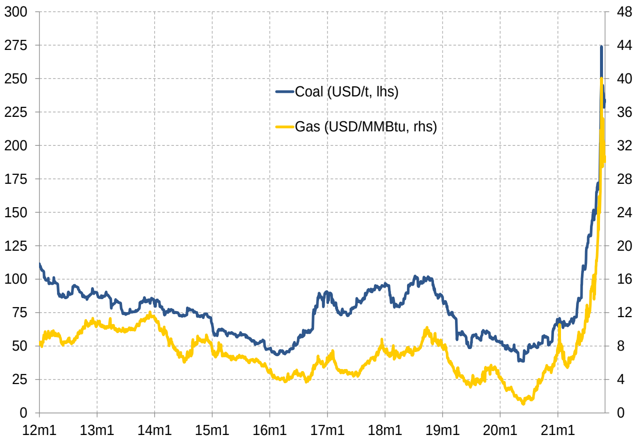
Source: Bloomberg data.

Figure 1.14 Brent oil barrel price in US dollar



Source: Bloomberg data, NBP calculations.

Figure 1.15 Hard coal and natural gas prices



Source: Bloomberg data, NBP calculations.

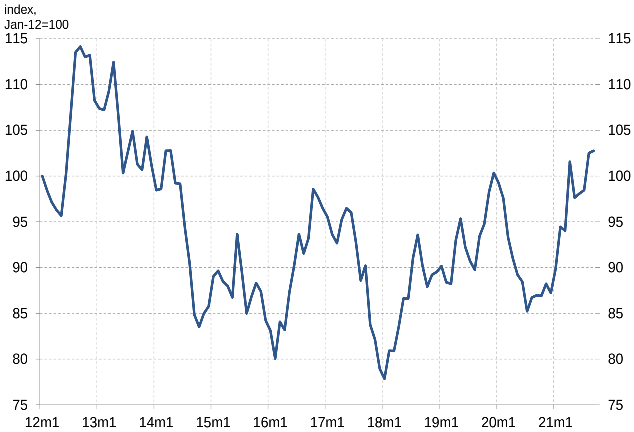
Natural gas prices express prices of ICE UK Natural Gas Futures Europe. USD/t – price expressed in US dollar per metric tonne. USD/MMBtu – price expressed in US dollar per million of British Thermal Unit, i.e. unit representing a quantity of energy required to raise the temperature of 1 pound (approx.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

[11] In July 2021, OPEC+ countries decided to return to reference output levels, however the oil production increasing process will take many months.

commodity, related, among other things, to the temporary shutdowns of Russia's natural gas processing plants, as well as supply policy of producers. Also, the last severe and long winter was responsible for lower LNG exports from the United States, while at the same time it led to increased demand for natural gas and, consequently, contributed to a decrease in natural gas reserves in Europe. As economic activity gradually recovered, including in Asian countries,[12] this translated into a very strong upward price pressure on natural gas in global markets. High natural gas prices led to an increased profitability of power generation from coal, causing its prices to grow. In consequence, in October 2021 hard coal prices were over 4 times higher than a year ago.

The agricultural commodity price index also rose markedly over the last year. Its growth in September 2021 amounted to 18.2% y/y (Figure 1.16). It was driven upward by a rise in the prices of most agricultural commodities, including mainly wheat, rapeseed, milk products, cocoa and sugar. Wheat prices were pushed up by the widening forecasted gap between global demand and supply, which was associated with export restrictions imposed by Russia in early 2021. Rapeseed prices were rising due to low production in the European Union and continued strong demand. The rebounding demand also resulted in a rise in cocoa prices, while the growth in exports from Asian countries contributed to a rise in the prices of dairy products. Sugar prices continue at an elevated level due to the expected global deficit of sugar in the 2021/2022 season. At the same time, a decline in pork prices had an opposite impact on the index, as the prices fell amid high pork supply in Europe and limited import demand from China, the latter stemming from the recovery of the country's pig population.

Figure 1.16 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.

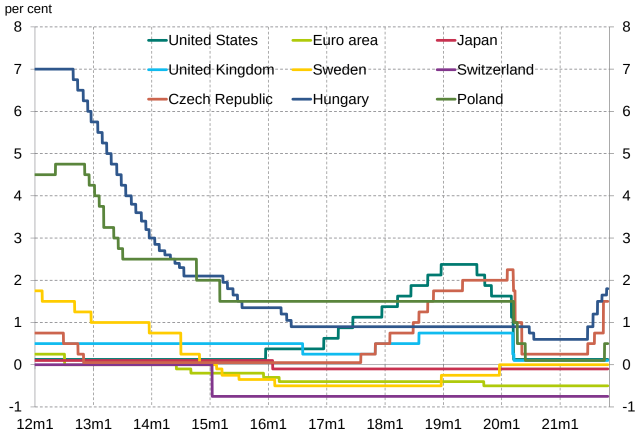
[12] Increased demand for low-emission energy sources, especially in China, amid improved economic activity, led to upward pressure on natural gas prices in the Asian market. The resulting LNG exports to Asia have translated into lower supply in Europe, sparking price competition and causing further price increases.

1.4 Monetary policy abroad

The central banks in most of the advanced economies, including in the euro area and the United States, continue to conduct highly expansionary monetary policy. In particular, they are keeping interest rates close to zero, and some banks are keeping them below zero (Figure 1.17). Many of these banks are also conducting asset purchases, although recently some of them have signalled that they would phase out net purchases (Figure 1.18). At the same time, the central banks of certain advanced economies and many emerging market economies have raised interest rates in recent months. Financial market participants expect interest rates in some of the major economies to also rise in the coming years, although to a limited extent, while in the euro area, among others, they might remain negative (Figure 1.19).

The European Central Bank (ECB) is maintaining a negative deposit rate at -0.50% and signalling that in the future interest rates might run at their present or lower levels in order to support its inflation target in line with the strategy revised in July 2021 (see Box 2: *Results of the review of European Central Bank's monetary policy strategy*).[13] The ECB also conducts the asset purchase programme (APP) at the level of EUR 20 billion per month without stipulating its termination date, as well as the pandemic emergency purchase programme (PEPP), in which it has announced an envelope for purchases of EUR 1850 billion until March 2022. The PEPP is conducted in a flexible manner according to market conditions. In September 2021, the ECB signalled a slight reduction in the monthly rate of purchases under this programme. Moreover, the ECB continues to carry out longer-term

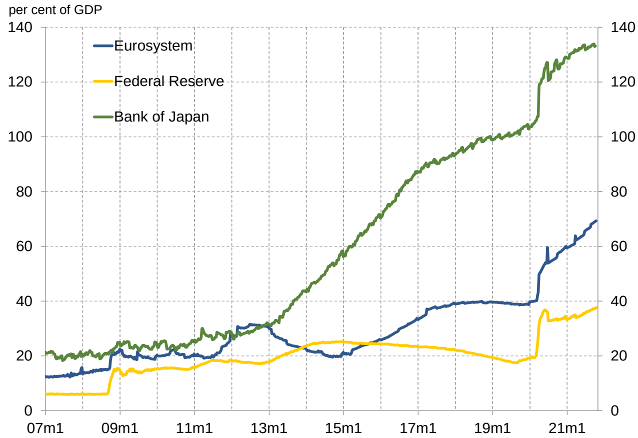
Figure 1.17 Interest rates of selected central banks



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 the United Kingdom – the Bank Rate; for Japan – the Complementary Deposit Facility; for Sweden – the 1W repo rate; for Switzerland – the policy rate; for the Czech Republic – the 2W repo rate; for Hungary – the base rate; for Poland – the NBP reference rate.

Figure 1.18 Total assets of major central banks as a per cent of GDP



Source: Bloomberg and OECD data, NBP calculations.

GDP data quarterly, annualised and seasonally adjusted. Calculation for 2021 Q3 based on GDP as of 2021 Q2.

[13] Excerpt from the press release following the Governing Council meeting of the ECB held on 28/10/2021: "*In support of its symmetric two per cent inflation target and in line with its monetary policy strategy, the Governing Council expects the key ECB interest rates to remain at their present or lower levels until it sees inflation reaching two per cent well ahead of the end of its projection horizon and durably for the rest of the projection horizon, and it judges that realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at two per cent over the medium term. This may also imply a transitory period in which inflation is moderately above target.*".

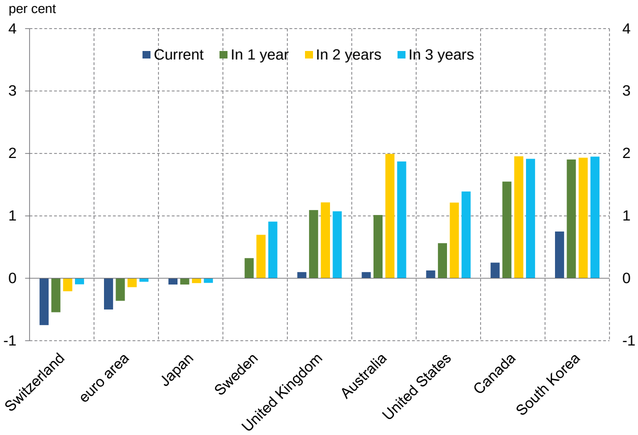
operations providing liquidity to the banking sector.

The Federal Reserve of the United States (the Fed) is maintaining the target range for the fed funds rate at the level of 0.00%-0.25%. At the same time, it continues to conduct purchases of government bonds and mortgage backed securities (MBS); however, it signals that net purchases will soon be gradually phased out. The median projection of the FOMC members suggests that the first interest rate hike might take place in 2022.

Many of the remaining central banks in the advanced economies, including in Japan, the United Kingdom, Sweden, Switzerland, Canada and Australia, are also keeping interest rates close to zero. In most of these economies the central banks are conducting asset purchases, although some of them have signalled the end of net purchases in the coming months.

At the same time, the central banks of Norway, Korea and New Zealand, as well in the Central and Eastern Europe and in many non-European emerging market economies, among others Brazil and Russia, have raised interest rates in recent months.

Figure 1.19 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 1W repo rate; for Canada overnight rate target; for Australia – cash rate target; for South Korea – Base Rate. Market expectatations according to Bloomberg based on OIS, as of 27 October 2021.

Box 2: Results of the review of European Central Bank's monetary policy strategy

In July 2021, the ECB presented the outcome of its year-and-a-half long review of monetary policy strategy.[14] While many key aspects of the strategy were left unchanged, a few modifications were introduced, the most important being a change in the definition of price stability by announcing a quantitative, symmetric inflation target set at 2% (and admitting the possibility of a transitory rise in inflation above 2%), as well as a call for a more precise inclusion of the estimated owner-occupied housing costs in the future HICP.[15]

ECB's previous strategy and its modifications

When announcing the ECB's strategy in 1998, the Governing Council indicated that this involved a quantitative definition of price stability described as "a year-on-year increase in the HICP for the euro area of below 2%" and two pillars of analysis of risks to price stability: monetary analysis and economic analysis.[16]

[14] The changes in the ECB's strategy were presented in the document "*The ECB's Monetary Policy Statement*" (ECB, 2021a) and during the press conference related to the publication of this material, with the ECB President Christine Lagarde and the Vice-President Luis de Guindos (ECB, 2021b). Details of the strategy modification were also described in the strategy document "*An Overview of the ECB's Monetary Policy Strategy*" (ECB, 2021c).

[15] Harmonised Index of Consumer Prices.

[16] Monetary analysis focused on the long-term relationship between broad money aggregates and inflation. Economic analysis, in turn, considered the impact of economic and financial factors on inflation, above all in the short and medium term (ECB, 2000).

In response to changes taking place in the economy, the ECB has conducted periodic reviews of its strategy. This, however, was not done on a regular basis, i.e. in 2001, 2003, 2011, each time emphasising adherence to the greatest extent possible to the ECB's declarations of the way of conducting monetary policy. The announced modifications largely involved specifying the definition of price stability. In 2001, it was stressed that the definition of price stability clearly signalled that neither persistent inflation nor deflation were compatible with it, and the term "below 2%" unambiguously indicated the ceiling for inflation compatible with the definition of price stability (ECB, 2001). In 2003, however, it was stated that the ECB strived to maintain inflation "below, but close to 2%" (ECB, 2004). The refinement meant *de facto* a slight increase of the inflation target. Also the order of naming the pillars on which the assessment of risks to inflation rested was changed, putting economic analysis first.

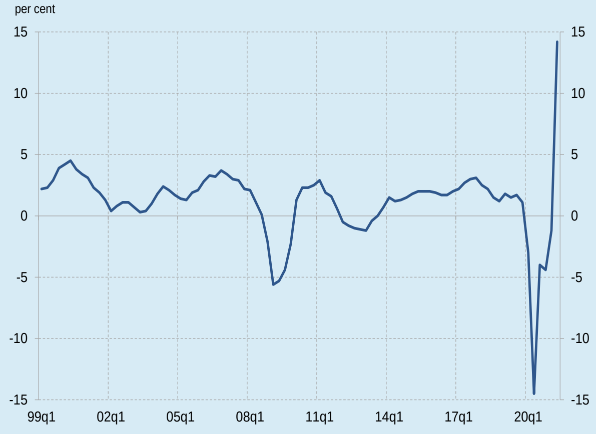
During the subsequent years, the ECB did not modify its definition of price stability. It was only during the efforts to combat the euro area debt crisis, when further strong monetary policy easing was necessary despite interest rates having been cut to historically low levels, that the then President Mario Draghi started pointing out during his press conferences the symmetric interpretation of the desired inflation level (ECB, 2014; ECB, 2016; ECB, 2019a). Since September 2019, information about the symmetric character of the price stability definition has been a permanent element of the Introductory Statement read out at the beginning of the press conference, and the rhetoric about symmetry in perceiving the desired inflation level was upheld by the next President of the Bank, Christine Lagarde.

Rationale for the ECB's strategy review

The strategy review conducted in 2021 was meant as a response to the structural changes which have taken place in the global economy, including in the euro area, in recent years, and which in particular have constrained the room for effective monetary policy easing through conventional instruments only. Not without significance is also the fact that in 2019 the Federal Reserve Bank of the United States announced a review of its monetary policy strategy (Fed, 2019) – it was then that a need for a similar process began to be mentioned also in the euro area (Bank of Finland, 2019; ECB, 2019b).

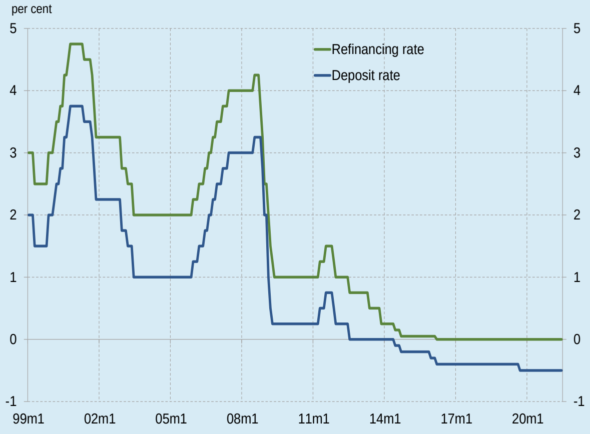
When announcing the strategy review, the waning potential for economic growth in the euro area was pointed out (Figure B.2.1), resulting, among others, from a slowdown in productivity and the aging of the population, as well as the adverse long-term effects of the financial crisis, which had led to a permanently tighter space for monetary policy easing through interest rate cuts (Figure B.2.2). It was underlined at this point that the problem of excessively low inflation (Figure B.2.3), which over the recent past had become more typical of many economies rather than too high inflation – including in the euro area – called for a different approach than preventing the risk of excessive price growth.

Figure B.2.1 GDP growth in the euro area (y/y, quarterly data, seasonally adjusted)



Source: Eurostat data.

Figure B.2.2 ECB's refinancing and deposit rates



Source: ECB data.

Key changes in the ECB's strategy

Figure B.2.3 HICP inflation in the euro area and the level of 2%

Source: Eurostat data.

A key change announced by the ECB is the modification of the existing definition of price stability through the announcement of a quantitative inflation target set at 2% (the ECB's inflation target – like before – is to apply to the medium term and refer to the HICP index). At the same time, the ECB for the first time used a wording typical of the inflation targeting strategy – namely "inflation target" – and directly stated that it had raised the target slightly.[17]

This was accompanied by the observation that a positive "inflation buffer" resulting from the 2% target was beneficial to the preservation of space for interest rate cuts in case of negative shocks, providing a safety margin against the risk of persistent deflation in individual economies, especially amid the decreasing equilibrium interest rate. It was reasserted that the "inflation buffer" enabled smoother corrections of macroeconomic imbalances between the euro area countries, including a smaller risk of excessive unemployment growth during an economic slowdown by taking into account nominal wage rigidities. It was also warranted by a positive inflation measurement bias, which means that actual inflation is lower than that recorded by statistical authorities. At the same time, it was pointed out that the inflation target was symmetric, hence the ECB Governing Council perceived negative and positive deviations as equally undesirable. It was emphasised that the applicable definition of the target should dispel any doubts as to its interpretation, including the fact that the 2% level should not be regarded as a ceiling for inflation compatible with the price stability definition. With interest rates running close to the effective lower bound, the monetary policy response to adverse shocks may require a more forceful and persistent use of monetary policy instruments, including the possibility that inflation will temporarily run moderately above the target.[18]

As a result of the review, a proposal was also put forward to include estimated costs related to owner-occupied housing (OOH)[19] in the HICP inflation index, which is referred to when monetary policy decisions are made. The Governing Council appreciates that an index including these costs would better reflect inflation that is significant to households. Currently, the costs related to residential property ownership are only partially included in the HICP inflation index.

The remainder of the strategy modifications by the ECB largely involves a formal incorporation of some elements *de facto* already used by the ECB, along with an announcement of changes, whose implementation will be extended over time. In this context, it is worth noting that the use of additional monetary policy instruments in the environment of an effective lower bound for interest rates was sanctioned.[20] There was also stronger emphasis on the complementarity of the price stability target with balanced economic growth and full employment. More attention (relative to the 2003 review) was also given to the stability of the financial system. It was stated that in the opinion of the ECB financial stability was the necessary condition for price stability and vice versa. Strategy

[17] Previously the ECB did not use the term "inflation target", but rather referred to the "definition of price stability" in its publications, or to slightly modified concepts close to the wording "inflation aim" or "inflation goal".
[18] "(…) *faced with large adverse shocks the ECB's policy response will, as appropriate and based on a careful proportionality analysis, include an especially forceful use of its monetary policy instruments. In addition, closer to the effective lower bound, it may also call for a more persistent use of these instruments. This may also imply a transitory period in which inflation is moderately above target*." (EBC, 2021c).
[19] These are the costs related to owning, maintaining and living at a given property.
[20] The ECB does not name these additional instruments non-standard; instead, it determines their status by indicating the situations in which they apply.

changes also assume the integration of the two pillars of analysis of risks to price stability (economic analysis and monetary-financial analysis). Another modification was the commitment of the Governing Council to include in the monetary policy the impact of climate changes and the transition to a low emissions economy on macroeconomic processes. To this end, the ECB will reinforce its analytical and research capacity in order to include climate factors more comprehensively in the conduct of monetary policy.

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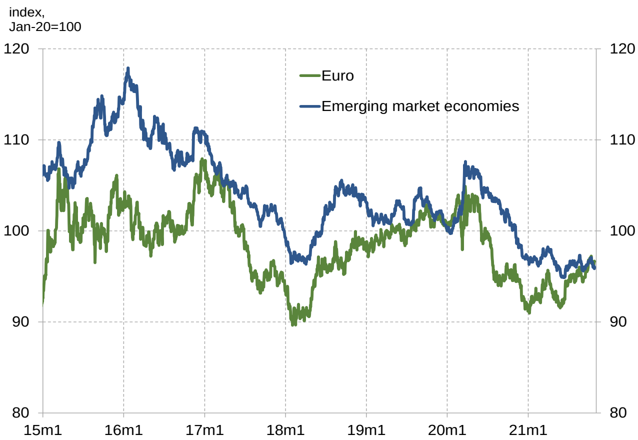
1.5 International financial markets

In recent months, sentiment in the global financial markets was supported by the ongoing economic recovery around the world, reflected, among others, in strong financial results of many companies listed on major stock exchanges. By contrast, the sentiment was adversely effected by continuing supply constraints in certain markets, as well as a sharp rise in both the prices of commodities, particularly energy commodities, and international transport costs, which have together had a negative impact on business sentiment in the global industry and was conducive to a rise in inflation expectations around the world (see Chapter 1.3 *Global commodity markets*). This was accompanied by signals of a possible reduction in the scale of monetary accommodation by major central banks (see Chapter 1.4 *Monetary policy abroad*). At the same time, market sentiment, especially in emerging economies, was negatively affected by signs of a worsening economic outlook for China. The sentiment was also influenced by the ongoing pandemic, although the uncertainty relating to it was much lower than in 2020.

Figure 1.20 US dollar exchange rates against the currencies of emerging market economies and the euro (rise indicates appreciation of the dollar)



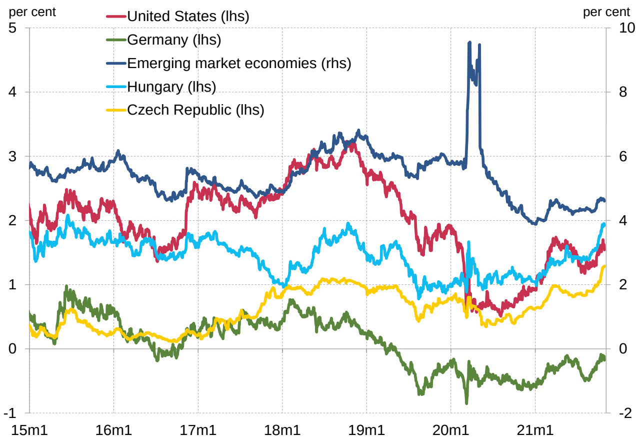
Source: Bloomberg data, NBP calculations.
Emerging market economies – *MSCI Emerging Market Currency Index*.

Against this background, in recent months the US dollar has strengthened against euro and many other currencies. This was supported by the intention signalled by the Fed of tapering net asset purchases, as well as market participants' expectations about an interest rates rise in the United States in the coming years, and interest rates in the euro area remaining negative. Despite this, the exchange rate of the US dollar against the euro and currencies of emerging market economies remained markedly weaker than before the outbreak of the pandemic (Figure 1.20).

At the same time, government bond yields have increased in most economies in recent months, although in many of them, including the United States, they remain lower than on average in the previous years. (Figure 1.21). Yields were driven up by the strengthening of factors fuelling global inflation, which was additionally reflected in a sharp rise in market-implied long-term inflation expectations in major economies (Figure 1.22). The yields on long-term bonds also increased markedly in Central and Eastern Europe – in the Czech Republic and Hungary they significantly exceeded levels from early 2020, i.e. before the outbreak of the pandemic.

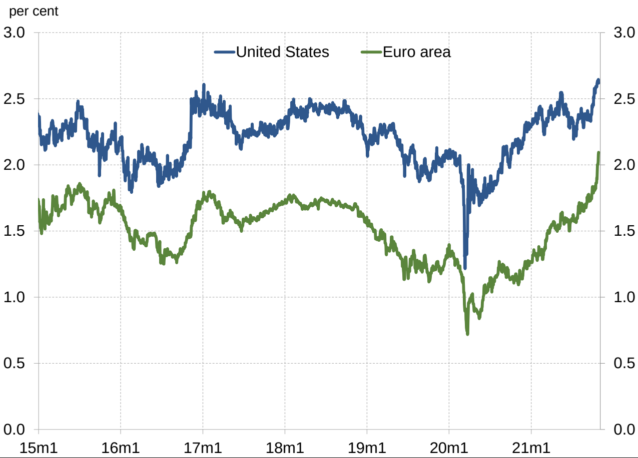
In turn, equity prices in advanced economies were running close to their record highs seen in September 2021 (Figure 1.23). By contrast, in emerging market economies, stock indices decreased in recent months, which was due to, among others, the deterioration of economic outlook for China and uncertainty about the situation in the real estate sector in this economy (see Chapter 1.1 *Economic activity abroad*).

Figure 1.21 Yields on long-term government bonds



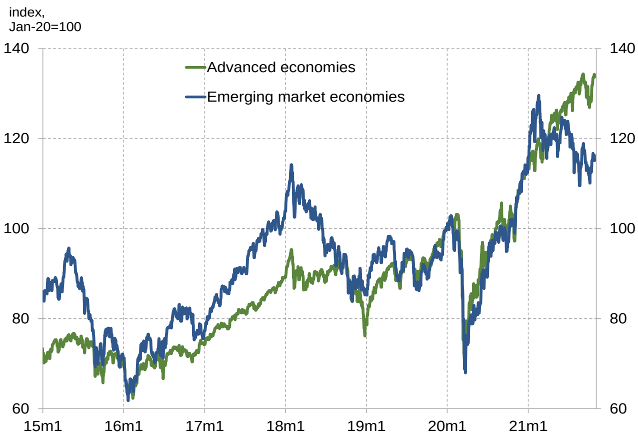
Source: Bloomberg data.
The United States, Germany, Czech Republic and Hungary – 10 year government bond yield; emerging market economies – *Bloomberg Barclays Emerging Markets Sovereigns*.

Figure 1.22 Market-implied expected average inflation over the five-year period that begins five years from today



Source: Bloomberg data.
Expectations implied from inflation swaps.

Figure 1.23 Equity prices



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

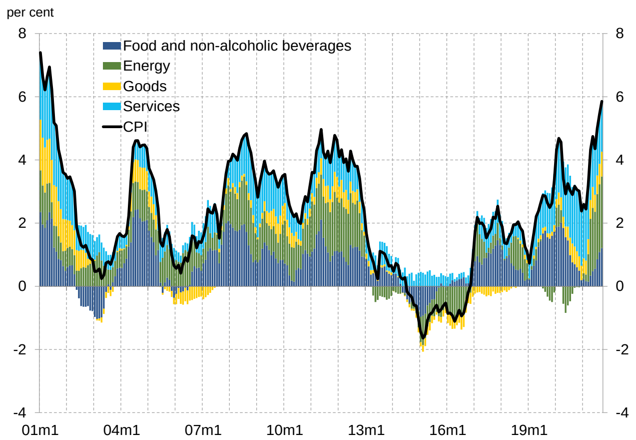
2. Domestic economy

2.1 Inflation developments

Like in many other economies of the world, consumer price growth in Poland has picked up in recent months (see Chapter 1.2 *Inflation developments abroad*). In September 2021, it amounted to 5.9% y/y (Figure 2.1).[21] The faster consumer price growth compared to May 2021 resulted mainly from the impact of supply-side and global factors (rises in the prices of gas, coal and oil as well as some agricultural commodities), which was reflected in stronger growth in food and energy prices. The rise in CPI was also driven by earlier increases in administered prices.[22] Another contributory factor was the favourable economic situation and a substantial rise in household incomes. Core inflation, which excludes food and energy prices, was slightly higher in September than in May, driven by faster growth in the prices of non-food goods.

Food and non-alcoholic beverages inflation picked up to 4.4% y/y in September 2021, from 1.7% in May. The stronger price growth in this category was primarily caused by faster rises in the prices of unprocessed food (from 0.7% y/y in May 2021 to 4.3% y/y in September), mainly vegetables and meat.[23] The increasing global prices of agricultural commodities also translated into higher prices of bread and cereal products, dairy products, and oils and fats[24], which has boosted growth in processed

Figure 2.1 Composition of CPI inflation (y/y)



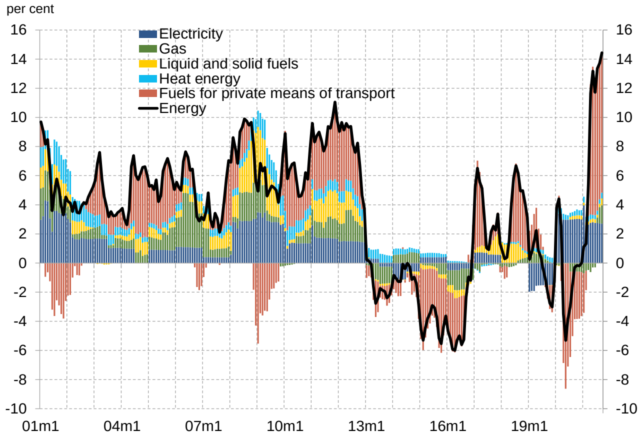
Source: Statistics Poland (GUS) data, NBP calculations.

[21] In October 2021, according to Statistics Poland (GUS) flash estimate, CPI inflation was 6.8% y/y.
[22] In September 2021, the contribution of administered prices to CPI inflation was 1.2 percentage points.
[23] Higher vegetable price growth was caused by expectations of lower yields in 2021 compared to 2020. In turn, the faster growth in meat prices was related to its limited supply amid the spread of animal diseases, high production costs and a rebound in demand from the restaurant sector.
[24] Price growth in these groups also resulted from rising costs of energy and labour.

food prices in recent months (from 2.6% y/y in May 2021 to 4.5% y/y in September).

Global supply-side shocks also contributed to a rise in annual growth in energy prices (to 14.4% y/y in September 2021, from 13.2% in May, Figure 2.2; see Box 3: *Energy commodity prices following the outbreak of the COVID-19 pandemic and their impact on CPI inflation in Poland*). In particular, soaring global gas prices (see Chapter 1.3 *Global commodity markets*) translated into faster growth in domestic prices of this commodity (9.2% y/y in September 2021 against -2.0% y/y in May 2021). However, the largest contribution to energy price inflation came from the rapid growth in the prices of fuels for private means of transport (28.6% y/y in September 2021) related to an earlier rise in global oil prices and a strong effect of low base from last year, as well as the growth in electricity charges (9.5% y/y in September 2021), primarily related to the introduction of the capacity charge at the beginning of 2021.

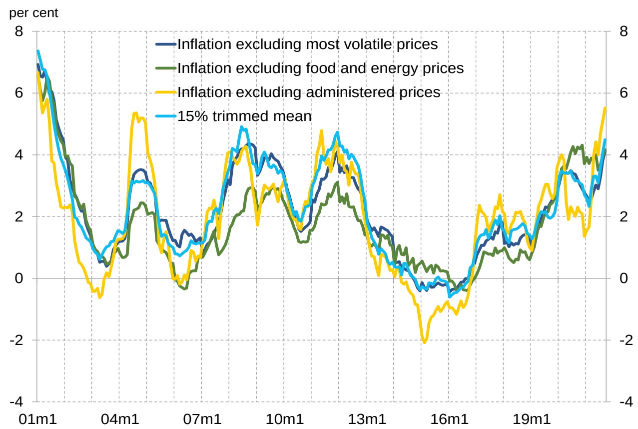
Figure 2.2 Energy price growth and its components (y/y)



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

Following a temporary decline to 3.5% in June 2021, core inflation excluding food and energy prices rebounded to 4.2% y/y in September 2021 (compared to 4.0% in May 2021; Figure 2.3). The rise in this category of prices was driven by the realisation of pent-up demand after the easing in pandemic restrictions, which boosted in particular growth in the prices of non-food goods (including those related to household maintenance and furnishing) and leisure services. Moreover, supply shortages in some markets added to the rise in the prices of non-food goods (see Box 1: *Disruptions in global supply chains and their impact on the world economy)*. In turn, the growth in services prices was driven not only by the release of pent-up demand, but also by still robust growth in the prices of administered services, in particular waste disposal charges. At the same time, services price inflation was dragged down mainly by slower price increases in communications.

Figure 2.3 Core inflation indices (y/y)



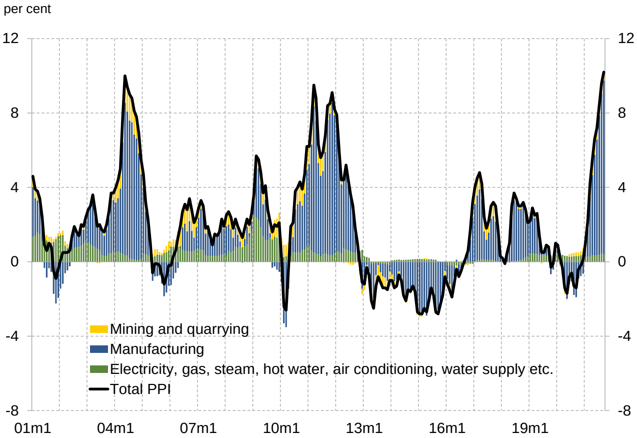
Source: Statistics Poland (GUS) data, NBP calculations.

Global supply-side factors also contributed to a rise in producer price growth in Poland, which stood at

10.2% y/y in September 2021 (compared to 5.5% y/y in April 2021; Figure 2.4). The acceleration in PPI growth largely results from a substantial increase in prices of commodities (see Chapter 1.3 *Global commodity markets*), electricity and supply goods, whose prices are heightened by supply constraints in certain markets, and a rise in the prices of international transport.

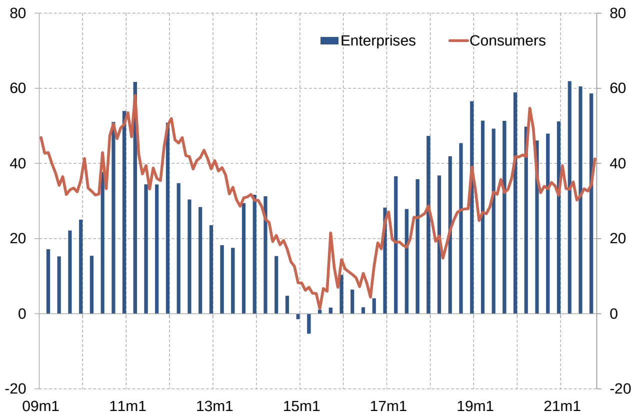
Along with the increase in current inflation and in commodity prices, last quarters saw a rise in the inflation expectations of financial sector analysts surveyed by Refinitiv, and of respondents to the NBP Macroeconomic Survey (Table 2.1). However, they continue to point to a gradual decrease in inflation in 2022-2023. The survey opinions of enterprises measured with balance statistics declined somewhat in 2021 Q3, although they persist at a relatively high level. This was accompanied by a slight shift in consumers' opinions towards higher inflation (Figure 2.5).

Figure 2.4 Composition of PPI inflation (y/y)



Source: Statistics Poland (GUS) and Eurostat data.

Figure 2.5 Balance statistics of consumer and enterprise inflation expectations



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

Balance statistics is defined as a difference between 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 statistics should be interpreted as a shift in opinions towards higher rise in prices.

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

	Survey conducted in:				
	20q4	21q1	21q2	21q3	21q4
Refinitiv Survey, inflation expected in 4 quarters	2.8	2.7	3.4	3.5	3.8
NBP Survey, inflation expected in 4 quarters	2.6 (2.1-3.1)	3.1 (2.4-3.7)	3.4 (2.7-3.9)	4.1 (3.3-4.8)	-
NBP Survey, inflation expected in 8 quarters	2.7 (2.1-3.5)	3.0 (2.2-3.6)	3.1 (2.3-3.8)	3.4 (2.4-4.3)	-

Source: NBP and Refinitiv data.

Inflation expectations of the financial sector analysts are proxied by the median forecast of the analysts surveyed by Refinitiv (former Thomson Reuters) in the last month of a given quarter, except 2021 Q4, where the forecast of October 2021 is presented.

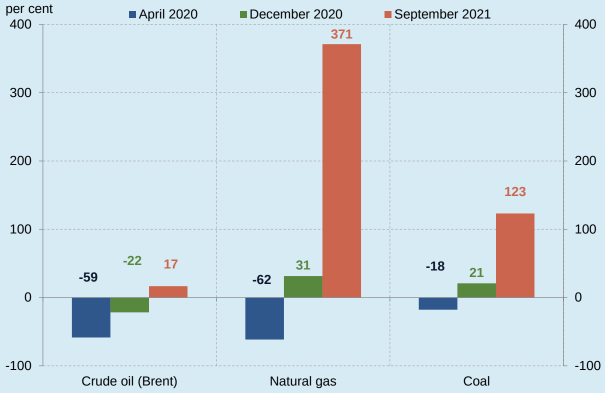
Inflation expectations of the participants to the NBP Survey of Professional Forecasters reflect the median probability distribution obtained from the aggregation of probability forecasts of the experts surveyed by NBP. In the parentheses there are given 50% probability intervals (between the 1st and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

Box 3: Energy commodity prices following the outbreak of the COVID-19 pandemic and their impact on CPI inflation in Poland

A direct consequence of the outbreak of the COVID-19 pandemic was the introduction of restrictions in many countries around the world. Their aim was to prevent the SARS-CoV-2 virus from spreading by reducing social mobility. As a result, economic activity in most countries dropped at an unprecedented rate, causing a significant decline in global demand for energy.[25] As supply did not adjust, the fall in demand quickly led to a sharp fall in energy commodity prices (Figure B.3.1). In effect, in April 2020 average monthly oil prices were almost 60% lower, natural gas prices 62% lower, and coal prices in Richard's Bay port 18% lower than their average levels in 2019. At the same time, the restrictions on economic activity led to a decline in the prices of CO_2 emission allowances under the European Union Emissions Trading System (EU ETS) by 15%, while electricity prices in Poland on the Day-Ahead Market (DAM) declined by 35% (Figure B.3.2).

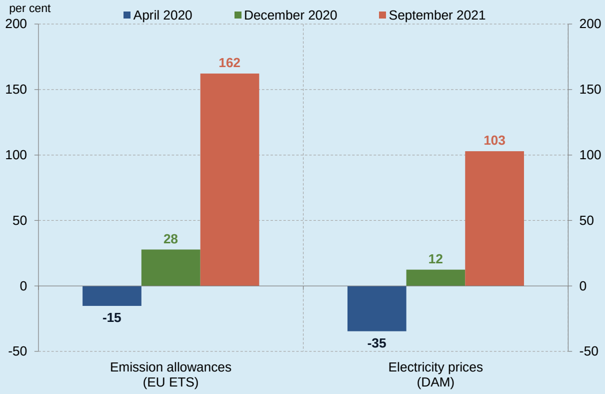
Following the unprecedented fall in energy commodity prices (among others, oil prices in the futures market, even temporarily reaching a negative level, as well as natural gas reaching a long-term low), adjustments on the supply side led to a significant output cuts[26], thus stabilising energy commodity prices at a low level in 2020 Q2. Along with the easing of the pandemic restrictions and the rebound in economic activity, from 2020 Q3 energy commodity prices, prices of CO_2 emission allowances as well as electricity prices began to rise relatively quickly. Consequently, in December 2020 they were already running (with the exception of oil prices) above their average levels of 2019 (i.e. before the outbreak of the COVID-19 pandemic), and in the subsequent months of 2021 they continued to increase (Figure B.3.1, Figure B.3.2). On the one hand, this resulted from the progress in vaccination programmes allowing for the easing of some restrictions. This in turn supported the rebound of global economic activity in 2021 and contributed to an improvement in expectations about future global economic growth. On the other hand, new, market-specific factors also began to contribute to the rise in prices.

Figure B.3.1 Developments in energy commodity prices in USD (change compared to average prices in 2019)



Source: Bloomberg, TGE, NBP.

Figure B.3.2 Prices of CO_2 emission allowances and electricity in PLN (change compared to average prices in 2019)



Source: Bloomberg, TGE, NBP.

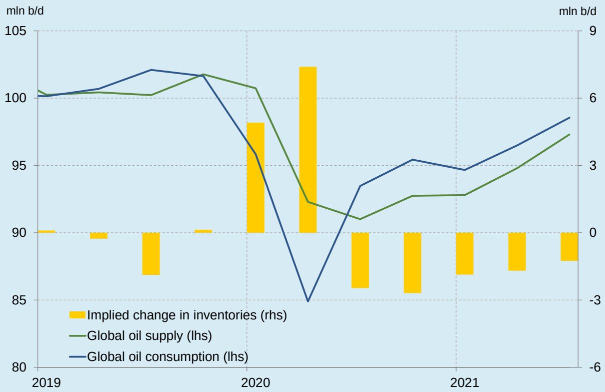
Amid growing global economic activity, oil prices were running at elevated levels mainly owing to two factors. First, OPEC+ continued its policy of reducing production due to the persisting uncertainty about the global economic outlook.[27] Secondly, supply of this commodity grew slowly in the United States, which resulted from

[25] For example, during the period when pandemic restrictions were most severe, i.e. in 2020 Q2, global oil consumption fell by 15.5% according to the U.S. Energy Information Administration (EIA). In annual average terms, global oil consumption fell by 8.5%.
[26] Firstly, on 9 April 2020 the countries associated in OPEC+ decided to reduce production from May 2020 by as much as 9.7 million barrels per day, i.e. by approx. 10% of global output. Secondly, a significant fall in production was also observed in countries not associated in OPEC, among others, in the United States, as a result of a marked decline in the profitability of production, mainly from unconventional sources.
[27] Despite the rapid rebound of demand for this commodity, the OPEC+ countries maintain the reduction in oil output, which is currently equivalent to approx. 5% of pre-pandemic global oil production.

the relatively low drilling activity caused by a significant deterioration in the financial situation of firms in the extractive sector, as well as unfavourable weather conditions (among others, the cold snap in Texas at the beginning of 2021 interrupted oil extraction). In effect, the level of global oil stocks declined steadily (Figure B.3.3), putting upward pressure on prices (which rose to USD 82.7 per barrel in October 2021[28], i.e. by 99.1% y/y).

In the gas market, both demand and supply factors boosted prices. On the one hand, the demand for energy increased abnormally in the EU countries both in winter 2021 (as a result of unusually low temperatures) and in the summer of that year (as a result of heatwaves). On the other hand, electricity production from wind farms fell due to the drop in wind speeds, which led to a rise in demand for natural gas used to generate electricity.[29] At the same time, the fall in the supply of this commodity, both liquefied natural gas and natural gas from Norway (due to renovation of the transmission infrastructure) and Russia (due to limited transfer), led to very low stocks in the EU. Due to these opposite changes in demand and supply, natural gas prices began to rise rapidly (to approx. USD 331.94 per 100 therm in October 2021, i.e. by 539.2% y/y, Figure B.3.4). Their record increase caused electricity production from coal to once again become profitable, despite its significantly higher emissions and the prices of CO_2 emission allowances running persistently at historically high levels (Figure B.3.5).[30] Consequently, in the second half of 2021, coal and electricity prices also rose to record highs.

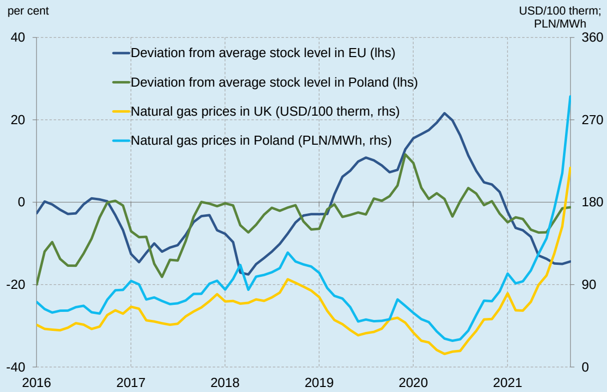
Figure B.3.3 Supply-demand situation on the oil market



Source: EIA, NBP.

Implied change in inventories is the difference between global oil supply and consumption. Data in chart are presented in millions of barrels per day (M b/d).

Figure B.3.4 Stocks and prices of natural gas in the EU and Poland



Source: Bloomberg, AGSI+, NBP.

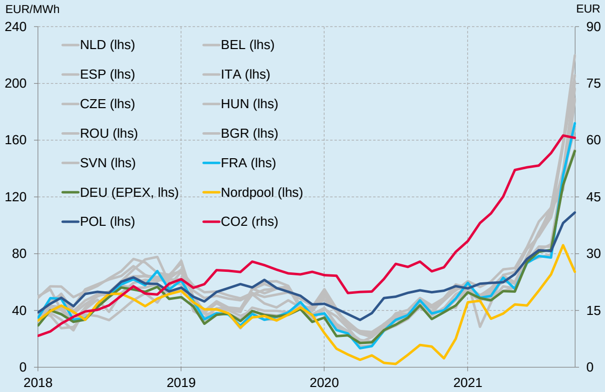
Note: therm is a non-SI unit of heat energy used in the UK, which is equivalent to burning approx. 2.83m^3 of natural gas.

The rise in global energy commodity prices caused a significant increase in CPI inflation in Poland in 2021 as wholesale fuel prices and gas prices in the small, open economy of Poland are highly correlated with global prices (Figure B.3.6).[31] From December 2020 to September 2021 CPI inflation rose from 2.4% y/y to 5.9% y/y, i.e. by 3.5 percentage points (Figure B.3.7). In the same period, the contribution of energy prices to annual consumer price growth increased by 2.3 percentage points. Among the components of the energy sub-aggregate in the analysed period, the strongest boost to CPI inflation came from the rising prices of fuels for private means of transport (by

[28] For October 2021 the average monthly level of prices was reported for the period 1-18 October 2021.
[29] According to IEA data, the share of total energy supply from natural gas in OECD countries is over 80% higher than in Poland.
[30] This is due to the EU's climate policy. In 2019 the market stability reserve was introduced, which is used to reduce the supply of allowances under the EU ETS system. Moreover, under the fourth phase of this system, since 2021 there has been a faster reduction in the pool of CO_2 emission allowances. The price of the allowances may also be affected by the setting of a greenhouse gas reduction target of 55% by 2030 and the presentation of the "Fit for 55" programme, which assumes a further rise in the reduction factor of CO_2 emission allowances to 4.2% from 2.2% in 2021.
[31] Exceptions are coal and electricity prices in Poland. The weak correlation between domestic and global coal prices is due to the fact that Poland is a major coal producer and its prices in the domestic market are set by the use of long-term contracts. In turn, the low capacity of electricity transmission lines between Poland and other countries determines the generally low level of correlation of electricity prices in Poland and abroad.

28.6% y/y in September 2021, which increased the headline inflation by 1.5 percentage points, Figure B.3.8). In 2021, as a result of the decision of the President of the Energy Regulatory Office (ERO), electricity and gas prices also rose. In particular, due to the introduction of the capacity charge, which serves as a remuneration for power generators for their availability to increase electricity production from conventional sources if necessary, electricity bills increased by 9.5% for the average household, boosting the CPI inflation rate by 0.4 percentage points. Following the rising natural gas prices, the regulator also decided to increase the tariffs for the sale of natural gas to households in May, August and October 2021, by 5.6%, 12.4% and 7.4% respectively, which picked up CPI inflation by a total of 0.2 percentage points. Given the observed developments in prices of natural gas, electricity and CO_2 emission allowances on the exchange markets and the delays in the process of approving tariffs by the President of the ERO, a further rise in energy prices for households is likely, particularly in 2022.

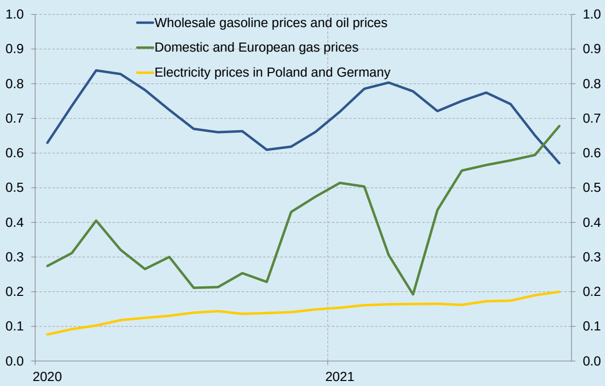
Figure B.3.5 Prices of electricity in the EU and CO_2 emission allowances



Source: Refinitiv Eikon, NBP.

Note: country codes according to the ISO3166-1 alpha-3 standard. The Nordpool index approximates electricity prices in the Scandinavian countries.

Figure B.3.6 Correlation of global and domestic energy commodity prices

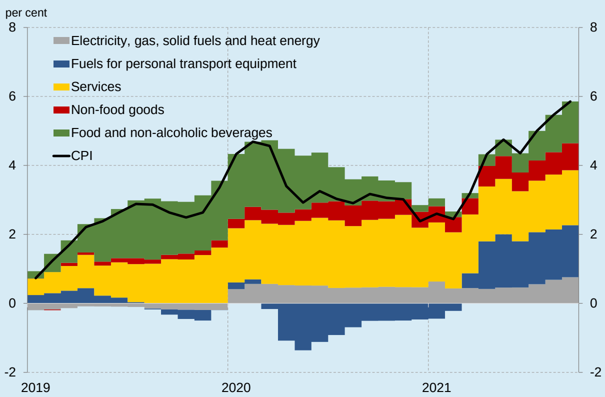


Source: Bloomberg, NBP.

Note: Time-varying correlations were calculated on high-frequency data using GARCH methods and then averaged to monthly frequencies.

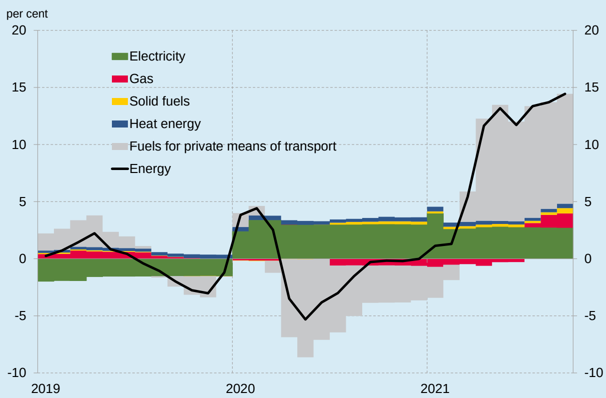
Statistical decomposition of the CPI inflation shows that the rise in energy prices resulting from the external shock to the Polish economy contributes significantly to the increase in consumer prices. However, it should be noted that basing on statistical decomposition one may only determine the direct effect of higher energy prices on the headline inflation. In the coming months, a further rise in energy prices should be expected due to both the delays in the transmission of global wholesale prices into retail prices in Poland and the changes in tariffs approved by the President of the ERO. At the same time, the rise in core inflation (CPI net of food and energy prices), which serves to assess the medium- and long-term growth trends in the overall level of prices, indicates a risk of the transmission of elevated energy price growth to the remaining components of the consumer basket, including those which are generally less sensitive to changes arising from the impact of external shocks.

Figure B.3.7 CPI inflation and its decomposition



Source: Statistics Poland (GUS), NBP.

Figure B.3.8 Energy price inflation and its decomposition



Source: Statistics Poland (GUS), NBP.

2.2 Demand and output

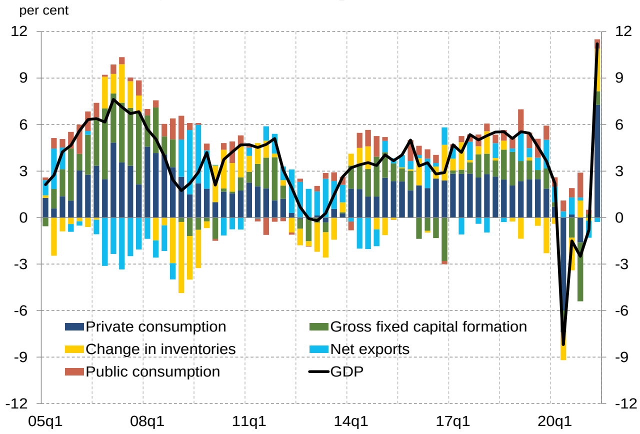
In 2021 Q2, annual GDP growth in Poland grew markedly (to 11.2% y/y compared to -0.8% y/y in 2021 Q1; Figure 2.6; Table 2.2), which resulted partially from the base effects related to the deep slump in economic activity in 2020 Q2 (of 8.2% y/y). Private consumption and an increase in inventories made the biggest contributions to GDP growth, while the contribution of net exports was negative. The GDP growth was supported by the improvement in the epidemic situation from the end of April 2021 and the gradual lifting of the sanitary restrictions, as well as by the better adaptation of economic entities to pandemic conditions (Figure 2.7). Consequently, the seasonally-adjusted GDP exceeded the pre-pandemic level (Figure 2.8).

Available monthly data for 2021 Q3 point to a further recovery in economic activity amid a relatively low number of Covid-19 infections in the summer and looser pandemic restrictions than in the previous quarter (Figure 2.7).

2.2.1 Consumption

In 2021 Q2, despite the difficult epidemic situation at the beginning of the quarter, the recovery in consumption continued. Household consumption increased by 13.1% y/y (as compared to 0.1% y/y in 2021 Q1; Figure 2.9), and its level (after seasonal adjustment) was slightly higher than before the pandemic. The increase in consumption was supported by the adjustment of consumers to functioning under a strict sanitary regime. Moreover, together with the gradual easing of sanitary restrictions, the rise in household consumption was fuelled by consumer sentiment, which improved amid favourable labour market conditions and was conducive to unleash pent-up demand. This demand supported, in particular, the sale of clothing and footwear as well as services associated with accommodation, recreation, and culture.

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



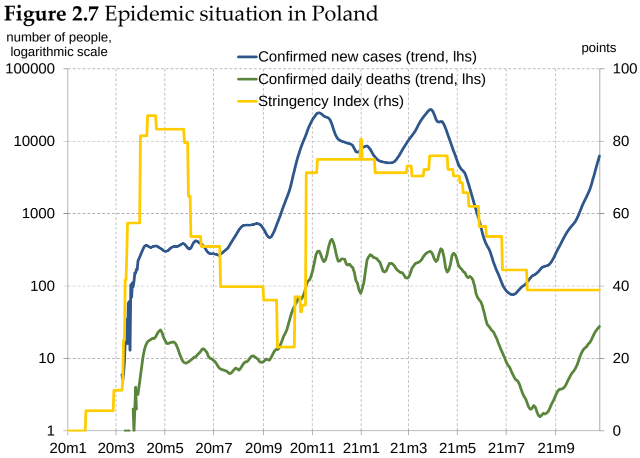
Source: Statistics Poland (GUS) and NBP data.

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

	2019				2020				2021	
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
GDP	**5.5**	**5.4**	**4.6**	**3.7**	**2.2**	**-8.2**	**-1.5**	**-2.5**	**-0.8**	**11.2**
Private consumption	2.4	2.5	2.5	1.9	0.7	-6.0	0.2	-1.6	0.0	7.3
Public consumption	1.5	1.0	1.2	0.9	0.6	0.7	0.6	1.6	0.3	0.6
Gross fixed capital formation	1.3	1.2	0.6	1.3	0.3	-1.4	-1.3	-3.8	0.2	0.9
Change in inventories	-1.4	0.2	-0.5	-2.3	-0.4	-1.8	-2.1	1.1	-0.2	2.8
Net exports	1.8	0.6	0.8	1.9	1.0	0.4	1.1	0.2	-1.1	-0.3

Source: Statistics Poland (GUS) and NBP data.

Figure 2.7 Epidemic situation in Poland



Source: Ministry of Health and University of Oxford Coronavirus Government Response Tracker data, NBP calculations.

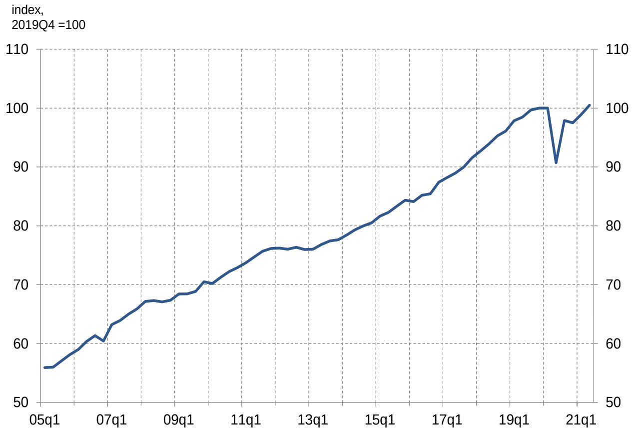
Monthly data suggest that 2021 Q3 saw a further recovery in consumer spending which was accompanied by the gradual improvement in consumer sentiment.[32] Yet this sentiment remained significantly lower than before the pandemic (Figure 2.10).

2.2.2 Investment

Investment growth accelerated to 5.6% y/y (compared to 1.7% y/y in 2021 Q1; Figure 2.11) in 2021 Q2, which was largely the result of the statistical base effects (in 2020 Q2 investment fell sharply by 8.8% y/y following the imposition of the COVID-related restrictions; Figure 2.12). NBP estimates show that higher investment growth than in the previous quarter, was primarily driven by faster growth in corporate and residential investment. By contrast, public investment growth remained negative.

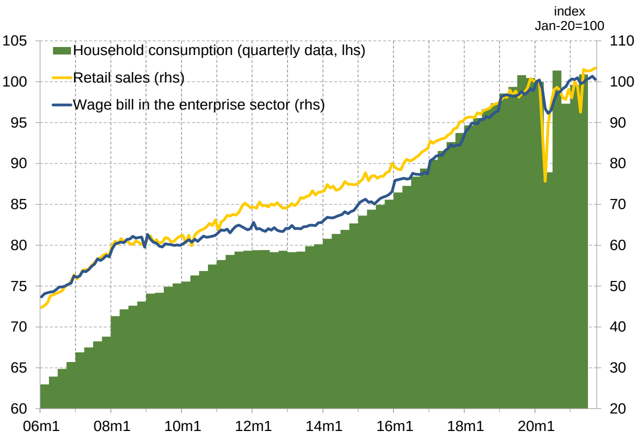
In 2021 Q2 – for the first time since the pandemic outbreak – investment in large and medium-sized companies rose in year-on-year terms. The increase in investment was registered in all sectors, with the strongest investment growth in trade and services, where activity was particularly affected by the pandemic restrictions in 2020 Q2 (Figure 2.13). Corporate investment was supported by the growing capacity utilisation which – in line with both NBP survey data and data from Statistics Poland – got closer to the pre-pandemic level (Figure 2.14), as well as by the sound financial position of enterprises (see Chapter 2.3 *Financial situation of enterprises*). At the same time, continued uncertainty about the further course of the pandemic and its impact on economic conditions globally and in Poland may have had a limiting effect on investment growth. Uncertainty about the economic outlook for countries which are key trading partners of Poland may have been the reason why enterprises with a high share of export

Figure 2.8 GDP volume (seasonally adjusted)



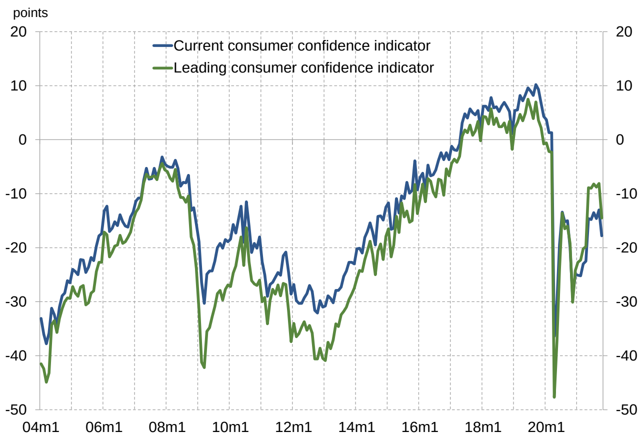
Source: Statistics Poland (GUS), Eurostat data, NBP calculations.

Figure 2.9 Volume of real consumption, retail sales and wage bill in the enterprise sector (seasonally adjusted)



Source: Statistics Poland (GUS) data, NBP calculations.
For household consumption index 2020 Q1 = 100.

Figure 2.10 Consumer confidence indicators



Source: Statistics Poland (GUS) data.

32 In October 2021, in turn, consumer sentiment has deteriorated.

income continued to reduce their investment outlays.

The results of NBP surveys indicate that the prospects for corporate investment activity are favourable: 2021 Q3 saw higher corporate interest in new investment and in increasing investment outlays.[33]

According to NBP estimates, the negative public investment growth in 2021 Q2 was mostly related to the decline in investment outlays of local government units.

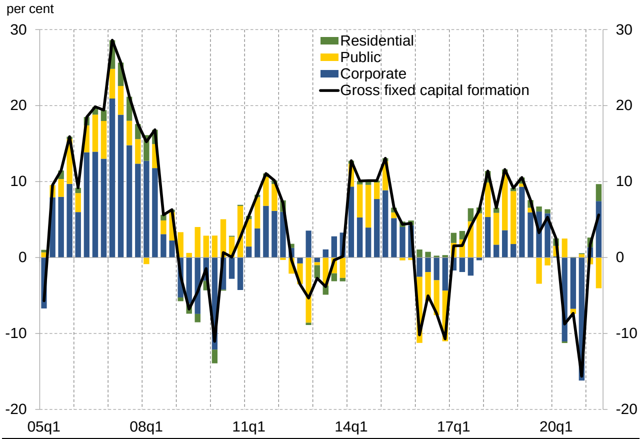
NBP estimates show a further annual growth of residential investment, reflecting high demand for housing (see Chapter 2.5.2 *Real estate market*).

2.2.3 Public finance

The financial situation of the public finance sector in the first half of 2021 was favourable. The general government balance in ESA2010 terms improved considerably compared to the corresponding period of the previous year (in the first half of 2021 the general government deficit amounted to -0.2% of GDP versus -4.5% of GDP in the corresponding period of the previous year; Figure 2.15). This improvement was mainly the result of the gradual withdrawal of the anti-crisis measures, in particular, by limiting at the end of 2020 the support provided by the Polish government to sectors most severely hit by the tightening of sanitary restrictions. Consequently, the cost of the anti-crisis measures in the first half of 2021 was reduced to 0.8% of GDP from 3.2% of GDP recorded in the first half of 2020 (NBP estimates). The general government deficit also narrowed on account of a significant increase in tax revenues, backed by the ongoing economic recovery, and an increase in non-tax revenues.

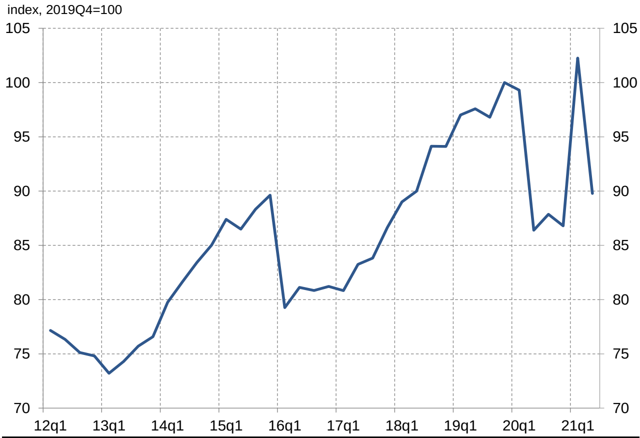
In the first half of 2021, the state budget tax revenues increased by 21.5% y/y (cash basis). The high growth rate partly reflected the low base effect

Figure 2.11 Growth in investment and its main components (y/y)



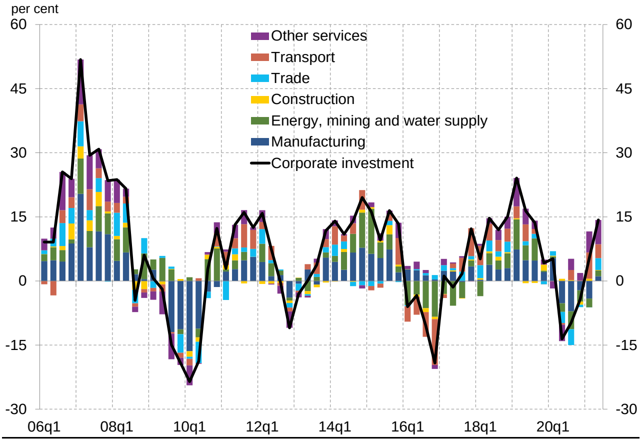
Source: Statistics Poland (GUS) data, NBP calculations.
NBP estimates.

Figure 2.12 Gross fixed capital formation (seasonally adjusted data)



Source: Statistics Poland (GUS) data, NBP calculations.
Constant prices (reference year 2015).

Figure 2.13 Growth in investment of medium and large non-financial enterprises in current prices by sectors (y/y)



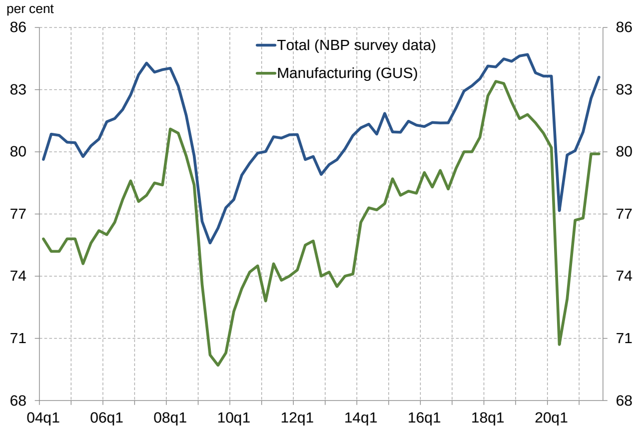
Source: Statistics Poland (GUS) data, NBP calculations.
Data from the survey conducted by Statistics Poland (GUS) on revenues, costs, financial results and gross fixed capital formation (based on F-01/I-01 forms).

[33] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.

related to the COVID restrictions which were in place in 2020 Q2. Nevertheless, tax revenues in the first half of 2021 were also relatively high compared to the first half of 2019 (in these terms growth reached 13.4%), which was supported by the ongoing economic recovery, including the favourable situation in the enterprise sector (see Chapter 2.3 *Financial situation of enterprises*). In 2021 Q3, the state budget tax revenues continued to rise at a rapid pace (12.8% y/y), and the above-mentioned base effect had a minor impact on them as the restrictions in place were considerably less severe than in the first months of the pandemic. State budget revenues from the sale of CO2 emission allowances also grew sharply. In the first eight months of 2021, the state budget revenues in budget item 51 Climate, the majority of which is made up of budget revenues from the sale of CO2 emission allowances, reached PLN 14.7 billion compared to PLN 4.8 billion in the corresponding period of 2020.

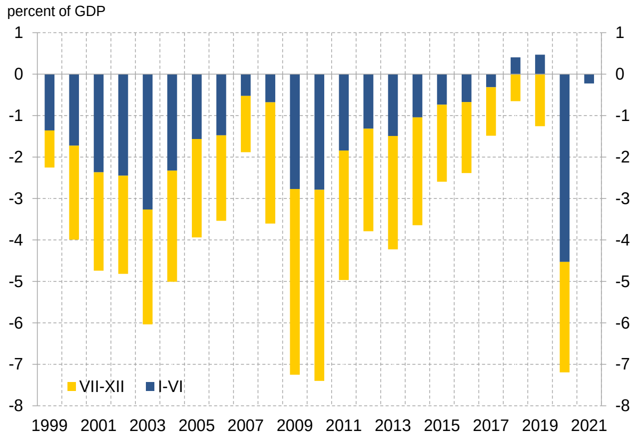
Although the general government deficit at the end of June 2021 was low (PLN 5.7 billion), the sector's debt in the first half of 2021 increased by PLN 65.5 billion (in ESA2010 terms; Figure 2.16). The difference between these two figures was mainly the result of a large increase of funds accumulated on accounts of this sector's units (by PLN 71.6 billion, data from the financial accounts). The growth in debt was partly driven by the issue of debt securities by Bank Gospodarstwa Krajowego to the COVID-19 Counteracting Fund (FPC), and by the Polish Development Fund (PFR), used to finance the majority of the anti-crisis measures (a total of PLN 31.4 billion in the first half of 2021). In turn, a factor limiting borrowing needs, and consequently debt growth, was the payment made by NBP from its profit to the state budget. In ESA2010 terms, most of the funds paid by NBP from its profit to the state budget, which amounted to PLN 8.9 billion, were recorded as a financial transaction with no impact on the sector's deficit. Despite a relatively significant increase in debt in the first half of 2021, the robust economic recovery

Figure 2.14 Corporate capacity utilisation (seasonally adjusted data)



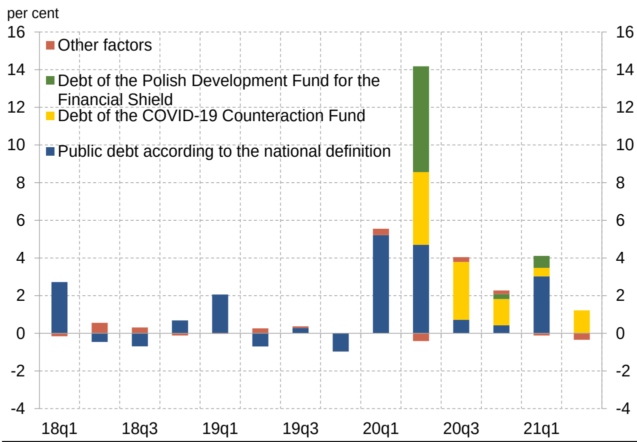
Source: NBP and Statistics Poland (GUS) survey data.

Figure 2.15 General government balance (ESA2010)



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

Figure 2.16 Quaterly percentage change of general government debt in ESA 2010 terms



Source: Ministry of Finance data, NBP calculations.

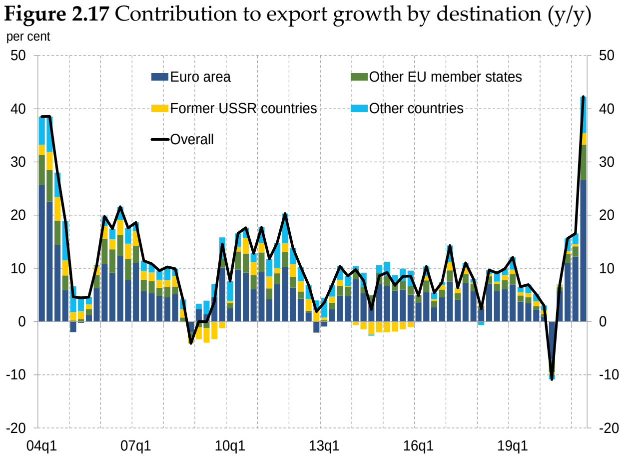
should translate into a decline in the public debt-to-GDP ratio (in ESA terms) at the end of 2021, compared to the level of 57.4% of GDP recorded at the end of 2020.

The 2022 Draft Budget Act (approved on September 30, 2021) assumes a further improvement in the situation of public finance in 2022 and a decline in the general government deficit (to 2.9% of GDP in ESA2010 terms, compared to the government's estimate of the 2021 deficit at the level of 5.3% of GDP assumed in the autumn fiscal notification). The situation of public finance is expected to improve despite the negative impact of changes planned under the so-called Polish Deal on the general government deficit, in particular as regards the tax wedge and the taxation of self-employed. According to the estimates of the Ministry of Finance[34], these changes will translate into lower revenues of the state budget and local government units in 2022 – a decline of PLN 23.5 billion. At the same time, the revenues of the National Health Fund (NFZ) are to increase by PLN 7.0 billion which means a reduction in revenues of the entire sector in the amount of PLN 16.5 billion, i.e. 0.6% of GDP. The total cost of all the planned tax changes for the entire public sector is to be somewhat lower (PLN 11.4 billion, i.e. 0.4% of GDP), in particular due to the measures aimed at tightening the tax system.

2.2.4 External trade[35]

In 2021 Q2, robust recovery continued in Poland's external trade. Growth in the value of both exports and imports accelerated markedly (to 42.3% y/y as against 16.6% y/y in 2021 Q1 and to 48.2% y/y as against 14.3% y/y in 2021 Q1, respectively). This was mainly due to a low base effect related to the sharp decline in trade in 2020 Q2.[36]

Figure 2.17 Contribution to export growth by destination (y/y)



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

[34] Draft of the Amendment of the Act on personal income tax, corporate income tax and certain other acts from 8 September 2021.
[35] In this chapter, the analysed data are primarily Statistics Poland (GUS) data on the nominal value of exports and imports of goods in PLN terms. Trends in the trade of services are not described, as no detailed data are available on their breakdown.
[36] In July and August 2021, export growth stood at 18.9% y/y, and import growth at 28.5% y/y. Export growth remained positive for all the destination country groups and for almost all categories of goods (except for the "Other goods" category).

Growth in exports to all country groups in 2021 Q2 was higher than in 2021 Q1 (Figure 2.17). Higher export growth was driven, to the greatest extent, by stronger growth in sales to the euro area. The recovery in industrial activity in that economy translated into higher sales of intermediate goods and parts for passenger car production (Figure 2.18). At the same time, a significant rise in private consumption boosted the exports of consumer goods, especially durable ones (see Chapter 1.1 *Economic activity abroad*). Expanding foreign sales of consumer and intermediate goods was also the main driver of growth in exports to the economies outside the euro area.

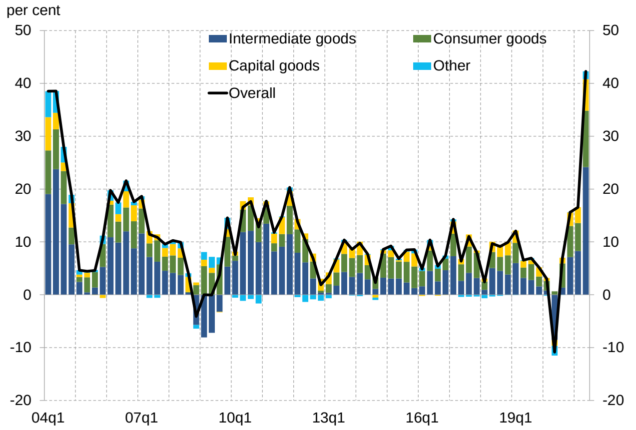
The marked increase in export growth, coupled with the recovery in domestic activity also contributed to a sharp rise in import growth, especially intermediate goods imports (Figure 2.19). Growth in the value of imports was also supported by the increasing prices of many imports due to the rise in global commodity prices (see Chapter 1.3 *Global commodity markets*) and disruptions in the global supply chains. The growth in consumer goods imports – particularly of durable goods – was also steep, backed by the realisation of pent-up demand of Polish households. In turn, the growth in domestic investment supported imports of investment goods, in particular industrial means of transport (see Chapter 2.2.2 *Investment*).

Following the appreciation in 2021 Q2, the nominal and effective exchange rates of the zloty weakened again in 2021 Q3 (Figure 2.20). According to NBP's survey studies, the percentage of exporters reporting unprofitable exports has been running low in recent quarters and has been close to the past few years' average.

2.2.5 Output

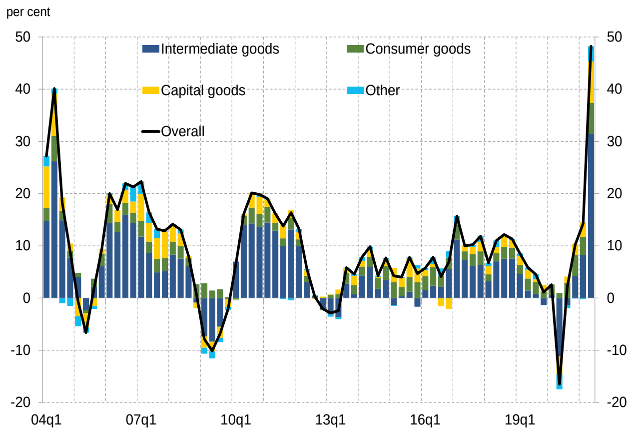
In 2021 Q2, for the first time since the outbreak of the pandemic, economic activity increased in annual terms in all the sectors of the economy, partially due to the statistical base effect related to

Figure 2.18 Contribution to export growth by commodity (y/y)



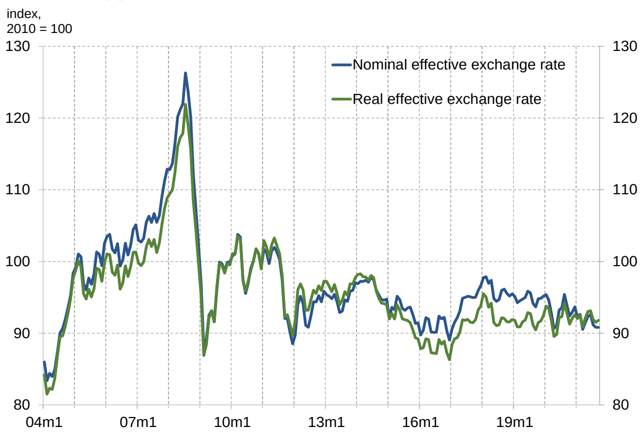
Source: Statistics Poland (GUS) data, NBP calculations.
Data based on Statistics Poland (GUS) classification of the main product categories for the value of Polish exports and imports in zlotys. "Other" comprises passenger cars, motor gasoline and goods else not classified.

Figure 2.19 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, motor gasoline and goods else not classified.

Figure 2.20 Nominal and real effective PLN exchange rate (rise indicates appreciation)



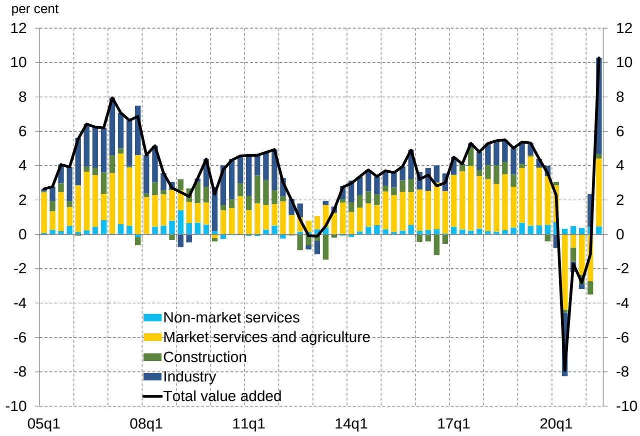
Source: BIS data.

the sharp drop in activity a year earlier due to the introduced epidemic restrictions (Figure 2.21). However, the scale and pace of the recovery varied across the sectors. A particularly robust growth was observed in the industrial sector. Along with the improving pandemic situation and a gradual easing of the restrictions since mid-April 2021, further recovery was also seen in services. Furthermore, there was a slight increase in construction and assembly output, although it remained lower than before the pandemic (Figure 2.22). Available data for 2021 Q3 point to further improvement in domestic economic conditions.

In 2021 Q2, industrial output increased by 30.2% y/y (as compared to 7.8% y/y in 2021 Q1), which was in part due to the statistical base effect. Nevertheless, monthly data show that the relatively strong industrial output growth continued into 2021 Q3, when the impact of last year's disturbances was much weaker.[37] As a consequence, industrial output is running significantly above its pre-pandemic level (Figure 2.22). Factors supporting output growth included: the improved domestic conditions, rising external demand and a recovery in corporate investment activity (see Chapter 2.2.2 *Investment* and Chapter 2.2.4 *External trade*). At the same time, some sectors – notably the automotive sector – saw annual falls in output between July and September, resulting to a great extent from supply-side constraints (see Box 1: *Disruptions in global supply chains and their impact on the world economy*).

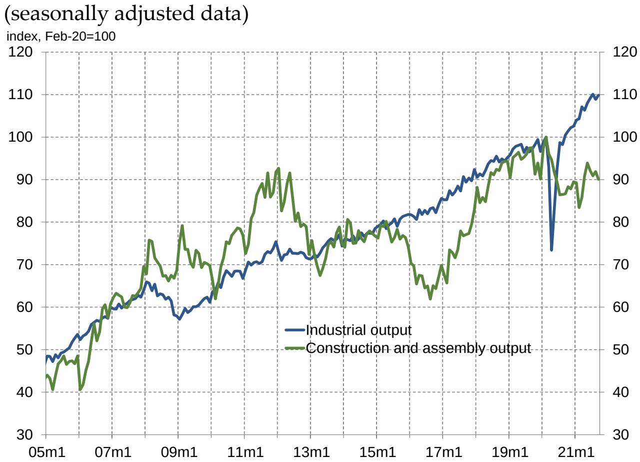
Construction and assembly output growth picked up to 1.8% y/y in 2021 Q2 (compared to -12.5% y/y in 2021 Q1; Figure 2.23). The recovery concerned all types of construction objects and was supported by the rise in corporate investment outlays and the sustained high demand for dwellings (see Chapter 2.5.2 *Real estate market*). In contrast, the persistently negative public investment growth may have had

Figure 2.21 Growth of gross value added by sectors (y/y)



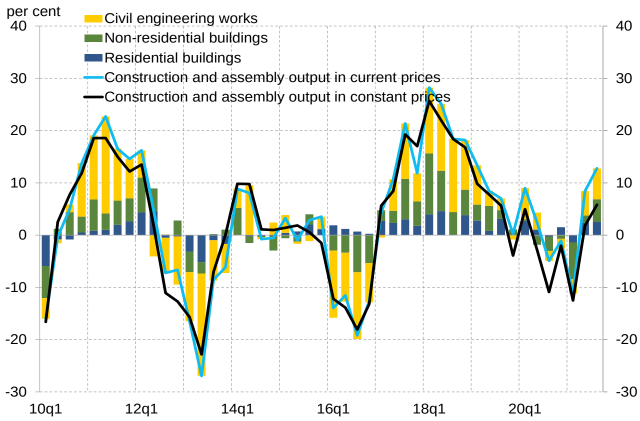
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 2.22 Industrial and construction and assembly output (seasonally adjusted data)



Source: Eurostat data, NBP calculations.

Figure 2.23 Construction and assembly output growth by construction objects (y/y)



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

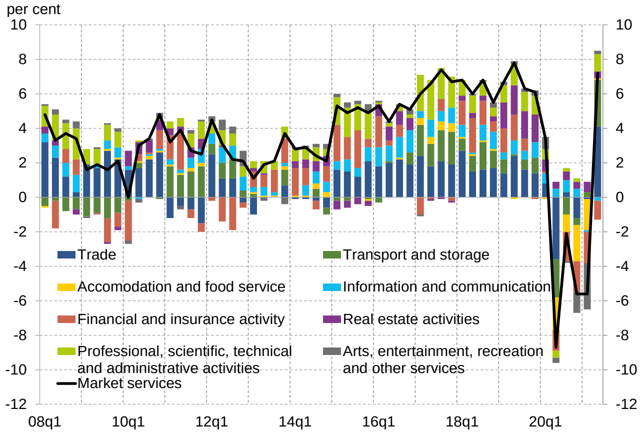
Decomposition of output growth by construction objects is in current prices.

[37] In July, August and September, industrial output growth stood at 9.5%, 13.0% and 8.8% y/y, respectively (Statistics Poland (GUS) data, seasonally unadjusted).

a hampering effect on construction activity (see Chapter 2.2.2 *Investment*). Construction and assembly data for the period July-September point to further activity growth in 2021 Q3.

The gradual easing of the sanitary restrictions since mid-April 2021 was conducive to activity rebound in market services. Gross value added in this sector increased in annual terms by 7.2% y/y in 2021 Q2 (compared to -5.6% y/y in 2021 Q1, Figure 2.24).[38] Robust growth was observed particularly in the sectors most heavily affected by the restrictions, i.e. in transport, accommodation and food service as well as trade.

Figure 2.24 Growth of gross value added in market services by branches (y/y)

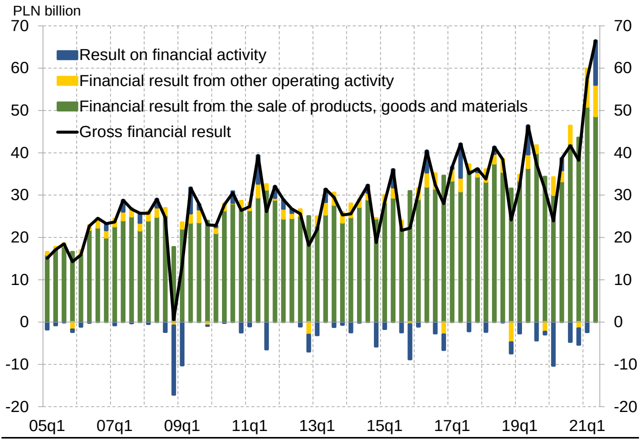


Source: Statistics Poland (GUS) data, NBP calculations.

2.3 Financial situation of enterprises

In 2021 Q2, the financial situation of the enterprise sector was very favourable, and aggregate gross profit of the sector rose sharply compared to the corresponding period a year earlier (Figure 2.25).[39] Owing to high export growth and the further recovery of domestic demand (see Chapter 2.2 *Demand and output*) the result from sales increased significantly.[40] The result on financial activity[41] and the result from other operating activity were also higher than a year earlier.

Figure 2.25 Gross financial result of enterprises and its components



Source: Statistics Poland (GUS) data, NBP calculations.
Data from the survey conducted by Statistics Poland (GUS) on revenues, costs, financial results and gross fixed capital formation (based on F-01/I-01 forms).

The growth in profits from the sale of products, goods and materials was mainly the result of the strong rebound in revenue from this category (by 29.6% y/y; Figure 2.26), which, however, was to a large extent due to the low base effect related to a marked decline in this revenue following the outbreak of the COVID-19 pandemic. Consequently, the most significant rebound in this category of revenue was observed in the enterprises most severely affected by the pandemic restrictions, i.e. those operating in culture and

[38] Beside the easing of the restrictions, positive growth was also supported by the statistical base effect (the decline in gross value added in services in 2020 Q2 was 8.7% y/y).
[39] In 2021 Q2, the gross financial result stood at PLN 66.5 bn compared to PLN 38.7 bn in 2020 Q2.
[40] In 2021 Q2, the result from sales stood at PLN 48.7 bn compared to PLN 33.3 bn in 2020 Q2.
[41] The most important factor behind the result on financial activity, in 2021 Q2 amounting to PLN 10.4 billion, was the payment of dividends for 2020, which despite the pandemic ended with high profits.

entertainment, as well as in accommodation and food services.

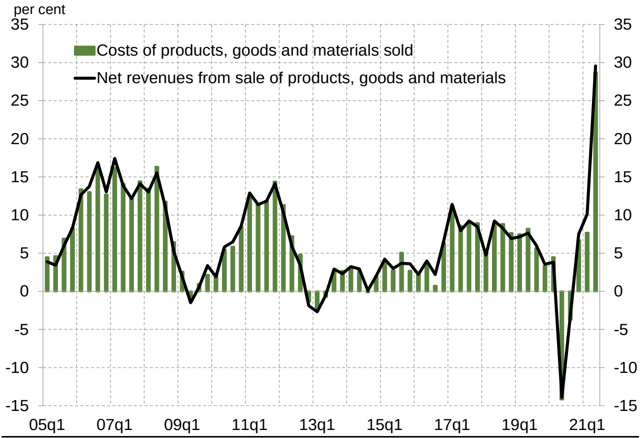
The rebound of revenue from the sale of products was accompanied by a marked increase in costs of products sold (to 28.7% y/y). Above all, its growth was driven by the soaring prices of commodities and goods (growing by 51.4% and 28.9% y/y respectively; see Chapter 1.3 *Global commodity markets*). This was also accompanied by rising labour costs (amounting to 14.0% y/y), which were, however, markedly lower than the remaining major cost categories.

As a result, despite significantly higher prices of raw materials and goods, enterprises have managed to maintain high profitability of sales. The very favourable financial situation of enterprises was also indicated by readings of other profitability indicators as well as the high percentage of profitable firms (Table 2.3). However, the financial condition of enterprises varies between sectors and in some of them it remains poor. In particular, the turnover profitability of firms offering accommodation and food services is still negative.

The liquidity of the enterprise sector in 2021 Q2 also remained very high. Despite the phasing out of the transfers from the government support programmes, the 1st degree liquidity indicator (cash indicator) rose both in annual and quarterly terms.

NBP survey data indicate that according to enterprises, their situation in 2021 Q3 continued to improve. At the same time, the survey results suggested growing problems in some firms related to disruptions in global supply chains. Moreover, in the longer term enterprises expected a slowdown in the growth dynamics of demand for their products.

Figure 2.26 Growth in net sales revenue and costs of sales in the enterprise sector (y/y)



Source: Statistics Poland (GUS) data, NBP calculations.
Data from the survey conducted by Statistics Poland (GUS) on revenues, costs, financial results and gross fixed capital formation (based on F-01/I-01 forms).

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

	average	2019				2020				2021	
	2010-2018	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
Sales profitability indicator	4.7	4.5	4.6	5.0	4.1	3.9	4.9	5.5	4.9	6.0	5.5
Net turnover profitability indicator	4.0	3.4	4.8	3.8	2.9	2.4	4.5	4.4	3.3	5.4	6.2
Share of profitable enterprises	73.1	76.1	75.9	76.0	75.9	74.2	73.4	76.0	74.5	76.0	77.9
Share of enterprises with profitability above 5%	33.9	37.0	36.3	36.5	36.8	37.5	39.1	41.5	42.0	42.2	45.7
1st degree financial liquidity indicator	36.3	34.7	34.6	35.4	38.1	38.9	42.6	42.9	43.9	43.0	44.1
Return on assets indicator	1.2	1.0	1.4	1.1	0.9	0.7	1.1	1.2	1.0	1.5	1.8
Share of bank credits and loans in the balance sheet total	15.2	15.2	15.3	15.6	15.5	15.9	15.9	15.2	15.1	14.7	14.3

Source: Statistics Poland (GUS) data, NBP calculations.
Data from the survey conducted by Statistics Poland (GUS) on revenues, costs, financial results and gross fixed capital formation (based on F-01/I-01 forms).
Share of profitable firms and firms with profitability above 5% – seasonally adjusted data.
The average share of bank credits and loans in the balance sheet total covers only the years 2015-2018.

2.4 Labour market

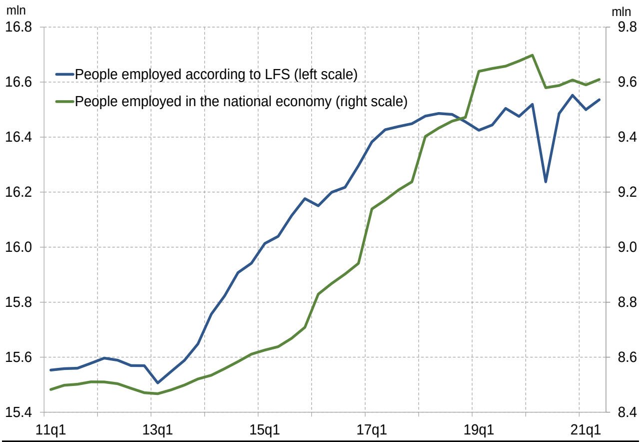
Along with the ongoing economic recovery in 2021 Q2 and Q3, the demand for labour in the economy continued to recover. Despite a slight slowdown in employment growth in 2021 Q3, the labour market situation remained favourable.

Although in April and – partly – in May restrictions on the activities of certain sectors were still in force, the number of employed persons according to the LFS survey rose in 2021 Q2 by 164.0 thousand in quarter terms, and the employment rate reached 55.6% (compared to 55.0% in 2021 Q1). During this time, a particularly sharp increase in the number of employed persons was observed in the services sector. Data on employment in the national economy (NE) and in the enterprise sector (ES) also point to growth in demand for labour (Figure 2.27, Figure 2.28). Monthly reporting data from the ES suggest a slight slowdown in employment growth in 2021 Q3; however, NBP surveys signal further growth in demand for labour.

Employment growth was accompanied by a fall in the number of unemployed people, which amounted to 81 thousand in 2021 Q2 according to the LFS. As a result, the seasonally adjusted unemployment rate declined by 0.2 percentage points (to 3.6%) compared to 2021 Q1 (Figure 2.29), while data from labour offices point to a stabilisation of the seasonally-adjusted unemployment rate in 2021 Q2. Moreover, they suggest that it was mainly people who had been searching for work for a relatively short time who took up employment. At the same time, there was an increase in the number of long-term unemployed people, who currently constitute slightly more than half of all registered unemployed. According to the monthly data, in 2021 Q3 the seasonally-adjusted unemployment rate declined (to 5.8% in September).

The favourable labour market situation was reflected in a marked increase in the average nominal wage in NE. It grew by 9.6% y/y in 2021

Figure 2.27 Number of employed people according to the LFS survey and according to reporting data from the national economy (NE), seasonally adjusted data

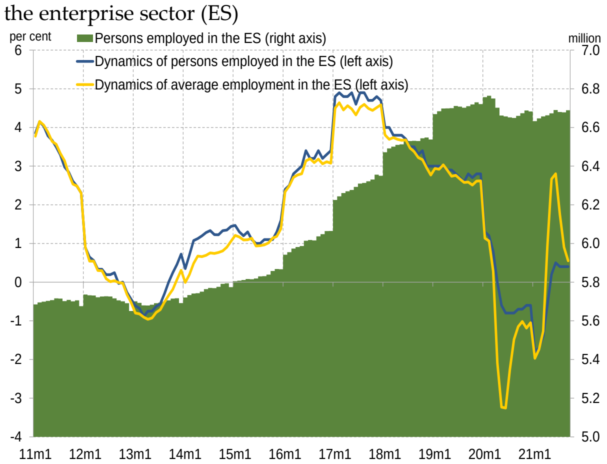


Source: Statistics Poland (GUS) data, NBP calculations.

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.

LFS data for 2021 Q1 and Q2 are not comparable with data from earlier periods due to changes in the methodology of the surveys.

Figure 2.28 Annual growth rates in the number of people employed and average employment, and the number of people employed in the enterprise sector (ES)



Source: Statistics Poland (GUS) data.

Unlike the employment statistics, the number of people 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.

Q2 (compared to 6.6% y/y in the previous quarter), which, however, was partly due to the low base effect (Figure 2.30). The highest wage growth was recorded in health care, accommodation and food service, and manufacturing.[42] Data from the ES indicate that a significant wage growth also continued in 2021 Q3.

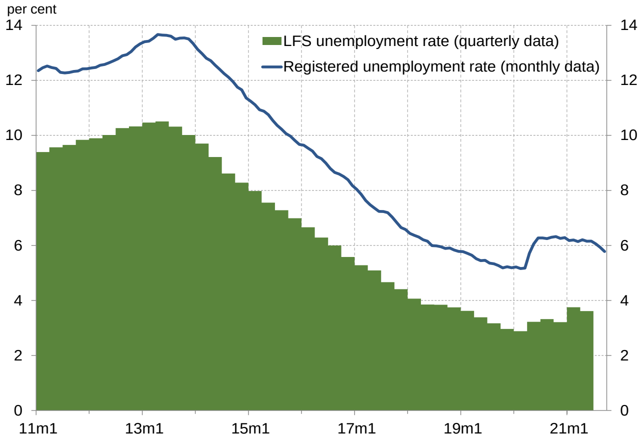
Owing to the growth in labour productivity, which accompanied the pick-up in the wage growth, annual growth in unit labour costs in the NE declined significantly in 2021 Q2 (to 0.5% y/y compared to 7.4% y/y in 2021 Q1). In turn, unit labour costs growth in the industrial sector remained negative, both in 2021 Q2 and Q3.

Wage pressure was also eased by the still higher number of unemployed than before the pandemic and the growing number of migrants in the domestic labour market. Following the outflow of foreigners from the domestic labour market in the initial phase of the pandemic, the number of immigrants in the domestic labour market has risen, exceeding – according to NBP estimates – the level before March 2020.[43] In particular, the number of foreign employees insured in the Social Insurance Institution (ZUS) is increasing significantly.[44]

2.5 Monetary policy and asset markets

Striving to decrease inflation to the NBP target in the medium term, in October 2021 the MPC decided to raise NBP interest rates, including the reference rate by 0.4 percentage points to 0.50% (Figure 2.31). At the same time, the Council set the remaining NBP interest rates at the following levels: the lombard rate at 1.00%, the deposit rate at

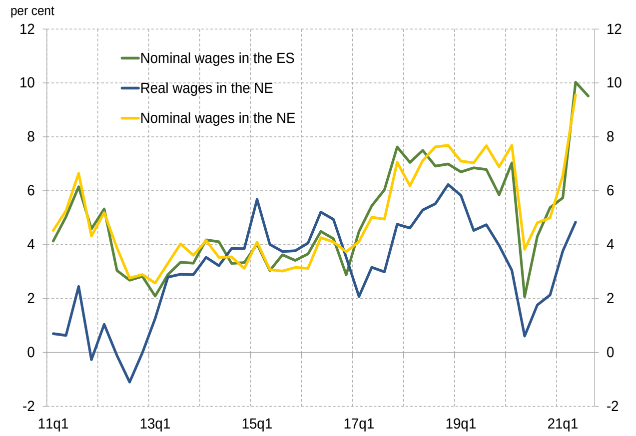
Figure 2.29 Unemployment rate, seasonally adjusted data



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. LFS data for 2021 Q1 and Q2 are not comparable with data from earlier periods due to changes in the methodology of the surveys.

Figure 2.30 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.

[42] The elevated wage growth in the health service was the result of the increased workload amid a higher burden on the health service than in 2020 Q2 and the disbursement of special additional payments related to fighting the pandemic. In the case of accommodation and food service, this was related to the increased demand for employees in view of the lifting of the majority of pandemic restrictions, and in manufacturing due to the relatively robust revival of activity compared to other sectors.

[43] Data from Poland's land border crossings with Ukraine indicate that the number of foreigners in the territory of Poland in August 2021 was almost 102 thousand higher than the previous year. Moreover, the first half of the year saw a record number of declarations on entrusting work to a foreigner (998 thousand compared to an average of 790 thousand in previous periods).

[44] At the end of August 2021, the number of foreigners insured in ZUS, after eliminating seasonal factors, was 135 thousand (i.e. 19.7%) higher than in February 2020, i.e. before the pandemic. This growth was also influenced by the steadily rising percentage of foreign employees in Poland paying contributions into the Polish social insurance system.

0.00%, the rediscount rate at 0.51% and the discount rate at 0.52%.[45,46] The Council also decided to increase the required reserve ratio from 0.5% to 2.0%. Financial market participants expect an increase in NBP interest rates in the coming quarters as well.

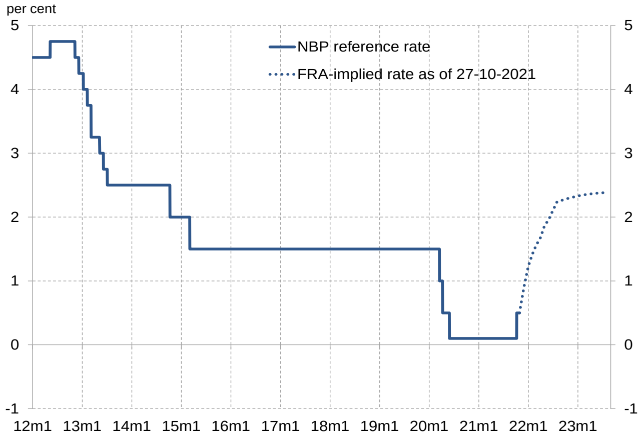
2.5.1 Financial market

In recent months, government bond yields in Poland increased markedly, similarly to many other economies (Figure 2.32; see Chapter 1.5 *International financial markets*). This increase was due to the ongoing economic recovery, the rise in current inflation and its forecasted levels, the rise in NBP interest rates and market participants' expectations of an increase in interest rates in the coming years (Figure 2.31; see Chapter 2.1 *Inflation developments* and Chapter 2.2 *Demand and output*). Despite the increase, the yield on 10 year government bonds in late October 2021 remained below its multi-year average.

The zloty, similarly to many other currencies around the world, has recently weakened against the US dollar, and also – albeit to a lesser extent – against the euro (Figure 2.33).[47] The weakening of the zloty was driven by global factors, including the expected reduction in monetary accommodation by the Fed, as reflected in the appreciation of the dollar against many currencies in recent months (see Chapter 1.4 *Monetary policy abroad)*. The decrease in the current account balance below zero was also conducive to the depreciation of the zloty, a development related to the growing global prices of commodity and fuel imports to Poland (see Chapter 1.3 *Global commodity markets*).

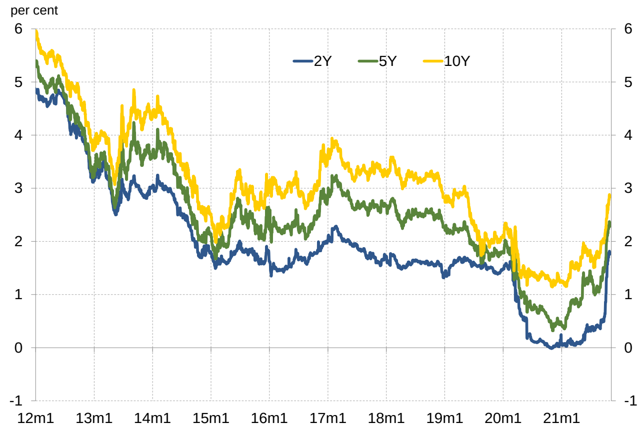
Amidst the ongoing economic recovery in Poland, the very good financial situation of non-financial enterprises and the improving prospects for the

Figure 2.31 NBP reference rate and 3M WIBOR FRA-implied expected interest rate



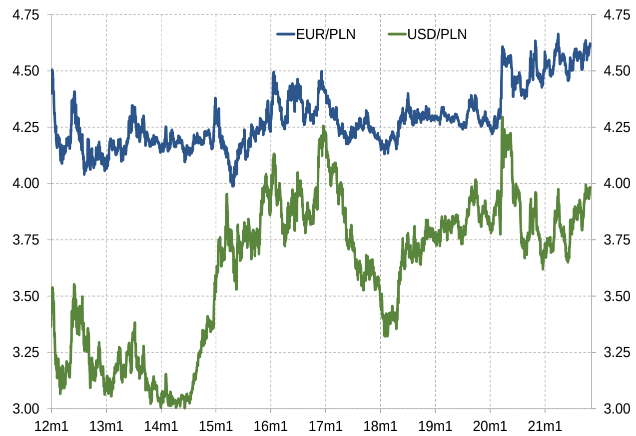
Source: NBP and Bloomberg data, NBP calculations.

Figure 2.32 Yields on Polish government bonds



Source: Bloomberg data.

Figure 2.33 Nominal exchange rate of the euro and the US dollar in zloty



Source: Bloomberg data.

[45] More information on that topic in Chapter 3 *Monetary policy in July-November 2021.*
[46] On 3 November 2021, the Council set the NBP interest rates at the following levels: reference rate at 1.25%, lombard rate at 1.75%, deposit rate at 0.75%, rediscount rate at 1.30%, discount rate at 1.35%.
[47] Since the outbreak of the COVID-19 pandemic, the zloty has weakened against the dollar by 1.5%, and against the euro by 6.8% (change in the exchange rate relative to the end of February 2020).

financial results of the banking sector, stock prices on the Warsaw Stock Exchange have risen markedly in the recent period (Figure 2.34). As a result, in October, the WIG index posted its highest value on record.

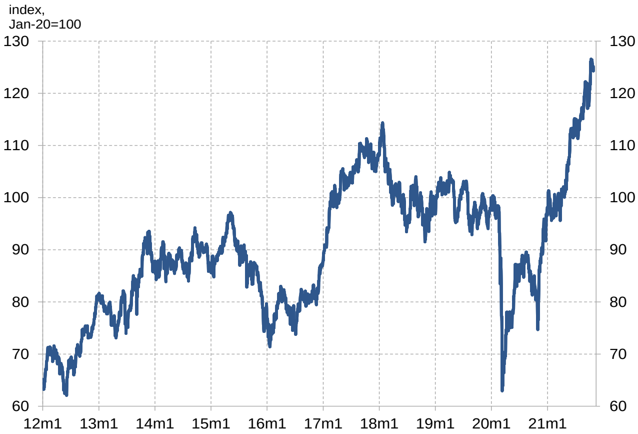
2.5.2 Real estate market[48]

In 2021 Q2, activity in the housing market remained robust. This was reflected in the growing number of new dwellings sold and further annual growth in their transaction prices, both in the primary and secondary market.

In 2021 Q2, the cumulative number of transactions (a 4-quarter rolling sum) in major markets remained high[49] and was close to the one recorded at the beginning of 2020 (Figure 2.35). High demand for housing – in terms of both consumer and investment demand – was accompanied by a growing number of completed dwellings. The number of construction starts increased markedly, as did the number of home building permits issued. With the persistently high rates of return on housing projects, developers kept starting the new ones. However, their number was limited, due to problems with availability of labour, materials and building land. These factors also contributed to continued increase in home construction costs.

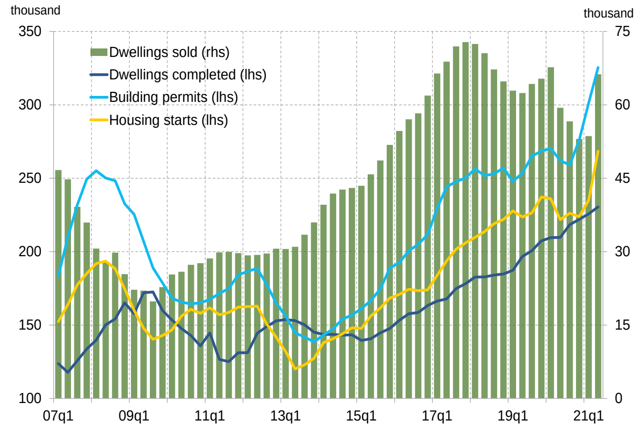
High demand and rising construction costs were boosting home prices (Figure 2.36). According to NBP data, in 2021 Q2[50] the growth in average transaction prices in the primary market accelerated to 11.8% y/y (against 7.6% y/y in 2021 Q1),[51] while prices in the secondary market grew at

Figure 2.34 WIG stock market index



Source: Bloomberg data.

Figure 2.35 Residential construction in Poland and new dwellings sold on major markets (4-quarter rolling sums)



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

Sales data cover 6 major markets in Poland (Warszawa, Kraków, Tri-City, Wrocław, Poznań and Łódź).

[48] For more information on the Polish housing market see the NBP *Information on home prices and the situation in the residential and commercial real estate market in Poland in 2021 Q2*, NBP, September 2021.

[49] Data on the sales of dwellings cover the 6 largest markets in Poland (Warsaw, Kraków, Tri-City, Wrocław, Poznań and Łódź).

[50] The discussed data cover transactions concluded in the period March 2021 – May 2021; consequently, 2021 Q2 analysed in the chapter does not fully correspond to the calendar year quarter.

[51] The data concern the average home transaction price (PLN/m^2) in 17 cities (in 16 voivodeship capitals and in Gdynia) weighted by the housing stock. In quarter-on-quarter terms, so defined price growth in 2021 Q2 stood at 2.4% in the primary market (compared to 3.5% in 2021 Q1), and at 3.1% in the secondary market (relative to 0.2% in 2021 Q1).

a relatively steady pace (6.4% y/y against 6.7% y/y in 2021 Q1).

The change in the nature of office work caused by pandemic restrictions brought about a decline in demand for office space. This development – coupled with a relatively high supply of new office space due to construction projects launched before the pandemic – resulted in further rise in the vacancy rate in large cities (to 12.9% in 2021 Q2 from 12.1% in 2020 Q1). The relatively higher vacancy rate concerned mainly older buildings of lower standards.

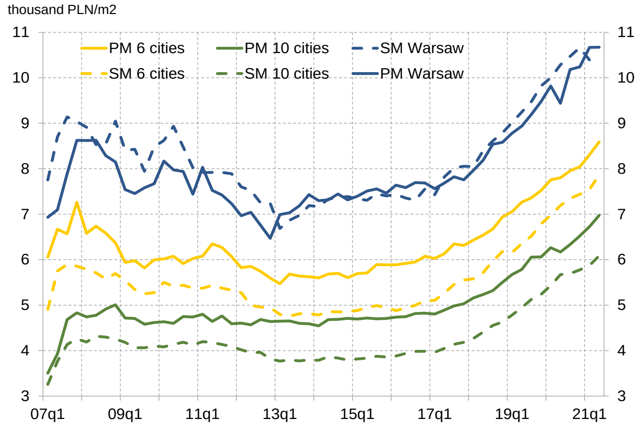
As in the previous periods, the segment of retail and service real estate saw only a small rise in new space in 2021 Q2, mainly in smaller cities and towns. For several years, retail tenants have been shifting their business to on-line trade, which weakens demand for commercial space rental.

Against the background of the expanding e-commerce, additionally spurred by the pandemic, the modern warehouse space sector continues the dynamic development phase, recording both an increase in supply (with a significant amount of space under construction) and demand. Apart from retail companies, demand in this segment is generated mostly by companies from the logistics sector.

2.6 Money and credit[52]

Annual broad money (M3) growth – which increased markedly after the outbreak of the COVID-19 pandemic – has declined recently and has been running at a level similar to that seen prior to the pandemic (9.3% in 2021 Q2 and 8.5% in 2021 Q3 compared to 15.9% in the period from April 2020 to March 2021; Figure 2.37). The pace of growth was slower for all components of the broad money aggregate M3 and resulted from the

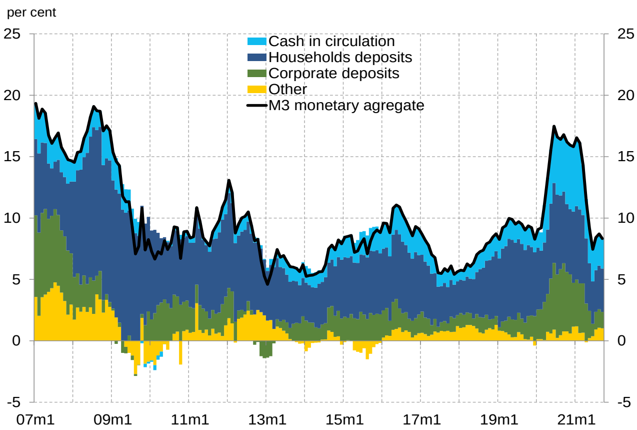
Figure 2.36 Nominal transaction prices of flats in major cities in Poland



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 2.37 Composition of M3 growth (y/y)



Source: NBP data.

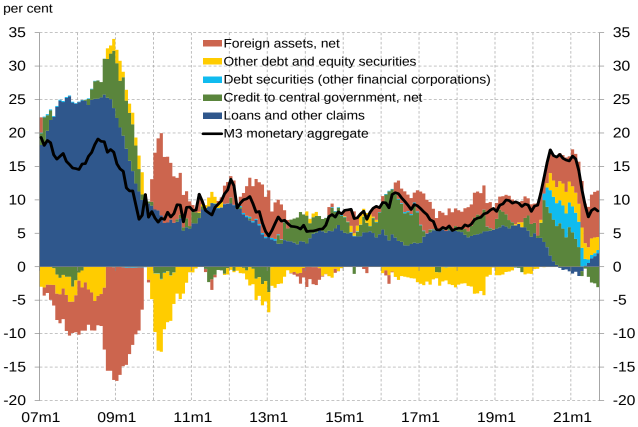
The category *Other* covers deposits of non-monetary financial institutions and local government units, repurchase agreements between banks and non-banking sector as well as debt securities with maturity up to 2 years issued by banks.

[52] In this chapter, the growth in the broad money aggregate M3 and loans is defined as the annual growth resulting from transaction changes. The data refer to monetary financial institutions.

normalisation of the growth in cash in circulation and in deposits following their exceptional increases in previous quarters. The lower deposit growth – despite favourable economic conditions which supported an increase in household and corporate income – may have also been caused by the fact that previously accumulated funds (including from aid subsidies) were gradually expended.

As the economic recovery continued – after two quarters of negative growth – in 2021 Q2 and Q3, the contributions of loans and claims to M3 growth were again positive (Figure 2.38).[53] At the same time, net foreign assets continued to grow rapidly as did their high contribution to M3 growth. In turn, the contribution of other financial institutions' outstanding debt securities decreased due to a strong base effect related to an increase for that category a year ago and the lower value of new debt issues resulting from the reduced support provided to enterprises by the PFR. By contrast, the negative net debt growth of the central government sector, related to both the sound public finance and the waning impact of the pandemic on the economy (see Chapter 2.2.3 *Public finance*), contributed to the slower pace of broad money growth.

Figure 2.38 Composition of growth in M3 counterparts (y/y)

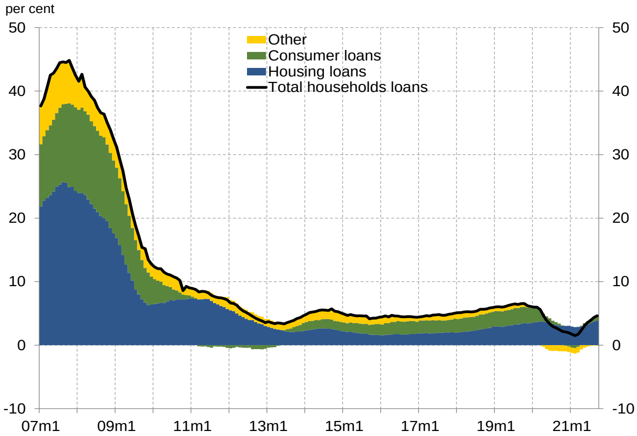


Source: NBP data.

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

The growth of household loans has accelerated in recent quarters (to 3.0% y/y in 2021 Q2 and 4.3% in 2021 Q3 compared to 1.6% in 2021 Q1; Figure 2.39). The greater propensity of households to draw consumer loans was backed by the gradual lifting of the pandemic restrictions from the second quarter of the year, which allowed consumers to make purchases (including tourism services) which were postponed earlier. Mortgage loan growth, in turn, was driven by a surge in demand for dwellings (the number of loan applications submitted in 2021 Q3 was over 33% higher in year-on-year terms), and the rising average value of

Figure 2.39 Composition of growth in household loans (y/y)



Source: NBP data.

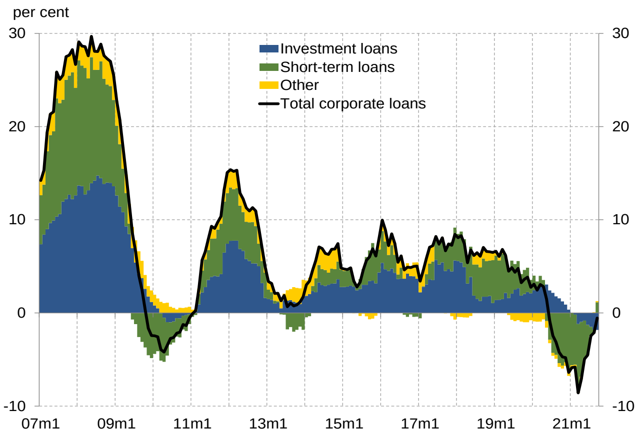
The category *Other* covers credit card loans, loans to individual entreprenuers and individual farmers as well as other receivables.

[53] This increase concerned both the net foreign assets of the central bank and commercial banks.

credit (related to, among others, home price growth; see Chapter 2.5.2 *Real estate market*).

In recent quarters, the annual growth of corporate loans has remained negative, although the pace of the decline decreased to -5.5% in 2021 Q2 and -1.7% y/y in 2021 Q3 (compared to -6.8% in 2021 Q1; Figure 2.40). This was due to a marked reduction in the decline of current loans (to -11.2% in 2021 Q2 and -0.2% in 2021 Q3 compared to -15.1% in 2021 Q1), which reflected the gradually rising corporate demand for bank funding, albeit still reduced by the sound liquidity position of companies (see Chapter. 2.3 *Financial situation of enterprises*). By contrast, investment loans further declined (to -1.9% in 2021 Q2 and -3.0% in 2021 Q3 compared to -0.9% in 2021 Q1) which was the effect of, among other things, the low interest of domestic enterprises in using loans to finance their investment projects[54], amid a continued relatively restrictive lending policy by banks, compared to the pre-pandemic period.

Figure 2.40 Composition of growth in corporate loans (y/y)

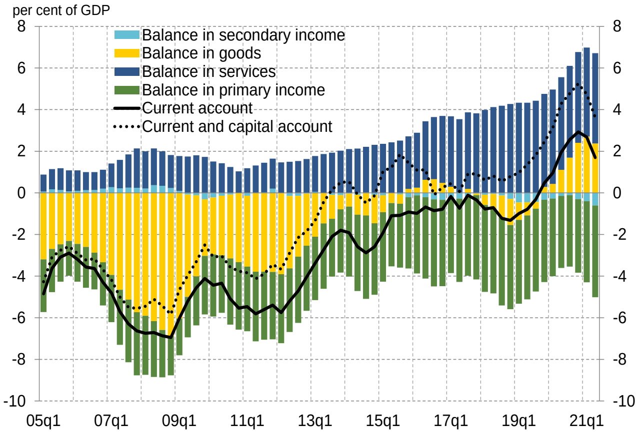


Source: NBP data.
The category *Investment loans* covers loans for investments and real estate purchases. The category *Other* covers i.a. car loans, loans for security purchases and other receivables.

2.7 Balance of payments[55]

In 2021 Q2, the positive current account balance declined to 1.7% of GDP[56] (against 2.7% of GDP in 2021 Q1; Figure 2.41). This was mostly driven by the primary income balance moving further into negative territory (to -4.4% of GDP in 2021 Q2 as compared to -3.9% of GDP in 2021 Q1) and a reduction of surplus in the trade in goods (from 2.7% of GDP in 2021 Q1 to 2.4% of GDP in 2021 Q2). The more negative balance of primary income was mainly a result of the considerable increase in the income of foreign direct investors earned in Poland. At the same time, the rise in fuel prices and a marked growth in imports of processed intermediate goods were pushing the balance of trade in goods down (see Chapter 2.2.4 *Foreign*

Figure 2.41 Current account balance (4-quarter rolling sum)



Source: NBP data.

[54] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.
[55] In this chapter, data on the balance of payments in relation to GDP are presented in terms of a four-quarter rolling sum.
[56] According to preliminary estimates, in July and August the current account balance was lower than a year ago respectively by PLN 7.1 billion and PLN 7.7 billion, which was significantly affected by a negative balance of trade in goods (which amounted to PLN -3.5 billion in July and PLN -6.5 billion in August).

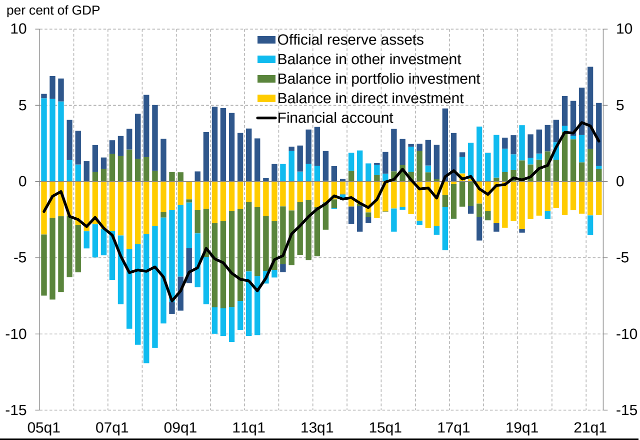
trade). This was accompanied by the continued high surplus in trade in services (4.3% of GDP in 2021 Q2), amid significantly larger, as compared to previous quarters, volume of foreign travel and transport services.

Due to lower inflow of EU funds in 2021 Q2, the surplus on capital account slightly decreased compared to the previous quarter and amounted to 1.9% of GDP (compared with 2.1% in 2021 Q1). Together with the decline in the current account balance, it translated into lower combined current and capital account balance (3.6% of GDP in 2021 Q2 compared to 4.7% of GDP in 2021 Q1).

In 2021 Q2, the financial account balance stood at 2.6% of GDP (compared with 3.6% of GDP in 2021 Q1; Figure 2.42), which means that Poland's net foreign assets had increased, albeit at a lower pace than in the few previous quarters.[57] This was mainly due to a decline in the portfolio investment balance, which predominantly reflected the outflow of funds located by non-residents in the debt securities market.[58] Another factor behind the decrease in the financial account balance was the lower than a year ago balance of transactions registered in official reserve assets.[59] In turn, the higher balance of other investment acted in the opposite direction.[60]

The external imbalance indicators evidence that the Polish economy is well balanced (Table 2.4). In 2021 Q2, Poland's net international investment position improved again (as measured in relation to GDP). The relation of external debt to GDP – following a few quarters of growth – declined to its lowest level since 2008.

Figure 2.42 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 2.4 Selected external imbalance indicators (4-quarter rolling sum in per cent, unless indicated otherwise)

	2019	2020				2021	
		q1	q2	q3	q4	q1	q2
Current account balance/GDP	0.5	1.0	2.0	2.6	2.9	2.7	1.7
Current and capital account balance/GDP	2.4	3.1	4.3	4.8	5.2	4.7	3.6
Trade balance/GDP	4.8	5.0	5.6	6.1	6.8	7.0	6.7
Official reserve assets (in monthly imports of goods and services)	5.0	5.2	5.5	5.8	6.1	6.4	5.7
Foreign debt/GDP	59	59	58	59	61	61	57
Net international investment position/GDP	-50	-47	-46	-45	-45	-43	-41
Official reserve assets/short-term foreign debt minus forecast current account balance	140	138	136	124	123	119	113
Official reserve assets/short-term foreign debt	117	117	121	119	125	125	123

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

[57] According to preliminary data, in July and August the financial account balance was higher than a year earlier by PLN 2.7 billion and PLN 0.1 billion, respectively.
[58] Non-residents reduced the value of their portfolio holdings in government securities (issued both on the Polish market and abroad), while simultaneously increasing (albeit to a lesser extent) their engagement in debt securities issued by other sectors.
[59] The lower balance stemmed from NBP own transactions and transactions on behalf of the Ministry of Finance and the European Commission.
[60] The higher balance resulted from transactions of the banking sector and trade credits granted by enterprises.

3. Monetary policy in July – November 2021

This chapter includes the previously published *Minutes of the Monetary Policy Council decision-making meetings* held between July and October 2021 as well as the *Information from the meeting of the Monetary Policy Council* in November 2021.

Minutes of the Monetary Policy Council decision-making meeting held on 8 July 2021

At the Council meeting it was pointed out that June had seen a reduction in the scale of the pandemic globally and the number of new infections was less than half the spring figure. As a result, the sanitary restrictions were being gradually eased in many countries. At the same time, it was observed that the spread of new mutations of the virus had caused increased uncertainty about the further course of the pandemic. This uncertainty was boosted by the still relatively low vaccination rate in many countries and the lower effectiveness of vaccinations against the new variants of the virus. It was pointed out that in some countries – even those with a high number of vaccinated people – the number of infections with the new variant of the virus was increasing, which was contributing to the reintroduction of certain restrictions.

The gradual easing of sanitary restrictions in many economies supported a marked rebound of global economic activity following the earlier deep recession. It was pointed out that the improvement in business conditions in services in many countries was accompanied by further growth in industrial sector activity alongside the occurrence of supply restrictions in certain markets.

It was observed that in the euro area 2021 Q2 had brought an increase in industrial activity and also a rebound in turnover in trade and services after a fall in GDP in 2021 Q1. The majority of the Council members underlined that the high growth in industrial and construction and assembly output, as well as in retail sales in this economy, was to a large extent the result of the low base effect. They drew attention to the fact that economic activity in the euro area remained lower than before the pandemic and that the available forecasts suggested that a full recovery in GDP would not take place until 2022. The opinion was expressed that it would not be possible to declare the negative effects of the pandemic completely eliminated until the macroeconomic indicators had returned permanently to the level determined by the pre-pandemic trend.

When referring to the global economic outlook, it was judged that the further development of the pandemic represented a risk factor for the sustainability of the currently observed recovery in global economic activity. It was pointed out that although successive waves of the pandemic had had a smaller impact on the economic situation, any new increase in the number of infections could slow down the economic recovery, particularly if the new wave was accompanied by a deterioration in consumer and business sentiment.

It was judged that the global recovery was contributing to an increase in commodity prices in the global markets, including oil prices, which were significantly higher than a year earlier. Certain Council members expressed the opinion that in view of the expected further increase in demand for oil, the price of this commodity would most likely continue to rise. However, the majority of the Council members were of the opinion that even in the face of growing demand, growth in oil prices should slow down.

High commodity prices alongside with rising costs of international transport and the price effects of constraints in the supply of certain intermediate goods would boost inflation in the global economy, including in the developed economies. Some Council members underlined that global inflation had risen by approximately 2 percentage points between January and May, to reach its highest level in a decade. These Council members observed that inflation in the United States had also risen sharply since the beginning of the year.

During the discussion it was pointed out that despite the significant increase in inflation, the major central banks were keeping interest rates low, conducting asset purchases as well as signalling that loose monetary policy would be maintained in the future. It was also observed that such measures were justified by the temporary character of the factors currently boosting inflation, and the persistence of uncertainty about the future economic outlook. It was pointed out that the majority of financial market participants also judged the higher level of price growth to be temporary, as evidenced by the decline in long-term inflation expectations and bond yields in the largest developed economies. Certain Council members drew attention to the fact that at its June meeting the Federal Reserve of the United States had raised its interest rate on excess reserve balances by 0.05 percentage points to 0.15% in order to increase the effectiveness of the monetary policy implementation. At the same time, the majority of the Council members underlined that this decision was of a technical nature. They also observed that it did not represent a change in the monetary policy stance.

Certain Council members pointed out that in response to heightened inflation, some central banks in the region of Central and Eastern Europe, i.e. the central banks of the Czech Republic and Hungary, had recently raised interest rates. However, the majority of the Council members pointed out that such decisions were partly dictated by factors specific to these economies and a different assessment of the economic outlook and course of future price developments.

When assessing the situation in Poland, the Council members pointed out that recent months had seen a marked recovery in economic activity. Retail sales had risen significantly in May, accompanied by a slight rise in construction and assembly output and the continued good situation in industry. Certain Council members expressed the opinion that these data, along with the good export performance, indicated a very favourable situation in the Polish economy. However, the majority of the Council members noted that the high levels of annual economic indicators were the combined effect of three factors – the rebound in economic activity following the easing of the sanitary restrictions, the realisation of pent-up demand, and the effect of a low base a year ago – and should be interpreted with caution. These Council members underlined that while industrial output had already exceeded its pre-pandemic level, construction and assembly output remained significantly lower.

While analysing the labour market situation, the Council members underlined that it remained good. They pointed out that in May, along with the easing of the restrictions, average employment in the enterprise sector had increased. It was judged that the smaller use of care and sickness benefits, the return of working hours to pre-pandemic levels, and also the rising number of employees hired in the sectors most affected by the pandemic restrictions contributed to this growth in employment. Certain Council members pointed out that growth in demand for labour was accompanied by wage pressure reflected in relatively high wage growth in the enterprise sector. In turn, the majority of the Council members expressed the opinion that the labour market situation was not generating excessive wage pressure, and that wage growth in the enterprise sector – after adjustment for the low base effect – remained lower than before the pandemic. Moreover, these Council members observed that wage growth did not exceed labour productivity growth and as a result annual growth in unit labour costs in industry was negative.

The Council members underlined that NBP's July projection indicated a very favourable domestic economic outlook. The majority of the Council members were of the opinion that the economic developments in the coming quarters were subject to considerable uncertainty, primarily related to the future course of the pandemic. These Council members observed that it could not be ruled out that a possible new increase in the number of infections and the consequent reintroduction of restrictions would translate into a weakening of economic growth. The majority of the Council members also pointed out that the positive impact of pent-up demand on consumption observed so far might be short-lived and that growth in consumer spending might slow down later in the year. These Council members also underlined that in a situation in which the rebound in economic activity was weakening, the labour market situation might begin to deteriorate, particularly in view of the termination of assistance from the anti-crisis shields. In turn, certain Council members judged that continued high GDP growth which was forecast for the coming quarters was highly likely, taking into account the very good situation in industry, the rapid growth in exports, and the significant household savings. These Council members expressed the opinion that in view of the significant number of people vaccinated and the progressive adaptation of economic entities to operating amid a pandemic, any further waves of infections would not represent a significant risk factor for rapid economic growth.

At the Council meeting it was pointed out that according to the GUS preliminary data, June saw a fall in annual CPI to 4.4% (in monthly terms CPI stood at 0.1%). At the same time, according to preliminary estimates, core inflation excluding food and energy prices declined to its lowest level for over a year. The majority of Council members underlined that the annual CPI inflation rate continued to be boosted by rapid growth in fuel prices – due to significantly higher global oil prices than a year earlier – the increase in electricity prices, which took place at the beginning of 2021, and the increase in waste disposal charges, and thus by factors which were beyond the control of domestic monetary policy. They observed that inflation was also driven up by the higher costs of running a business amidst the pandemic, higher international transport charges and temporary disruptions in global supply chains. In this context, these Council members drew attention to the fact that according to the full data for May, the increase in fuel prices and of in administered prices accounted for over half of the CPI inflation rate. As a result, the majority of the Council members judged that demand factors were not causing excessive price growth and not causing inflation to exceed the inflation target.

In turn, certain Council members drew attention to the fact that demand factors accounted for almost half of the observed growth in the prices of consumer goods. Moreover, they underlined that the persistence of elevated inflation might lead to an increase in inflation expectations. The majority of the Council members observed that balance statistics describing consumers' inflation expectations had recently shifted towards lower price growth.

The majority of the Council members judged that as a result of factors beyond the influence of domestic monetary policy, annual inflation in the coming months was likely to remain above the upper limit of deviations from the inflation target. These Council members were of the opinion that, as indicated by NBP's July projection, in 2022, following the fading of the factors temporarily boosting price growth, inflation would decline. At the same time, these Council members pointed out that the scale of the decline in inflation would depend on the development of the future economic situation, while even amid a very positive economic scenario as outlined in the projection, inflation would return to the band of deviations from the inflation target. The majority of the Council members drew attention to the fact that in accordance with the projection, over the whole of its horizon price growth would remain significantly lower than wage growth, including growth in the minimum wage, which would translate into a marked improvement in the financial situation of households and would limit the build-up of wage pressure.

Certain Council members underlined that the July projection pointed to a higher inflation path in 2022 than the previous projection and showed only a temporary decline in price growth in 2022 and another increase in 2023. These Council members were of the opinion that with the continued favourable economic situation and in view of the gradual realisation of pent-up demand, in the coming quarters demand pressure would build up. In the opinion of these Council members, this might lead to inflation running at an elevated level in 2022 as well.

The majority of the Council members were of the opinion that lending growth was not contributing to inflation rising above NBP's inflation target. It was also observed that the rate of growth in deposits of the non-financial sector remained higher than the growth of liabilities of this sector.

The majority of Council members were of the opinion that the present meeting should keep interest rates unchanged and continue to pursue NBP's remaining measures. These Council members judged that the monetary policy conducted by NBP supported the consolidation of economic recovery following the pandemic-induced recession and stabilised inflation at the level consistent with NBP's inflation target in the medium term. They drew attention to the fact that keeping NBP interest rates unchanged was currently justified due to the sources and the expected temporary nature of inflation exceeding NBP's target, as well as the uncertainty about the robustness and scale of the economic recovery.

The majority of Council members judged that if the uncertainty about the further course of the pandemic, and – as a result – the future economic conditions continued, and if the rise in inflation above the target was the result of factors beyond the control of monetary policy, it would be advisable to keep interest rates unchanged also in the near future. In their opinion, the tightening of monetary conditions in response to inflation running above the inflation target due to negative supply shocks and regulatory factors would not curb price growth in 2021, while it could halt economic recovery following a considerable economic downturn caused by the pandemic.

Some Council members judged that if, after the uncertainty about the pandemic situation and the economic outlook had subsided, robust economic growth continued and inflation, driven by demand factors, exceeded NBP's inflation target, it might be advisable to adjust monetary policy.

Certain Council members were of the opinion that the NBP reference rate should be raised at the current meeting. They drew attention to the fact that price growth was currently elevated and that demand factors were also boosting prices. They also judged that heightened inflation expectations and wage pressure might lead to the consolidation of inflation above NBP's target. They underlined that according to July projection inflation would stay above 2,5% over the whole forecast horizon and in some quarters would exceed to upper limit of deviations from the target. In the opinion of these Council members, an increase in the reference rate could reduce such a risk and support the development of inflation at a level consistent with NBP's inflation target.

The Council rejected the motion to raise the reference rate by 15 basis points.

The Council rejected the motion to increase the required reserve ratio to 3.5% and the motion to lower the interest rate on required reserves from the level of the NBP reference rate (currently 0.1%) to 0.01%.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 0.10%, the lombard rate at 0.50%, the deposit rate at 0.00%, the rediscount rate at 0.11%, and the discount rate at 0.12%.

Minutes of the Monetary Policy Council decision-making meeting held on 8 September 2021

At the Council meeting, it was pointed out that over the recent period the pandemic situation around the world had worsened, particularly as a result of the spread of the Delta variant of the coronavirus. It was underlined that uncertainty about the further course of the pandemic persisted, which in many countries was due to the still relatively low vaccination rates. At the same time, it was indicated that in countries with high vaccination rates the number of infections with the new variant of the virus was also growing. The Council members were of the opinion that at the moment it was difficult to assess how the rise in COVID cases would affect the economic situation around the world, and that the further development of the pandemic continued to represent a significant risk factor for the durability of the global recovery.

Alongside that, GDP data for 2021 Q2 confirmed a sharp rise in economic activity in the largest economies in that period, including a recovery in the services sector as a result of the easing of the previously introduced restrictions to control the spread of COVID. However, it was underlined that the high annual growth rates reflected to a large extent the low reference base in 2020. It was pointed out that in the United States, although economic activity had already returned to the pre-pandemic level, output gap was still negative, and recently – along with the rise in the number of infections – some deterioration in sentiment had been observed as well as slightly worse data from the labour market. In turn, the euro area, including Germany, were still making up for the economic losses resulting from the pandemic, which, according to available forecasts, would not be accomplished until next year. It was also pointed out that in 2021 Q3 some economic indicators for the Chinese economy had declined. Attention was drawn to the fact that economic activity abroad was to a large extent affected by the inadequate supply of certain semi-finished products and the ongoing difficulties with their transport.

It was observed that the global rebound in activity was contributing to the rise in prices of many commodities, including energy commodities and metal prices, which were currently significantly higher than a year earlier. Certain Council members were of the opinion that oil prices would most likely continue to rise. However, according to the majority of the Council members, even with growing demand oil price growth should slow down. At the same time, it was underlined that in recent months the prices of certain agricultural commodities around the world had also risen significantly. The Council members pointed out that higher commodity prices along with supply-chain disruptions in certain markets and realisation of pent-up demand, had led to a significant rise in inflation in many economies, including in the United States and the euro area.

At the same time, it was emphasised that, due to the forecast temporary nature of the current rise in inflation, the still subdued economic activity compared to the pre-pandemic trends and uncertainty about the future economic situation, the major central banks were keeping interest rates low, continuing asset purchases, and signalling the maintenance of loose monetary policy in the future. Some Council members underlined that uncertainty about the course of the next wave of the pandemic was prompting many central banks to take a cautious stance towards the tightening of monetary conditions. However, certain Council members pointed out that elevated inflation had prompted certain central banks of the Central and Eastern European region – the Czech National Bank and the Central Bank of Hungary – to raise interest rates.

When assessing the situation in Poland, the Council members indicated that according to the Statistics Poland flash estimate for 2021 Q2, annual GDP growth had risen to 11.1% y/y, while the main factor supporting the rebound in economic activity was strong growth in private consumption driven by pent-up demand and – to a lesser extent – investment growth. The Council members observed that although the very high annual GDP growth was mainly due to the low base effect, significant GDP growth had also been sustained in quarterly terms. At the same time, it was pointed out that although the data confirmed that GDP had made up for the losses caused by the recession in 2020, activity had still not reached the level determined by the pre-pandemic trend.

The Council members judged that the economic outlook remained good – particularly in view of the favourable situation in industry, including in the export-oriented sections. It was assessed that in the coming quarters a further recovery in economic activity would take place. At the same time, the majority of the Council members underlined that the pace of the further recovery was subject to significant uncertainty, mainly due to the future course of the pandemic. It was also pointed out that both supply-chain disruptions and the exhaustion of the pent-up demand could limit the pace of GDP growth. In this context it was indicated that in July 2021 annual growth in retail sales and in industrial and construction output had declined (which was only partially the result of base effects). Yet, certain Council members pointed out that uncertainty about the further recovery is limited due to the high vaccination rate in Poland and adaptability skills of Polish entrepreneurs.

While analysing the labour market situation, the Council members underlined that it remained good. In particular, the LFS data for 2021 Q2 indicated an improvement in the domestic labour market situation in this period. At the same time, average employment in the national economy had not yet reached the pre-pandemic level, and the wages of some employees from the sectors most affected by the earlier restrictions were still subsidised under the anti-crisis support. It was also observed that in July 2021 growth in average employment in the enterprise sector had slowed down in annual terms and annual growth in average wages in this sector had declined slightly. The majority of the Council members also pointed out that in view of the strong growth in labour productivity, annual growth in unit labour costs in the economy had fallen close to zero in 2021 Q2, and had been negative in industry for several months. In the opinion of certain Council members, elevated inflation might boost wage demands of various occupational groups, which would mean that in the coming quarters wage pressure could rise.

At the meeting, it was pointed out that according to the Statistics Poland flash estimate, inflation in Poland rose to 5.4% y/y in August 2021, and fell to 0.2% in monthly terms. The majority of the Council members emphasised that elevated inflation was to a large extent the result of the rise in fuel prices due to the significantly higher global oil prices than a year ago, and also due to the rise in food prices, which was, among others, a result of the spread of ASF and avian flu as well as unfavourable weather conditions. At the same time, the annual inflation rate continued to be pushed up by the increase in electricity prices at the beginning of 2021, as well as the increases in waste disposal charges, i.e. by factors that – like the rising commodity prices – were beyond the control of domestic monetary policy. These Council members observed that inflation was also driven up by the increase in the operating costs of enterprises in pandemic conditions and the costs of international transport, as well as temporary disruptions to global supply chains. Given that according to data for July, growth in prices of fuel, energy and other administered prices accounted for over half of the CPI inflation rate, the majority of the Council members judged that demand-side factors were not causing excessive inflation, and neither had they caused inflation to exceed the inflation target. Alongside that, the Council members observed that although the favourable economic conditions and the realisation of the pent-up demand also supported the current growth in prices, what is essential for monetary policy is how long would the impact of domestic demand factors on inflation last.

The Council members judged that in 2022, after some factors currently boosting price growth fade, inflation was expected to decline. However, the scale of this decline would depend on the strength of the economic recovery, including the developments in the labour market following the phasing out of the anti-crisis measures, as well as on the impact of probable subsequent regulatory and supply shocks, including further increases in electricity and gas prices. Certain Council members pointed out that the high readings of CPI in recent months might translate into an upward revision of the expected inflation path for the coming months. In their opinion, the risk that inflation would not return to the band of deviations from the NBP inflation target in the coming quarters had risen. Some Council members observed that climate policy measures would be a factor increasing inflation also in the long-term perspective, since they may permanently boost not only energy prices, but also prices of other goods containing a so-called carbon footprint. At the same time, it was pointed out that the possible realisation of the risk associated with the pandemic could reduce economic growth in the coming quarters and thus also reduce demand pressure on prices.

Certain Council members highlighted the robust growth in mortgage loans to households. In the opinion of those Council members, a continuation of accommodative monetary policy might increase the risk of excessive growth in housing loans. Other Council members, however, pointed out that the demand for mortgage loans was to a great extent related to meeting households' housing needs and that loans were granted to people with adequate credit standing.

The majority of the Council members were of the opinion that the present meeting should keep interest rates unchanged and continue to pursue NBP's remaining measures. These Council members judged that the monetary policy conducted by NBP supported the consolidation of economic recovery following the pandemic-induced recession and stabilised inflation at the level consistent with NBP's inflation target in the medium term. They drew attention to the fact that keeping NBP interest rates unchanged was currently justified due to the causes of inflation exceeding NBP's target, as well as the continued uncertainty about the robustness and scale of the economic recovery in light of the risks related to the next wave of the pandemic. In their opinion, the tightening of monetary conditions in response to inflation running above the inflation target due to negative supply shocks and regulatory factors would not curb price growth in 2021, while it could halt the economic recovery following the considerable economic downturn caused by the pandemic.

At the same time, the majority of the Council members judged that in the coming months of significant importance to monetary policy would be the assessment of the impact of the next wave of the pandemic on the economy and the assessment of the outlook for activity and inflation in the subsequent years. In the opinion of the majority of the Council members, should the uncertainty about the pandemic and its impact on the economy subside, and forecasts suggest a continuation of favourable economic conditions and the risk of inflation running above the NBP's inflation target in the coming years, it would be warranted to consider adjusting monetary policy. In this context, the results of the November projection of inflation and GDP will also be important.

Certain Council members were of the opinion that the NBP interest rates should be raised at the current meeting. They drew attention to the fact that price growth was currently significantly elevated and that demand factors were also boosting prices. They also judged that heightened inflation expectations and the increased wage pressure might lead to the consolidation of inflation above the NBP's target. In the opinion of these Council members, an increase in the interest rates could reduce such a risk and support the development of inflation at a level consistent with the NBP's inflation target.

The Council rejected the motion to raise the NBP interest rates to the following levels: the reference rate to 2.00%, the lombard rate to 3.00%, the deposit rate to 1.00%, the rediscount rate to 2.01%, and the discount rate to 2.02%, and to set the interest rate on required reserves at 1%.

The Council rejected the motion to raise the reference rate by 15 basis points.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 0.10%, the lombard rate at 0.50%, the deposit rate at 0.00%, the rediscount rate at 0.11%, and the discount rate at 0.12%.

Minutes of the Monetary Policy Council decision-making meeting held on 6 October 2021

At the Council meeting it was pointed out that the recovery in global economic activity was continuing, although in some economies it had probably slowed down somewhat in 2021 Q3. It was underlined that so far global industry had been relatively resistant to the effects of the supply-side disruptions, although in some countries the lack of subcomponents was translating into a deterioration in sentiment in that sector. Attention was also drawn to the positive signals regarding economic activity in the euro area. In particular, despite the growth in the number of COVID-19 infections, business conditions in the services sector in the euro area remained relatively favourable. At the same time, it was underlined that despite supply-side disruptions, a good situation also continued in the euro area industry, where output had exceeded the pre-pandemic level.

It was also pointed out that global commodity prices had significantly risen in the recent period and were substantially higher than a year earlier. Attention was drawn to the fact that following some stabilisation, oil prices had once again begun to increase in recent weeks. Moreover, in the recent period natural gas prices had risen sharply in Europe, reaching a level several times higher than a year earlier. Prices of CO_2 emission allowances also continued to rise. It was pointed out that, as a result, electricity prices had also increased in Europe. It was also underlined that in recent months the global prices of some agricultural commodities, in particular wheat, had also risen. It was pointed out that in many economies, commodity price growth – along with the supply-side constraints in certain markets and sharp increase in international transport prices – had led to a significant rise in both PPI and CPI inflation in recent months. At the same time, it was judged that the impact of these factors on global inflation might last longer than had been hitherto thought.

It was underlined that despite the rise in inflation, the major central banks were keeping interest rates low and conducting asset purchases. At the same time, it was pointed out that these banks had somewhat modified their communication and were currently indicating that the heightened level of inflation might persist longer than had previously been thought. Therefore, the expected horizon for maintaining highly expansionary monetary policy by these banks had been shortened. In September, the European Central Bank announced a slight reduction in the pace of purchases under the pandemic emergency purchase programme, and the Federal Reserve signalled that it would begin tapering its net asset purchases already this year. At the same time, it was pointed out that central banks in Central and Eastern Europe and in certain developed economies had raised interest rates in the recent period.

When assessing the situation in the Polish economy, the Council members drew attention to the ongoing recovery in economic activity. It was underlined that in August industrial output growth had accelerated, exceeding the level determined by the pre-pandemic trend. Attention was also drawn to the acceleration in retail sales growth as well as construction and assembly output in August. The Council members judged that in 2021 Q3, GDP growth was most likely higher than that indicated by the NBP July projection. It was also underlined that the economic recovery – along with the effects of the disbursement of funds under the anti-crisis shields – was having a very favourable impact on the financial situation of enterprises, which in many sectors had reported record profits. At the same time, it was pointed out that despite continued good economic conditions, in the recent period business sentiment in the industrial sector had deteriorated somewhat, which was related to the supply-side constraints occurring in certain markets. Certain Council members also pointed out that the current account balance had recently decreased to a negative level.

At the same time, it was judged that in the coming quarters the favourable economic situation was likely to continue. Although the autumn wave of the epidemic continued to be an uncertainty factor, its impact on the economy should be limited due to the effects of the vaccinations and the adaptation of many firms and households to operating in epidemic conditions. It was also pointed out that an additional factor of uncertainty for the economic outlook in Poland was the impact of rising commodity prices on the global economic conditions.

It was also pointed out that although average employment in the enterprise sector was still slightly lower than before the pandemic, the labour market situation was improving. The good situation of employees on the labour market was evidenced by unemployment staying low despite the gradual winding down of the programmes subsidising wages under the anti-crisis shields. It was underlined that this favourable situation was also reflected in solid wage growth in the enterprise sector. It was also pointed out that nominal wages were growing much faster than prices, and at the same time they were accompanied by fast growth in labour productivity. The majority of the Council members judged that wage growth was being driven mainly by the growth in productivity, and that inflation was not generating excessive wage pressure. In turn, in the opinion of certain Council members, heightened inflation might increase wage demands of various occupational groups, translating into growing wage pressures in the coming quarters.

At the meeting it was pointed out that according to the Statistics Poland flash estimate, inflation in Poland rose to 5.8% y/y in September 2021, and stood at 0.6% in monthly terms. The majority of the Council members underlined that heightened inflation was mainly the result of the impact of factors beyond the control of domestic monetary policy, including higher global prices of energy and agricultural commodities than a year earlier, previous hikes in electricity prices and waste disposal charges, as well as global disruptions in transport and the functioning of supply chains. At the same time, it was pointed out that the ongoing economic recovery, including rising household income, had also added to the price growth. In the opinion of the majority of the Council members, demand-side factors alone were not causing an excessive increase in price growth. Certain Council members did not share this opinion, instead pointing to the growing core inflation indicators. Certain Council members also pointed to the higher level of inflation expectations than in previous years. They also underlined the importance of exchange rate channel in the monetary transmission mechanism.

The Council members judged that although some supply-side factors currently fuelling inflation would fade in 2022, the growth in commodity prices observed in recent months, including the prices of energy and agricultural commodities, might continue to boost price growth in the coming quarters. In particular, attention was drawn to the likely significant increases in electricity and gas prices for households and enterprises, alongside the higher path of food prices than expected earlier. It was also underlined that the global shocks had contributed to high growth in producer prices, which might translate into further increases in prices of consumer goods, particularly amid continued growth in consumer income. In this context, it was concluded that amidst probable further recovery in economic activity and favourable labour market conditions, inflation might persist at an elevated level longer than hitherto expected. In particular, it was judged that with the continued favourable economic situation, inflation – despite some decline expected in 2022 – would most likely run above the NBP July projection in the coming quarters and that in this horizon it would not return by itself to the band for deviations from the NBP inflation target. It was assessed that such a situation would generate a risk of price growth remaining above the inflation target in the medium term. The Council members recognised that, in order to decrease inflation to the NBP target in the medium term, NBP interest rates should be raised. Therefore, the Council passed the motion to raise the reference rate by 0.4 percentage points, i.e. to 0.50% and set the remaining NBP interest rates at the following levels: the lombard rate at 1.00%, the deposit rate at 0.00%, the rediscount rate at 0.51%, and the discount rate at 0.52%. At the same time, the Council decided to increase the required reserve ratio from 0.5% to 2.0%.

The Council members underlined that the interest rate increase would reduce the risk of inflation remaining elevated in the medium term. They also underlined that, due to the external causes of the heightened inflation, in the short term inflation would continue to be elevated. At the same time, the Council members stated that future monetary policy decisions would depend on the assessment of incoming information on the economic situation, including the outlook for economic conditions and for inflation. The Council members also judged that monetary policy decisions must support a return of inflation to the target in the medium term, yet they should also aim to consolidate the economic recovery and create the conditions for further sustainable growth of the Polish economy.

Information from the meeting of the Monetary Policy Council held on 3 November 2021

The Council decided to increase the NBP reference rate by 0.75 percentage points, i.e. to 1.25%. At the same time, the Council set the remaining NBP interest rates at the following levels: lombard rate at 1.75%; deposit rate at 0.75%; rediscount rate at 1.30%; discount rate at 1.35%.

The activity in global economy continues to recover, yet a difficult pandemic situation persisting in many countries together with supply-side constraints in some markets and a strong increase in commodity prices, have a negative impact on economic situation in some countries. Still, latest forecasts indicate a further increase in global GDP next year.

At the same time a markedly higher than a year ago commodity prices – in particular prices of natural gas, but also of oil and coal, as well as of some agricultural commodities – together with continued global supply chain disruptions and significant increase in international shipping costs, contribute to a marked rise in inflation in many economies and an upward shift in its forecasts for the next year. In many economies, including in the USA and euro area, inflation significantly exceeds the central banks targets, staying at the highest levels in many years.

Major central banks are keeping interest rates low while continuing asset purchases, although some of them signal the reduction in the monetary accommodation scale. At the same time central banks in the Central-Eastern Europe region have been increasing interest rates.

In Poland, economic activity continues to recover. The situation in the labour market is still improving, as indicated by decreasing unemployment and a marked increase in average wage in the enterprise sector. In the coming quarters, economic conditions are expected to remain favourable. However there are significant risk factors related to the impact of autumn wave of the epidemic on the economy, as well as to the effects of supplyside constraints and high energy commodity prices on the global economic conditions.

Inflation in Poland, according to the Statistics Poland flash estimate for October 2021, increased to 6.8% in annual terms, and in monthly terms it amounted to 1.0%. The elevated inflation resulted, to a great extent, from external factors beyond the control of domestic monetary policy, such as higher than a year ago global prices of energy and agricultural commodities, earlier increase in electricity prices and in waste disposal charges, as well as disruptions in global supply chains and international transport. The ongoing economic recovery, including demand driven by rising household income, has also added to the price growth.

The Council became acquainted with the results of the November projection of inflation and GDP based on the NECMOD model. In line with the projection prepared under the assumption of unchanged NBP interest rates and taking into account data available until 21 October 2021 there is a 50-percent probability that the annual price growth will be in the range of 4.8–4.9% in 2021 (against 3.8–4.4% in the July 2021 projection), 5.1-6.5% in 2022 (compared to 2.5-4.1%) and 2.7–4.6% in 2023 (compared to 2.4–4.3%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.9–5.8% in 2021 (against 4.1–5.8% in the July 2021 projection), 3.8-5.9% in 2022 (compared to 4.2-6.5%) and 3.8–6.1% in 2023 (compared to 4.1–6.5%).

The rise in global prices of both energy and agricultural commodities observed this year as well as continued global supply chain disruptions have led to an increase of inflation forecasts for the coming quarters both globally and in Poland. Amidst expected further economic recovery and favourable labour market conditions, it would generate a risk of inflation remaining elevated 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. NBP may still intervene in the foreign exchange market and use other instruments envisaged in the Monetary Policy Guidelines. The timing and scale of the measures taken by NBP will depend on the market conditions

The Council adopted the *Inflation Report – November 2021* as well as the *Opinion on the 2022 Draft Budget Act*.

4. Projection of inflation and GDP

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

The November projection based on the NECMOD model covers the period from 2021 Q4 to 2023 Q4. The starting point for the projection is 2021 Q3.

The projection was prepared under the assumption of the unchanged NBP interest rates. The cut-off date for the data used in this projection is 21 October 2021.

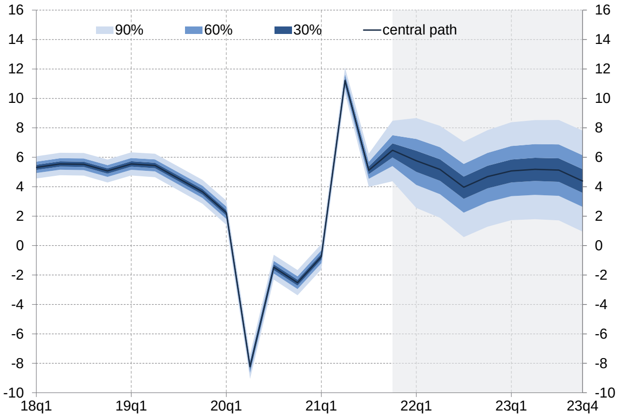
4.1 Summary

Since the publication of the previous projection, the epidemic situation has deteriorated in a number of key developed economies as well as in Poland. However, the relatively high vaccination rate is assumed to reduce markedly the number of hospitalisations during the subsequent waves of the pandemic, which will prevent the closure of entire sectors of the economy. It is expected that as the pandemic is increasingly coming under control and fiscal support is sustained in the United States and the euro area, GDP paths in these economies will return to their pre-pandemic trend in 2023.

The recovery in global GDP and the accompanying disruptions in global value added chains have caused inflation to accelerate in major developed economies and energy commodity prices in the global markets to rise sharply. The projection assumes that energy commodity quotations will gradually decline in 2022-2023, yet over the entire projection horizon they will run higher than before the outbreak of the pandemic, and higher than assumed in the July projection.

Domestic economic activity will continue to expand robustly, with GDP growth close to 5% y/y on average. The rapid GDP growth in this period will be driven mainly by household consumption, but also with significant contribution of private investment. In 2022-2023, economic activity will be positively affected by the launch of the new Polish Deal programme and the inflow of EU funds related to the implementation of the National Recovery and Resilience Plan. On the other hand, the contribution of net exports to GDP growth will be negative, in line with the historically anticyclical character of this component. The unemployment rate is expected to decline in the projection horizon, and wage growth will remain high, which will be supported by favourable economic conditions stimulating a rise in labour demand against the

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.).

background of a limited human resources who could take up employment.

The high inflation rate observed at the end of 2021 reflects steep growth across all the main categories of the CPI basket. This was driven, to a significant extent, by unfavourable demand and supply conditions in the global economy. CPI inflation in average annual terms will remain high in 2022, but will trend downwards over the course of the year, as the impact of high global commodity prices and tensions in supply chains. However, towards the end of the projection horizon, it is expected that CPI inflation will rise once again following demand factors resulting from further improvement in the domestic economic situation, reflected in a steadily increasing positive output gap.

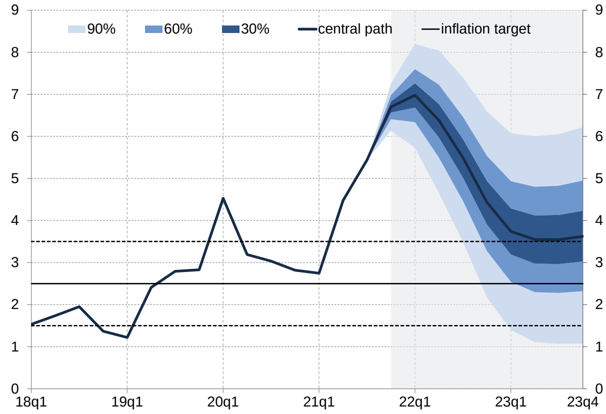
Poland's future economic situation depends to the greatest degree on the future path of the COVID-19 pandemic in the world. At the same time, the risk related to it is assessed to have diminished compared to the previous forecasting rounds. The main source of risk to inflation in turn, has now shifted to the uncertainty about the future path of energy prices against the background of the situation in the energy commodity markets and the planned changes in the EU's climate policy. The balance of uncertainty factors shows a higher likelihood of economic activity running below the central path of the projection and the near-symmetric distribution of risks to CPI inflation in the projection horizon (Figure 4.1, Figure 4.2).

4.2 External environment

Economic growth

The fourth wave of the pandemic is characterised by relatively fewer hospitalisations and deaths in countries with fairly high vaccination rates, although some of them record steep increases in infections. Differences in vaccination rates between countries are due to disparities in the availability of vaccines and differences in attitudes towards vaccination across societies (see also Chapter 1.1

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.

Economic activity abroad). The projection assumes that the relatively high vaccination rates in developed economies and the wealthiest emerging economies will work towards alleviating epidemic restrictions in the coming quarters. In economies with low vaccination rates, the adverse impact of the current and possible future waves of the pandemic on economic activity will be more acute, but will gradually weaken as the vaccination campaign progresses.

In 2021 Q3, recovery continued in major developed economies; however, it was adversely affected by disruptions in global supply chains. It is expected that as the pandemic is coming increasingly under control, with continuing fiscal support in the United States and the euro area, GDP paths in these economies will return to their pre-pandemic trend in the projection horizon. In contrast, slower vaccination uptake and the smaller scale of economic policy support in emerging and developing economies will be a factor preventing economic activity in these countries from returning to its pre-pandemic trend before the end of 2023. It is assessed that uncertainty related to the impact of the pandemic on global economic activity remains high, but has decreased relative to previous forecasting rounds (see also Chapter 4.5 *Projection uncertainty sources*).

Table 4.1 GDP abroad – November projection versus July projection

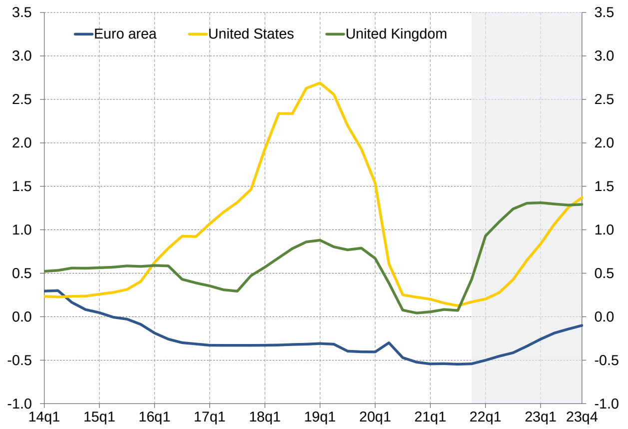
	2021	2022	2023
GDP in Euro Area (y/y, %)			
November 2021	4.9	4.0	2.4
July 2021	4.5	4.2	1.8
GDP in United States (y/y, %)			
November 2021	5.7	4.2	1.9
July 2021	6.5	3.6	1.8
GDP in United Kingdom (y/y, %)			
November 2021	7.0	4.8	1.9
July 2021	7.1	4.7	1.8

Source: NBP calculations.

Inflation and commodity markets

Following a steady increase in oil prices throughout the year, in October Brent crude oil prices reached a significantly higher level than in 2020 (Figure 4.4). 2021 also saw the soaring gas and hard coal prices. The trends observed in commodity markets result from their limited supply amid a quick recovery in demand for energy, supported by the upturn in the global economy. In the case of natural gas, prices are additionally affected by low stocks of this commodity in Europe, and by the EU's climate policy, aimed at reducing CO2 emissions (Figure 4.4).

Figure 4.3 Interest rates abroad (%)



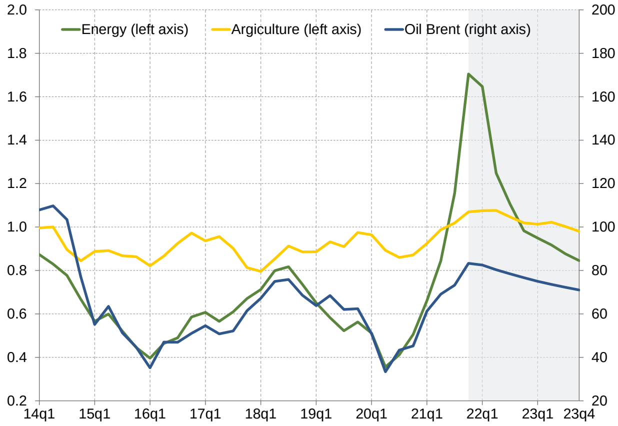
Source: Bloomberg data, NBP calculations.

Oil prices are expected to decrease in 2022-2023, but in the entire projection horizon they will run above their pre-pandemic levels (Figure 4.4). This scenario is supported by the expected increase in oil production in OPEC+ countries and in the United States, which will largely offset the further rise in demand for this commodity assumed in the projection. Natural gas and hard coal prices will also decline by the end of 2023, but will continue to significantly exceed their pre-2020 levels. However, these forecasts are surrounded by high uncertainty related to developments in demand for energy commodities in the coming years, future decisions of the OPEC+ and other producers regarding output and changes in climate policy regulations.

In recent months, there has also been a rise in the prices of most agricultural commodities (Figure 4.4), driven by the rising costs of production and freight, amid heightened demand from the HoReCa sector. Further in the projection horizon, the gradual decline in the prices of oil and natural gas, which affect the costs of transport and electricity as well as prices of artificial fertilisers, will contribute to the decrease of agricultural commodity prices from the highs seen at the turn of 2021 and 2022 (Figure 4.4). The main risk to the adopted forecast, apart from the uncertainty about future demand and costs developments, is posed by new outbreaks of animal diseases and future weather conditions.

In 2021 Q3, both consumer and producer prices in the global economy were observed to rise considerably (on the other hand, no rise was seen in the value added deflator in the euro area, whose levels remain under a considerable influence of the anti-crisis programmes implemented in this economy in 2020, see also Figure 4.5). This was driven by increasing energy commodity prices and shortages of goods resulting from disruptions in global value added chains amid persistently high demand for durable goods (see also Chapter 1.2 *Price developments abroad*). In the projection horizon,

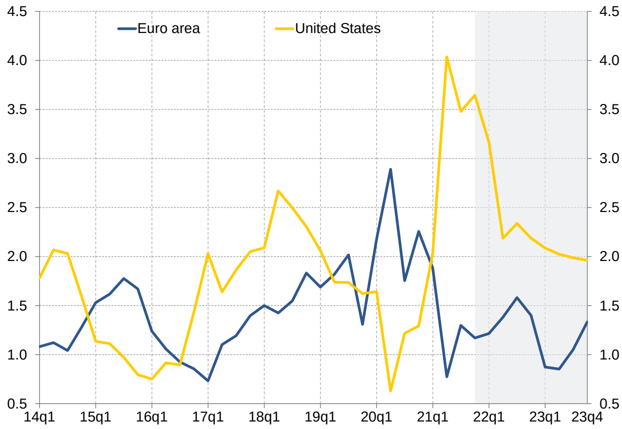
Figure 4.4 Energy commodities price index (USD, 2011=1) and index of agricultural prices (EUR, 2011=1) in global markets and Brent oil prices (USD/b)



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.

the impact of these factors on inflation will fade away, which will be accompanied by a gradual tightening of global monetary conditions (Figure 4.3).

4.3 Polish economy in 2021-2023

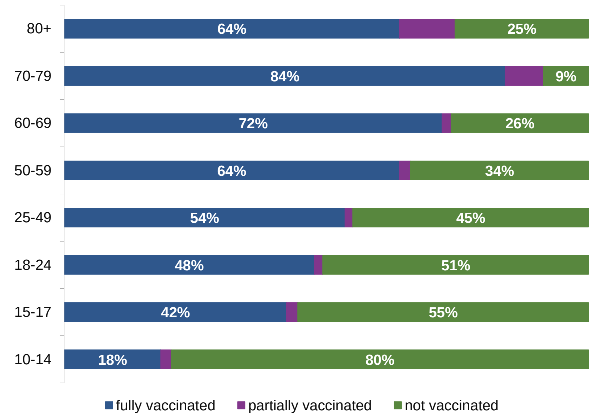
Assumptions regarding the development of the pandemic and the scope of government restrictions

Following a period of very low numbers of new cases in the summer months, the epidemic situation has deteriorated markedly alongside a significant slowdown in the vaccination rate (Figure 4.7). However, in September 2021 the number of new cases and hospitalisations were still significantly lower than at the beginning of the third wave in spring 2021.

In the projection it was assumed that in 2021 Q4 there will be a culmination of the fourth wave of the pandemic in Poland, with a comparable number of infections to the second and third waves due to the high contagiousness of the dominant Delta variant and only 50% of the population fully vaccinated. However, in view of the relatively high vaccination rate among the oldest citizens, (Figure 4.6), the number of hospitalisations and deaths will be significantly lower than during the previous peaks in cases.

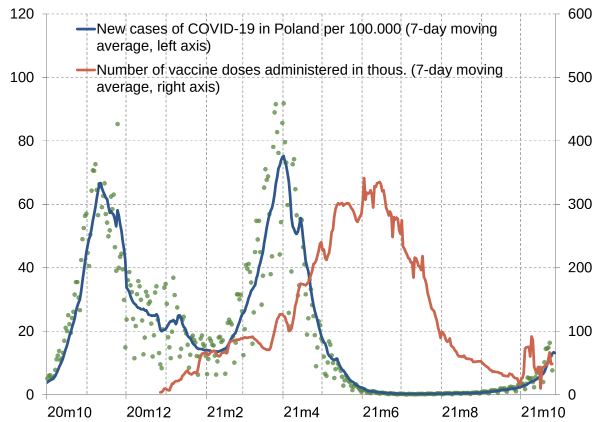
Consequently, the restrictions[61] related to the fourth and subsequent waves of the pandemic will no longer significantly disrupt the functioning of the domestic economy. It is assumed that the potential new restrictions will to a largest extent affect people who are not vaccinated and will vary across regions; however, the economy on a nationwide scale will not experience closures of entire sectors .

Figure 4.6 Percentage of people who are vaccinated (by age group)



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

Figure 4.7 New cases of COVID-19 in Poland per 100.000 population and number of vaccine doses administered in thous. (7-day moving average)



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

[61] The sanitary restrictions still in force to the greatest extent limit the activity of enterprises in the services sector: catering, culture, and sport and recreation. In particular, in sports and cultural facilities and hotels there is a limit on the number of people per square metre or the number of available places that can be occupied. In many cases these limits do not formally apply to people who are fully vaccinated.

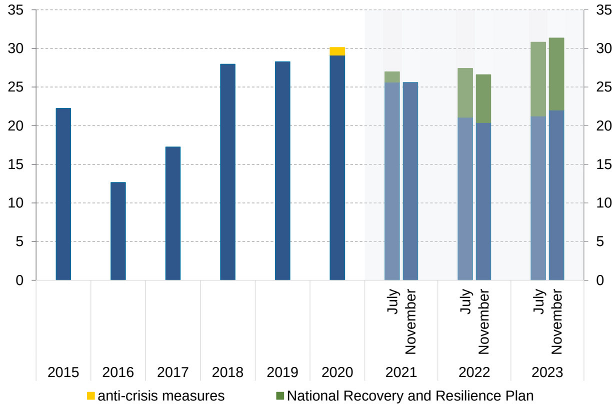
Uncertainty about the future course of the COVID-19 pandemic around the world, particularly in the Asian economies, continues to be the main source of risk for future economic growth in Poland.

New fiscal policy instruments

The nature of the fiscal measures over the coming quarters will change, evolving from direct support to economic entities during the pandemic towards bolstering economic development in the broad sense and shifting the focus of social policy.

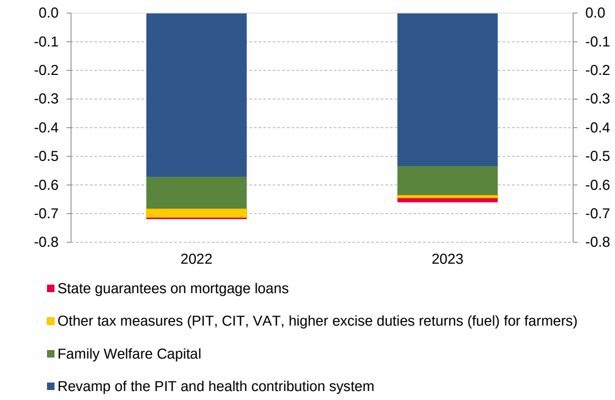
Over the projection horizon a new EU financial assistance instrument will be implemented – *Next Generation EU*, whose aim is to support the development of European economies following the crisis triggered by the COVID-19 pandemic. The way of spending the main part of the funds allocated to Poland under this instrument (almost EUR 24 billion up to 2026) was defined in the National Recovery and Resilience Plan, adopted by the Polish government at the end of April 2021 (Figure 4.8). These funds, among others, will be used to financing energy transformation, digitisation and robotisation, enhancing access to and quality of health care systems, and improving conditions for competitiveness and protection of producers and consumers in the agricultural sector. A significant part of the funds will thus be allocated to increasing investment expenditure in the corporate and public finance sectors. To a lesser extent, these funds will increase public consumption and transfers to households. The National Recovery and Resilience Plan was presented to the European Commission at the beginning of May 2021; however, it has not yet obtained its approval. Consequently, in the current forecasting round it is assumed that Poland will begin to make use of the allocated funds only in 2022, and in the years 2022-2023 approximately 34% of the grants available under the entire allocation of the instrument will be disbursed (Figure 4.8).

Figure 4.8 Use of EU funds for public investment (PLN billion)



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

Figure 4.9 Impact of the main measures included in the "Polish Deal" programme on fiscal outturn (percentage points of GDP)



Source: NBP calculations based on government estimates.

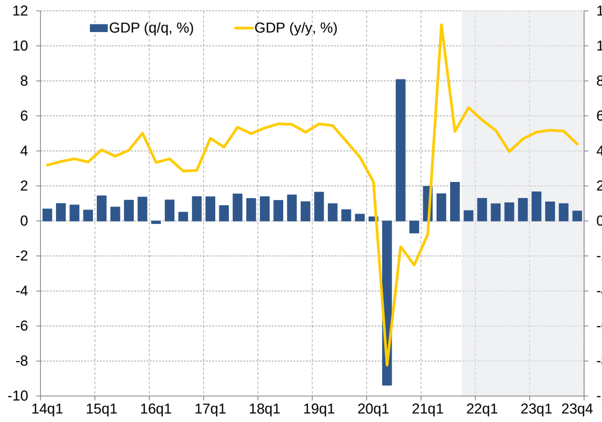
The November projection also takes into account the effects of the entry into force of the Polish Deal in 2022, which assumes fundamental amendments to the Polish tax system (Figure 4.9). These will include an increase in the personal income tax-free amount and the tax brackets, while at the same time eliminating the possibility of deducting a part of the health insurance contribution from tax. An important item of the programme is the increase in transfers for families under the Family Welfare Capital scheme. Financial support is planned for home buyers in the form of a guarantee of the own contribution and repayment of a part of the loan. It is estimated that the Polish Deal will reduce the the general government balance in 2022 by approximately 0.75% of GDP (Figure 4.9).

The tax changes under the Polish Deal will particularly benefit retired people and pensioners as well as employees with an annual income below PLN 68,400. On the other hand, employed persons earning above PLN 153,000 per year and most self-employed persons will pay higher taxes than before the changes. Therefore, for low-income people with a higher propensity to consume the tax burden will be reduced, while it will be higher for groups in a more favourable financial situation and with larger savings. As a result, the tax changes will lead to a shift in demand towards lower-income groups, causing a relatively strong response of total household consumption. The pro-inflationary impact of an increase in demand can be mitigated by a slower wage growth, resulting from a reduction in taxation of a large part of remuneration.

Economic activity

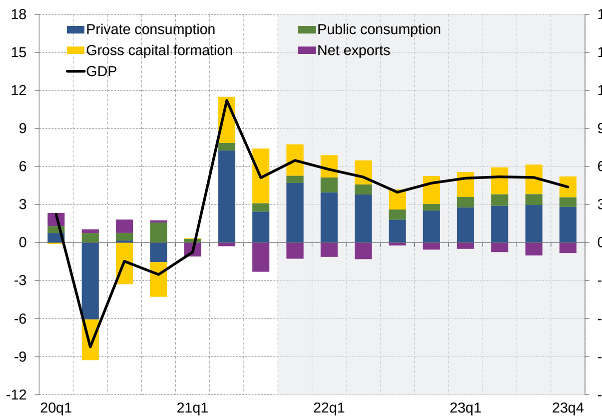
Due to the assumed successful overcoming of the health crisis and the rebound in activity abroad, over the projection horizon the Polish economy will grow at an average pace close to 5% y/y (see Figure 4.10, Figure 4.11). The main source of the rapid GDP growth will be household consumption, but private investment will also be an important component of this growth. In the years 2022-2023,

Figure 4.10 Economic growth



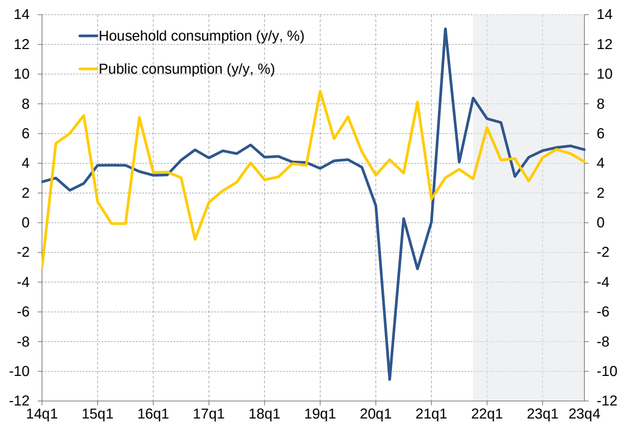
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.11 GDP growth (y/y,%) – breakdown)



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

Figure 4.12 Household and public consumption



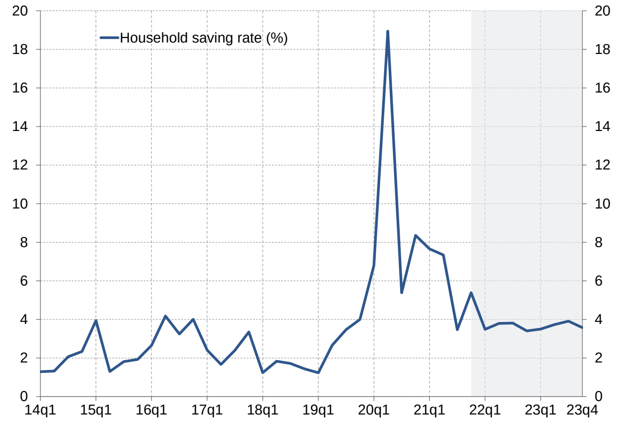
Source: Statistics Poland (GUS) data, NBP calculations.

the launch of the new Polish Deal programme and the inflow of EU funds related to the implementation of the National Recovery and Resilience Plan will have a positive impact on economic activity. The relatively rapid pace of economic recovery is also the result of the assumption on the unchanged over the projection horizonNBP interest rates (including reference rate at 0.5%), still being at a historically low level.. However, the scale of GDP growth in the upcoming quarters will be held back by the negative supply shock, which is the result of the sharp rise in global energy commodity prices and CO2 emission allowances as well as disruptions in the global supply chains.

The adaptation of consumers to functioning in pandemic conditions and the easing of administrative restrictions at the end of April 2021 allowed households to satisfy a significant part of demand for goods and services, the purchase of which was restricted during the period of the restrictions. However, the rebound in demand for certain services is still delayed by changes in peoples' behaviour due to the fear of infection, lower consumer sentiment and the sanitary regime in force. Due to the above conditions, although it decreased significantly compared to 2020, the household saving rate still remains relatively high. (Figure 4.13). At the same time, during the COVID-19 pandemic households increased their net financial assets by accumulating savings. As a result, with the declining peril of COVID-19 and the improving consumer sentiment, this creates space for relatively rapid growth in private consumption in the years 2022-2023 (Figure 4.12). The increased consumer expenditure in this period will be supported by the reforms entering into force as of 2022 – above all the tax changes – under the Polish Deal programme (see heading New fiscal policy instruments).

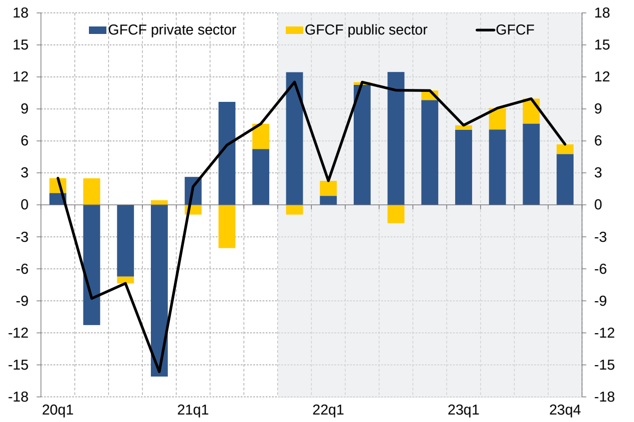
Despite the slower than expected recovery in investment activity in 2021 Q2, at the beginning of 2022 gross fixed capital formation of enterprises is

Figure 4.13 Household saving rate



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

Figure 4.14 Gross fixed capital formation (y/y, %) – breakdown



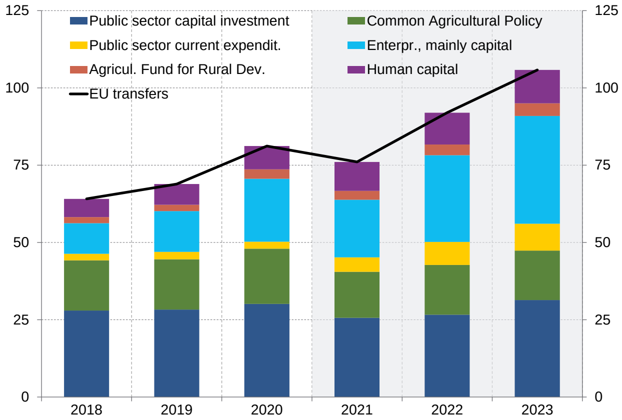
Source: Statistics Poland (GUS) data, NBP calculations.
Private sector investment is defined as gross fixed capital formation according to the national accounts except for the general government sector. It covers gross fixed capital formation of non-financial enterprises, financial and insurance companies,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

expected to exceed the level observed before the outbreak of the pandemic (Figure 4.14). This is evidenced by the results of business surveys, which indicate yet another improvement in sentiment of investment companies and a decline in uncertainty assessment compared to 2020, although still remaining at a high level.[62] At the same time, in 2021 Q3 there was a further increase in the capacity utilisation rate, which in most groups of enterprises returned to the pre-pandemic levels.[63] At the same time, the expected increase in fixed capital formation is highly dependent on the scope of restrictions experienced by individual companies.[64] The increase in capital outlays should also be supported by the low degree of automation and robotisation of Polish industry and rising labour costs. The inflow of funds under the National Recovery and Resilience Plan will also act in the same direction. On the other hand, supply-side restrictions due to disruptions in the global supply chains and the high costs of commodities and energy will be a factor slowing down corporate investment growth.

Last year's slowdown in housing investment growth due to the pandemic proved to be temporary. The persistence of relatively fast growth in demand for housing over the projection horizon will be supported by an elevated level of savings of some households and low interest rates. The launch in 2022 of support aimed at families for the purchase of housing under the new Polish Deal programme will also have a positive impact on growth of this category (see heading New fiscal policy instruments).

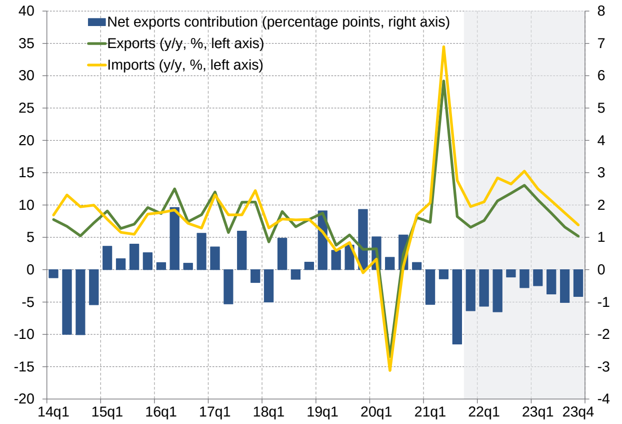
Following a slight decline in 2021, in the years 2022-2023 there will be an increase in investment outlays of the public sector, although at a slower pace than investment expenditure in the private sector. Growth in public investment will be supported by the inflow of funds spent under the National

Figure 4.15 Expenditure financed by EU funds (in PLN billion) – breakdown



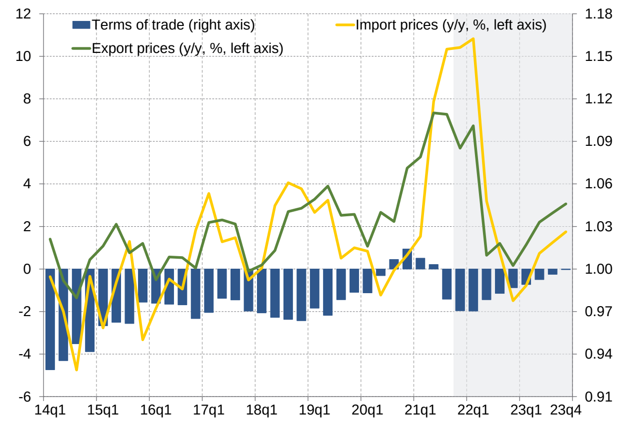
Source: NBP calculations.

Figure 4.16 Foreign trade



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

Figure 4.17 Export and import prices



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

[62] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.
[63] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.
[64] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.

Recovery and Resilience Plan, mitigating the impact of the decrease in cohesion policy funds as a result of the end phase of financing under the EU financial framework for 2014-2020 (Figure 4.15).

The improvement of the economic conditions abroad over the projection horizon will further boost the volume of exports, which already exceeded the pre-pandemic level in 2020 Q3 (Figure 4.16). However, at the same time, due to a significant acceleration in domestic demand and stronger cyclical response of imports than exports, the contribution of net exports to GDP growth will be negative in the years 2021-2023.

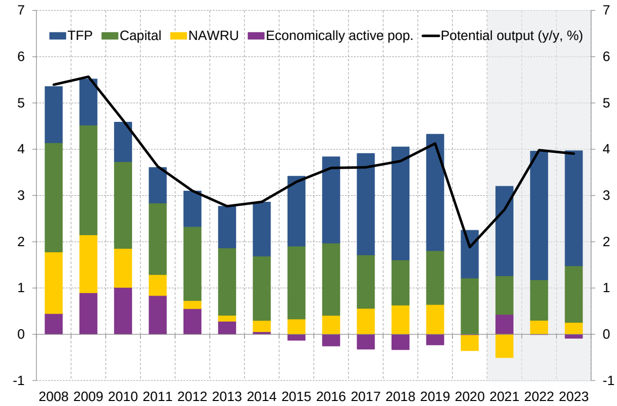
Potential output and the output gap

Following a significant decline in growth of potential GDP in 2020, in the years 2022-2023 it will run at a level close to that observed before the pandemic (Figure 4.18). The faster growth in potential product in the coming years compared to 2021 will be the result of the return of total factor productivity (TFP) growth to the average value of past years, the gradual acceleration of accumulation of productive capital, and an increase in the available pool of labour.

It is assumed that in the years 2022-2023 the negative changes in labour productivity observed during the COVID-19 pandemic, which led to a decline in total factor productivity growth, will fade. Subsequent stages of lifting of the economic restrictions will translate into a further increase in the utilisation of fixed assets and a reduction in the operating costs of enterprises related to the need to maintain the sanitary regime.

The rebound in investment activity, which will increase the stock of productive capital, will also have a positive impact on the potential of the Polish economy; however, due to the gradual transformation of investment into fixed assets, this process will be spread over time. The increase in potential labour in the years 2022-2023 will be the result of the fall in the equilibrium unemployment

Figure 4.18 Potential product (y/y, %) – breakdown



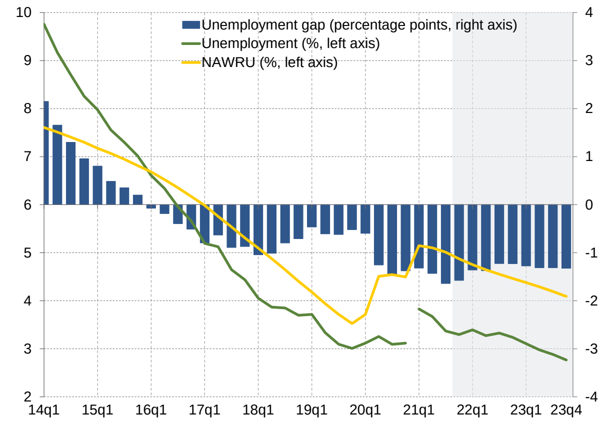
Source: NBP calculations.

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

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

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

Figure 4.19 Unemployment



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

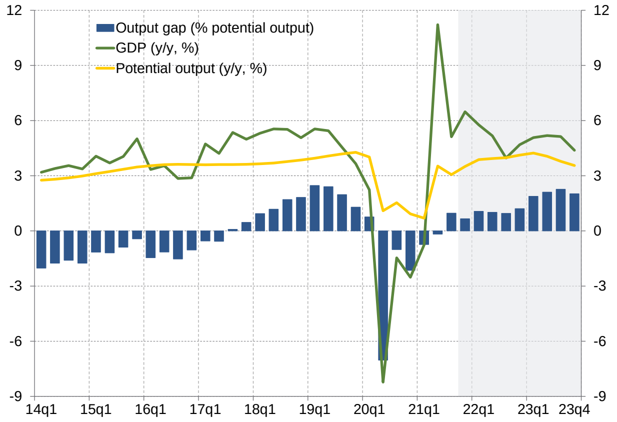
$NAWRU_t$ – non-accelerating wage rate of unemployment in the equilibrium.

Due to the change in the LFS methodology, the data up to 2020 and from 2021 are not fully comparable –see footnote 65.

rate (NAWRU) (Figure 4.18, Figure 4.19), following the declining unemployment rate over the projection horizon.

A much sharper fall in growth in demand than potential product in 2020 caused the output gap to turn negative (Figure 4.20). Along with the ongoing rebound in economic activity in the second half of 2021, the output gap returned to positive levels close to 1% of potential product. In the years 2022-2023, further rapid growth in GDP will translate into steady growth in the positive output gap, which will boost CPI inflation.

Figure 4.20 Output gap



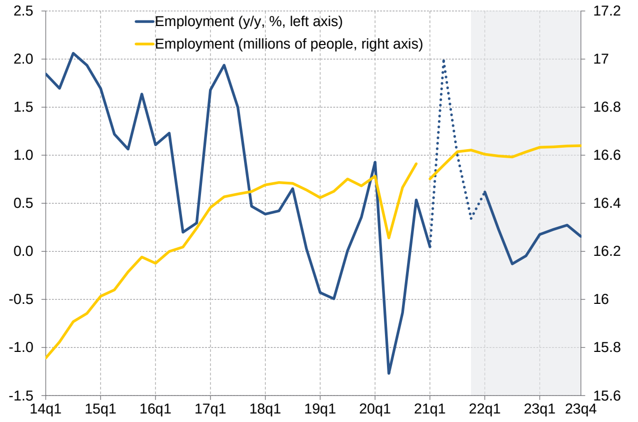
Source: Statistics Poland (GUS) data, NBP calculations.
The output gap is a synthetic measure of demand pressure in the economy. It is expressed as a percentage of the deviation of the actual real level of GDP from the level of potential output.

Labour market

Due to changes in the LFS methodology, which had an impact on the readings for some labour market variables, data up to 2020 and from 2021 are not fully comparable[65].

Although, reporting data from the national economy indicate that average employment in 2021 Q2 remained approximately 100 thousand lower than before the pandemic, according to the LFS, labour force participation and the number of working people are currently higher than in 2019 Q4 (Figure 4.21, Figure 4.22). The average number of hours worked, which declined during the worsening of the epidemic situation, also returned to the pre-pandemic level. In the projection it is assumed that at the end of 2021 and beginning of 2022 there will be a temporary slowdown in growth in demand for labour. This will be caused by disruptions in supply chains, which will have an

Figure 4.21 Employment



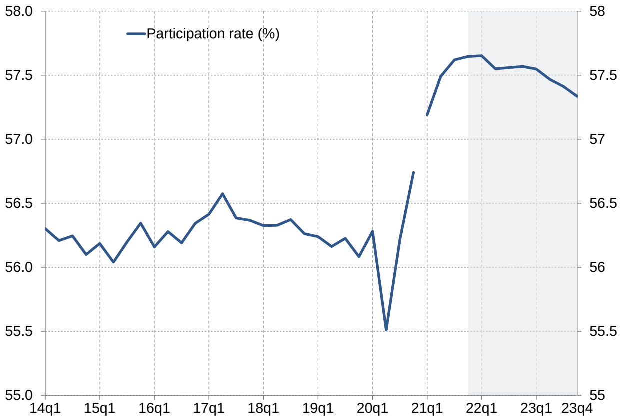
Source: Statistics Poland (GUS) data, NBP calculations.
Due to the change in the LFS methodology, the data up to 2020 and from 2021 are not fully comparable –see footnote 65.

[65] Changes in the LFS methodology introduced by Statistics Poland (GUS) have an impact on labour market statistics, and as a result, data for 2021 Q1 and Q2, as well as the NECMOD forecasts of the number of economically active population as well as the number of working and unemployed people cannot be compared with the results of previous editions of this survey. In particular, growth in y/y terms of certain labour market categories for 2021 should be treated with caution. The changes in LFS methodology include the following: (i) removal from the survey of people aged 90 and above, (ii) removal of the self-employed or people helping family members in private subsistence farming from the category of employed persons as well as the inclusion of people remaining on childcare leave for longer than 3 months into the category of working people, (iii) changes in the wording and order of questions in the LFS survey. As a result of these changes, in 2021 Q1 the population in the oldest age group (60/65+) declined, the number of the unemployed rose, while on the other hand, changes in the definitions and construction of the survey in the case of the number of working people to a large extent compensated each other. As a result, in 2021 Q1 the labour force participation rate also increased. More precise estimates of the impact of the modifications in the LFS methodology on the series will not be possible until the release of the revised historical series of the main indicators, consistent with the new LFS methodology. Statistics Poland has announced that this will be no earlier than at the end of 2021.

impact on employment in industry, as well as uncertainty about the fourth wave of the pandemic, affecting employment in the services sector. Such a scenario is indicated by the slowdown in September 2021 of growth in the number of job offers in labour offices and the fall in some of the business climate indicators (including the assessment of the anticipated changes in employment according to Statistics Poland and the PMI employment sub-index). In the longer-term projection horizon, further, although moderate, growth in the number of working people is expected. On the one hand, the continued favourable economic conditions will have a positive impact on demand for labour. However, on the other hand the limited pool of economically active people will be a factor slowing down the forecast growth in employment.

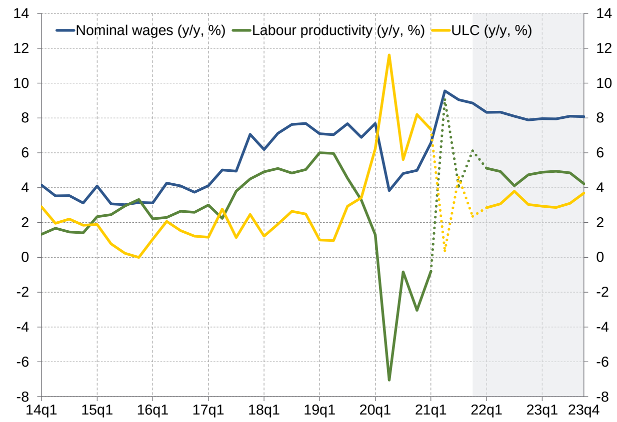
Following the slowdown observed in 2020, wage growth accelerated significantly and will continue at a high level over the projection horizon (Figure 4.23). In 2021 wage growth was boosted by the rebound of labour intensity due to the lifting of the restrictions on the functioning of successive sectors of the economy. Over the projection horizon, high consumer price growth may also act in the same direction. The latest results of business surveys, indicating a further marked increase in the percentage of firms planning wage rises in 2021 Q4 and growing wage pressure, are confirmation of these trends.[66] In the health care sector the wage bill is also boosted by changes in the basic salaries of medical staff and funds allocated to fighting the pandemic. On the other hand, the bargaining power of employees is curbed by the high number of economic immigrants. In the years 2022-2023, wage growth will remain at an elevated level, which will be the result of rising demand for labour alongside a small pool of people who could take up employment. At the same time, the increase in the minimum wage in 2022 adopted by the government will have an almost neutral impact on

Figure 4.22 Labour force participation



Source: Statistics Poland (GUS) data, NBP calculations.
Due to the change in the LFS methodology, the data up to 2020 and from 2021 are not fully comparable –see footnote 65.

Figure 4.23 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.
Due to the change in the LFS methodology, growth rates in the y/y terms for unit labour cost (ULC) and labour productivity in 2021 should be treated with caution - see footnote 65.

[66] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2021.

the pace of wage growth in the whole of the economy, because it will not significantly change the lowest wage to the average wage ratio.

CPI inflation

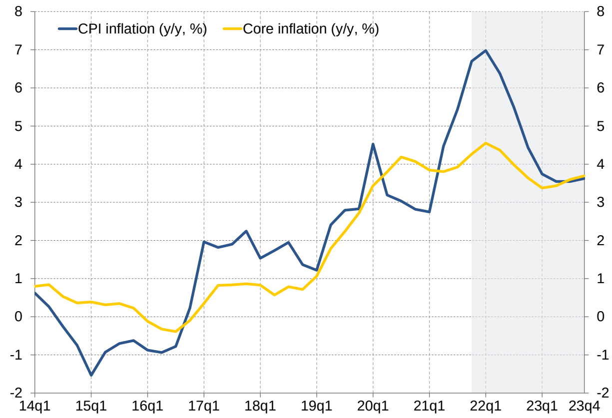
At the beginning of 2022, CPI inflation will remain high and will then gradually decline. In the first half of 2023, under the assumption of unchanged NBP interest rates (including reference rate at 0.5%), consumer price growth will temporarily return close to the upper band of deviations from the NBP inflation target defined as 2.5% +/-1 p.p. At the end of the projection horizon, CPI inflation will increase again (Figure 4.24, Figure 4.25, Figure 4.26).

The high level of inflation at the end of 2021 is a reflection of the high price growth in all the major categories of the CPI basket. The rise in global energy commodity prices observed over the first three quarters of 2021 translated into both domestic prices of fuel for private means of transport and higher gas bills for households. January 2021 also saw a rise in electricity bills, which was caused by households having to cover the capacity charge, the increase in RES fees and the increase in prices of CO_2 emission allowances.

Since 2021 Q2, growth in prices of both processed and unprocessed food has been on the rise. This is caused by the supply-side tensions in the market of pork and poultry meat, resulting in particular from the incidence of African Swine Fever (ASF) and avian flu cases. The release of demand for poultry in Poland and abroad on the part of the hospitality industry also acts in the same direction. Moreover, due to the deterioration of agrometeorological conditions in the summer period, vegetable prices were running at a much higher level than a year earlier.

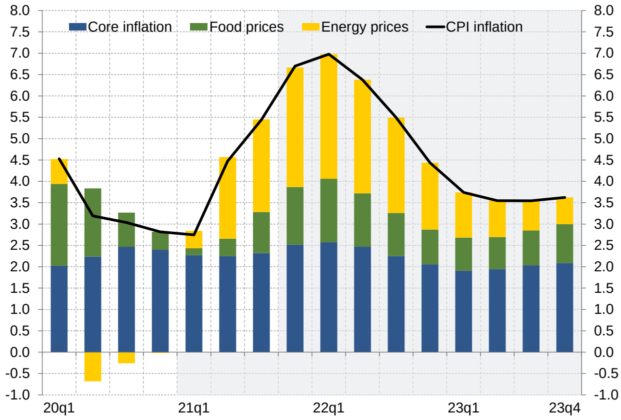
Core inflation has also been accelerating since the middle of 2021. This is a result of price growth in the sectors, mainly services, in which the restrictions imposed during the pandemic have

Figure 4.24 CPI and core inflation



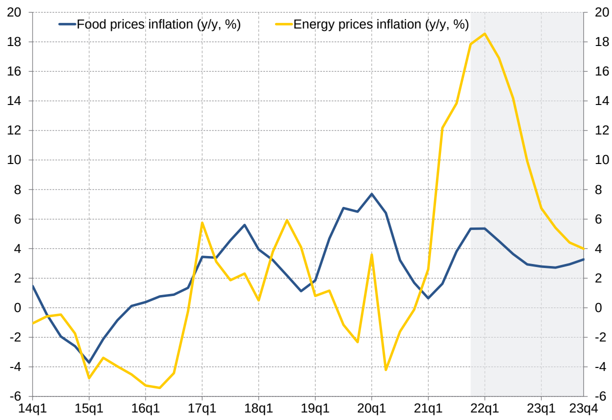
Source: Statistics Poland (GUS) data, NBP calculations.

Figure 4.25 CPI inflation (y/y, %) – breakdown



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

Figure 4.26 Food and energy price inflation



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

been eased and in which pent-up demand is being released, particularly in leisure, restaurant and hotel services. In turn, in those sectors of the economy in which elevated demand during the pandemic will gradually weaken, there will be a lagged adjustment of prices. In some sectors, prices will also be boosted by rising commodity prices and tensions in supply chains. Core inflation will also be significantly boosted by steep increases in administered prices, including waste management fees, although the increases in 2021 are lower than a year ago.

Although consumer price inflation will remain high in annual average terms in 2022, over the year it will follow a downward trend. The decline from its currently high level will be caused by decelerating growth in energy prices and, to a lesser extent, lower core inflation.

According to the assumptions in the projection, in 2022 global oil prices will begin to decline, which will translate into significantly lower fuel price growth. It is also assumed that in 2022 there will be a correction in natural gas and hard coal prices. However, since the tariffication process and adjustment to the earlier increases in commodity prices and CO2 emission allowances is spread over time, growth in electricity and natural gas prices for households will remain high in 2022.

However, the decline in core inflation in 2022 will be due to the fading of the impact of factors which boosted its level in 2021. The price effects of reopening successive sectors of the economy as part of the easing of the social and economic restrictions (tourism, hotels, restaurants) will ebb. Likewise, the price effects of higher commodity prices and tensions in supply chains will weaken. It is also expected that in 2022 increases in waste disposal fees will not be as high as in previous years. On the other hand, the scale of the decline in inflation will be limited by the gradually increasing demand pressure amid the consolidation of economic growth.

Although global energy commodity prices and food prices are assumed to decline, the downward trend of CPI inflation will slow down in the first half of 2023. Its further growth is expected at the end of the projection horizon. Such an inflation path will be caused by the impact of demand factors due to the further improvement in the domestic economic conditions, reflected in the steady growth in the positive output gap. At the same time, the costs of enterprises will be boosted by higher wage growth, resulting from further growth in demand for labour amid its limited supply.

4.4 Current versus previous projection

Data released after the cut-off date of the July projection have contributed to an upward revision of the GDP growth forecast for 2021, with a simultaneous downward revision for 2022-2023. The CPI inflation forecast, in turn, has been raised significantly for 2021-2022, with only a slight correction for 2023 (Table 4.2, Figure 4.27, Figure 4.28, Figure 4.29, Figure 4.30).

The upward revision of GDP growth in 2021 was supported by a faster recovery in economic activity at home and abroad in 2021 Q2 than assumed in the previous projection. Domestic economic performance was also sound in 2021 Q3, benefiting from the very good epidemic situation, allowing households to satisfy their pent-up demand. In recent months, however, the recovery in investment has been slower than assumed in the July projection, both in the private and public sectors. This year's investment is negatively affected by the lower take-up of funds under the Recovery and Resilience Facility than assumed in the July round, due to the delay in approval of the National Recovery and Resilience Plan by the European Commission.

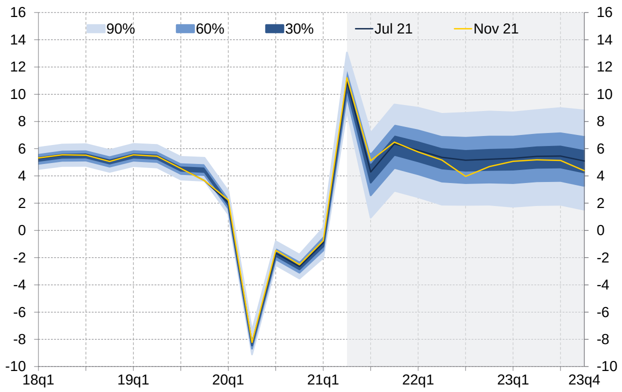
Lower GDP growth in 2022-2023 will in turn be due to slower consumer and investment demand growth. The sharp rise in consumption in 2021 at the expense of a marked reduction in the

Table 4.2 November projection versus July projection

	2021	2022	2023
GDP (y/y, %)			
November 2021	5.3	4.9	4.9
July 2021	5.0	5.4	5.3
CPI inflation (y/y, %)			
November 2021	4.9	5.8	3.6
July 2021	4.2	3.3	3.4

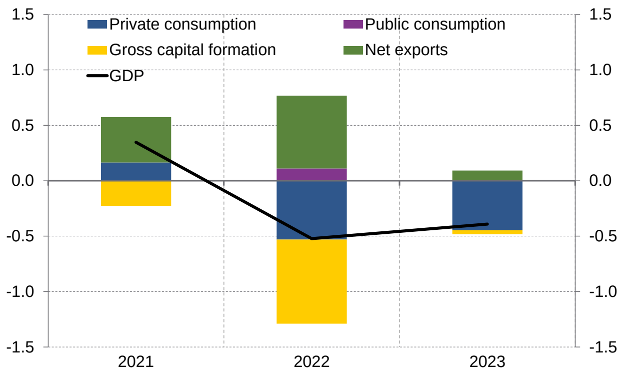
Source: NBP calculations.

Figure 4.27 November projection versus July projection: GDP growth (y/y, %)



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

Figure 4.28 Decomposition of deviations between November and July projection: GDP growth (percentage points)



Source: NBP calculations.
The data presented in the chart may vary slightly from those in Table 4.2, due to rounding of numbers to one decimal place.

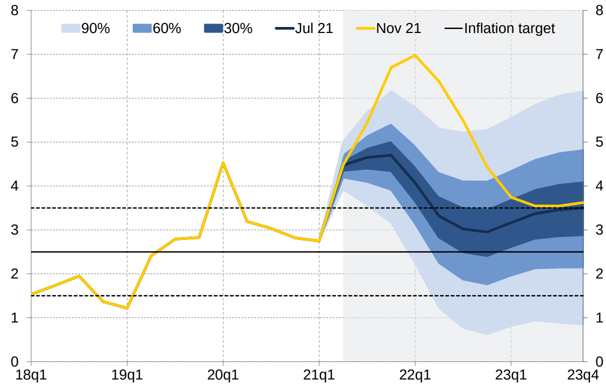
household savings rate will restrict the room needed to sustain such fast growth of this category in the following years. The growth of household purchasing power will be additionally hampered by higher than expected inflation, caused primarily by higher energy prices. Weaker consumer demand and growing costs on the back of higher energy prices will in turn have a negative impact on business investment. Consumer and investment demand will also be constrained to a greater extent than anticipated in the previous projection by the tensions in global supply chains causing delays in the production and distribution of some of the products. Also, the tightening of monetary policy, reflected in the increase in the NBP reference rate by 0.40 percentage points in October, will act to dampen demand. The adverse impact of the above circumstances on domestic demand, in particular consumption, will be mitigated by the inclusion in the current projection of the Polish Deal, adopted by the Sejm in October 2021, which reduces the net tax burden (see also Section *New fiscal policy instruments*).

The upward shift in the CPI inflation path in 2021-2022 relative to the July projection is accounted for by the correction in energy prices, and also to a smaller extent the correction in prices of food as well as core inflation.

The greatest contributor to this revision is the rise in energy commodities prices. In the current year, it has mainly resulted from higher crude oil prices, and thus higher prices of fuel for private means of transport. On the other hand, the impact of the recent months' record high levels of prices of natural gas and CO2 emission allowances on household gas and electricity bill increases will be extended over time due to the tariffication process.

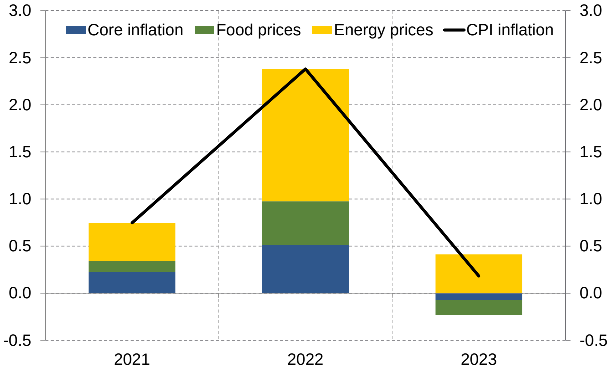
The rising costs of energy are also boosting the costs of production and distribution of other consumer goods and services. Notably, the prices of both unprocessed and processed food are particularly susceptible to the hikes in the prices of gas and CO2 emission allowances, due to higher

Figure 4.29 November projection versus July projection: CPI inflation (y/y, %)



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

Figure 4.30 Decomposition of deviations between November and July projection: CPI inflation (percentage points)



Source: NBP calculations.

The data presented in the chart may vary slightly from those in Table 4.2, due to rounding of numbers to one decimal place.

prices of artificial fertilisers. High prices and restricted availability of fertilisers will additionally reduce vegetable and cereal harvests in 2022, thus prolonging the unfavourable supply situation in those markets caused in 2021 by the weather conditions.

Another factor accounting for higher inflation in 2021 is the stronger than expected recovery in global demand and the accompanying tensions in global supply chains. In particular, they fuel growth in the prices of home furnishings and household appliances. Rapid price growth can also be observed in services whose provision was previously severely restricted, such as organised tourism or air transport.

In 2023, CPI inflation will return to the level close to the path of the July projection. This will be driven, on the one hand, by slower domestic demand growth in 2022-2023. On the other hand, offsetting the influence of weaker economic activity, inflation will be boosted by the faster growth in energy and food prices related to the impact of higher than expected global prices of energy commodities and CO2 emission allowances being spread out over time.

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 most important source of risk for economic activity is the further course of the pandemic worldwide. On the other hand, uncertainty about the future path of energy prices taking into account the situation in the global energy commodities market and the planned changes in the EU's climate policy has become the major source of risk for inflation. The balance of uncertainty factors indicates a higher probability of economic activity running below the central projection scenario and a close to the symmetric

Table 4.3 Probability of inflation running:

	Below 1.50%	Below 2.50%	Below 3.50%	Below the central projection	In the range (1.5-3.5%)
21q4	0.00	0.00	0.00	0.50	0.00
22q1	0.00	0.00	0.00	0.50	0.00
22q2	0.00	0.00	0.00	0.50	0.00
22q3	0.00	0.01	0.05	0.50	0.05
22q4	0.01	0.07	0.24	0.50	0.23
23q1	0.06	0.19	0.43	0.50	0.37
23q2	0.08	0.24	0.48	0.49	0.40
23q3	0.08	0.24	0.48	0.49	0.40
23q4	0.08	0.23	0.46	0.49	0.38

Source: NBP calculations.

distribution of risks for CPI inflation over the projection horizon (Table 4.3).

More severe course of the pandemic globally

The major source of risk for the path of economic growth is a more severe course of the pandemic in China and emerging economies with a low level of vaccination rate. This may be due to new mutations of the virus which, compared to the current strains, would be characterised by higher transmission or an increase in mortality rate. Should this scenario materialise, strict epidemic restrictions policies in force in the Asian countries would lead to the temporary closure of factories and ports, and thus to longer delays in production and logistical problems in international trade. As a result, the disruptions in global supply chains would intensify, leading to an increase in the number of outstanding orders and a shortage of some materials and intermediate goods. These problems would lead to lower global economic growth and, at the same time, higher prices of goods as a result of supply constraints in Asia.

In China, production might be further dampened by policies implemented by the Chinese authorities aimed at reducing CO2 emissions as well as problems with the supply of energy and energy commodities. This might cause stoppages and reduce production, which would have a negative impact on the global supply chains. An additional risk for economic activity in this country might stem from mounting problems in the real estate market due to the high level of indebtedness of developers. As this sector and related services have a significant share in GDP, a possible slump on the Chinese real estate market might lead to a sharp slowdown in economic growth and the insolvency of many firms. As a result, in China – and also partly in other countries – this crisis would cause a fall in prices of commodities and materials used in the construction sector.

Escalating economic disputes between countries, resulting in increased barriers to world trade, lower foreign investment and slower transfer of technologies to less developed economies would also have an adverse effect on global economic activity. In addition, highly indebted economies could experience mounting problems with the solvency and stability of their financial systems.

The materialisation of the above risks would contribute to an extended period of slowdown in global and domestic economic activity. Against the background of heightened uncertainty, corporate investment would also be subdued. The propensity of households to spend their surplus savings would also decline. The economic slowdown might be exacerbated by the possible postponement of payment of funds under the EU's financial assistance instrument *Next Generation EU*, due to a deferred approval of the Polish National Recovery and Resilience Plan by the European Commission.

Containment of the pandemic globally

On the other hand, the negative impact of the pandemic on global economic growth might be significantly restrained. Such a scenario would be supported by the easing of the restrictions policy in force particularly in Asia. This could take place if an acceleration of the rate of vaccination or the introduction of a new, effective drug against the coronavirus contributed to the permanent suppression of the pandemic. With some probability, the SARS-CoV-2 virus might also mutate into milder variants and become a relatively harmless pathogen similar to seasonal viruses (corresponding to influenza).

Such a scenario would lead to an improvement in the functioning of global supply chains, especially if combined with growing availability of materials and intermediate goods and a decline in their prices. In particular, the resumption of uninterrupted operation of ports and factories in China would be essential for eliminating production and supply delays. Moreover, by increasing imports of coal and other commodities, it would also allow to reduce the scale of energy shortages in this economy. At the same time, a marked improvement in the global epidemic situation might, amid a high level of household savings, lead to a faster than expected rebound in consumption of services, while at the same time weakening the currently high demand for certain goods. These changes would affect individual components of the CPI basket in different ways.

Increased support from economic policy, for example the launch of successive fiscal packages announced in the United States, including above all the plan to strengthen the social safety net (American Families Plan), would also contribute to a rebound in global economic activity. In addition, the higher GDP path could materialise in the euro area should the stimulating impact of funds under the *Next Generation EU* instrument prove stronger than assumed. A more durable acceleration in productivity growth due to the outlays on digitalisation and automation as well as changes in the organisation of work implemented as a result of the pandemic could also be a source of faster growth in global economic activity than assumed in the baseline scenario.

In Poland, amid improving global economic conditions and declining uncertainty, household and business sentiment would pick up. The propensity of consumers to increase expenditure thanks to funds saved during the period of stricter restrictions would grow. Stronger growth in household disposable income, resulting from an improvement in business conditions, would also boost housing expenditure, assuming continued low interest rates.

Energy commodity prices and the impact of the EU's climate policy

The development of energy commodity prices, the cost of CO2 emission allowances, and the unknown scale of the impact and pace of implementing the solutions proposed by the European Commission in the *Fit for 55* package are the most important sources of risk for the inflation path.

Global energy commodity prices, including oil and natural gas prices, might be subject to significant volatility, not only due to changes in demand, but also due to actions taken by the major producers which may limit the supply of these commodities. In the case of natural gas prices, geopolitical risk related to disputes over the *Nord Stream 2* pipeline is high. An additional element of uncertainty in the natural gas market is the expiry of the Jamal contract and the planned launch of the *Baltic Pipe* in October 2022. Possible limits in the supply of natural gas due to delays in putting the *Baltic Pipe* into service would lead to a significant increase in cost of purchasing this commodity by Poland.

At the same time, in July 2021 the European Commission presented a draft of the *Fit for 55* package aimed at increasing the reduction in greenhouse gas emissions. In the sectors regulated by the European Union Emissions Trading System (EU ETS), emissions would be reduced by 61% compared to the level in 2005 (previously a reduction of 43% was assumed), and in sectors not regulated by the EU ETS, emissions would be cut by 40% (previously 29%). This programme provides for a faster reduction in the number of CO2 emission allowances and the hike in average minimum tax on fuel in 2023. In the longer term, the launch of a carbon border tax and the inclusion of buildings and road transport in the CO2 emission allowances system are also proposed. These proposals are yet to be negotiated by the EU member states. Should they be adopted in the form proposed, this would lead to higher domestic energy prices (including electricity and fuel prices) in 2023 and subsequent years, as well as faster price growth in the remaining components of CPI in the wake of rising costs of enterprises. Despite the fact that these changes would not come into force until 2023, they could affect the growth in prices of CO2 emission allowances in advance as a result of the earlier purchase of these allowances.

Table 4.4 Central path of inflation and GDP projection

	2020				2021				2022				2023				2020	2021	2022	2023
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Consumer Price Index CPI (%, y/y)	4.5	3.2	3.0	2.8	2.7	4.5	5.4	6.7	7.0	6.4	5.5	4.4	3.7	3.5	3.5	3.6	3.4	4.9	5.8	3.6
Core inflation (net of food and energy prices, %, y/y)	3.4	3.8	4.2	4.1	3.8	3.8	3.9	4.3	4.6	4.4	4.0	3.6	3.4	3.4	3.6	3.7	3.9	4.0	4.1	3.5
Food prices (%, y/y)	7.7	6.4	3.2	1.7	0.6	1.6	3.8	5.3	5.4	4.5	3.6	2.9	2.8	2.7	2.9	3.3	4.7	2.8	4.1	2.9
Energy prices (%, y/y)	3.6	-4.2	-1.6	-0.1	2.6	12.2	13.8	17.8	18.5	16.9	14.2	9.9	6.7	5.4	4.4	4.0	-0.6	11.8	14.8	5.1
GDP (%, y/y)	2.2	-8.2	-1.5	-2.5	-0.8	11.2	5.1	6.5	5.8	5.2	4.0	4.7	5.1	5.2	5.1	4.4	-2.5	5.3	4.9	4.9
Domestic demand (%, y/y)	1.3	-9.1	-2.6	-2.9	0.3	12.4	7.9	8.3	7.3	6.9	4.4	5.5	5.8	6.2	6.4	5.4	-3.4	7.0	6.0	6.0
Household consumption (%, y/y)	1.2	-10.6	0.3	-3.1	0.1	13.1	4.1	8.4	7.0	6.7	3.1	4.4	4.9	5.1	5.2	4.9	-3.0	6.1	5.3	5.0
Public consumption (%, y/y)	3.2	4.3	3.3	8.1	1.6	3.0	3.6	3.0	6.4	4.2	4.3	2.8	4.4	4.9	4.7	4.1	4.9	2.9	4.4	4.5
Gross fixed capital formation (%, y/y)	2.5	-8.8	-7.2	-15.4	1.7	5.6	7.6	11.5	2.3	11.5	10.7	10.7	7.5	9.1	10.0	5.7	-9.0	6.2	8.7	8.0
Contribution of net exports (percentage points, y/y)	1.0	0.4	1.1	0.2	-1.1	-0.3	-2.3	-1.3	-1.1	-1.3	-0.2	-0.6	-0.5	-0.8	-1.0	-0.8	0.6	-1.2	-0.8	-0.8
Exports (%, y/y)	3.2	-13.5	2.4	8.1	7.3	29.2	8.2	6.6	7.6	10.6	11.8	13.0	10.8	8.8	6.6	5.2	0.1	12.0	10.8	7.8
Imports (%, y/y)	1.6	-15.6	0.5	8.5	10.3	34.5	13.8	9.8	10.5	14.2	13.2	15.2	12.5	10.7	8.8	6.9	-1.2	16.1	13.3	9.6
Gross wages (%, y/y)	7.7	3.8	4.8	5.0	6.6	9.6	9.0	8.9	8.3	8.3	8.1	7.9	8.0	7.9	8.1	8.1	5.3	8.4	8.2	8.0
Total employment* (%, y/y)	0.9	-1.3	-0.6	0.5	0.0	2.0	1.0	0.3	0.6	0.2	-0.1	0.0	0.2	0.2	0.3	0.2	-0.1	0.8	0.2	0.2
Unemployment rate* (%)	3.1	3.3	3.1	3.1	3.8	3.7	3.4	3.3	3.4	3.3	3.3	3.2	3.1	3.0	2.9	2.8	3.1	3.5	3.3	2.9
NAWRU (%)	3.7	4.5	4.5	4.5	5.1	5.1	5.0	4.9	4.8	4.6	4.6	4.5	4.4	4.3	4.2	4.1	4.3	5.0	4.6	4.2
Labour force participation rate* (%, y/y)	56.3	55.5	56.2	56.7	57.2	57.5	57.6	57.6	57.7	57.5	57.6	57.6	57.5	57.5	57.4	57.3	56.2	57.5	57.6	57.4
Labour productivity* (%, y/y)	1.3	-7.0	-0.8	-3.0	-0.8	9.1	4.1	6.1	5.1	4.9	4.1	4.7	4.9	4.9	4.8	4.2	-2.4	4.6	4.7	4.7
Unit labour cost* (%, y/y)	6.2	11.6	5.6	8.2	7.3	0.4	4.6	2.4	2.8	3.1	3.8	3.0	2.9	2.9	3.1	3.7	7.9	3.5	3.2	3.2
Potential output (%, y/y)	4.0	1.1	1.5	0.9	0.7	3.5	3.1	3.5	3.9	3.9	4.0	4.1	4.2	4.1	3.8	3.6	1.9	2.7	4.0	3.9
Output gap (% potential GDP)	0.8	-7.0	-1.0	-2.1	-0.7	-0.2	1.0	0.7	1.1	1.0	1.0	1.2	1.9	2.1	2.3	2.0	-2.3	0.2	1.1	2.1
Index of agricultural commodity prices (EUR; 2011=1.0)	0.96	0.89	0.86	0.87	0.92	0.99	1.02	1.07	1.08	1.08	1.05	1.02	1.01	1.02	1.00	0.98	0.90	1.00	1.05	1.00
Index of energy commodity prices (USD; 2011=1.0)	0.51	0.36	0.41	0.51	0.66	0.84	1.16	1.70	1.65	1.25	1.11	0.98	0.95	0.92	0.88	0.85	0.45	1.09	1.25	0.90
Gross value added deflator abroad (%, y/y)	2.2	3.1	2.0	2.3	2.1	0.8	1.3	1.3	1.2	1.4	1.6	1.6	1.2	1.2	1.3	1.5	2.4	1.4	1.5	1.3
GDP abroad (%, y/y)	-2.4	-14.3	-4.4	-4.3	-1.9	14.3	3.6	4.6	6.0	4.3	3.4	3.0	2.8	2.6	2.2	1.9	-6.3	4.9	4.2	2.4
Current account balance (% GDP)	1.0	2.0	2.6	2.9	2.7	1.7	0.7	-0.3	-1.1	-1.6	-1.6	-1.5	-1.6	-1.7	-1.8	-1.8	2.9	-0.3	-1.5	-1.8
WIBOR 3M (%)	1.62	0.58	0.24	0.22	0.21	0.21	0.22	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.66	0.33	0.69	0.69

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

For the majority of variables, the values up to 2021Q3 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. *Due to the change in the LFS methodology, the data up to 2020 and from 2021 on total employment, unit labour cost, labour productivity, unemployment rate and labour force participation rate are not fully comparable - see footnote 65.

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

5. The voting of the Monetary Policy Council members in May – September 2021[67]

■ Date: 5 May 2021

Subject matter of motion or resolution:
Resolution No. 3/2021 on approving the Report on monetary policy in 2020.

Voting of the MPC members:

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

■ Date: 5 May 2021

Subject matter of motion or resolution:
Resolution No. 4/2021 on evaluation of the activities of the NBP Management Board as regards the implementation of monetary policy guidelines for 2020.

Voting of the MPC members:

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

[67] This chapter does not include voting on resolution No. 8/2021 of 8 September 2021, which has not yet been published in the Court and Commercial Gazette (*Monitor Sądowy i Gospodarczy*). Voting on this resolution will be included in the next *Inflation Report*.

■ Date: 5 May 2021

Subject matter of motion or resolution:
Resolution No. 5/2021 on approving the report on the operations of Narodowy Bank Polski in 2020.

Voting of the MPC members:

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

■ Date: 9 June 2021

Subject matter of motion or resolution:
Resolution No. 6/2021 on the approval of the updated financial plan of Narodowy Bank Polski for 2021.

Voting of the MPC members:

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

■ Date: 9 June 2021

Subject matter of motion or resolution:
Resolution No. 1/DRF/2021 on the appointment of a registered auditor for the Annual Financial Statements of Narodowy Bank Polski for years 2021 and 2022.

Voting of the MPC members:

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

■ Date: 9 June 2021

Subject matter of motion or resolution:
Motion to raise the NBP reference rate by 0.15 percentage points.

MPC decision:
Motion did not pass.

Voting of the MPC members:

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

■ Date: 9 June 2021

Subject matter of motion or resolution:
Resolution No. 7/2021 amending the resolution on the regulations of the Monetary Policy Council.

Voting of the MPC members:

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

■ Date: 8 July 2021

Subject matter of motion or resolution:
Motion to raise the required reserve ratio to 3.5%, while keeping at 0% the required reserve ratio on deposits above 2 years.

MPC decision:
Motion did not pass.

Voting of the MPC members:

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

Date: 8 July 2021

Subject matter of motion or resolution:

Motion to lower the remuneration of the required reserves from 0.10% to 0.01%.

MPC decision:

Motion did not pass.

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 July 2021

Subject matter of motion or resolution:

Motion to raise the NBP reference rate by 0.15 percentage points.

MPC decision:

Motion did not pass.

Voting of the MPC members:

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

■ Date: 8 September 2021

Subject matter of motion or resolution:

Motion to raise the NBP interest rates as follows:

- reference rate to 2.00%,
- lombard rate to 3.00%,
- deposit rate to 1.00%,
- rediscount rate to 2.01%,
- discount rate to 2.02%

and to set the interest rate on required reserves at the level of 1.00%.

MPC decision:

Motion did not pass.

Voting of the MPC members:

For: K. Zubelewicz

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

■ Date: 8 September 2021

Subject matter of motion or resolution:

Motion to raise the NBP reference rate by 0.15 percentage points.

MPC decision:

Motion did not pass.

Voting of the MPC members:

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

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

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