NBP Narodowy Bank Polski

Monetary Policy Council

November 2018

Inflation Report

The Inflation Report presents the Monetary Policy Council's assessment of the macroeconomic developments influencing inflation. The projection of inflation and GDP presented in Chapter 4 was prepared at the Economic Analysis Department of Narodowy Bank Polski (NBP). In terms of the contents, works on the projection were supervised by Piotr Szpunar, Director of the Economic Analysis Department. The projection was prepared with the use of the NECMOD macroeconomic model. The NBP Management Board approved the submission of the projection to the Monetary Policy Council. The inflation projection 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. In turn, the periodisation of the analysis (breakdown into sub-periods) is conditioned by the development of particular variables. The cut-off date for the data in this Report was 25 October 2018.

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

Contents

Summary

Global economic conditions remain favourable, supported by rising consumer demand and in many economies also investment growth. Yet the differences in economic activity between the groups of countries have recently increased. While in the major advanced economies activity has remained high, in some other economies signs of decelaration have emerged. Moreover, the decline in part of the global activity indicators, including weaker growth of global trade in goods, points to a possible slight slowdown in global economic growth in 2018 Q3.

In recent months, inflation in the global economy has increased, which resulted primarily from a pickup in energy and food price growth related to higher commodity prices in the global markets. At the same time, core inflation has remained relatively low in the immediate environment of the Polish economy.

The European Central Bank (ECB) keeps the interest rates close to zero, including the deposit rate below zero, and announces that the interest rates will remain at their current levels at least through the summer of 2019. As a result, the short-term interbank interest rates in the euro area stay negative. In line with the previous announcements, in October 2018 the ECB reduced the scale of the asset purchase programme from EUR 30 to EUR 15 billion and it is planning to terminate net purchases at the end of 2018. By contrast, gradual tightening of monetary policy continues in the United States. In 2018, the Fed increased the target range for the fed funds rate three times, by 0.25 percentage point each. Consequently, after the rise in September 2018, this range has stood at 2.00-2.25%.

Sentiment in the global financial markets has deteriorated in recent period. In the United States, equity prices declined considerably which was driven by the weaker forecast financial performance of many companies, as well as rising US Treasury yields amid the continued tightening of monetary policy by the Fed. Also in the euro area, equity prices fell sharply owing to the elevated political uncertainty. At the same time, government bond yields in most euro area countries remained very low which was related to accommodative monetary policy of the ECB. Italy was an exception in this regard, with government bonds yields increasing markedly in recent months due to the local factors. Many non-European emerging market economies saw considerable declines in their asset prices, albeit of a different degree. The declines were associated with uncertainty about the economic outlook for these countries as well as further interest rate hikes in the United States, which – coupled with the depreciation of their currencies – contributed to a rise in the costs of servicing the US dollar-denominated debt.

In Poland, despite high economic growth and wages increasing faster than in the previous year, consumer price growth remains moderate. In September 2018, CPI inflation stood at 1.9% y/y. Moderate inflation has been supported by stable domestic demand pressure and modest inflation in major trading partners of Poland. Alongside that, since the publication of the previous *Report*, energy price growth has risen due to the increaserise in global energy commodities prices. In, energy price growth has increased in recent months. Concurrently, the survey opinions of consumers and enterprises on future inflation developments moved toward higher price growth. In turn, the economists surveyed by NBP still expect inflation running close to the NBP target in the coming quarters.

Economic growth in Poland remains relatively high despite a likely slowdown in 2018 Q3. GDP growth stood at 5.1% y/y in 2018 Q2 and was close to that observed over the past few quarters. Consumer demand continues to be the main driver of growth, supported by rising employment and wages as well as very strong consumer sentiment. GDP growth is also backed by rising investment, particularly in the public sector, including those co-financed from EU funds, as well as in the sector of large and medium enterprises. In 2018 Q2, the contribution of net exports to GDP growth was positive. This was the result of a marked pickup in export growth, mainly to the euro area. Amid rising domestic demand, import growth also increased.

Continued high demand growth in the economy is conducive to further rise in employment, although the data from the enterprise sector indicate that employment growth could decelerate slightly in 2018 Q3. Rising employment contributes to a further fall in the unemployment rate – to 3.7% in 2018 Q2 from 4.1% in the previous quarter (the LFS, seasonally adjusted data). As the bargaining position of the employees in the wage negotiations strengthens, nominal wages in the economy are rising faster than in previous years, albeit currently they are not accelerating further. The stronger than in previous years wage growth is accompanied by high growth in labour productivity. Consistent with that, unit labour cost growth has remained moderate.

Against this macroeconomic background, the Monetary Policy Council maintains the NBP interest rates unchanged, including the reference rate at 1.50%. Over the past few months, market expectations of the NBP interest rates have not changed substantially, pointing to their stabilisation in the coming quarters.

Yields on Treasury bonds in Poland have been stable despite the heightened volatility of asset prices in some emerging market economies. This was underpinned, above all, by the investors' favourable assessment of Poland’s economic fundamentals and the absence of material macroeconomic imbalances, as well as expectations of stable NBP interest rates in the coming quarters. At the same time, the złoty exchange rate against the euro and the US dollar has stabilized in recent months after its depreciation in the first half of 2018.

In 2018 Q3, broad money (M3) growth in the economy increased compared to the previous quarter. As in previous periods, rising household deposits made the largest contribution to the M3 aggregate growth. Stable growth of lending to the non-financial sector remained the main driver behind the creation of broad money. For the past few quarters, lending growth has been slightly lower than nominal GDP growth.

The external imbalance indicators evidence that the Polish economy remains well balanced. In 2018 Q2, the current account balance amounted to 0.0% of GDP (in terms of a 4-quarter rolling sum). External debt has remained stable in recent quarters, and Poland's net international investment position in relation to GDP has been improving.

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 have been described in Chapter 2. *Minutes of the Monetary Policy Council decision-making meetings* held in July – October 2018, together with the *Information from the meeting of the Monetary Policy Council* in November 2018 are presented in Chapter 3. *Minutes* of the MPC meeting held in November will be published on 21 November 2018 and so will be included in the next *Report*. The Monetary Policy Council voting records from the meetings held between mid-May and September 2018 can be found in Chapter 5. Furhtermore, the *Report* includes two boxes:

Disruptions in the financial markets of some emerging economies and *Relationships between population ageing and inflation*.

Chapter 4 of the *Report* presents the projection for inflation and GDP based on the NECMOD model, which is one of the inputs into the Council's decision-making process on the NBP interest rates. In line with the projection – prepared under the assumption of unchanged NBP interest rates and taking into account data available until 19 October 2018 – there is a 50-percent probability that the annual price growth will be in the range of 1.7–1.9% in 2018 (against 1.5–2.1% in the July 2018 projection), 2.6–3.9% in 2019 (compared to 1.9–3.5%) and 1.9–3.9% in 2020 (against 1.7–3.9%). At the same time, the annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.4–5.2% in 2018 (against 4.0–5.2% in the July 2018 projection), 2.7–4.4% in 2019 (compared to 2.8–4.7%) and 2.3–4.2% in 2020 (against 2.4–4.3%).

1. External developments

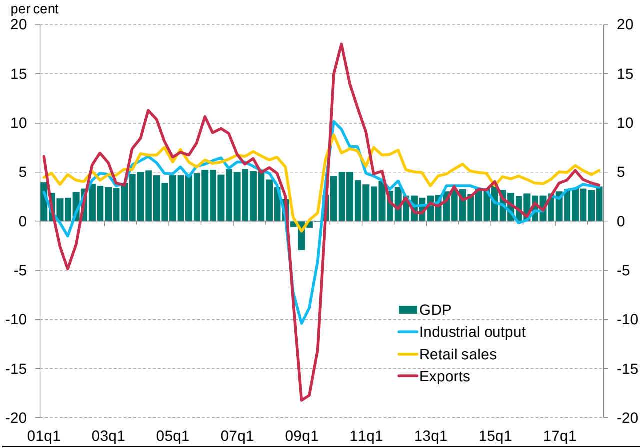
1.1 Economic activity abroad

Global economic conditions remain favourable (Figure 1.1), supported by rising consumer demand and – in many economies – also investment growth. Yet the differences between the groups of countries have recently increased. Although activity in the major advanced economies has remained high, in some economies signs of deterioration have emerged. Moreover, the decline in some global activity indicators, including slower growth of global trade in goods, points to a possible slight slowdown in global economic growth in 2018 Q3.

In the euro area, although economic conditions remain favourable, annual GDP growth has slowed down somewhat (to 2.2% y/y in 2018 Q2 as compared to 2.4% y/y in 2018 Q1; Figure 1.2), and the data incoming in recent months point to its further weakening.[1] Economic growth continues to be driven primarily by domestic demand, particularly private consumption, with slightly higher contribution of investment to GDP growth than in previous quarters. Rising domestic demand in the euro area is supported by relatively high consumer and business confidence, increasing employment, acceleration in wage growth and low interest rates of the European Central Bank (see Chapter 1.4 *Monetary policy abroad*). Also, the contribution of net exports to growth remained positive in 2018 Q2.

In Central and Eastern European economies, despite a slight slowdown (from 4.1% y/y in 2018

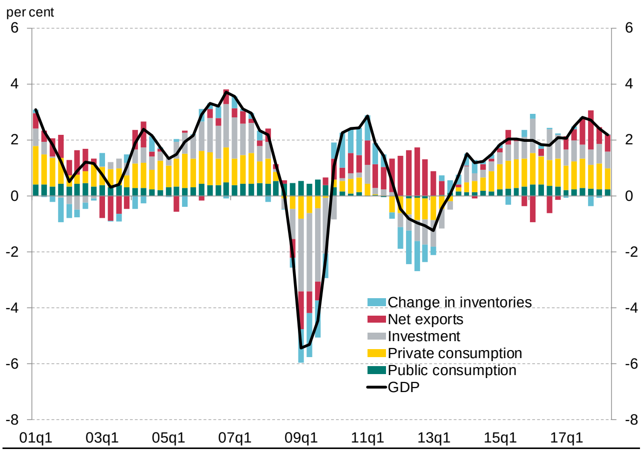
Figure 1.1 GDP growth and global economic activity indicators (y/y)



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

GDP, industrial output and retail sales – GDP-weighted average annual growth in economies comprising 80% of global GDP in 2016. Exports – global export growth rate estimated by Centraal Planbureau.

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



Source: Eurostat data.

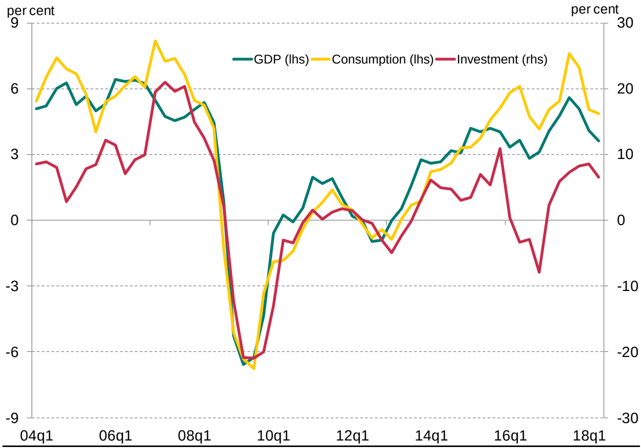
[1] In 2018 Q3 GDP growth in the euro area amounted to 1.7% y/y.

Q1 on average to 3.6% y/y in 2018 Q2), GDP growth has also continued at a relatively robust pace. Economic growth in these economies was mainly driven by domestic demand (Figure 1.3). The ongoing growth of consumption, supported by favourable labour market conditions and high wage growth, has been accompanied by a gradual recovery in investment demand.

In the United States, GDP growth in 2018 Q2 accelerated to 2.9% y/y (from 2.6% in 2018 Q1; Figure 1.4).[2] This acceleration was largely driven by the slightly faster growth of private consumption, which was underpinned by rising employment and wages, as well as increasing household wealth – mainly due to the rise in the prices of financial assets (see Chapter 1.5 *International financial markets*). At the same time, economic activity in the United States was supported by a further growth in private investment, especially corporate investment, benefiting from the tax reform involving, among others, a reduction in the corporate tax rate. The pickup in corporate investment in 2018 Q2 was also accompanied by a marked increase in export growth, partially related to a temporary peak in the exports of certain agricultural produce in response to the announced changes in the trade policies of the United States and China.

In the United Kingdom, GDP growth accelerated slightly in 2018 Q2, mainly as a result of the somewhat faster growth in domestic demand. GDP growth continued to be driven by private consumption, although its growth was hampered by the merely moderate wage growth. Investment growth continued to lose momentum due to the elevated uncertainty about the shape of the Brexit agreement. At the same time, the share of exports to EU countries remained stable, which suggests that the prospect of Brexit has not yet adversely affected the country's trade with the EU.

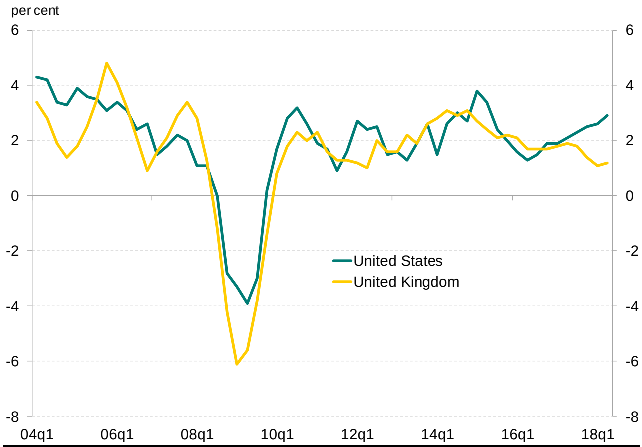
Figure 1.3 Economic growth and its selected components in countries of Central and Eastern Europe (y/y)



Source: Eurostat data, NBP calculations.

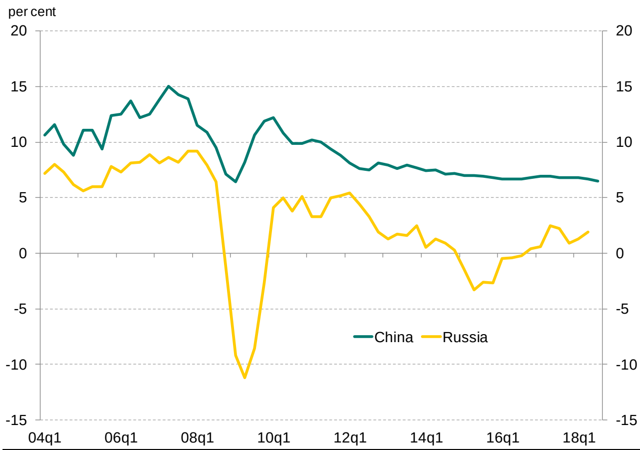
GDP-weighted annual growth rate of the total GDP, private consumption and gross fixed capital formation in non-euro area Central and Eastern European EU member states (excluding Poland).

Figure 1.4 Economic growth in selected advanced economies (y/y)



Source: Bloomberg data.

Figure 1.5 Economic growth in selected emerging market economies (y/y)



Source: Bloomberg data.

[2] In 2018 Q3, GDP growth in the US amounted to 3.0% y/y.

In Russia, economic growth in 2018 Q2 picked up slightly (to 1.9% y/y from 1.3% y/y in 2018 Q1; Figure 1.5). This can be attributed primarily to the football World Cup taking place in Russia at that time and higher global oil prices.

In turn, GDP growth in China continued to gradually decrease to reach a nine-year low in 2018 Q3 (6.5% y/y compared to 6.7% y/y in 2018 Q2). This stemmed mainly from slowing public investment growth, while consumer demand growth continued to support economic growth in China. The export growth also remained relatively high, close to the levels recorded in previous few quarters.

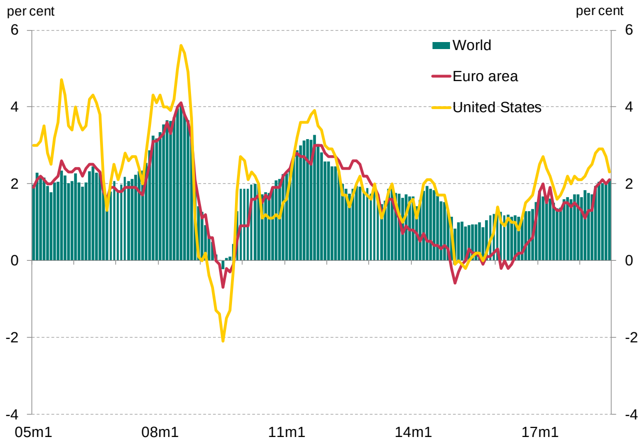
In contrast, economic conditions in some of the remaining emerging market economies considerably deteriorated (particularly in Argentina, South Africa and Turkey), mainly due to the local economic and political circumstances. In many of these economies the slowdown occurred amid tightening financing conditions, related to a rise in the interest rates and a sharp depreciation of the exchange rates of their currencies against the dollar, coupled with a marked pickup in inflation.

1.2 Inflationary developments abroad

In recent months, inflation in the global economy has increased, which resulted primarily from a pick-up in energy and food price growth, related to higher global commodity prices (Figure 1.6, see Chapter 1.3 *Global commodity markets*). At the same time, core inflation in the immediate environment of the Polish economy has remained relatively low.

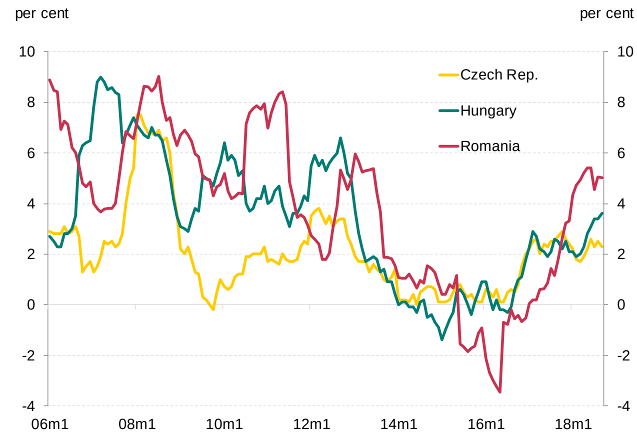
In the euro area, inflation remains close to the level consistent with the ECB definition of price stability (standing at 2.1% y/y in September 2018). The rise in inflation observed in 2018 has occurred primarily on the back of a marked pick-up in energy prices. In contrast, core inflation, despite the strong economic growth, remains low (running at 1.1% y/y in September 2018), which can be put

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



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

Figure 1.7 Inflation rate in the Czech Republic, Romania and Hungary (y/y)



Source: Bloomberg data, NBP calculations.
Annual HICP inflation excluding food and energy prices.

down to a still moderate, albeit accelerating, wage growth. Price growth in this economy in the past few months has also been limited by earlier appreciation of the euro exchange rate.

In the United States, inflation is still higher than in many other advanced economies, despite a decline in recent months (CPI inflation in September stood at 2.3% y/y). Higher inflation is driven by the continued economic recovery over the past few years, which has been reflected in very good labour market conditions. In recent months, the unemployment rate has remained markedly below the long-term average, and wage growth has been accelerating. Against this background, core inflation has stayed above 2% for the past few quarters (in September 2018, it stood at 2.2%).

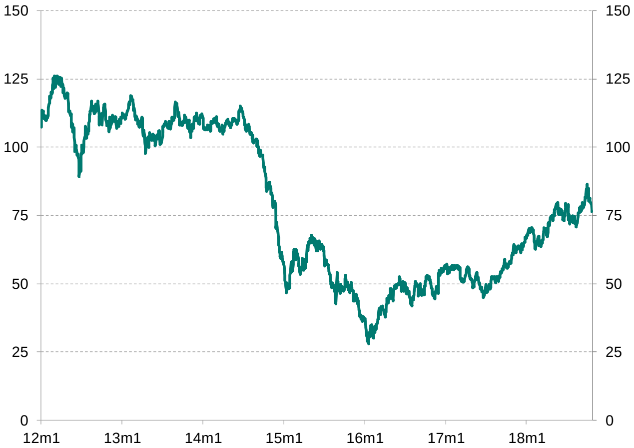
In most Central and Eastern European economies, inflation was on an upward trend in 2018 and remained higher than in Poland (Figure 1.7). The rise in inflation was driven by relatively strong wage growth, translating into higher core inflation, and faster growth of energy prices, especially fuels.

1.3 Global commodity markets

Since the publication of the previous *Report*, the prices of most commodities, including energy and agricultural commodities, have risen. Consequently, they are currently running at higher levels than a year ago.

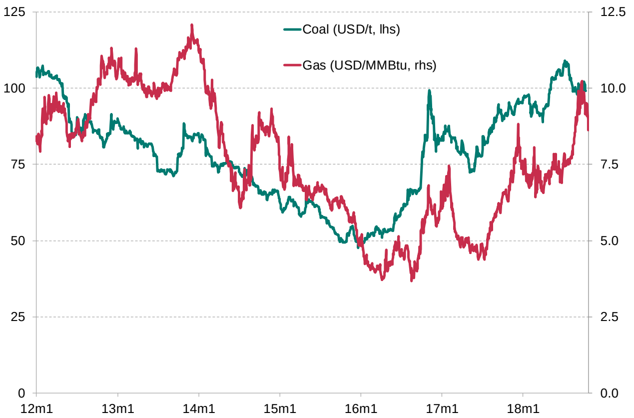
From the beginning of 2018, the prices of Brent oil have risen by approx. 15%. However, their growth slowed down in October (Figure 1.8). The continued growth of global oil prices in the recent period was supported by persistently high demand for this commodity, resulting from favourable global economic conditions. Factors boosting oil prices also included the political tension in the Middle East (related to the US

Figure 1.8 Price of Brent oil barrel in US dollar



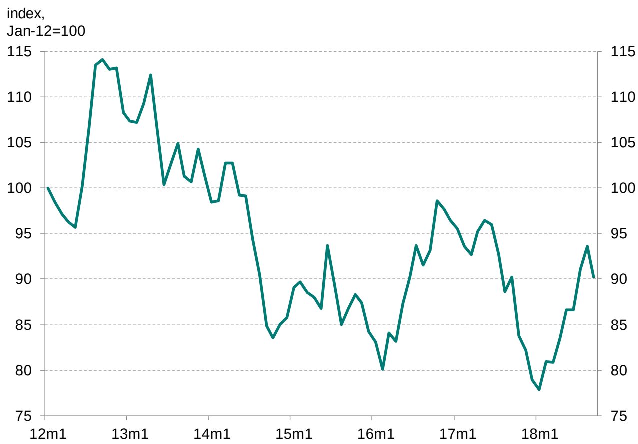
Source: Bloomberg data.

Figure 1.9 Prices of coal and natural gas.



Source: Bloomberg data, NBP calculations.
USD/t – price expressed in US dollar per metric tonne. USD/MMBtu – price expressed in US dollar 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).

Figure 1.10 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.

economic sanctions on Iran[3], and military conflicts in the region) and the decline in the extraction of this commodity in Venezuela, caused by the political and economic crisis, and – as in the previous case – the US sanctions. Alongside that, oil price growth was contained by mounting concerns about the outlook for global economic conditions, higher oil output in the United States, the decision of the Organisation of Petroleum Exporting Countries, and some other oil exporters, to increase oil production limits.

Similarly, coal prices, despite a recent fall, continue at higher levels than in the previous year (Figure 1.9), driven up by high demand for this fuel from Asian countries, combined with its reduced production in China.

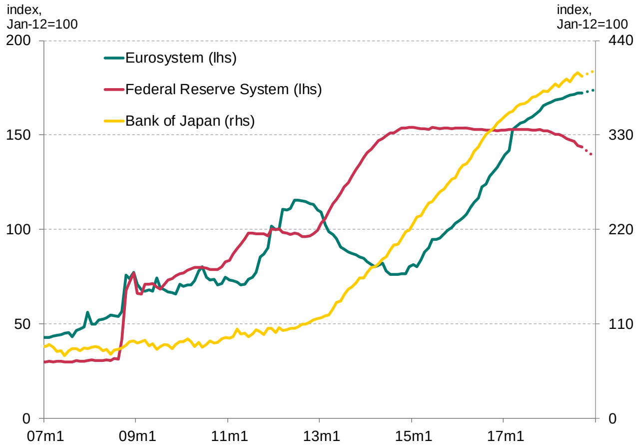
Prices of natural gas, in turn, have increased sharply since the publication of the previous *Report*, chiefly on account of prior increases in oil prices and a reduced extraction of gas in Norway. Higher demand for electrical energy in Europe, due to the exceptionally high temperatures in the summer months, have worked in the same direction.

The continued rise in agricultural commodity prices in recent months (Figure 1.10) has been related to the favourable global economic conditions, coupled with higher energy prices and production costs as well as expectations of lower supply in key agricultural markets (due to, among others, drought in many countries).

1.4 Monetary policy abroad

The European Central Bank (ECB) keeps the interest rates close to zero, including the deposit rate below zero. As a result, the short-term interbank interest rates in the euro area remain negative. In line with its previous announcements, in October 2018 the ECB has reduced the scale of

Figure 1.11 Total assets of the major central banks with a forecast



Source: FRED data, NBP calculations.

Forecast until December 2018: for the Eurosystem under an assumption of monthly growth by 15 billion EUR from October to December 2018, for the Bank of Japan under an assumption of extrapolation of the average growth rate observed in period from October 2017 to September 2018, for the Federal Reserve System under an assumption of a decline in accordance with the Fed's reinvestment policy principles and taking into account maturity structure of the Treasuries held by the central bank.

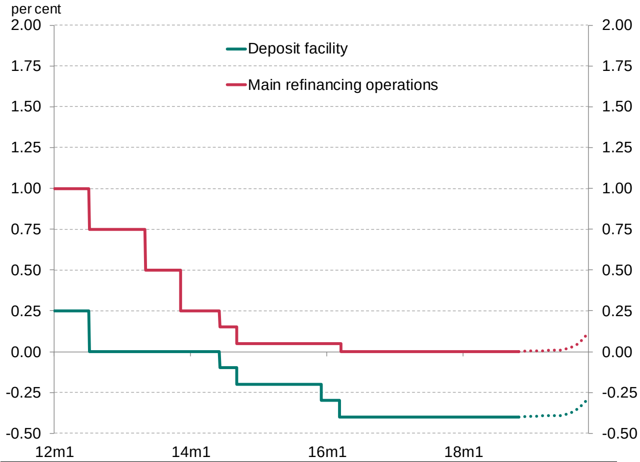
[3] At the beginning of November, the United States announced that several countries would be temporary excluded from the ban on the imports of oil from Iran entering into force, which was conducive to the decline in prices of this commodity.

the asset purchase programme from EUR 30 to EUR 15 billion and it is planning to terminate net purchases at the end of 2018 (Figure 1.11). At the same time, the ECB expects its interest rates to remain at their current levels at least through the summer of 2019. Consequently, market participants do not expect any changes in the interest rates in the coming quarters (Figure 1.12). Alongside that, the ECB intends to reinvest the principal payments from maturing securities purchased under the quantitative easing programme for an extended period of time after the end of its net asset purchases, which will help to maintain accommodative monetary conditions in the euro area.

Meanwhile, in the United States gradual tightening of monetary policy continues. In 2018, the Fed increased the target range for the fed funds rate three times, by 0.25 percentage point each. As a result, after a rise in September 2018 this range has stood at 2.00-2.25%. The median of the September economic projections by the members of the Federal Open Market Committee (FOMC) points to one more interest rate hike of 0.25 percentage point in 2018 and three hikes in 2019 (Figure 1.13). At the same time, the Fed is gradually reducing its balance sheet by limiting asset reinvestment, which additionally contributes to the tightening of monetary conditions in the United States.

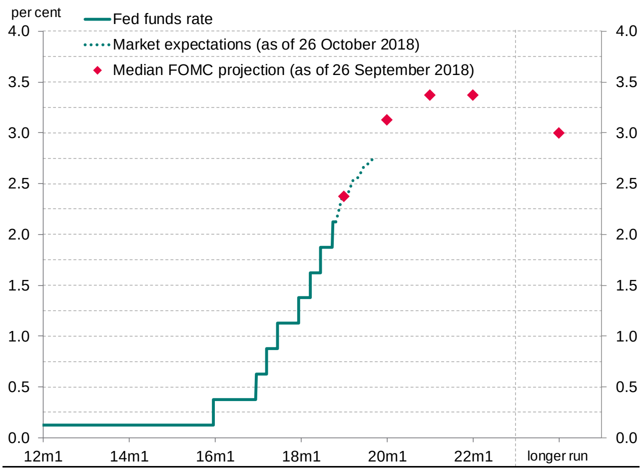
The interest rates of the central banks in the remaining advanced economies continue to run very low, and in Japan, Switzerland, Sweden and Denmark they are negative. Additionally, the Bank of Japan continues its asset purchase programme, while the Swiss National Bank declares its readiness to conduct foreign exchange interventions aimed at preventing an excessive appreciation of the Swiss franc. Alongside this, central banks in some other advanced economies (the United Kingdom, Norway and Canada) have increased the interest rates slightly in recent months.

Figure 1.12 Historical and expected interest rates of the ECB



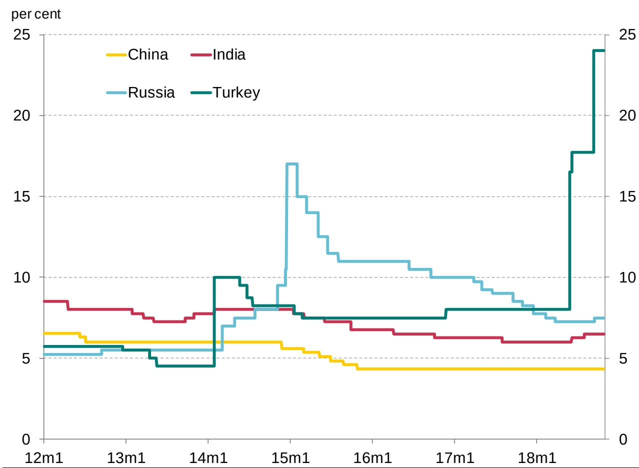
Source: Bloomberg data.
Expected interest rates based on the overnight index swaps for the rates on the deposit facility and the main refinancing operations.

Figure 1.13 Historical and expected interest rates in the United States (midpoint of the target range for the fed funds rate)



Source: Bloomberg and Fed data.
Market expectations based on fed funds futures contracts.

Figure 1.14 Central banks' interest rates in selected emerging market economies



Source: Bloomberg data.

Due to an increase in inflation above the targets, also the central banks in the Czech Republic and Romania have raised their interest rates.

In recent months, the central banks in some major emerging market economies have increased the interest rates in response to a considerable depreciation of their domestic currencies (mainly in Turkey and Argentina, but also in India and Russia; Figure 1.14; see Chapter 1.5 *Global financial markets* and Box 1 *Disruptions in the financial markets of some emerging economies*).

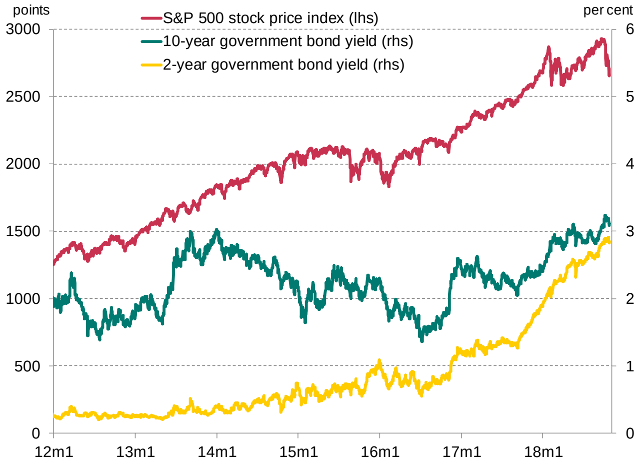
1.5 International financial markets

Sentiment in the global financial markets has worsened in recent period. In particular, stock prices declined and government bond yields rose in many economies. At the same time, the currencies of emerging market economies and the euro depreciated against the US dollar.

After a previous increase, equity prices in the United States declined considerably in October 2018 (Figure 1.15). This was driven by the rising US Treasury yields amidst continued gradual tightening of monetary policy by the Fed (see Chapter 1.4 *Monetary policy abroad*)[4], the weaker forecast financial performance of many companies and growing uncertainty about further developments in the global economy (see Chapter 1.1 *Economic activity abroad*).

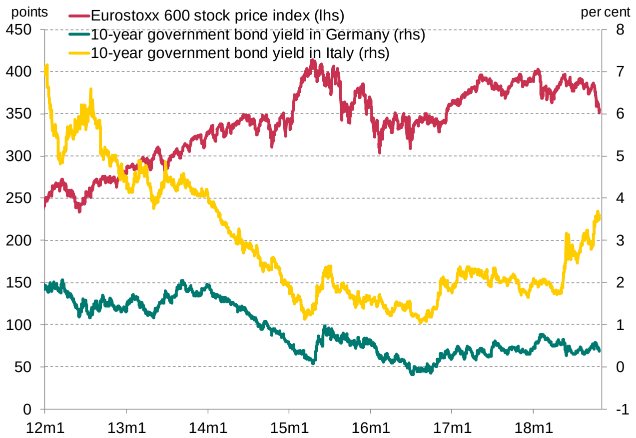
Following a decline of stock prices in the United States, equity prices in the euro area fell sharply (Figure 1.16). The fall reflected also the elevated uncertainty about the political situation and the outlook for fiscal policy in Italy as well as the Brexit negotiations. At the same time, government bond yields in most euro area countries remained very low as a consequence of continued accommodative monetary policy of the ECB (the yield on 10-year German bonds stood at around

Figure 1.15 Stock prices and government bond yields in the United States



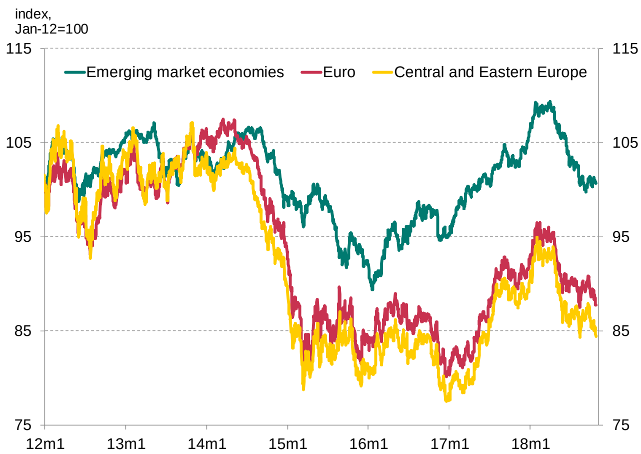
Source: Bloomberg data.

Figure 1.16 Stock prices and government bond yields in the euro area



Source: Bloomberg data.

Figure 1.17 Exchange rates of emerging markets currencies and the euro against the US dollar (rise indicates appreciation)



Source: Bloomberg data.

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

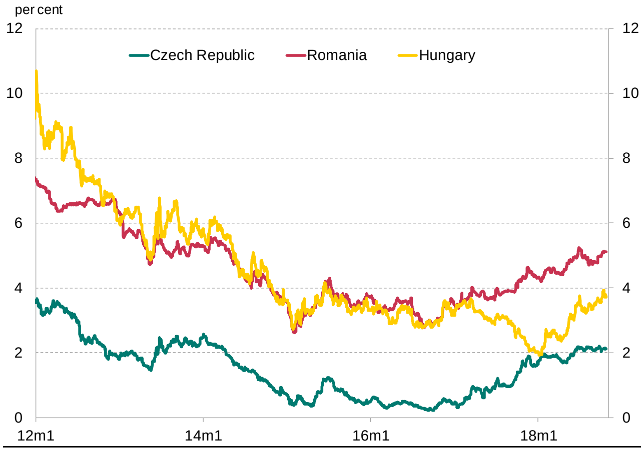
[4] In mid-October, 10-year US Treasury yield reached the highest level in seven years and stood at around 3.1% later that month. Also shorter-term yields, which are more sensitive to moves in fed funds rate, picked up strongly (2-year US Treasury yield reached 2.8%).

0.4% at the end of October). Italy was an exception in this regard, with the yield on government bonds increasing markedly in recent months – to the highest level since the beginning of 2014 – due to local factors.[5] Meanwhile, the euro weakened against the US dollar (at the end of October EUR/USD was around 1.14; Figure 1.17).

In most Central and Eastern European countries, the government bond yields stabilized in recent months, having increased previously (Figure 1.18). At the end of October, the yields on 10-year bonds in the Czech Republic, Hungary and Romania stood at 2.1%, 3.7% and 5.1%, respectively. Currencies of the CEE economies depreciated against the US dollar following the euro depreciation against this currency.

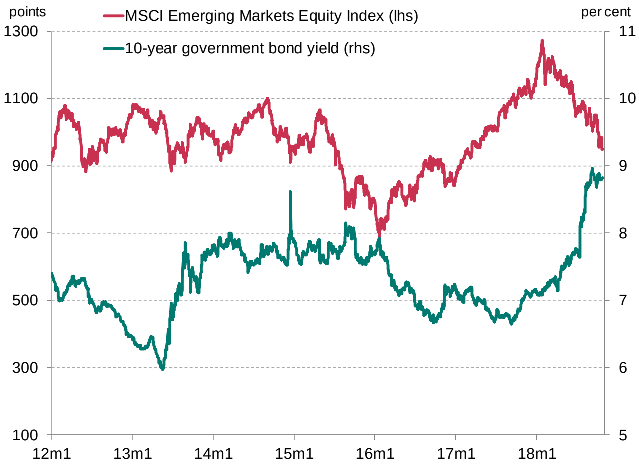
In turn, many non-European emerging market economies saw considerable decline in asset prices (Figure 1.19). This was driven by mounting uncertainty about the outlook for economic conditions in those countries, among others, due to changes in the trade policy of major economies. Asset price declines were also the result of further interest rate increases in the United States, which – coupled with the depreciation of the currencies of the emerging market economies – contributed to rising costs of servicing debt denominated in the US dollar. Against this background, equity prices in the emerging market economies declined and bond yields increased, although the scale of those changes varied considerably across economies (see Box 1 *Disruptions in the financial markets of some emerging economies*).

Figure 1.18 10-year government bond yields in Central and Eastern Europe



Source: Bloomberg data.

Figure 1.19 Stock prices and government bond yields in emerging market economies



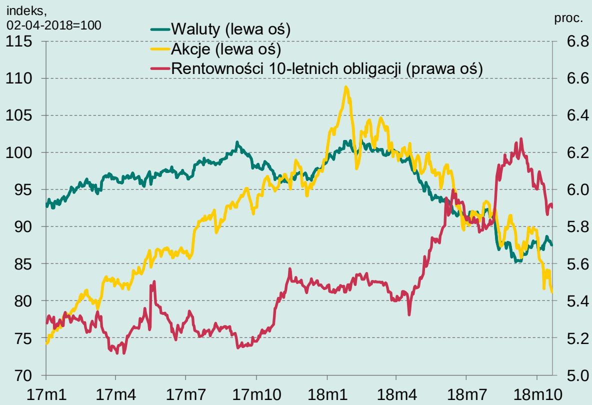
Source: Bloomberg data, NBP calculations.
Government bond yields – GDP-weighted average of the yields in India, Russia, Indonesia, Mexico, Turkey, Thailand, Malaysia, and Philippines.

[5] 10-year government bond yield in Italy picked up by 1.7 percentage points since the beginning of May 2018 to around 3.5%. Initially, the rise in yields was driven by uncertainty related to prolonged process of government formation in Italy, that finally come to an end on July 1. In late-September, the yields started to rise even higher on the back of signals on a planned increase in government deficit since this would constitute a deviation from the recommendations adopted by the EU Council due to i.a. persistently elevated public debt in Italy (131.8% of GDP in 2017).

Box 1. Disruptions in the financial markets of some emerging economies

Over the past few months, the financial markets of some emerging economies have gone through a period of turmoil. The tensions were manifested by an outflow of capital, that was accompanied by currency depreciation, falling stock prices and rising sovereign bond yields (Figure B.1.1). Yet the extent of these tensions varied across economies and was mostly related to the local economic and political factors. In some of these economies prices of financial assets fell sharply, while in others, where macroeconomic imbalances are limited, they remained relatively stable (Figure B.1.2; Figure B.1.3).

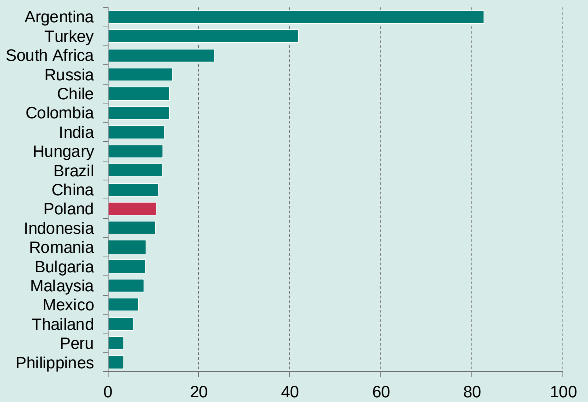
Figure B.1.1 Exchange rates, equity prices and bond yields in emerging markets



Source: Bloomberg and World Bank data, NBP calculations.
Currencies - JP Morgan Emerging Market Index; increase denotes appreciation. Equities - MSCI Emerging Market Index. Bond yields - average of 19 emerging markets weighted with central government debt.

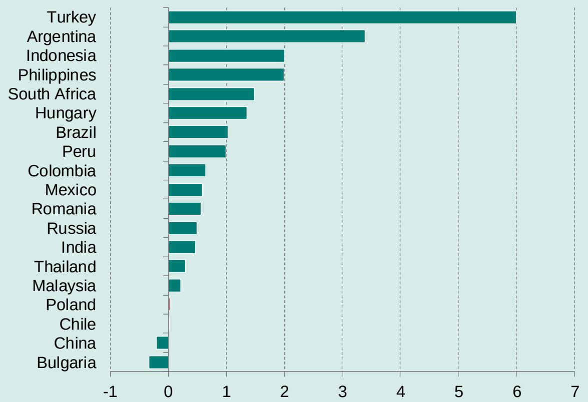
Disruptions in the financial markets of some emerging economies intensified at the beginning of April 2018. They coincided with the announcement of the new tariffs imposed on the Chinese imports by the United States that raised uncertainty about the outlook for global economic growth. They coincided with the announcement of the new tariffs imposed on Chinese imports by the United States that raised uncertainty about the outlook for global economic growth. At the same time, the gradual interest rate increases by the Fed and the resulting appreciation of the US dollar contributed to tighter financial conditions and a rise in the debt servicing costs in countries with the considerable US dollar-denominated debt.

Figure B.1.2 Depreciation of emerging market currencies against the US dollar from the beginning of April to 25 October 2018 (per cent)



Source: Bloomberg data.
Depreciation is an increase in the exchange rate denoted as a price of US dollar in a given currency.

Figure B.1.3 Increase in 10yr sovereign bond yields in emerging markets from the beginning of April to 25 October (percentage points)



Source: Bloomberg data.
In the case of Argentina USD-denominated bonds.

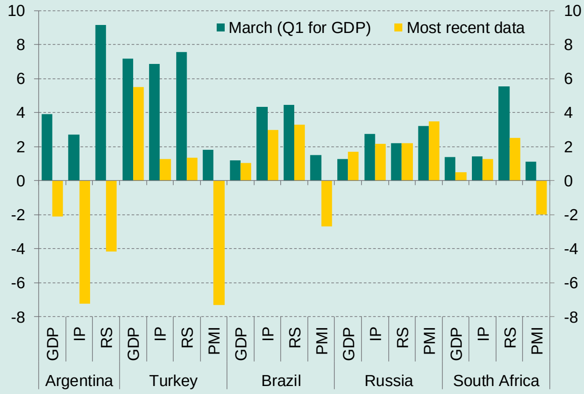
Against this background, the perceived risk of investment in some of the emerging economies rose significantly, resulting in an outflow of capital. Particularly vulnerable to this scenario were the countries with large macroeconomic imbalances (reflected in, among others, high inflation or large current account deficit), considerable uncertainty concerning future fiscal and monetary policy, and heightened political risk.

The greatest decline in asset prices was seen in Argentina and Turkey. Since April 2018, the Argentine peso has depreciated against the US dollar by more than 80%. This sudden deterioration in investor confidence towards

Argentina took place against the backdrop of high inflation and problems in refinancing external debt that entailed the need to request financial assistance from the International Monetary Fund. This sudden deterioration in investor confidence towards Argentina took place against the backdrop of high inflation and problems with refinancing external debt that entailed the need to request financial assistance from the International Monetary Fund. In the same period, the Turkish currency weakened against the dollar by over 40% and the yields on Turkish 10-year bonds increased by 6 percentage points. The outflow of capital from Turkey should be primarily attributed to the mounting political tensions[6] and large external (including a sizeable current account deficit) and internal imbalances (most notably persistently elevated inflation). Asset prices fell significantly also in some other emerging economies, above all in Brazil, South Africa and Russia, although this fall was much smaller than in Argentina and Turkey.[7] In response to the outflow of capital and currency depreciation, the central banks of some emerging economies raised their interest rates.[8]

The above-described disruptions in the financial markets have considerably weakened economic conditions in the affected countries. Tighter financial conditions, the exchange rate depreciation and a pickup in inflation worsened the sentiment of economic agents. The deterioration in economic conditions was particularly marked in Argentina (where GDP growth was negative in 2018 Q2) and Turkey (Figure B.1.4). However, the impact of a slowdown in these two countries on global economic activity has been limited as their share in the world's GDP and imports is relatively small (1.8% and 1.7%, respectively). It might be estimated that a decline in GDP growth in these countries lowered global GDP by approx. 0.09% in 2018 Q2.[9] Although since September 2018 the situation in the financial markets of emerging economies has stabilised somewhat, a potential future build-up of tensions in these economies, if accompanied by the effect of contagion to other large emerging economies, may, however, constitute a risk factor for the world's GDP growth.

Figure B.1.4 Indicators of economic conditions in selected emerging economies before the capital outflow and currently



Source: Bloomberg and OECD data.

IP - industrial production, RS — retail sales. Annual percentage growth for GDP, industrial production and retail sales; for PMI, point deviation from the level of 50, denoting stagnation. Most recent data: GDP for 2018 Q2, PMI, industrial production in Argentina and Russia and retail sales in Russia for September 2018, other data for August. PMI manufacturing for Turkey, PMI composite for Brazil, Russia and South Africa.

Poland has remained resilient to the turmoil in the financial markets. Polish bond yields and stock prices have not changed much since April 2018, and the depreciation of the zloty against the US dollar (by 10.7%) resulted primarily from the weakening of the euro, a currency to which the zloty is closely linked (the zloty has depreciated against the euro by a mere 2.5% since April). Nevertheless, the involvement of non-residents in the domestic sovereign bond market has declined since the beginning of April 2018 (from PLN 203bn to PLN 188bn at the end of August).

[6] Political tensions in Turkey resulted from the imposition of sanctions by the United States and uncertainty as to President Erdoğan's policy after his victory in the presidential election, including the question of future central bank independence.

[7] In Brazil, the exchange rate and the bond yields were adversely affected by the uncertainty surrounding the outcome of the presidential election. In Russia, the currency depreciation can be linked to the imposition of the US sanctions.

[8] In particular, the Bank of Argentina raised interest rates from 27.25% to 72% and the Bank of Turkey from 12.75% to 27%.

[9] This estimate takes into account both the direct impact of the economic slowdown in those countries on the global GDP and its indirect effect on other economies resulting from a fall in the demand for imports.

The resilience of the Polish economy to the disruptions in the financial markets was underpinned by strong economic conditions amid stable interest rates and the absence of macroeconomic imbalances (as evidenced by an almost balanced current account, moderate inflation and credit growth, as well as a sound fiscal stance of the general government sector, including falling deficit; Table B.1.1). At the same time, the Poland's direct links with the economies most affected by capital outflows are weak. At the same time, Poland's direct links with the economies most affected by capital outflows are weak. Among the economies most heavily hit by the disturbances in the financial markets, only Russia and Turkey play a role as Poland's significant trading partners, with their share in Polish exports at 3% and 1.6%, respectively.

Table B.1.1 Selected macroeconomic indicators in the emerging markets (countries have been ranked according to the scale of depreciation of their currencies since April 2018).

Country	Inflation (% y/y)	Current account balance (% GDP)	FX reserves (% GDP)	General government balance (% GDP)	General government debt (% GDP)
Argentina	25.6	-4.8	8.6	-6.5	59.4
Turkey	10.2	-5.6	12.7	-2.3	31.2
South Africa	3.8	-2.5	14.5	-4.5	54.5
Russia	2.4	2.2	28.3	-1.5	15.2
Brazil	2.7	-0.5	18.2	-7.8	84.5
India	4.3	-1.5	16.0	-6.9	69.2
Chile	1.8	-1.5	13.6	-2.7	24.7
Colombia	3.1	-3.4	15.2	-3.1	48.3
Indonesia	3.4	-1.7	12.6	-2.5	29.4
Hungary	2.0	2.7	16.7	-2.1	78.3
China	2.1	1.3	26.9	-4.0	47.8
Poland	1.3	0.3	21.6	-1.4	50.6
Malaysia	1.3	3.0	32.6	-2.9	51.4
Romania	5.0	-3.4	21.5	-2.8	36.8
Bulgaria	2.2	4.6	51.0	0.9	23.9
Thailand	0.8	10.6	44.5	-0.6	32.8
Philippines	4.3	-0.8	26.0	-0.3	39.9
Mexico	5.0	-1.7	15.3	-1.1	35.5
Peru	0.4	-1.3	29.6	-3.1	25.4

Source: World Bank, Bloomberg, IMF, Eurostat, BIS and the Polish Ministry of Finance data, NBP calculations.

Shades of red mark indicator values that stand out negatively compared to the analysed group of countries (i.e. above average values for inflation and general government debt and below average values for current account balance, FX reserves and general government balance) and could potentially have led to a larger currency depreciation. Analogically, shades of green mark indicator values that stand out positively compared to rest of the group, thus contributing to higher resilience of these economies to turmoil in the financial markets. The intensity of red/green colour depends on the distance of a given indicator value from its mean, measured in standard deviations (the further the given value lies from the mean, the more intensive the colour is).

Data on inflation is for March 2018; on the general government debt, the current account balance, FX reserves and the general government balance – for 2017.

2. Domestic economy

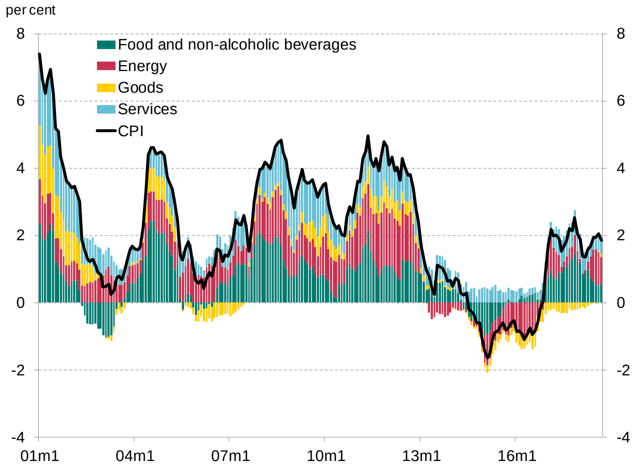
2.1 Consumer prices

Despite high economic growth and wages rising faster than in the previous year, consumer price growth in Poland remains moderate (in September 2018, CPI inflation stood at 1.9% y/y; Figure 2.1). This has been supported by stable domestic demand pressure (Figure 2.3) and moderate – despite some rise in the recent period – inflation in the most important trading partners of Poland[10]. Alongside that, since the publication of the previous *Report*, energy price growth has risen due to the increase in global prices of energy commodities. At the same time, annual food price growth has decreased.

Notwithstanding its slight increase in recent months, core inflation is still low (Figure 2.2). In particular, inflation net of food and energy prices continues to run below 1% y/y. This is due to the persistence of low growth in the prices of non-food goods (0.3% y/y in September)[11], along with moderate growth in the prices of services (1.4% y/y in September). The main sources of the slight pickup in growth of services prices were increases in insurance premiums for motor vehicles and growth in prices of rentals for housing and serives related to dewllings.

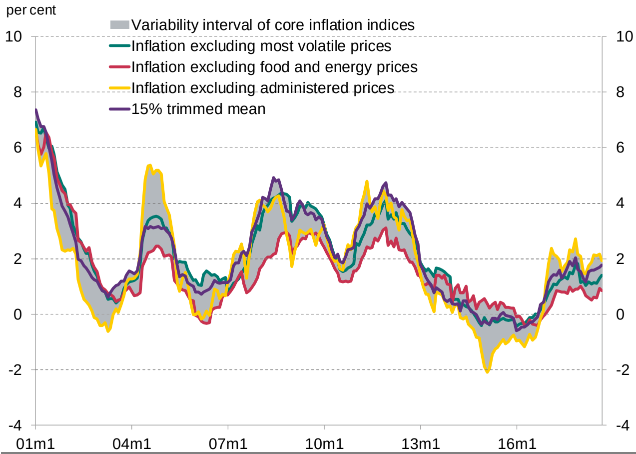
Energy price growth remains relatively high (4.9% y/y in September), which is mainly attributed to growth in global oil prices and the related higher level of domestic fuel prices. In addition, energy

Figure 2.1 Composition of CPI inflation (y/y)



Source: GUS data, NBP calculations.

Figure 2.2 Core inflation indices (y/y)



Source: GUS data, NBP calculations.

[10] In September 2018, HICP inflation in the euro area stood at 2.1% y/y. Annual import price growth in 2018 Q2 rose to 3.2% y/y (compared to -0.6% y/y in the previous quarter) and in July to 4.6% y/y – mainly as a result of higher global commodity prices.
[11] The slight increase in growth in the price of non-food goods was mainly due to the faster growth in the prices of goods related to recreation and culture as well as the prices of home furnishings, and also the weaker seasonal fall in the prices of clothes and shoes than a year ago, the growth of which remains negative.

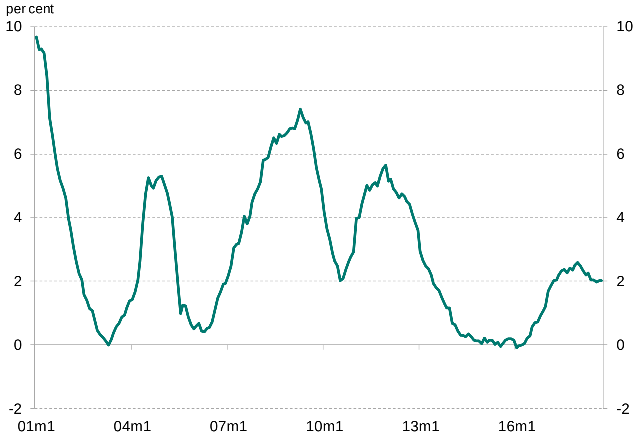
prices were boosted by the increase in tariffs on the sale of natural gas for households, which was introduced in August (Figure 2.4).

Annual food price growth, in turn, has decreased in recent months (to 2.3% in September) as a result of a large supply of some agricultural commodities and a high reference base of the previous year. The slower food price growth was driven, above all, by a fall in fruit prices, coupled with weaker growth in the prices of butter, dairy products and meat. At the same time, growth in the prices of vegetables as well as bread and cereal products increased as a consequence of the drought and the resulting decline in production.

After a marked acceleration in 2018 Q2, annual producer price growth decreased (to 2.9% in September; Figure 2.5). The relatively strong growth in PPI is mainly supported by higher oil and coal prices compared to the previous year and also the weaker exchange rate of the zloty, while the fall in global copper prices reduces it. Growth in domestic producer prices is still stronger than that in export producer prices.

Over recent months, the survey opinions of consumers and enterprises on future inflation developments moved toward higher price growth (Figure 2.6). At the same time, economists surveyed by NBP still expect inflation running close to the NBP target in the coming quarters (Table 2.1).

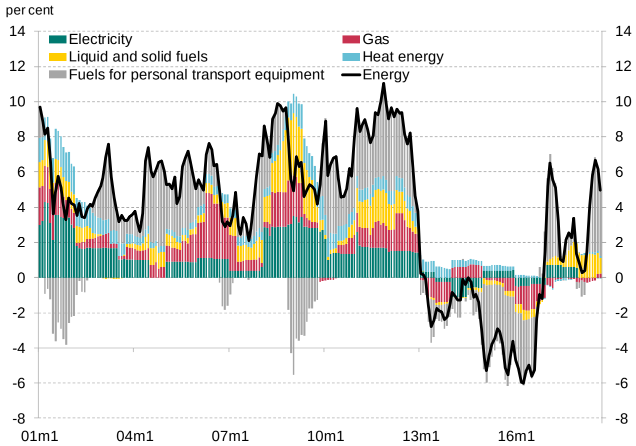
Figure 2.3 Inflation index of goods sensitive to domestic economic conditions (y/y)



Source: GUS data, NBP calculations.

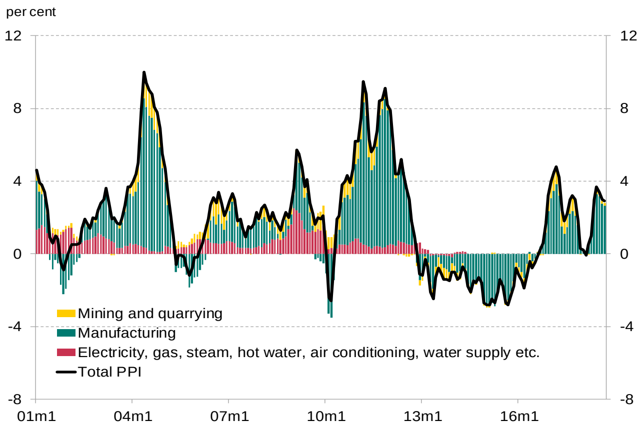
The aggregate of the CPI components sensitive to changes in domestic economic conditions. For more on the index calculation methodology, see: Hałka, A., Kotłowski, J. (2014), Does the domestic Output Gap Matter for Inflation in a Small Open Economy, Eastern European Economics, vol. 52.

Figure 2.4 Energy price growth and its components (y/y)



Source: GUS data, NBP calculations.

Figure 2.5 Composition of PPI inflation (y/y)



Source: GUS data, Eurostat.

Table 2.1 Inflation expectations of bank analysts and participants to to the *NBP Survey of Professional Forecasters.*

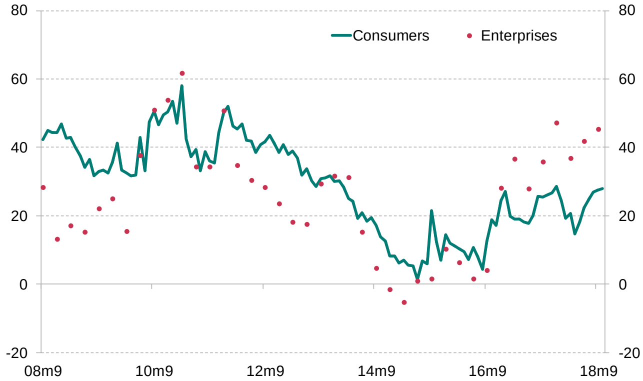
	Survey conducted in:				
	17q4	18q1	18q2	18q3	18q4
Thomson Reuters Survey, inflation expected in 4 quarters	2.4	2.2	2.1	2.4	2.4
NBP Survey, inflation expected in 4 quarters	2.4	2.1	2.2	2.3	-
NBP Survey, inflation expected in 8 quarters	2.6	2.4	2.5	2.4	-

Source: NBP and Reuters data.

Inflation expectations of the financial sector analysts are proxied by the median forecast of the analysts surveyed by Thomson Reuters in the last month of a given quarter, except for 2018 Q4, when October forecasr was used.

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.

Figure 2.6 Balance statistics of consumer and enterprise inflation expectations



Source: GUS and NBP data, NBP calculations.

Balance statistics is defined as a difference between a fraction of respondents expecting rise in prices and the 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.

Box 2. Relationships between population ageing and inflation

An increasing number of countries, including Poland, are experiencing problems of population ageing.[12] The UN forecasts (2017) indicate that a substantial change in the demographic structure of most societies is expected in the 21st century (Figure B.2.1). The strengthening of these demographic trends makes the assessment of their influences on economic growth, consumption, savings rate and productivity increasingly significant. There is also a rising interest in the impact of this phenomenon on long-term inflation developments.[13] Conclusions from theoretical and empirical analyses show that the population ageing may be an important factor affecting future inflation trends.

A review of theoretical literature suggests that the effect of demographic changes on inflation is highly compound and multidirectional. On the one hand, in the long run, population ageing may result in higher inflation due to:

1. *A decline in savings rate and a rise in natural interest rate.* According to the permanent income hypothesis, a rise in the percentage of elderly people, who are financing their consumption with life-time savings, will cause a decrease in aggregate savings in the economy (the so-called cohort effect). This may lead to a rise in a natural interest rate[14] and inflation.
2. *A decline in the labour force assets.*[15] As life expectancy increases, without a corresponding increase in the retirement age, a relatively higher percentage of society will be outside the labour market, which may result in a lower potential output. This will open a positive output gap as long as aggregate consumption remains unchanged – in line with the life-cycle hypothesis (Modigliani 1966). At the same time, the relatively smaller labour force assets will exert upward pressure on wages. In effect, inflationary pressure may increase, even though technological development and robotization of the labour market may partly mitigate the process.
3. *A decline in average productivity.* A significant rise in the median age of employees, coupled with a decline in the share of the most innovative, young people in the labour market, may lead to lower average labour

[12] Population ageing is to be construed as a rising median age of the population as a result of a decline in the fertility and mortality rates, which results in an increase in average life expectancy and the percentage of older cohorts (UN, 2017).

[13] Anderson et al. (2014), Yoon et al. (2014), Aksoy et al. (2016), Goodhart and Pradhan (2017), Bobeica et al. (2017), Eggertson et al. (2017).

[14] Natural interest rate is defined as real short-term interest rate, which closes the output gap once transitory shocks have abated (Laubach, Williams, 2003). In the literature there are also other definitions of natural rate of interest, including saving-investment equilibrium rate of interest (Wicksel, 1898), or equilibrium interest rate prevailing in the economy with flexible prices (Woodford 2003).

[15] Goodhart and Pradhan (2017) indicate that a worsening demographic structure is one of the factors affecting larger price increases worldwide, particularly in the countries strongly integrated into global value chains.

productivity. Lower productivity may boost the costs of manufacturing goods, thus putting upward pressure on consumer prices.

4. *Changes in the consumption structure*. A higher share of the oldest people in the population may increase the consumption of labour-intensive services (such as social care or health services) at the expense of durable goods, whose prices rise relatively slowly or fall. The considerable changes in the aggregate consumption structure in case of imperfectly elastic supply (including deficits in the qualifications of labour force) may contribute to higher inflation (Botman, 2015).
5. *A rise in taxes resulting from increasing social expenditures and transfers.* In an ageing population, the acceptance of increased social and health spending rises, in line with the preference of the dominant voter group (Vlandas, 2016). With the tax base shrinking, this may cause an increase in the budget deficit and public debt or a rise in the tax burden. Higher taxes, necessary to balance the increased budget expenditures, may be conducive to higher inflation in the economy operating at its full potential.

On the other hand, the unfavourable changes in the demographic structure may have a dampening effect on inflation, owing to:

1. *A rise in the savings rate and a fall in the natural interest rate.* In anticipation of a longer life expectancy after retirement, households may decide to accumulate more savings stock during their working life. In the entire economy, this may cause a rise in the savings rate (the so-called longevity effect) and a fall in aggregate demand, and in effect, result in a lower natural interest rate and lower inflation.
2. *Expectations related to longevity.* When the accumulation of savings is accompanied by increasingly entrenched pessimistic expectations of economic slowdown, rising taxes or falling asset prices, then aggregate demand may decrease more than aggregate supply, opening up a negative output gap and leading to mounting deflationary pressure.
3. *Secular stagnation.* The retirement of the baby boom demographic cohorts brings about a sharp decline in the number of people at working age. This leads to an increase in capital intensity and may result in a decline in investment demand. At the same time, the lower return on investment (due to the fall in the marginal productivity of capital) results in a further decrease in investments, hampering GDP and employment growth. In effect, in order to restore equilibrium between savings and investments, real interest rates would have to remain negative for a long time. Additionally, if a zero lower bound on nominal interest rates is binding, the effectiveness of monetary policy may be affected (Carvahlo et al., 2016; Eggertsson et al., 2017; Bielecki et al., 2018). In such a macroeconomic environment, inflation may persist at low levels, and the economy may be exposed to the threat of a deflationary trap.
4. *The wealth effect.* If the cohort effect related to a greater participation of elderly people in society prevails over the longevity effect, then the stock of savings in the economy diminishes. This can lead to an excess supply of financial assets, dampening yields and contributing to a decline in the natural interest rate. At the same time, the rising significance of inter-generational transfers (e.g. in the form of dwellings) may, together with the shrinking population, result in a weaker demand for new flats and lower prices of tangible assets (Heo, 2018). As a consequence, inflationary pressure is likely to ease off.
5. *Shifts in propensity to risk.* Elderly persons tend to be more risk averse and favour investing in safe assets (particularly long-term Treasury bonds). Change of the demand structure in the financial market may trigger a rise in bond prices and a permanent decline in long-term interest rates which is beneficial to real investing activity. Yet, a permanent increase in risk aversion may be detrimental to financing investment projects being more risky and more productive at the same time. In effect, these changes in risk aversion may lead to lower growth of factor productivity and lower inflation.
6. *Changes in attitudes of society to inflation and interest rates.* In countries with older populations, central banks may lean towards a more restrictive monetary policy, which leads to lower inflation, in line with the preferences of dominant social group (Bullard et al., 2012). Population ageing is likely to be accompanied

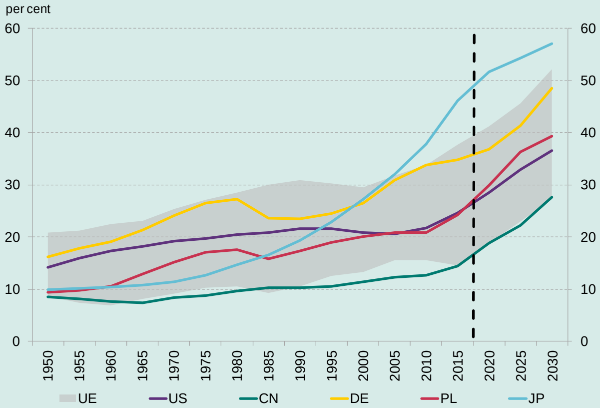
by low inflation or deflation, since older individuals finance consumption by dissaving accumulated assets. Consequently, in contrast to young generations, these individuals will favour slow wage growth and high return on assets.

The findings of empirical studies of OECD countries concerning the relationship between demographics and inflation are not conclusive. Some economists point out that population ageing drags inflation down, attributing this to a rise in longevity (Anderson et al., 2014; Yoon et al., 2014; Bobeica et al., 2017). This is indicated, among others, by the experience of Japan at the turn of the 20th and 21st century. The most recent studies on OECD countries (among others, Juselius and Takats, 2018; Aksoy et al., 2015) posit in this context that the relationship between population age structure and inflation is nonlinear and non-monotonous, because it depends on various impact channels playing different roles in different age groups. A boost to inflation stems from the increase in the population share of the youngest, who are less productive and save less, as well as from the rise in the share of people at pre-retirement age and young pensioners, which may be related to the above-mentioned change in propensity to consume and save. In turn, a higher share of people at working age (20 to 64), being the most productive, stimulates inflation decreases. Importantly, the increase in the oldest cohorts (above 75 years of age) has a strong deflationary effect (Juselius and Takats, 2015, 2018; Gajewski, 2016), probably as a result of the expectations related to the longevity and the necessity of considerable consumption cutbacks. It should be underlined that the findings of these empirical studies depend to a great extent on their theoretical underpinnings, research methods used and the scenario of further demographic changes affecting the age structure of populations.

Scenario results for Poland

In order to determine the long-term impact of the anticipated demographic changes in Poland on CPI inflation in the years up to 2030 in comparison with 2017, a simulation study was carried out with a panel econometric model estimated on the sample of OECD countries (Juselius and Takats, 2018).

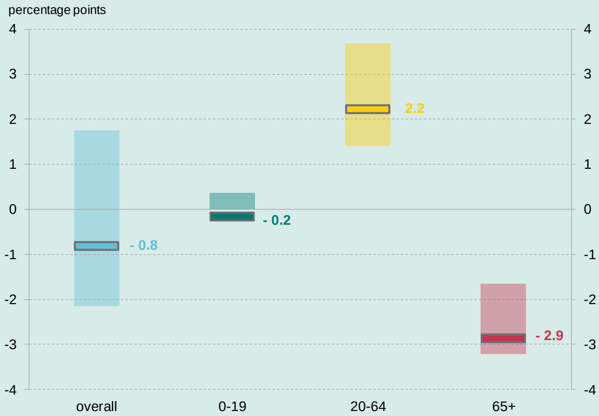
Figure B.2.1 Old-dependency ratio for the selected economies of the world.



Source: UN data, NBP calculations.

The figure shows old-dependency ratios for selected economies of the world according to the UN's medium scenario. The dependency ratios have been calculated as the ratios of the population above 64 years of age to working age population (20-64). The forecast for the years 2020-2030 has been separated by a dashed line. Abbreviations: EU stands for the European Union, US – the United States. JP – Japan, CN – China, DE – Germany, PL – Poland.

Figure B.2.2 The impact of the anticipated demographic changes until 2030 on CPI inflation in Poland by 3 age groups according to the model estimates by Juselius and Takats (2018).



Source: GUS, UN data, NBP calculations.

The figure shows the impact of demographic changes (in age groups and altogether) on CPI inflation under the UN's medium scenario (firm line) and the range of the impact of the other scenarios (shaded intervals), which differ in the adopted assumptions of birth and death rate levels impacting the demographic structure of the population in the forecast horizon.

The findings of the simulation indicate that owing to the forecast demographic changes, long-term inflation in Poland may decline by the year 2030, although the estimates are fraught with considerable uncertainty. According to the results providing for demographic changes as per the UN's baseline scenario, the decline in annual CPI may amount to 0.8 percentage points (Figure B.2.2). The rise in the percentage of elderly people in the population (according to the forecasts, from 17% in 2017 to 23% in 2030) is the main factor of the deflationary pressure. The decline in the share of the people at working age (from 63% in 2017 to 59% in 2030) will have a mild mitigating effect on the deflationary trends resulting from the higher numbers of older people, weakening consumption demand. In turn, the impact of the share of the youngest cohorts on price growth in the economy will remain close to zero. The uncertainty and clear asymmetry of the obtained results is the effect of adopting different assumptions about future demographic trends (including the birth and mortality rates). In effect, the long-term influence of the ageing of the Polish population on CPI inflation may be either negative or positive. Depending on the adopted scenario, it may run in the range from -2.1 to 1.8 percentage points. Thus, while inflationary pressure in Poland is likely to diminish due to population ageing, the amount of uncertainty surrounding the impact of demographic changes on inflation is considerable.

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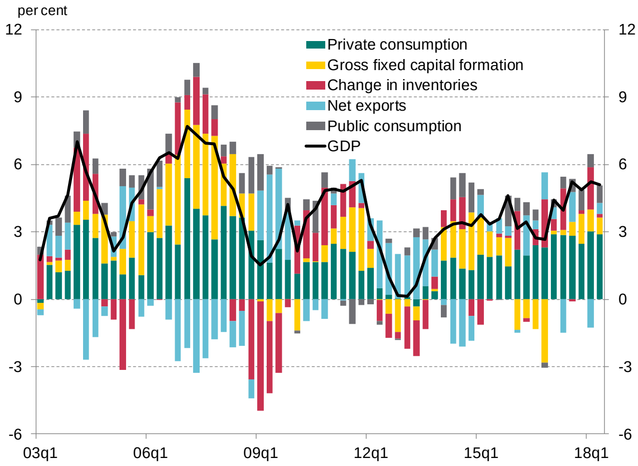
2.2 Demand and output

Economic growth in Poland remains relatively high, despite a likely slowdown in 2018 Q3.

In 2018 Q2, GDP growth stood at 5.1% y/y (against 5.2% y/y in 2018 Q1) and was close to that observed over the past few quarters (Figure 2.7). Consumer demand continues to be its main driver, supported by rising employment and wages as well as very good consumer sentiment.

GDP growth is also supported by rising investment, particularly in the public sector, which includes

Figure 2.7 GDP growth and its components (y/y)



Source: GUS data, NBP calculations.

investment co-financed from EU funds, as well as in the sector of large and medium enterprises.

In 2018 Q2, the contribution of net exports to GDP growth was positive. This was the result of a marked pickup in the growth of exports, mainly to the euro area. Amid growing domestic demand, import growth also increased.

2.2.1 Consumption

Consumer demand continues to be the main driver of GDP growth in Poland.

In 2018 Q2, growth in private consumption remained close to that observed in the previous quarters and stood at 4.9% y/y (against 4.8% y/y in 2018 Q1; Figure 2.8). The continued high private consumption growth was driven by rising household disposable income, propped up by high growth in payroll, and also very good consumer sentiment (Figure 2.9). The rise in consumption was also underpinned by a significant increase in household loans.

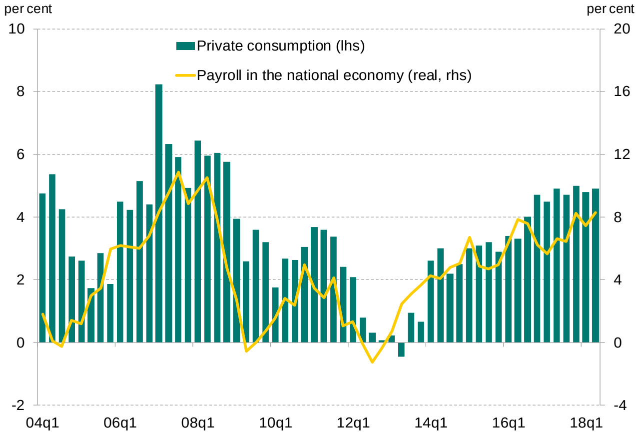
Data incoming in recent months, including consumer confidence indicators – which remain close to the historically high levels – and high retail sales growth point to the continuation of the relatively robust consumption growth also in 2018 Q3.[16]

2.2.2 Investment

In 2018 Q2, investment in the economy increased, although its growth rate lowered compared to the previous quarter. The increase concerned primarily public sector investment co-financed with EU funds, as well as investment of the large and medium-sized enterprise sector. Available data indicate an acceleration in investment growth in 2018 Q3.[17]

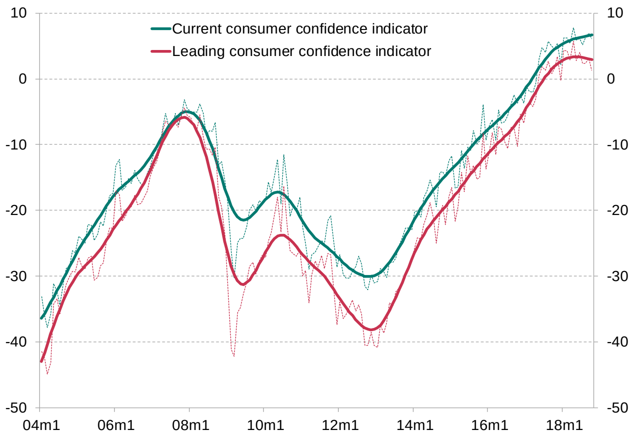
In 2018 Q2, growth of gross fixed capital formation stood at 4.5% y/y (compared to 8.1% in 2018 Q1; Figure 2.10). According to the NBP estimates, investment

Figure 2.8 Growth in private consumption and wage bill in the national economy (y/y)



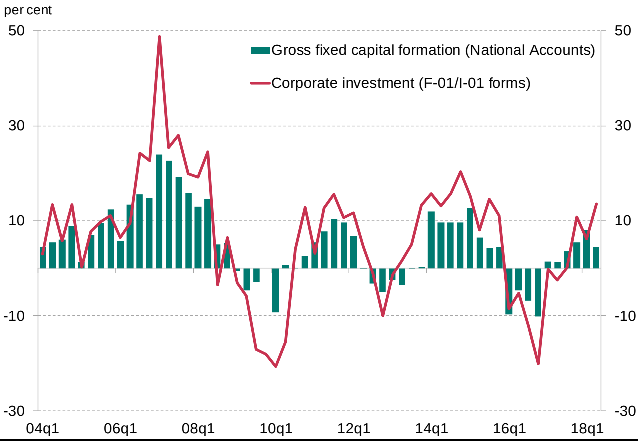
Source: GUS data, NBP calculations.

Figure 2.9 Consumer confidence indicators



Source: GUS data, NBP calculations.
The dashed line denotes raw data, while the solid line denotes HP filtered data.

Figure 2.10 Growth in investment (y/y)



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

[16] Retail sales at fixed prices rose on average by 5.8% y/y in 2018 Q3, against 6.1% y/y in 2018 Q2.
[17] Further investment growth is indicated, among others, by the survey data from the enterprise sector (see *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2018) and also high growth in construction and assembly output, as well as in machinery and equipment output in 2018 Q3.

growth in 2018 Q2 was particularly strong in the public sector. The investment outlays of the local government units, which increased nominally by 89.2% y/y (against 83.1% y/y in 2018 Q1), continued to be the main driver of this growth. The local government units financed their investment expenditure both from domestic funds, which were supported by high tax revenues, and EU funds, without increasing their debts.

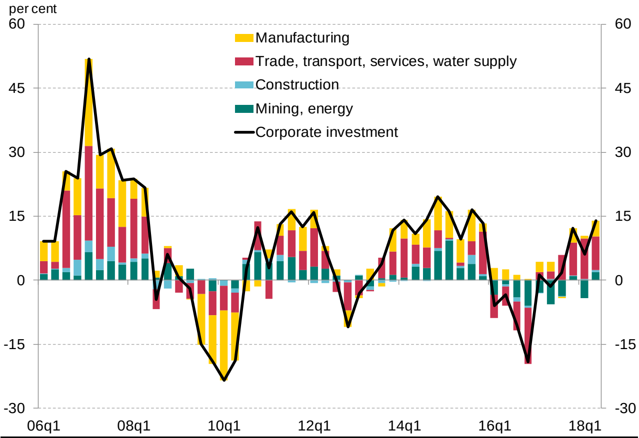
At the same time, investment growth of large and medium-sized enterprises (employing at least 50 employees[18]) accelerated. In 2018 Q2, this growth took place in every sector of the economy and stood at 13.9% y/y in nominal terms (against 6.1% y/y in 2018 Q1; Figure 2.11). In particular, investment growth of private enterprises, including domestic ones, increased. Construction investment and outlays on machinery and equipment were growing at the fastest rate. The investment recovery in private companies was to a large extent the result of their intensified activities aimed at increasing productive capacity, the utilisation of which remains very high (outlays on machinery and equipment in current prices rose by 14.3% y/y in 2018 Q2, against a rise of 1.5% in 2018 Q1; Figure 2.12).

Housing investment growth remained relatively high in 2018 Q2. It continued to be propped up by high activity in the housing market related to growth in household disposable income and the stable interest rates (see Chapter 2.5.2 *Real estate market* and Chapter 2.6 *Money and credit*).

2.2.3 Public finance

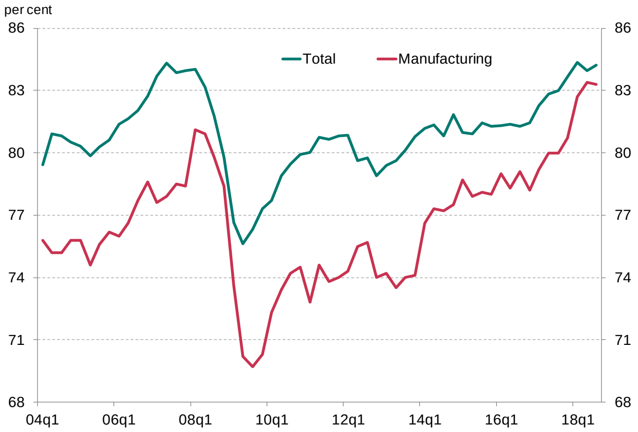
The financial position of the general government sector remains very good. In the first half of 2018, the entire sector generated a surplus for the first time in 20 years[19] (amounting to approx. 0.3% of GDP; Figure 2.13).

Figure 2.11 Corporate investment by sectors (y/y, current prices)



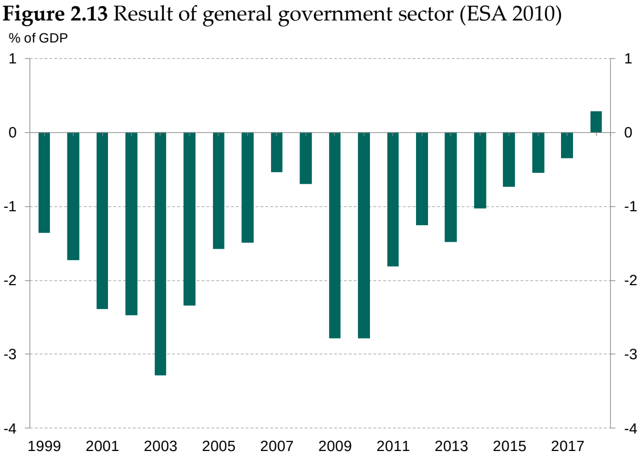
Source: GUS data (F-01/I-01 forms), NBP calculations.

Figure 2.12 Corporate capacity utilisation (seasonally adjusted)



Source: *NBP Quick Monitoring Survey. Economic climate in the enterprise sector* (total) and GUS data (manufacturing).

Figure 2.13 Result of general government sector (ESA 2010)



Source: MF data, NBP calculations.

[18] Based on F-01/I-01 forms.
[19] In ESA2010 terms. Data since 1999.

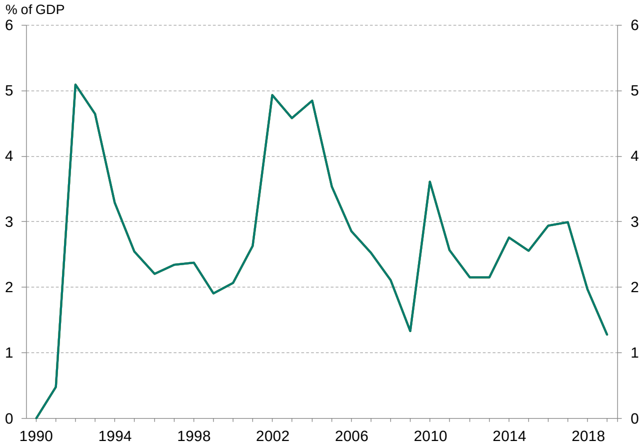
Robust economic activity in the first half of 2018 was accompanied by fast growth in the sector's revenue from taxes (of 9.1% y/y) and social contributions (of 8.6% y/y). At the same time, public expenditure continued to rise at a moderate pace (5.4% y/y overall), with public investment increasing by 24.2% y/y. Particularly strong was a rise in investment expenditure of local government units (by 87.3% y/y[20]). Yet, owing to the fast rise in tax revenue and the use of EU funds, this did not result in poorer financial performance in comparison with the previous year. Consequently, the general government sector deficit in 2018 (in ESA2010 terms) may turn out lower than the year before (when it totalled 1.4% of GDP), and the impact of fiscal policy on aggregate demand will be probably close to neutral.

The 2019 Draft Budget Act, submitted by the Council of Ministers to the Parliament at the end of September 2018, foresees the lowest budget deficit-to GDP-ratio since 1991 (1.3% of GDP; Figure 2.14).[21] On the revenue side, the Draft Act assumes further measures aimed at improving the tax collection, which is expected to generate an additional income of approx. 0.4% of GDP, amid the absence of changes in the basic tax rates (apart from the reduction in the CIT rate for small and medium-sized enterprises, from 15% to 9%). At the same time, the Draft provides for a moderate pickup in budget expenditure (to 4.8% y/y against 3.2% y/y in 2018, comparing expenditure limits), related, among others, to the rise in public sector wages.

2.2.4 External trade[22]

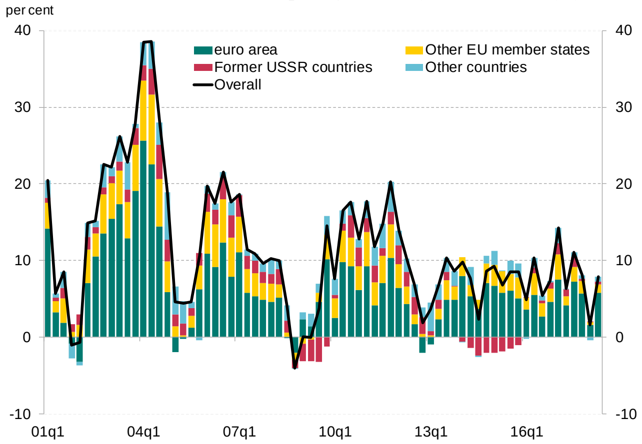
Despite a weakening in global trade, Polish export and import growth accelerated in 2018 Q2. The pickup in external trade was seen across most destinations and commodity groups. Preliminary 2018 Q3 data point to

Figure 2.14 Budget deficit limit in the Budget Act



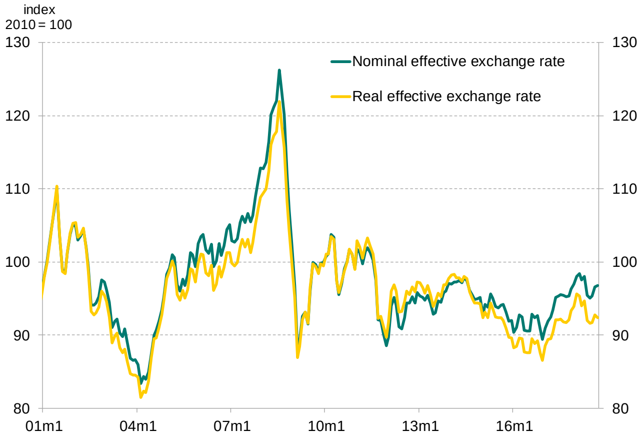
Source: MF data, NBP calculations.

Figure 2.15 Contribution to export growth by destination (y/y)



Source: GUS data, NBP calculations.

Figure 2.16 Nominal and real effective exchange rate (rise indicates appreciation)



Source: BIS data.

[20] Data from the domestic reporting (on a cash basis).
[21] In nominal terms, the cap on the government deficit set out in the Draft amounts to PLN 28.5bn.
[22] In this chapter, the GUS data on exports and imports of goods in PLN terms is analysed. Trends in trade of services are not described, as no detailed data on the breakdown of the value of this trade by the type of service and its destination is available.

a further acceleration in imports and a sustained export growth at a rate close to that in 2018 Q2.[23]

Growth in exports, having slowed in 2018 Q1, increased in 2018 Q2 and run close to its average for the past few years (a rise to 7.8% y/y, from 1.6% y/y in 2018 Q1; Figure 2.15). The faster export growth was driven primarily by the recovering exports to the euro area. In terms of the commodity groups, higher export growth was observed above all in intermediate goods, including supply goods as well as parts and accessories of transport equipment.

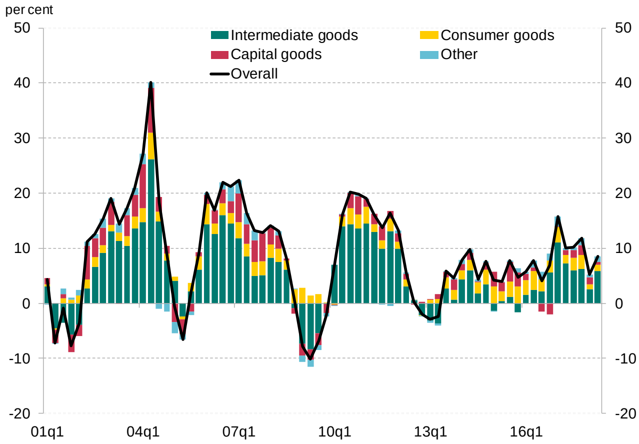
The pickup in export growth in 2018 Q2 was supported by the weakening of the zloty (Figure 2.16), which boosted the price competitiveness of the Polish exports. Export profitability has risen both with regard to exports settled in USD and, albeit to a lesser extent, in euro. At the same time, the real exchange rate of the zloty was running above the export profitability exchange rate as declared by the firms, while the percentage of the firms judging exports unprofitable approximated the all-time low.[24]

Import growth also picked up in 2018 Q2 (to 8.6% y/y from 5.2% y/y in 2018 Q1) and exceeded that of exports (Figure 2.17). Imports continued to be underpinned by robust domestic demand growth – although its acceleration in 2018 Q2 could be primarily attributed to higher growth in imports of intermediate goods, including fuel, which was related to a rise in oil prices. At the same time, import growth of investment and consumption goods remained moderate.

2.2.5 Output

Growth in economic activity is observed in all sectors of the economy (Figure 2.18). Relatively stable output growth in industry and services is accompanied by slowing down, although still very high, growth in construction.

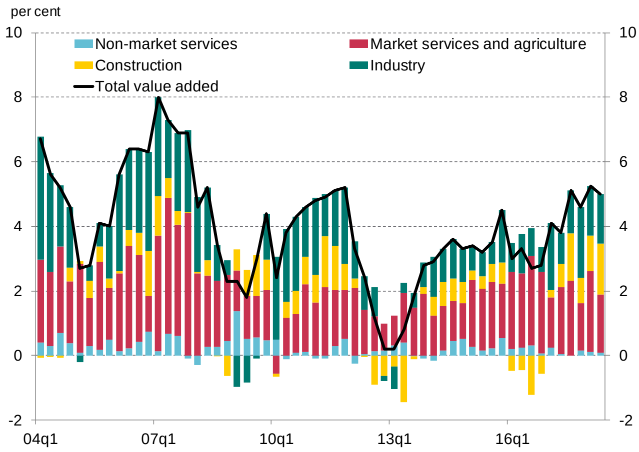
Figure 2.17 Contribution to import growth by commodity (y/y)



Source: GUS data, NBP calculations.

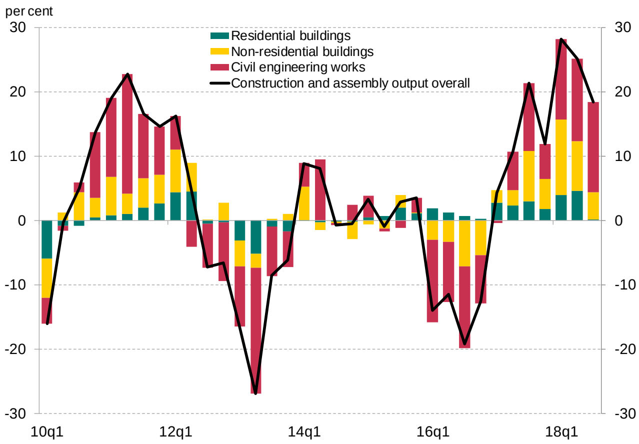
Data based on GUS classification of the main product categories for the value of Polish exports and imports in zlotys. "Other" comprises passenger cars, motor gasoline and goods else not classified.

Figure 2.18 Growth of gross value added by sectors (y/y)



Source: GUS data, NBP calculations.

Figure 2.19 Construction and assembly output growth in current prices by construction objects (y/y)



Source: GUS data, NBP calculations.

[23] In the period July-August export growth was running at 7.9% y/y and import growth at 10.3% y/y.

[24] *NBP Quick Monitoring Survey Economic climate in the enterprise sector*, October 2018.

Economic conditions in industry continue to be favourable. In 2018 Q2 and Q3, output growth in this sector remained relatively robust, supported by a steady increase in domestic demand and exports.[25] However, a gradual deterioration in survey indicators of business conditions and flagging economic activity in the euro area (see also Chapter 1.1 *Economic activity abroad*) point to a potential slowdown in output growth in the coming months.

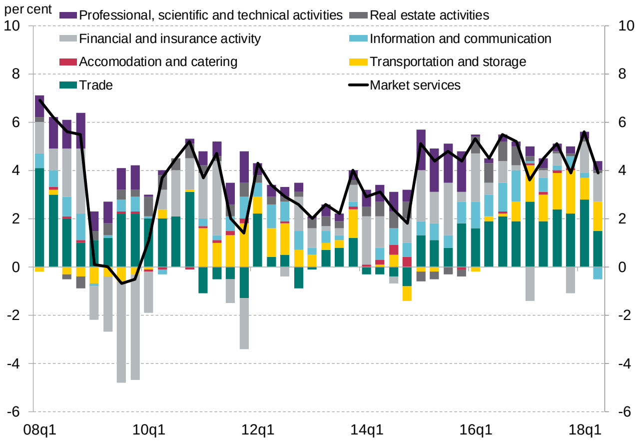
Although output growth in construction remains very high, it weakened in 2018 Q2 and Q3, which was related to a deterioration in economic conditions in commercial and residential construction (Figure 2.19).[26] Output growth in these segments slowed down despite favourable conditions underpinned by the strong financial situation of households and stable interest rates. The slowdown could have been related to supply-side constraints, including limited availability of construction workers and an increase in the prices of construction materials (see Chapter 2.5.2 *Real estate market*). In contrast, output in infrastructure construction continues to grow at a very fast pace, benefiting from the gradually rising absorption of EU funds under the 2014-2020 financial framework.

Also in market services economic conditions remain favourable, yet value added growth in this sector slowed down somewhat in 2018 Q2 (Figure 2.20). This resulted mainly from weaker growth in trade, while in transportation as well as financial and insurance activity favourable economic conditions prevailed. Currently available data for 2018 Q3 suggest that value added in services continued to grow at a rate close to that observed in 2018 Q2.

2.3 Financial situation in the enterprise sector

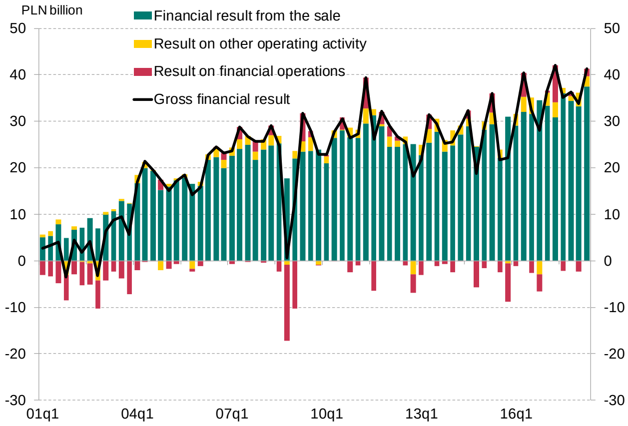
Amid high economic growth, the financial and liquidity position of enterprises remains very good. In 2018 Q2, the enterprise sector recorded profits in all

Figure 2.20 Growth of gross value added in market services by branches (y/y)



Source: GUS data, NBP calculations.

Figure 2.21 Gross financial result of enterprises and its components



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

Table 2.2 Selected financial efficiency ratios in the enterprise sector (percent)

	2017				2018	
	q1	q2	q3	q4	q1	q2
Sales profitability ratio	5.1	4.6	5.2	4.6	4.8	5.1
Net turnover profitability	4.4	5.3	4.1	3.9	3.9	4.6
Percentage of profitable enterprises (sa)	75.0	74.4	74.5	74.7	75.7	75.4
1st degree liquidity ratio	37.4	35.3	36.3	38.4	37.0	36.1

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

[25] Industrial output increased by 6.0% y/y on average in 2018 Q3, compared with 7.2% in Q2 and 5.9% in Q1.
[26] Construction and assembly output increased by 18.6% y/y on average in 2018 Q3, compared with 21.7% y/y in Q2 and 27.4% y/y in Q1.

areas of activity, while its gross financial result continued to be high (Figure 2.21).

In 2018 Q2, growth in sales revenues increased on account of both accelerating domestic sales and exports (see Chapter 2.2.4 *External trade*). Although growth in the sales costs also increased, mainly as a result of the higher costs of raw materials and wages, it was lower than growth in the sales revenues[27]. As a consequence, growth of the financial result from the sale rose considerably (to 21.2% y/y against -0.8% y/y in 2018 Q1).

Despite those conditions, the gross financial result on the whole activity in 2018 Q2 declined slightly (by 1.8% y/y as compared to a drop of 7.7% in 2018 Q1), which reflected lower profit on financial operations, mainly due to the negative foreign exchange rate differences and the lower dividends received.

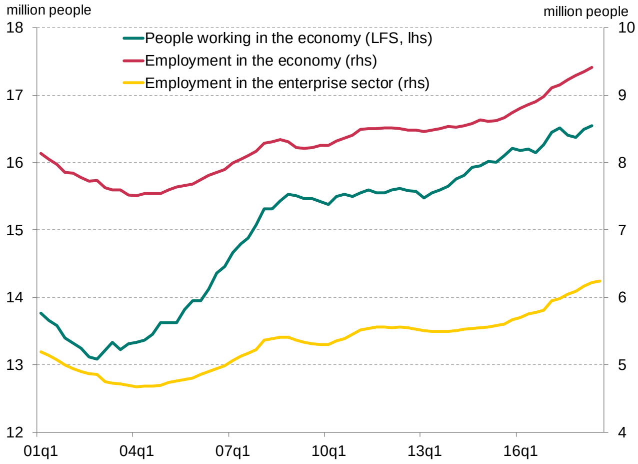
Due to the better financial result from the sale, the sales profitability ratio increased, accompanied by a higher liquidity ratio of enterprises (as compared to the corresponding quarter of 2017; Table 2.2). At the same time, despite a slight decline in the net turnover profitability driven by high growth in total costs, the percentage of profitable enterprises as well as the median of profitability distribution increased (computed for both the net turnover profitability and the sales profitability ratio).

2.4 Labour market

Continued high demand growth in the economy is conducive to further rise in employment, although the data from the enterprise sector point that employment growth could decrease slightly in 2018 Q3 (Figure 2.22).[28]

According to the LFS data, the increase in employment continues amid a gradually falling number of economically active people of working age (the

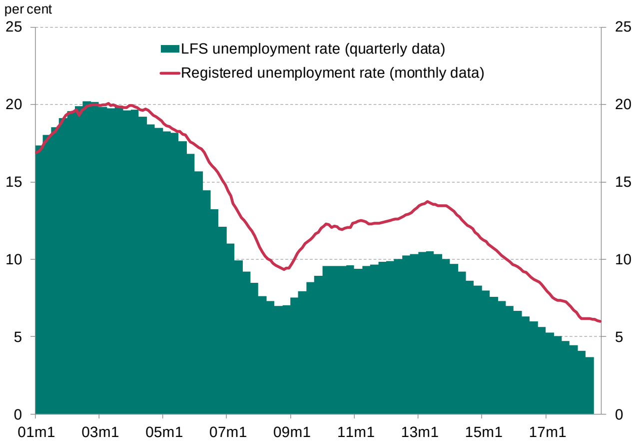
Figure 2.22 Number of people working and the level of employment, seasonally adjusted data



Source: GUS data, NBP calculations.

People working in the economy (LFS) is a survey-based estimate of the number of working persons, regardless of employment relationship. This data does not include temporary immigration. Employment in the economy denotes the enterprise-reported average number of persons performing paid work at the end of each reporting period. This data does not comprise, among others, businesses employing up to 9 persons, individual farmers, persons contributing to a family business free of charge and persons working under civil law contracts. In addition, data on average employment in the enterprise sector does not cover the public sector and sole proprietors.

Figure 2.23 Unemployment rate, seasonally adjusted data



Source: GUS data, NBP calculations

Seasonally adjusted NBP data. There are two reasons for the difference between the registered unemployment rate and the LFS 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.

[27] In 2018 Q2, the sales revenues increased by 9.2% y/y and the sales costs by 8.7% y/y.

[28] In September, the Job Offer Barometer, measuring the number of job offers posted online, rose by 10.4% y/y. At the same time, the number of job offers at labour offices declined by 24.6% y/y. Yet, this was probably related to the withdrawal of regulations requiring employers to post vacancies at labour offices when planning to employ a foreigner with seasonal work permit.

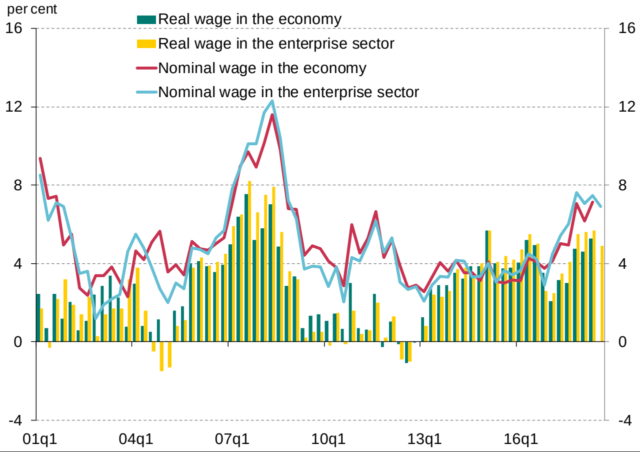
number of economically active people aged over 15 decreased by 1.0% y/y in 2018 Q2). The decline in the number of those economically active reflects a decrease in the working age population, with a relatively stable labour force participation rate. However, the LFS data do not include temporary foreign workers, whose number is currently estimated at around 1 million people[29].

Rising employment contributes to the decline in the unemployment rate, although this decline is gradually slowing down. The LFS unemployment rate fell to 3.7% in 2018 Q2 from 4.1% in the previous quarter (seasonally adjusted; Figure 2.23). Given low unemployment, many companies face recruitment difficulties, as reflected in the relatively high share of firms reporting vacancies (45.9% in 2018 Q3).[30]

As the bargaining position of employees in wage negotiations strengthens, the percentage of entrepreneurs forecasting wage increases remains relatively high (22.3% in 2018 Q3), although it has fallen slightly in recent quarters.[31] As a result, nominal wages in the economy are rising faster than in previous years, albeit currently they are not accelerating further (7.1% y/y in 2018 Q2; Figure 2.24). At the same time, non-wage conditions of employment are improving. In particular, the number of employees working on the permanent contracts continues to rise (by 2.7% y/y in 2018 Q2), while the number of those employed on the temporary contracts is falling (by 7.1% y/y in 2018 Q2).

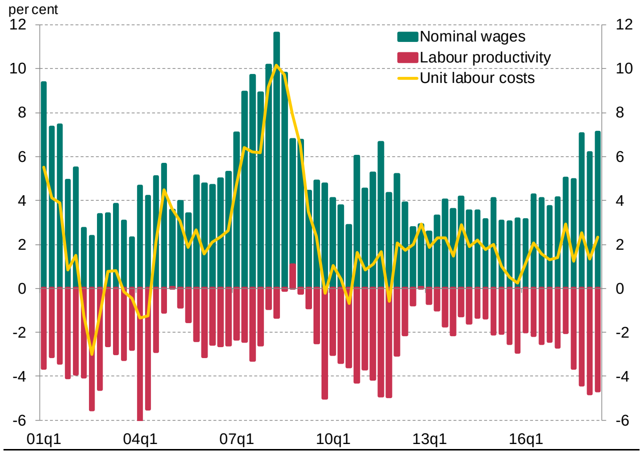
The stronger wage growth than in previous years is accompanied by continued high rise in labour productivity, related to robust GDP growth. As a result, unit labour cost growth has remained moderate (2.3% in 2018 Q2; Figure 2.25).

Figure 2.24 Annual wage growth in the economy and in the enterprise sector (nominal and real)



Source: GUS data.

Figure 2.25 Growth of unit labour cost in the economy (y/y) and its determinants



Source: GUS data, NBP calculations.

Labour productivity growth is a factor limiting unit labour cost growth; hence in the graph it assumes negative values.

[29] LFS covers people staying in Poland for at least 12 months, thus this survey does not include people working on the basis of declaration of the intention to commission work to a foreigner, which can be issued for no longer than 6 months. According to the data by the Ministry of Family, Labour and Social Policy, there were in total around 0.9 million such declarations and applications for the seasonal work permission for a foreigner registered in the first half of 2018, close to the figure recorded in the first half of 2017. In turn, the number of foreigners registered in the Polish Social Insurance Institution (ZUS) picked up to 569 thousand in 2018 Q3 from 423 thousand in 2017 Q3.

[30] *NBP Quick Monitoring Survey Economic climate in the enterprise sector*, October 2018.

[31] *NBP Quick Monitoring Survey Economic climate in the enterprise sector*, October 2018.

2.5 Monetary policy and asset markets

The Monetary Policy Council maintains the NBP interest rates unchanged, including the reference rate at 1.50%. At the same time, market participants' expectations as to the levels of the NBP interest rates have not changed substantially over the past few months, pointing to a stabilisation of interest rates in the coming quarters (Figure 2.26).

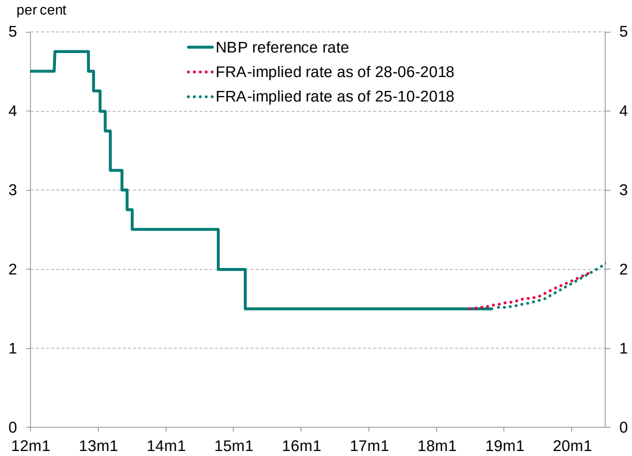
2.5.1 Financial market

Since the publication of the previous *Report*, yields on Treasury bonds in Poland have been stable despite the heightened volatility of asset prices in some emerging market economies. This was underpinned, above all, by investors' favourable assessment of Poland's economic fundamentals[32] and the absence of material macroeconomic imbalances, coupled with the expectations that the NBP interest rates would remain stable in the quarters ahead. As a result, yields on 10-year Treasury bonds in October were close to those seen in June 2018 (i.e. 3.3% on average; Figure 2.27).

Share prices, after slight rises observed in July and August, declined in the following months to levels markedly lower than at the beginning of the year (Figure 2.28). The fall in equity prices occurred despite the favourable economic conditions in the Polish economy and robust financial performance of the Polish enterprises (see also chapter 2.3 *Financial situation in the enterprise sector*) and was related mainly to deteriorating sentiment in global financial markets.

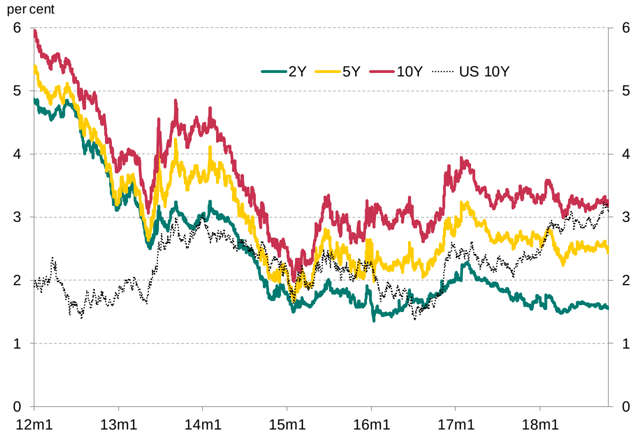
Insignificant changes in the prices of the Polish securities in recent months were accompanied by the stable exchange rate of the zloty (Figure 2.29). Despite the elevated volatility in the emerging markets, the

Figure 2.26 NBP reference rate and 3M FRA-implied interest rate



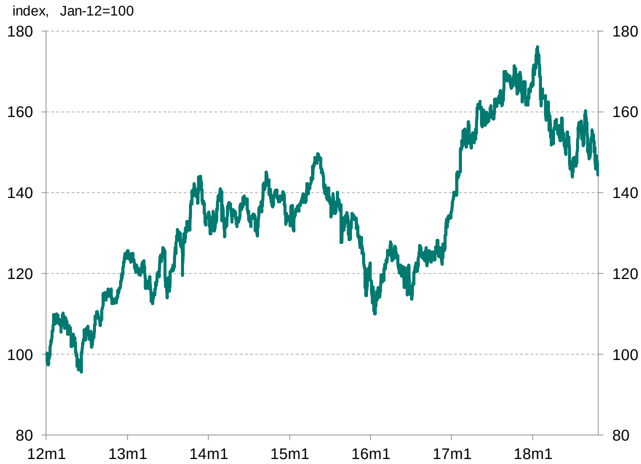
Source: NBP and Bloomberg data, NBP calculations.

Figure 2.27 Yields of Polish government bonds and 10Y US bonds.



Source: Bloomberg data.

Figure 2.28 The main stock market index in Poland (WIG)



Source: Bloomberg data.

[32] This is evidenced by the upgrade of Poland's Foreign Currency LT credit rating in October 2018 by the ratings agency S&P Global Ratings from BBB+ to A-.

average zloty rates against the euro and the US dollar have remained close to the ones observed in June 2018.

2.5.2 Real estate market[33]

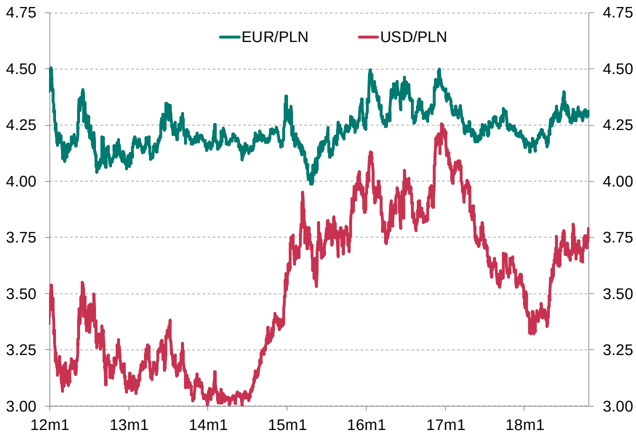
Expansion in the residential real estate market continued in 2018 Q2, as reflected in high levels of demand for and supply of new housing (Figure 2.30). This has not generated any major tensions thus far. Growing activity in the residential real estate market was accompanied by an increase in home prices, partly driven by rising production costs (Figure 2.31).

High demand for dwellings is underpinned by favourable labour market conditions (see Chapter 2.4 *Labour Market*) and strong consumer sentiment. Other factors behind the increase in home sales include stable interest rates on mortgage loans and the relatively high profitability of home rental as compared with other forms of household investment.

Solid demand for dwellings contributes to the persistently high number of both building permits issued and dwellings completed and made ready for occupancy.[34] Nevertheless, growth in the supply of dwellings remains slightly slower than growth in the demand. In these conditions, dwellings are purchased at ever earlier stages of the investment process.

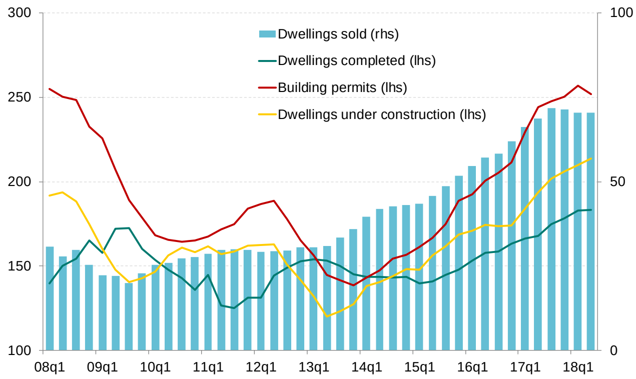
High production of dwellings reached may, however, hinder its further increase, especially given the supply-side constraints faced by real estate developers. Due to the high activity in the entire construction sector[35], changes in production factors are observed, such as shortages of labour and rise in both prices of building materials and estimated land prices. Yet the existing land stock owned by real estate developers should ensure the supply of new dwellings in the coming years.

Figure 2.29 Nominal exchange rate of euro and US dollar in Polish zloty



Source: Bloomberg data.

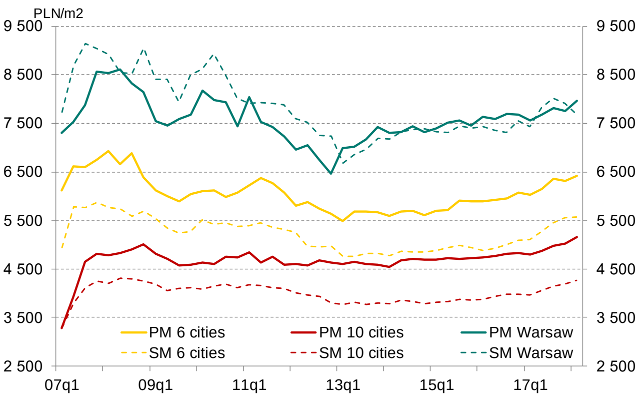
Figure 2.30 Residential construction in Poland (4-quarter rolling sum)



Source: GUS and REAS data, NBP calculations.

Sales data is based on 6 major markets in Poland (Warszawa, Kraków, Trójmiasto, Wrocław, Poznań and Łódź).

Figure 2.31 Average prices of flats in major cities in Poland



Source: NBP calculations based on the NBP survey.

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.

[33] For more information on the situation in the real estate market in Poland see the NBP report: *Information on home prices and the situation in the housing and commercial real estate market in Poland in 2018 Q2*, NBP, October 2018.

[34] According to GUS data, in 2018 Q2 a total of 65.5 thousand building permits for dwellings were issued, i.e. 7.0% less than in 2017 Q2. A total of 38.3 thousand dwellings were completed and made ready for occupancy, i.e.1.0% more than in 2017 Q2, while the number of construction starts increased by 65.7 thousand, i.e. by 6.2% compared to 2017 Q2.

[35] Dwellings and non-residential construction accounts each for approx. 25% of the total construction sector, while civil and water engineering – approximately 50%.

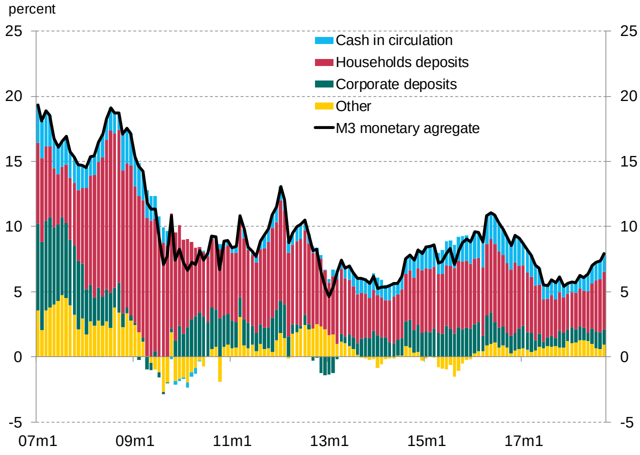
In the commercial real estate market, robust supply growth is supported by higher rates of return on this type of investment in Poland than abroad, together with high availability of external funding amidst very low interest rates abroad, including in the euro area (see Chapter 1.4 *Monetary policy abroad*). Alongside that, demand in the real estate markets for office space as well as retail and service premises remained stable in 2018.

2.6 Money and credit

In 2018 Q3, broad money (M3) growth in the economy increased compared to the previous quarter (7.6% y/y in Q3, against 6.5% y/y in Q2).[36] As in previous periods, household deposits were the primary factor accounting for the M3 aggregate growth (Figure 2.32). Stable growth of lending to the non-financial sector remained the main source of the broad money creation.[37] For the past few quarters, lending growth has been slightly lower than nominal GDP growth (Figure 2.33).

Household credit was the main driver of lending growth in 2018 Q3. These loans have been rising at a stable rate for the past few years, running at 5.6% y/y in 2018 Q3 (compared to 5.3% y/y in 2018 Q2; Figure 2.34). The increase in the value of household loans in this period resulted from a rise in both housing loans[38] and consumer loans. Yet consumer loan growth was still markedly higher than that of housing loans (9.2% y/y and 4.3% y/y, respectively, in 2018 Q3). The increase in lending to households is supported by stable interest rates and favourable labour market conditions, coupled with upbeat consumer sentiment. The growth in household loans may have also

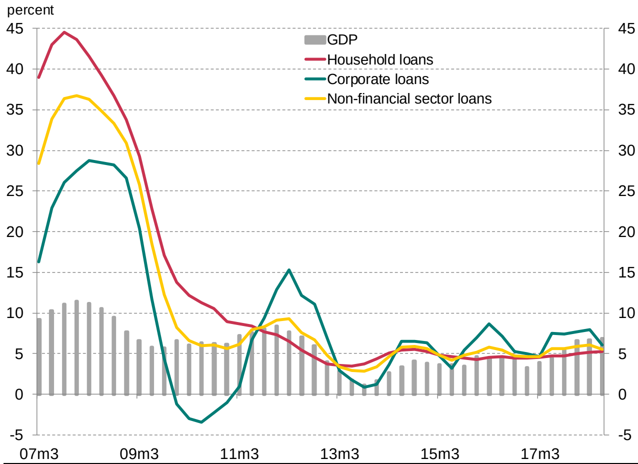
Figure 2.32 Composition of M3 growth (y/y)



Source: NBP data.

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

Figure 2.33 Nominal GDP and credit to non-financial sector growth (y/y)



Source: NBP data.

Loans - loans and other claims, annual growth rate, 3-month moving average.

[36] In this chapter, growth in the broad money aggregate M3 and loans is defined as the three-month average of the annual growth in the stock of the given category resulting from transaction changes in the given quarter.

[37] In this chapter, lending growth for a given sector of the economy is defined as the annual growth of transaction changes in the stock of receivables of the monetary financial institutions from this sector.

[38] Zloty-denominated housing loans continue to expand at a relatively fast pace (11.0% in 2018 Q3), while currency housing loans shrink further (a decline of 8.2% y/y in 2018 Q3).

reflected the slight easing of banks' lending policies relating to consumer loans.[39]

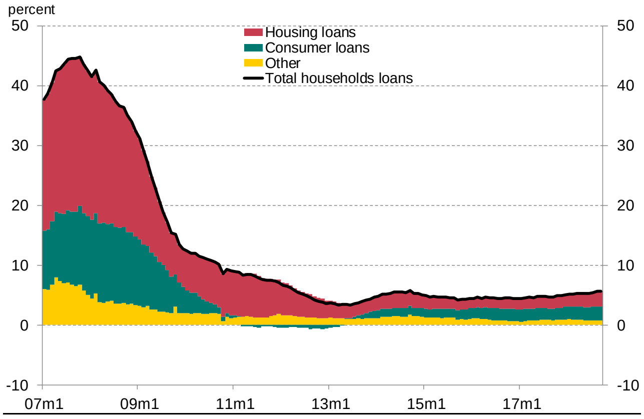
Corporate loans also accounted for a substantial part of growth in lending to the non-financial sector. In 2018 Q3, these loans were rising at a pace similar to that recorded in the previous quarter and amounted, on average, to 6.5% y/y (compared with 6.1% y/y in 2018 Q2; Figure 2.35). This was a result of a pickup in growth of the short-term loans (to 10.0% y/y), amid slower growth of investment loans (to 2.8% y/y). Factors contributing to slower growth in investment loans included, besides the decline in loans for investments, slower growth in loans for real estate purchases, following a few quarters of a substantial pickup. The observed slower growth of investment loans may result from firms financing new investments with own sources, which entails less interest in funding investment outlays with loans. Banks have recently tightened the criteria for extending corporate loans, particularly with regard to small and medium-sized enterprises.

2.7 Balance of payments

The current account balance remains close to zero, which indicates high external balance of the Polish economy. The current account balance remains close to zero, which indicates that external position of the Polish economy is well balanced.

In 2018 Q2, the current account balance rose somewhat compared to the previous quarter and amounted to 0.0% of GDP in terms of a 4-quarter rolling sum (Figure 2.36).[40] Factors contributing to the increase in the current account balance included a higher surplus in trade in services and an improvement in the balance in primary income. However, the latter remained significantly negative due to the income of direct

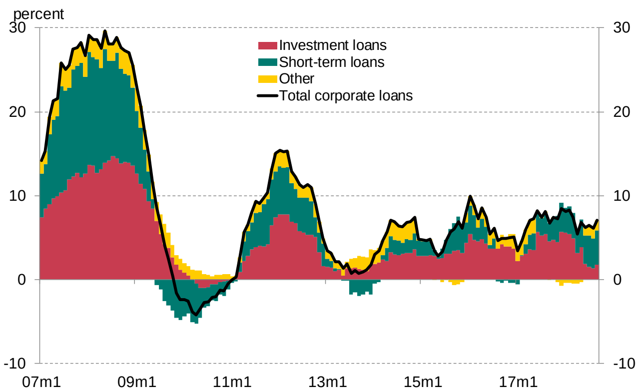
Figure 2.34 Composition of growth in loans to households (y/y)



Source: NBP data.

The category *Other* covers loans connected with credit cards, loans to individual entreprenuers, loans to individual farmers and other receivables.

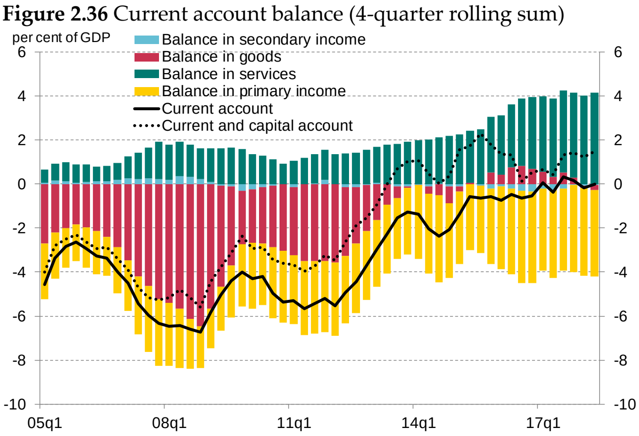
Figure 2.35 Composition of growth in loans to companies (y/y)



Source: NBP data.

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

Figure 2.36 Current account balance (4-quarter rolling sum)



Source: NBP data.

[39] In 2018 Q2 and Q3, banks relaxed slightly the criteria and selected terms of granting consumer loans (by, among others, raising the limit on the amount of the loan and extending its maximum term). The easing of credit policies in this market segment is to a considerable extent related to the competitive pressure in the banking sector. *Situation in the credit market. Senior Officer Loan Survey, 2018 Q4*, NBP, October 2018.

[40] Data on the balance of payments is presented in terms of a 4-quarter rolling sum.

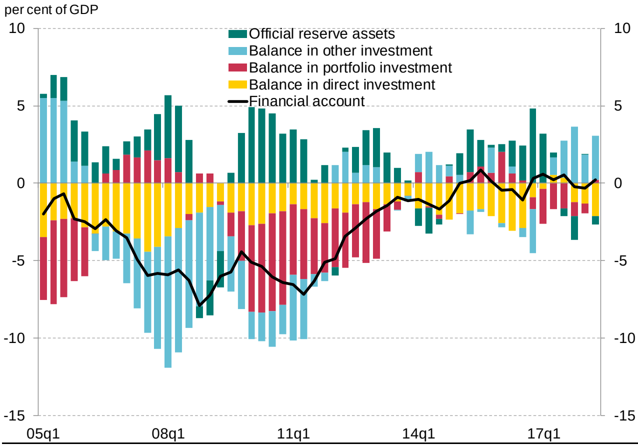
investors in Poland. At the same time, the balance of trade in goods was slightly negative (-0.2% of GDP).[41]

The surplus on the capital account rose slightly reflecting the stronger inflow of EU funds under the European Regional Development Fund and the Cohesion Fund.[42] As a consequence, the combined current and capital account balance stood at 1.5% of GDP in 2018 Q2 (as against 1.2% in 2018 Q1).

The financial account balance also rose somewhat in 2018 Q2 to reach 0.2% of GDP (Figure 2.37). This resulted from a significant change in the balance of transactions in other investment.[43] Alongside that, the inflow of direct investment increased, while the balance of portfolio investment was close to zero. In turn, official reserve assets declined as a result of transactions carried out by NBP (*repo* and *reverse repo*).

External imbalance indicators evidence that Polish economy is well balanced: the current account balance is close to zero, the level of external debt has remained stable in recent quarters, and Poland's net international investment position in relation to GDP has been improving (Table 2.3).

Figure 2.37 Financial account balance (4-quarter rolling sum)



Source: NBP data.

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

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

	2016				2017				2018	
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2
Current account balance/GDP	-0.7	-0.5	-0.6	-0.5	0.0	-0.4	0.3	0.2	-0.2	0.0
Current and capital balance/GDP	1.3	1.3	0.1	0.5	0.7	0.4	1.3	1.4	1.2	1.5
Trade balance/GDP	3.1	3.6	3.9	4.0	4.0	3.9	4.3	4.2	3.9	3.9
Official reserve assets (in monthly imports of goods and services)	5.3	6.1	5.9	6.4	5.7	5.2	5.0	4.7	4.8	4.8
Foreign debt/GDP	71	76	74	76	73	71	70	67	67	67
Net international investment position/GDP	-63	-62	-62	-62	-62	-63	-62	-61	-59	-57
Official reserve assets/short-term foreign debt and forecast current account balance)	107	114	115	116	115	108	100	102	100	95
Official reserve assets/short-term foreign debt	107	116	114	116	116	108	103	106	107	103

Source: NBP data.

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

[41] Data for July and August 2018 indicate that in 2018 Q3 the current account balance could decline due to lower balance of trade in goods.

[42] Data for the first two months of 2018 Q3 point to a further increase in the capital account balance.

[43] An increase of assets in this category resulted from transactions by Polish banks abroad, which led to a rise in their deposits in foreign banks. In turn, a decline in liabilities stemmed from transactions conducted by NBP and the banking sector (repayment of loans and withdrawal of deposits by non-residents).

3. Monetary policy in July – November 2018

At the meetings between July and November 2018 the Council kept the NBP interest rates unchanged at the following levels: reference rate 1.50%, lombard rate 2.50%, deposit rate 0.50%, rediscount rate 1.75%.

What follows in the next part of the chapter are the previously published *Minutes of the Monetary Policy Council decision-making meetings* held between July and October 2018 as well as the *Information from the meeting of the Monetary Policy Council* in July 2018. *Minutes* of the MPC meeting held in November 2018 will be published on 22 November, and thus included in the next *Report*.

Minutes of the Monetary Policy Council decision-making meeting held on 11 July 2018

During the meeting, the Council noted that the global economic conditions remain favourable. It was pointed out that activity in the euro area remained strong despite the forecast gradual decline in the region's GDP growth rate in 2018 and in the following years. It was noted that there was a risk of a more pronounced slowdown in this currency area, should trade tensions with the United States build up. Yet some Council members judged this risk to be limited. Certain Council members expressed the opinion that economic growth in the euro area might even be faster than forecast due to a loosening of fiscal policy in some countries of the area. At the same time, it was noted that GDP growth in the United States in 2018 would probably be higher than in 2017. It was observed that uncertainty concerning the outlook for global growth was currently elevated. Apart from the changes in international trade policy, the main risk factor to global economic conditions are developments in oil prices. It was emphasised that the heightened uncertainty about the outlook for global growth negatively affected the risk sentiment in global financial market, which was reflected in rising bond yields of many emerging market economies and in a depreciation of their currencies.

When analysing changes in commodity prices, it was noted that oil prices persisted at levels markedly higher than the year before, having fluctuated significantly in the recent period. It was observed that the increased volatility of oil prices was motivated by political and economic decisions made by some of the countries exporting this commodity (i.e. the countries of the so-called OPEC+ and the United States). Certain Council members assessed that in the longer run, oil prices might stabilise close to the current level.

While discussing inflation developments in the global economy it was observed that despite good economic conditions and higher oil prices than in the previous year, inflation abroad remained moderate. It was pointed out that this was driven by the persistently weak domestic inflationary pressures in many countries. It was assessed that the consistently low inflation in these economies over recent years might be supported by the following factors: the ongoing process of globalisation, including the growth of global supply chains and increased international flows of labour, and the weakened bargaining position of employees in wage negotiations. Certain Council members expressed the opinion that the impact of some of these factors might ease off in the future.

Referring to monetary policy in the environment of the Polish economy, it was noted that the ECB was keeping interest rates close to zero, including the deposit rate below zero. At the same time, the ECB continued to purchase financial assets, although it announced a reduction in the scale of purchases from October 2018 and the termination of the programme at the end of the year. Some Council members judged that interest rates in the euro area would remain low for an extended period of time. Attention was also drawn to interest rate increases in the Czech Republic and Romania. Yet some Council members emphasised that economic performance of those countries was different from that in Poland: inflation in the Czech Republic and Romania was above the target, core inflation was elevated and wage growth continued at a faster rate than in Poland. It was noted that the Federal Reserve had raised interest rates in June and was continuing a gradual reduction of its balance sheet, which – as certain Council members underlined – might have a downward effect on GDP growth in the United States and on global economic conditions.

Discussing the developments in Poland's real economy, it was pointed out that GDP growth in 2018 Q2 was relatively high and probably close to that observed in the previous quarter. It was indicated that economic growth was supported by rising consumption, benefiting from the increasing employment and wages, disbursement of benefits and very high consumer sentiment. It was observed that according to available forecasts, investment growth had picked up in 2018 Q2. Apart from the continued robust growth of public investment, this had probably been due to a recovery in corporate investment outlays. Export growth was assessed to have increased somewhat in 2018 Q2, which – in the opinion of most Council members – was propped up by some weakening of the zloty in the recent period. It was noted that the depreciation of the zloty reflected the drag from heightened uncertainty in the global financial markets, as in the case of many other emerging market currencies. This uncertainty also contributed to a fall in share prices on the Warsaw Stock Exchange.

With reference to the outlook for economic growth, it was pointed out that according to the July projection, GDP growth in 2018 would remain relatively high and above the level expected in March. However, in the following years economic growth would gradually slow down. Some Council members voiced the opinion that the main source of risk for the forecast GDP growth were developments in the environment of the Polish economy. Certain Council members indicated as the prevailing risk a deterioration in economic conditions abroad, which would lead to a more pronounced slowdown in economic activity in Poland. In contrast, other Council members judged that the likelihood of the unfavourable scenarios materialising might be smaller than expected, as might be their impact on the Polish economy. Moreover, economic conditions in the euro area could benefit from the expected easing of fiscal policy in some economies of the region. In effect, according to those Council members, GDP growth in Poland in the following years might be higher than envisaged in the July projection.

While analysing the current developments in the labour market, a further rise in employment and a fall in the unemployment rate were highlighted. It was emphasised that these developments were accompanied by stronger wage growth than in the previous year. However, some Council members stressed that wage growth had remained stable since the beginning of 2018. These members underlined that the results of the July projection indicated a stabilisation of wage growth also in the subsequent quarters. They judged that this would be underpinned by the high – and rising – share of enterprises not planning pay rises in the nearest future. They also emphasised that the continued inflow of foreign workers was curbing the extent of wage growth. However, other Council members argued that wage growth might accelerate in the following quarters, especially should the demands of pay rises in the public sector – already observed in some occupational groups – mount. These members judged that any rises in the public sector might in turn spur an increase in wage pressure in the private sector.

Discussing inflation developments in Poland, it was observed that the annual consumer price growth had increased in June as a result of rising fuel prices. At the same time, inflation net of food and energy prices was lower than at the beginning of the year, and service price growth had slowed down. In the assessment of some Council members, this suggested that domestic inflationary pressure continued to be weak, despite the relatively high economic growth and faster wage growth than in the previous year. Other Council members assessed that the recent decline in service price growth had probably been temporary.

While discussing the outlook for price growth, it was indicated that in line with the July projection, inflation in 2018 would be lower than previously expected and stand at 1.8%. Some Council members emphasised that the inflation forecast had been revised downwards in 2018, despite the increase in oil prices in the global markets and the recent depreciation of the zloty. They underlined that the downward revision of price growth resulted from a marked decline in core inflation forecasts, observed despite higher GDP growth than previously expected. The Council members pointed out that according to the July forecast, in the following years inflation was expected to increase gradually. Most Council members judged that in line with the July projection, inflation would remain close to the target in the projection horizon. Yet certain Council members judged that consumer price growth might be higher than the July projection envisaged due to the stronger-than-forecast GDP growth, faster wage growth and the renewed rise in service price growth. These members expressed the opinion that inflation might be additionally enhanced by a stronger pass-through of the rise in global oil prices to fuel prices, resulting from pricing policies of Polish fuel producers. They also emphasised the forecast rise in core inflation. In turn, other Council members judged that inflation might be lower than the July projection envisaged due to core inflation rising more slowly. They expressed the opinion that the absence of a rise in core inflation so far, despite very good economic conditions, increases the probability of its limited growth in the following quarters, especially in the face of the expected slowdown in GDP growth.

The Council members also noted that no clear signs of imbalances were currently observed in the economy. In particular, it was emphasised that credit to the non-financial sector was growing at a moderate pace, and the real lending rates remained at solidly positive levels. Growth of the main monetary aggregates was also moderate. However, certain Council members assessed that the persisting level of reference rate – negative in real terms – might increase the risk of imbalances emerging in the economy, especially in the credit and real estate markets. They highlighted the relatively fast, in their opinion, rise in consumer loans and the resulting high level of household debt compared to other European countries.

While discussing NBP monetary policy, the Council decided that currently interest rates should remain unchanged. The Council judged that current information, as well as the results of the July projection, indicated a favourable outlook for economic activity growth in Poland, despite the expected slowdown in GDP growth in the subsequent years. At the same time, in line with the projection, in the monetary policy transmission horizon inflation will remain close to the target. As a result, the Council judged that the current level of interest rates was conducive to keeping the Polish economy on a sustainable growth path and maintaining macroeconomic stability.

The majority of the Council members expressed the opinion that, taking into account current information, the stabilisation of interest rates in the quarters to come would continue to help meet the inflation target, while supporting the maintenance of balanced economic growth, including a further recovery in investment. Moreover, these Council members pointed out that the need to take into account monetary conditions in the immediate environment of the Polish economy, as well as the heightened uncertainty about the outlook for the global economy, also spoke in favour of keeping the current level of interest rates in the coming quarters.

In the opinion of some Council members, should incoming data and forecasts suggest a further increase in wage growth and a more marked intensification of inflationary pressure than currently expected, it might be justified to consider an increase in the NBP interest rates in the coming quarters.

A view was also expressed that in the event of a significant decline in economic activity indicators accompanied by a marked deterioration in consumer and corporate sentiment, in the longer run it might be justified to consider a decrease in interest rates.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 1.50%, the lombard rate at 2.50%, the deposit rate at 0.50%, the rediscount rate at 1.75%.

Minutes of the Monetary Policy Council decision-making meeting held on 5 September 2018

During the meeting, the Council noted that global economic conditions remain favourable. It was pointed out that activity in the euro area continued to be strong, despite slightly slower GDP growth than in 2017. It was emphasised that economic activity growth in Germany had picked up in 2018 Q2, supported mainly by robust consumer demand. The outlook for economic conditions in this economy was assessed as good, despite uncertainty associated with the decline in industrial orders in the previous month. The consistently favourable conditions for domestic demand in Germany are accompanied by uncertainty about the country's export growth in the following quarters. However, some Council members judged that in view of a likely agreement between the United States and the European Union, the risk of tariffs being imposed on car imports from Europe to the United States had decreased. At the same time, it was noted that this year's GDP growth in the United States was higher than in 2017. GDP growth in this economy had picked up markedly in 2018 Q2, which was mainly driven by a recovery in consumption and greater export momentum. It was pointed out that the risk for global economic conditions related to the United States' trade policy had diminished somewhat in the recent period, boosting the sentiment in the international financial markets. However, it was indicated that against the background of the bad economic situation in Argentina and Turkey, investors' propensity to invest in some emerging market economies had declined. This had an adverse effect on the prices of those countries' assets and contributed to a depreciation of their currencies.

When analysing changes in energy commodity prices, it was noted that oil prices persisted at levels markedly higher than the year before, having fluctuated significantly in the recent period. It was pointed out that the increased volatility of oil prices was caused by political decisions made by some of the countries exporting this commodity, as well as one-off factors. It was indicated that in the longer term the level of oil prices would be determined by global economic conditions, technological change and the scale of investment geared to raising the output of this commodity.

While discussing inflation developments in the global economy, it was observed that despite good economic conditions, inflation abroad remained moderate. It was pointed out that the increase in oil prices in recent months had contributed to higher price indices in many countries. Certain Council members were of the opinion that for this reason, inflation in the following quarters might also be higher than previously forecast. At the same time, it was indicated that higher oil prices would have a dampening effect on GDP growth in the oil-importing countries.

Referring to monetary policy in the external environment of the Polish economy, it was noted that the ECB was keeping interest rates close to zero, including the deposit rate below zero. At the same time, the ECB continued to purchase financial assets, although it reaffirmed its guidance to reduce the scale of purchases from October 2018 and to terminate the programme by year-end. Some Council members judged that, given the expected gradual economic slowdown and consistently moderate inflation in the euro area, interest rates in this region might remain low for an extended period of time. It was observed that in the United States, the Federal Reserve continued to gradually tighten monetary policy. Certain Council members assessed, however, that the pace of the tightening might be slower than previously expected. It was pointed out that while the monetary policy tightening in the United States could incline investors to withdraw capital from emerging market economies, the risk of a strong capital outflow from those economies which enjoyed a favourable economic conditions and lack of external imbalances was limited.

Discussing the developments in Poland's real economy, it was emphasised that the 2018 Q2 GDP data pointed to continued robust economic growth. It was indicated that economic growth was supported by rising consumption, benefiting from the increasing employment and wages, disbursement of benefits and very strong consumer sentiment. It was observed that this was accompanied by a rise in investment, both in the public sector and in the large company sector, although gross capital formation growth in 2018 Q2 had been weaker than in the previous quarter. It was assessed that the sources of the slowdown in investment growth in the economy were difficult to identify, given the sharp rise in local government investment and the acceleration in investment activity of large enterprises. Certain Council members expressed the opinion that measuring corporate investment outlays might be hindered by changes in sources of their financing and the evolving character of the investments implemented. At the same time, it was underlined that a marked rise in export growth was recorded in 2018 Q2, making a contribution of net exports to GDP growth positive.

With reference to the outlook for economic growth, it was pointed out that according to available forecasts, GDP growth in 2018 would remain relatively high and would gradually slow down in the following years. Some Council members assessed that the pace of economic growth in the quarters to come would probably be slightly weaker than in 2018 Q2. Certain of these Council members voiced the opinion that GDP growth in the coming months would be hampered by rising energy prices and supply constraints in the labour market. Other Council members, in turn, argued that GDP growth in the following quarters should be stable, and in the longer term might be higher than expected. It was assessed that the main source of risk for GDP growth forecasts was developments in the external environment of the Polish economy.

While analysing current developments in the labour market, it was pointed out that employment growth continued at stable rates, while unemployment levels remained low in 2018 Q2. It was underlined that these developments were accompanied by higher wage growth than in the previous year. Yet some Council members observed that the data from both the national economy and the corporate sector confirmed that wage growth had stabilised, with no signs of further acceleration. They judged that wage growth would probably also remain at its current level in the following quarters. This was indicated by a decline in the share of firms planning pay rises and those experiencing mounting wage pressure. These Council members expressed the opinion that wage growth was being contained by the good financial situation of households and the continued inflow of foreign workers. However, other Council members pointed out that the inflow of foreign workers was diminishing, which – along with the mounting pay demands in the government sector – might contribute to a pickup in wage growth in the subsequent quarters. These members judged that any possible wage rises in the public sector and the increase in the minimum wage amid stable inflation, might put upward pressure on wage growth in the private sector.

Discussing inflation developments in Poland, it was observed that the annual consumer price growth remained moderate and stayed at 2.0% in August. It was pointed out that the main factor contributing to higher prices than in the previous year was the rise in fuel prices, i.e. a factor being to a large extent beyond the direct influence of monetary policy. At the same time, inflation net of food and energy prices, while having risen somewhat in the past month, remained low, and inflation expectations of households and enterprises were stable.

While discussing the outlook for price growth, it was indicated that in line with available forecasts, inflation in a one-year horizon would rise somewhat, but stay close to 2.5%. Most Council members judged that in the monetary policy transmission horizon, inflation would also remain close to the target. Certain Council members emphasised that inflation could be boosted by stronger growth of energy prices due to the significant reaction – resulting from the price policy of Polish producers – of fuel prices to increase in global oil prices, as well as the rise in costs related to the need to adapt the energy infrastructure to the EU requirements. These Council members also judged that in the following months food price growth might rise due to the drought during the summer months. Certain Council members pointed out that the enacted legislative changes and the indexation of certain benefits might also contribute to price growth in the next year. However, other Council members emphasised that the likelihood of stronger growth in inflation was limited by the good financial results of enterprises which, along with strong competition in the market, decreased the propensity of firms to raise prices. They also indicated that core inflation would rise only gradually in the following months.

The Council members also stressed that no clear signs of imbalances were currently observed in the economy. It was noted that the current account balance remained close to zero, and net exports had made a positive contribution to GDP growth in 2018 Q2. It was also emphasised that credit to the non-financial sector was growing at a moderate pace, while the real lending rates remained at solidly positive levels. Some Council members assessed that the accelerated growth in lending to households, including consumer loans, resulted from households' improving financial situation, translating into better credit standing. These Council members also pointed out that the growth in housing loans was only gradual. However, certain Council members assessed that the persisting level of the reference rate – negative in real terms – might increase the risk of imbalances emerging in the economy. They pointed to the relatively fast, in their opinion, rise in consumer loans and the resulting high household debt in comparison with European countries. Other Council members considered that amid strong demand for household credit, which is characterised by higher margins, banks might be less prone to finance corporate investment activity.

While discussing NBP monetary policy, the Council decided that interest rates should remain unchanged. The Council judged that current information indicated a favourable outlook for economic activity growth in Poland, despite the expected slowdown in GDP growth in the subsequent years. At the same time, in the monetary policy transmission horizon inflation would remain close to the target. As a result, the Council judged that the current level of interest rates was conducive to keeping the Polish economy on a sustainable growth path and maintaining macroeconomic stability.

The majority of the Council members expressed the opinion that, taking into account current information, the stabilisation of interest rates in the quarters to come would continue to help meet the inflation target, while supporting the maintenance of balanced economic growth, including a further recovery in investment. Moreover, these Council members pointed out that the need to take into account monetary conditions in the immediate environment of the Polish economy, as well as the heightened uncertainty about the outlook for the global economy, also spoke in favour of keeping the current level of interest rates in the coming quarters.

In the opinion of some Council members, should incoming data and forecasts suggest a further increase in wage growth and a more marked intensification of inflationary pressure than currently expected, it might be justified to consider an increase in the NBP interest rates in the coming quarters.

A view was also expressed that in the hypothetical event of a slump in economic activity accompanied by a marked deterioration in consumer and corporate sentiment, in the longer run it might be justified to consider a decrease in interest rates or an introduction of unconventional monetary policy instruments.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 1.50%, the lombard rate at 2.50%, the deposit rate at 0.50%, the rediscount rate at 1.75%.

Minutes of the Monetary Policy Council decision-making meeting held on 3 October 2018

During the meeting, the Council noted that global economic conditions remain favourable. It was pointed out that activity in the euro area continued to be strong, despite slightly slower GDP growth than in 2017. It was assessed that the conditions for further growth of consumption in the euro area remain favourable, which should support a merely gradual slowdown in GDP growth in this region in the coming quarters. However, some Council members underlined that in the recent period growth forecasts for the euro area had been lowered, which – should it continue – could indicate the risk of a stronger slowdown in Poland's main trading partner. It was emphasised that a certain slowdown in international trade, visible in particular in weaker growth of Germany's foreign sales, was having a negative impact on GDP growth in the euro area. Certain Council members pointed out that the periodically intensifying tensions related to heavily indebted Italian economy posed an additional risk for economic conditions in Poland's immediate environment. At the same time, it was indicated that in the United States economic growth continued at a high level, due to still very good labour market conditions, high asset prices, and fiscal stimulus.

When analysing changes in energy commodity prices, it was noted that they were at levels markedly higher than the year before. In the recent period, increases in the prices of oil, coal and gas had been recorded. It was pointed out that geopolitical factors continued to have a significant impact on oil prices. A further increase in these prices was supported by the expected decline in oil supply resulting from the imposition of sanctions on Iran and Venezuela, along with the lack of declaration to increase production in OPEC+ countries, as well as the growing demand for fuel as a result of the continued favourable global economic conditions. In addition, in the recent period oil prices were also affected by information about oil stocks and production in the US economy and expectations about the possible sale of oil from strategic stocks of the United States.

While discussing inflation developments in the global economy, it was pointed out that the significant increase in prices of energy commodities contributed to higher inflation in many countries. However, core inflation in the environment of the Polish economy, including the euro area, remained moderate, despite the persistence of good economic conditions there. Certain Council members assessed that inflation abroad in the coming quarters could be higher than indicated by the previous forecasts. Other Council members additionally emphasised that amid heightened tensions in global trade and the introduction of tariffs by the largest economies, the disinflationary impact of globalisation on prices might be weaker than it had been so far.

Referring to monetary policy in the external environment of the Polish economy, it was noted that the ECB was keeping interest rates close to zero, including the deposit rate below zero. At the same time, the ECB continued to purchase financial assets, although since October at a reduced scale, and reaffirmed its guidance to terminate the purchase programme by year-end. Some Council members judged that, should the expected economic slowdown in the euro area prove stronger than indicated by current forecasts, interest rates in this region might remain low for longer than currently signalled by the ECB. It was noted that in the United States, the Federal Reserve continued to gradually tighten monetary policy and in line with expectations had raised interest rates once again in September. Some Council members pointed out that while this could incline investors to withdraw capital from emerging market economies, the risk of a strong capital outflow from countries which enjoyed favourable economic conditions and lack of external imbalances, was limited. Certain Council members judged that the process of monetary policy tightening in the United States could be terminated earlier than currently expected.

Discussing the developments in Poland's real economy, it was emphasised that incoming data suggested that GDP growth in 2018 Q3 was still high, although somewhat lower than in the first half of 2018. Certain Council members indicated that some data on activity in the enterprise sector, including the PMI index and industrial output growth, had declined in the recent period. With reference to the outlook for economic growth, it was pointed out that according to available forecasts, GDP growth in the coming quarters would gradually decline in the wake of weakening economic growth in the environment of the Polish economy. It was stressed that GDP growth was still driven by rising consumption, fuelled by increasing employment and wages, disbursement of benefits and very strong consumer sentiment. It was highlighted that this was accompanied by growth in investment which was forecast to accelerate in 2018 Q3. It was noted that apart from public investment, fixed capital formation of private enterprises was also rising, as confirmed by data from large enterprises for 2018 Q2.

While analysing current developments in the labour market, it was pointed out that the annual growth of employment in the enterprise sector was still high, although it was gradually decelerating. At the same time, the unemployment rate remained at a low level. It was underlined that these developments were accompanied by higher than in the previous year – although not accelerating – wage growth. Some Council members judged that wage growth would probably remain at its current level also in the following quarters. In their opinion, this was indicated by a decline in the share of firms planning pay rises and the moderate public sector wage growth assumed in the draft budget law, as well as the continued inflow of foreign workers. However, other Council members pointed out that the inflow of foreign workers was diminishing, which – along with the likely mounting wage demands in the government sector – might contribute to a pickup in wage growth in the subsequent quarters.

Discussing inflation developments in Poland, it was observed that despite the relatively fast GDP growth, the annual consumer price growth remained moderate. According to the GUS flash estimate, in September inflation stood at 1.8% compared to 2.0% in the preceding few months. At the same time, it was emphasised that core inflation was low, while growth in producer prices had declined somewhat. Certain Council members pointed out that in the recent period households' inflation expectations had remained stable, while expectations of enterprises had risen.

When discussing the outlook for price growth, it was indicated that in line with available forecasts, inflation in the first half of 2019 would be higher than currently observed. The Council members stressed that inflation would rise mainly due to higher energy prices driven by higher energy commodity prices, and also more expensive allowances for carbon dioxide emissions. In the opinion of certain Council members, the introduction of emission fees next year could also contribute to fuel price growth. An additional factor contributing to higher inflation would also be the expected higher annual growth of some food prices resulting from this year's drought. It was emphasised that the sources of higher inflation would thus include supply shocks, which at the same time would adversely affect the profitability of companies and the situation of households. In turn, core inflation was expected to rise only gradually and in the first half of 2019 should remain below the NBP inflation target.

Certain Council members pointed out that the growth of energy prices might increase inflation, not only in the short term, but also in the long term. In their opinion, the need to modernise the current energy infrastructure, related i.a. to efforts aimed at diversifying energy sources, might contribute to this. In the opinion of these Council members, although energy price rises for households would probably be low in the nearest future, for enterprises they might be significant and might increase their operating costs. Moreover, certain Council members assessed that energy price increases might raise inflation expectations in the economy. However, other Council members emphasised that the likelihood of a sharp increase in inflation due to an increase in energy costs was mitigated by the strong competition among enterprises, which might increase their willingness to reduce margins or other costs in order to maintain market shares, and also by the expected slowdown in GDP growth. Referring to inflation expectations, these Council members noted that no risk of their excessive growth could be seen in the long term.

The majority of the Council members judged that despite supply shocks, which could increase inflation in the first half of 2019, inflation would remain close to the target in the monetary policy transmission horizon. Some Council members underlined that in the coming years the slowdown in economic growth would curb inflation. However, certain Council members argued that the expected scale of slowdown in GDP growth was relatively small, thus it might limit inflationary pressure only to a small extent.

The Council members underlined that in the Polish economy there were currently no significant external or internal imbalances. It was pointed out that the current account balance remained close to zero, and lending growth to the non-financial sector remained moderate, i.e. lower than nominal GDP growth. At the same time, some Council members stressed that although the housing market was currently in an expansion phase, housing loans were not growing at an excessive rate. Moreover, in 2018 Q2 home sales were lower than in 2018 Q1, which could mean that home prices had reached the level limiting households' demand for housing.

While discussing NBP monetary policy, the Council decided that interest rates should remain unchanged. The Council judged that current information indicated a favourable outlook for economic activity growth in Poland, despite the expected slowdown in GDP growth in the subsequent quarters. At the same time, in the monetary policy transmission horizon inflation would remain close to the target. As a result, the Council judged that the current level of interest rates was conducive to keeping the Polish economy on a sustainable growth path and maintaining macroeconomic stability.

The majority of the Council members expressed the opinion that, taking into account current information, the stabilisation of interest rates in the quarters to come would continue to help meet the inflation target, while supporting the maintenance of balanced economic growth, including a further recovery in investment. Moreover, these Council members pointed out that the need to take into account monetary conditions in the immediate environment of the Polish economy, as well as the heightened uncertainty about the outlook for the global economy, also spoke in favour of keeping the current level of interest rates in the coming quarters.

In the opinion of some Council members, should incoming data and forecasts suggest a further increase in wage growth and a more marked intensification of inflationary pressure than currently expected, it might be justified to consider an increase in the NBP interest rates in the coming quarters.

A view was also expressed that in the hypothetical event of a slump in economic activity accompanied by a marked deterioration in consumer and corporate sentiment, in the longer run it might be justified to consider a decrease in interest rates or an introduction of unconventional monetary policy instruments.

The Council decided to keep the NBP interest rates unchanged: the reference rate at 1.50%, the lombard rate at 2.50%, the deposit rate at 0.50%, the rediscount rate at 1.75%.

Information from the meeting of the Monetary Policy Council held on 6-7 November 2018

The Council decided to keep the NBP interest rates unchanged: the reference rate at 1.50%, the lombard rate at 2.50%, the deposit rate at 0.50%, the rediscount rate at 1.75%.

Global economic conditions remain favourable, although signs of a weakening have appeared in some economies. In the euro area, GDP growth declined in 2018 Q3, and some indicators of economic conditions deteriorated. At the same time, in the United States growth has picked up slightly, which confirms that economic conditions in this country are still very strong. In turn, in China activity growth is gradually slowing down.

A rise in uncertainty about the global economic outlook contributed to some weakening of sentiment in the international financial markets. Concurrently, energy commodity prices have decreased slightly, following their previous sharp rise. The relatively high level of these prices continues to add to inflation in many countries. At the same time, core inflation in the external environment of the Polish economy, including the euro area, remains moderate.

The European Central Bank keeps interest rates close to zero, including the deposit rate below zero. Alongside that, the ECB continues to purchase financial assets, although it has reduced the scale of the purchases and has announced their termination by the end of the year. The Federal Reserve continues to gradually tighten monetary policy.

In Poland, incoming data point to economic conditions remaining strong, although in 2018 Q3 GDP growth was probably lower than in the first half of the year. GDP growth is still driven by rising consumption, albeit at a slightly lower rate than in the previous quarters, that is fuelled by increasing employment and wages as well as very high consumer sentiment. This is accompanied by a rise in investment.

Notwithstanding relatively high economic growth and wages rising faster than in the previous year, consumer price growth remains moderate. At the same time, inflation net of food and energy prices continues to be low.

The Council became acquainted with the results of the November projection of inflation and GDP, prepared under the assumption of unchanged NBP interest rates. In line with the November projection based on the NECMOD model, there is a 50-percent probability that annual price growth will be in the range of 1.7-1.9% in 2018 (against to 1.5-2.1% in the July 2018 projection), 2.6-3.9% in 2019 (compared to 1.9-3.5%) and 1.9-3.9% in 2020 (compared 1.7-3.9%). At the same time, annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 4.4-5.2% in 2018 (against to 4.0-5.2% in the July 2018 projection), 2.7-4.4% in 2019 (compared 2.8-4.7%) and 2.3-4.2% in 2020 (compared to 2.4-4.3%).

In the Council's assessment, current information and the results of the projection point to a relatively favourable outlook for economic conditions in Poland, although a gradual slowing in GDP growth is expected in the years ahead. In line with the projection, inflation in 2019 will probably exceed 2.5%, boosted, among others, by a rise in energy prices remaining beyond the impact of monetary policy, but will remain within a band for deviations from the target. In the medium term, in turn, the expected slowdown in economic growth will have a dampening effect on inflation. In effect, in the monetary policy transmission horizon inflation will remain close to the target.

The Council judges that the current level of interest rates is conducive to keeping the Polish economy on a sustainable growth path and maintaining macroeconomic stability.

The Council adopted the *Inflation Report – November 2018*.

4. Projection of inflation and GDP

This inflation and GDP projection was prepared by the Economic Analysis 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 Department. The process was coordinated by the Macroeconomic Forecasts Division of the Economic Analysis 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 2018 Q4 to 2020 Q4. The starting point for the projection is 2018 Q3.

The cut-off date for the data used in this Projection is 19 October 2018.

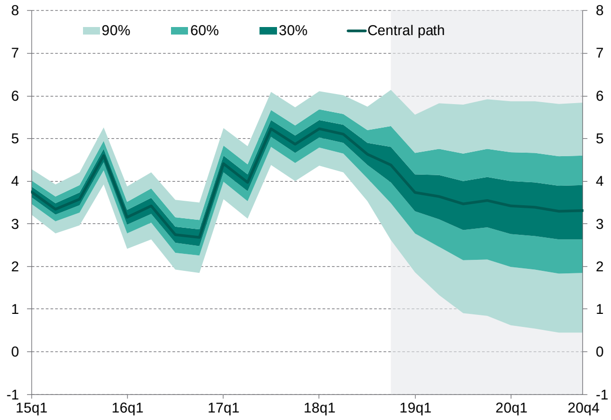
4.1 Summary

In 2018 Q3 the Polish economy remained in a period of strong recovery with continued relatively high growth in consumption and investment demand. In this period, however, there was a slight slowdown in Poland's economic activity compared to the first half of 2018. In 2018 Q3 the continued high GDP growth was accompanied by a further improvement in the labour market situation, including a rise in employment and the maintenance of high wage growth.

However, in the years 2019-2020 GDP growth will gradually decline. Private consumption will remain an important component of growth in domestic demand, due to the continued improvement in the labour market situation, which has a positive impact on household disposable income and consumer sentiment. At the same time, there will be further growth in the investment rate, connected with the restoration of the productive potential of the Polish economy and the growing absorption of EU structural funds under the current financial framework 2014-2020. According to the baseline scenario, the maximum growth of gross fixed capital formation in this cycle will not, however, reach the level of previous business cycles. The low level of interest rates and the resulting low cost of credit will have a favourable impact on domestic demand. However, economic growth will be restricted by the growth in energy prices and the slowdown in GDP growth in the euro area, which is forecast for 2019-2020.

With the assumption of absence of changes in NBP interest rates, consumer price inflation over the projection horizon will rise and run at the level of 3.2% in 2019 and 2.9% in 2020. CPI inflation growth will be the result of growing cost and demand pressure in the Polish economy, which will have delayed impact on prices. Costs of enterprises will increase over the projection horizon due to the elevated level of wage growth, exceeding labour

Figure 4.1 GDP (y/y, %)



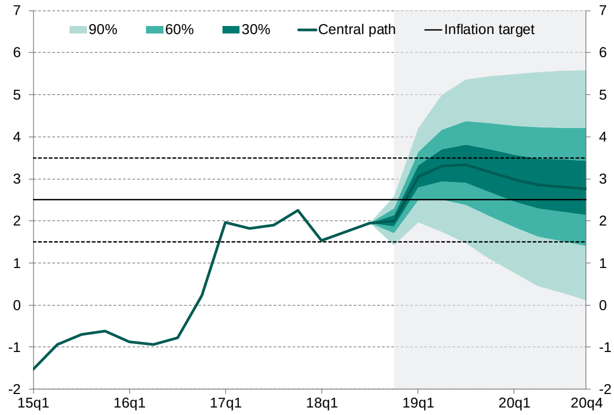
Source: GUS data, NBP calculations.

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; additionally, for GDP growth there exists the uncertainty of past values due to possible data revisions by GUS. 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: Lebsko P., Rybaczyk B., 2016, Fan Chart – A Tool for NBP's Monetary Policy Making, Narodowy Bank Polski Working Paper, No 241.).

productivity growth in real terms. Higher inflation will also be the result of increased demand pressure, reflected by the positive output gap persisting in the years 2018-2020 (while the sensitivity of prices with respect to changes in domestic economic conditions has decreased in recent years). Consumer price inflation, as well as costs of enterprises, will also be increased by energy price growth. The baseline scenario assumes that the strongest growth of CPI inflation resulting from this factor will take place in 2019. However, due to the high share of the regulated component in retail energy prices, predicting the scale and timing of the transmission of cost factors on energy price inflation is subject to significant uncertainty.

The future of the economic conditions in the global economy will have a significant impact on the expected development of the projection scenario. Potential sources of uncertainty include an escalation of the existing trade disputes and further rise in protectionism in global trade. However, the most important risk for domestic inflation is the future development of the situation in the energy commodities market and the transmission of rising energy prices on the costs of enterprises and the prices of consumer goods and services. The materialisation of the indicated risks would result in a lower path of GDP growth than in the central scenario, with slightly higher CPI inflation, which is reflected in the fan charts for these variables (Figure 4.1, Figure 4.2).

Figure 4.2 CPI inflation (y/y, %)



Source: GUS data, NBP calculations

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

4.2 External environment

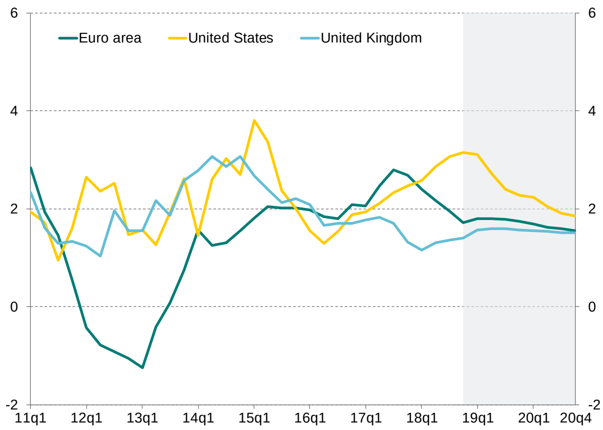
In the current projection it is assumed that the economic recovery in the euro area reached its peak in 2017 and in the coming years its scale will gradually decline (Table 4.1, Figure 4.3). A marked slowdown in global trade and heightened uncertainty resulting from escalating trade disputes will contribute to a weakening of activity growth in this economy in 2018. Private consumption will continue to be the main driver of economic growth in the euro area in the years 2018-2020, supported by the continued favourable labour market situation from the standpoint of households and the growth in the value of their net worth.

Economic activity in the United States will develop more favourably than in the euro area in the years 2018-2020. Domestic demand will be the main driver of the US economy, in the years 2018-2019 additionally stimulated by the tax reform, which reduces the fiscal burden of households and enterprises. So far, the increasingly protectionist trade policy of the United States, which started at the beginning of 2018, has not had a significant impact on the level of production in this economy. It has also not led to a significant deterioration in US corporate sentiment. Therefore, in the central projection path it is assumed that the determinants of consumption and investment growth in the US economy will remain favourable, despite the rising uncertainty tied to possible escalation of trade disputes.

Compared to GDP growth in the United States and in the euro area, economic activity in the United Kingdom will run at a relatively low level in the coming years, largely on account of uncertainty connected with the UK leaving the European Union. In the projection it was assumed that the British government will reach an agreement with the EU and that relations between these economies will remain to a large extent unchanged at least until 2020, i.e. to the end of the transition period.

The assumptions concerning business conditions in Poland's major trading partners are fraught with uncertainty, with prevailing risk of slower growth. Potential sources of uncertainty include an escalation of the existing trade disputes and further growth of protectionism in global trade, as well as the conditions on which the United Kingdom will leave the European Union. Due to the international trade and financial links, the additional risk factor in the projection horizon is the further development of the situation in the emerging

Figure 4.3 GDP abroad (y/y, %)



Source: Bloomberg, Eurostat data, NBP calculations.

Table 4.1 GDP abroad - November projection versus July projection

	2018	2019	2020
GDP in Euro Area (y/y, %)			
November 2018	2.1	1.8	1.6
July 2018	2.2	1.8	1.6
GDP in United States (y/y, %)			
November 2018	2.9	2.6	2.0
July 2018	2.9	2.7	2.0
GDP in United Kingdom (y/y, %)			
November 2018	1.3	1.6	1.5
July 2018	1.3	1.6	1.6

Source: NBP calculations.

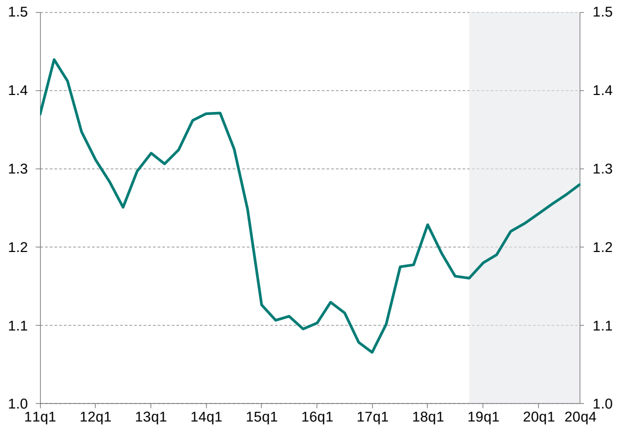
economies, which in recent months experienced a sharp depreciation of their currencies (India, Argentina, Turkey, South Africa, Russia).

In the November projection it was assumed, in line with market expectations based on FX options prices, that the appreciation of the US dollar against the euro in 2018 is temporary and that in the coming years the trend will be reversed (Figure 4.4). The gradual depreciation of the US dollar over the projection horizon will reflect the relatively higher risk of growing imbalances in the US economy than in the euro area. At the same time, lower economic activity in the euro area as well as the expected faster tightening of monetary policy by the Federal Reserve (Figure 4.5) will limit the scale of this depreciation. The assumed path of EUR/USD exchange rate is subject to high uncertainty tied to future global economy conditions.

Due to the rise in the price of oil, coal and natural gas, the energy commodities price index in 2018 Q3 ran at a higher level than in the previous forecasting round (Figure 4.6). A gradual fall in the prices of these commodities is expected over the current forecasting horizon, but they will continue to run above the level assumed in the July projection.

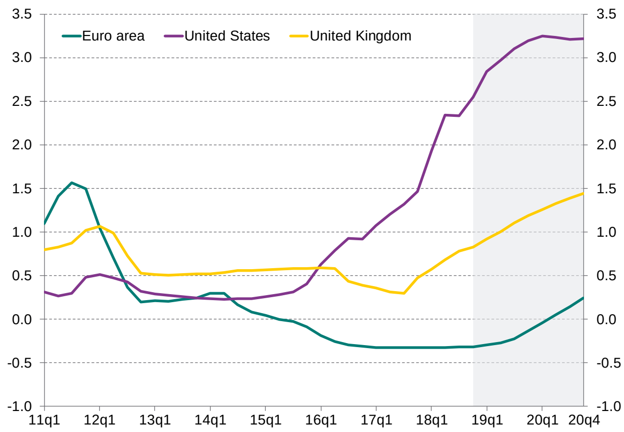
The further rise in oil prices observed in 2018 Q3 was driven by the continued decline in global stocks of this commodity, resulting from rapidly growing demand, in particular on the part of the Asian economies, along with slower growth in its global production. An important factor curbing the growth rate of the oil supply was the further systematic reduction in production in Venezuela as a result of the unstable political and economic situation in this country. The United States' withdrawal from the nuclear agreement with Iran also had a negative impact on global production of this commodity. Although US sanctions have only been in force since November 2018, oil companies already significantly reduced oil production in Iran in 2018 Q3, and in the coming months this trend is

Figure 4.4 EUR/USD exchange rate



Source: Bloomberg data, NBP calculations.

Figure 4.5 Interest rates abroad (%)



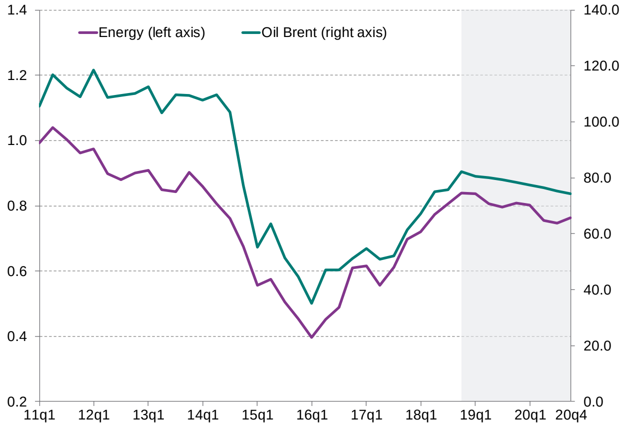
Source: Bloomberg data, NBP calculations.

expected to continue. Additionally, due to the continued logistical problems with the transport of unconventional oil in the United States and Canada, the current and future growth in production in these countries has been reduced slightly compared to the July forecasting round. As a result of all the above mentioned factors, oil prices in the current projection will run above those assumed in the previous forecasting round, not only in 2018 Q3, but also in the further forecast horizon. In the next two years, in line with the prices of futures, the expected prices of this commodity should, however, decrease compared to the currently elevated level (Figure 4.6), which will be supported by a further rise in production in the United States. The path of natural gas prices assumed in the projection will develop in a similar way, to a large extent due to a strong correlation of prices of both commodities.

The increase in coal prices in 2018 was mainly driven by the growing demand for this commodity on the part of the rapidly developing Asian economies, additionally strengthened by the hot summer in the region, which increased energy needs for cooling devices. Over the projection horizon the price of this commodity will gradually decline under the impact of the deteriorating outlook for global trade and the climate policy of the developed countries, providing for reduced consumption of coal as a source of energy.

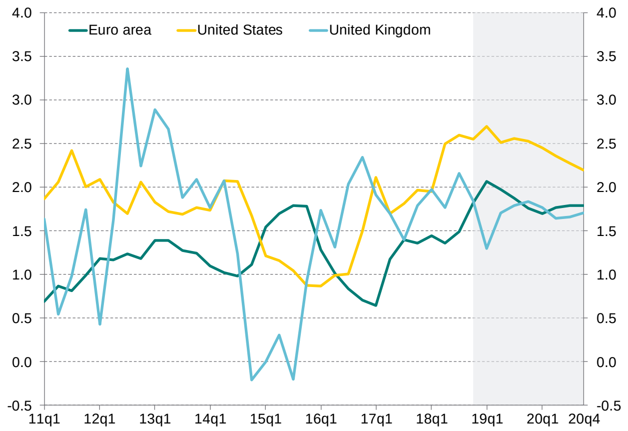
After a significant fall in 2017, the agricultural commodities price index rose markedly in the first three quarters of 2018 and currently runs above the expectations of the July projection. The drought in Europe, which reduced the supply of wheat, potatoes and rapeseed, contributed to higher agricultural commodities prices. The value of the index was also pushed up by the increase in the price of pork, which was the result of retaliatory tariffs imposed by the EU on imports from the United States, amid the persistence of high global demand for this commodity. It is expected that due to the safe levels of global stocks, the increase in the

Figure 4.6 Energy commodities price index (in USD, 2011=1) in global markets and Brent oil prices (USD/b)



Source: Bloomberg data, NBP calculations

Figure 4.7 Inflation abroad (y/y, %)

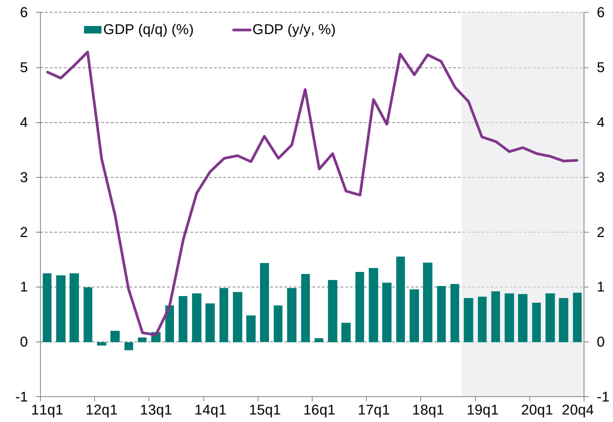


Source: Bloomberg, Eurostat data, NBP calculations.
Inflation as measured by the value added deflator.

value of the agricultural commodities price index is temporary and in the projection horizon it will return to the level assumed in the previous forecasting round.

The current forecast assumes that in the economic environment of Poland there will be a slight rise in inflation (measured by changes in the value added deflator, see Figure 4.7), remaining, however, at a moderate level. The pickup in wage growth and rising margins of enterprises will boost price growth abroad. In the United States, the inflation rate will additionally be boosted by the customs policy conducted by that country and the depreciation of the US dollar.

Figure 4.8 Economic growth

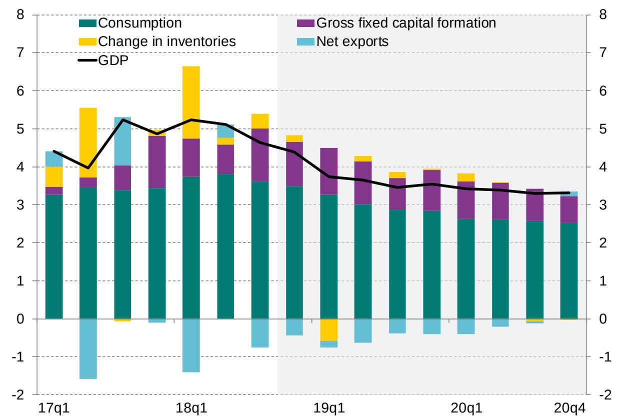


Source: GUS data, NBP calculations.

4.3 Polish economy in 2018-2020

Following economic growth exceeding 5% y/y in the first half of 2018, GDP growth will gradually decline over the projection horizon, in the wake of the flagging recovery in the euro area and the increase in energy prices (Figure 4.8). The fall in consumption growth in the years 2019-2020 will be accompanied by growth in the investment rate, connected with the restoration of the productive potential of the Polish economy and the inflow of funds from the EU budget (Figure 4.9).

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



Source: GUS data, NBP calculations.

Over the projection horizon CPI inflation will rise and run at the level of 3.2% in 2019 and 2.9% in 2020. This will be influenced by the growing cost and demand pressure in the Polish economy, which will have a delayed impact on prices. The increased demand pressure will be reflected in the positive output gap persisting in the projection horizon. At the same time, the problems of enterprises related to inadequate supply of labour will contribute to persistently higher wage growth rates, which along with a simultaneous decline in output growth, will lead to growth in unit labour costs (Figure 4.23). Consumer price inflation, as well as costs of enterprises, will also be increased by significant energy price growth.

Domestic demand

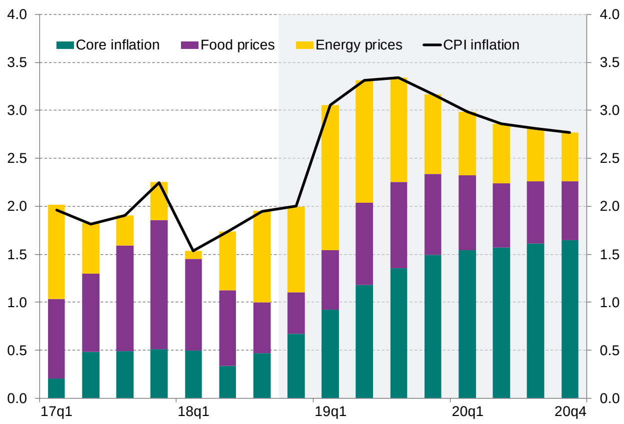
Over the projection horizon household consumption will continue to be the main driver of economic growth (Figure 4.9, Figure 4.11). The relatively high consumption will be supported by favourable for employees labour market developments, resulting from the continued high wage growth. The labour market situation as well as the payment of benefits under the "Family 500 plus" child benefit scheme will have a positive impact on household sentiment[44], increasing their propensity to consume. The low level of interest rates, which lowers the cost of financing consumer spending with loans, will also boost private consumption.

In the years 2019-2020, higher inflation than in 2018 will begin to curb household purchasing power more significantly. Thus, consumption growth will gradually decline from its current high level over the projection horizon.

In the current year investment growth will pick up, while the main driver of growth will continue to be the central and local government sector (Figure 4.12). In the coming years gross fixed capital formation growth will begin to gradually decline alongside the rising share of corporate investment.

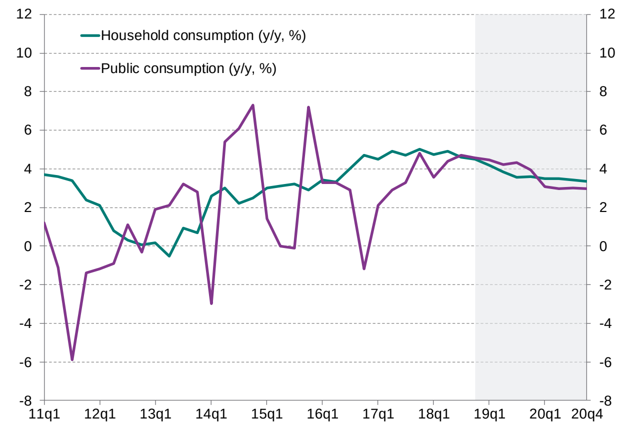
The high public investment growth in 2018 was mainly a result of the expenditure of local government units. Investment implemented by these entities was boosted, on the one hand, by the accelerated inflow of EU funds in 2018, and on the other hand, by the projects implemented in line with the local government elections. In the years 2019-2020, growth rate of gross fixed capital formation of public sector will decline significantly in the wake of slower growth in absorption of EU funds (Figure 4.13), after already reaching a high level of their utilisation in 2018.

Figure 4.10 CPI inflation (y/y, %) – breakdown



Source: GUS data, NBP calculations.

Figure 4.11 Household and public consumption



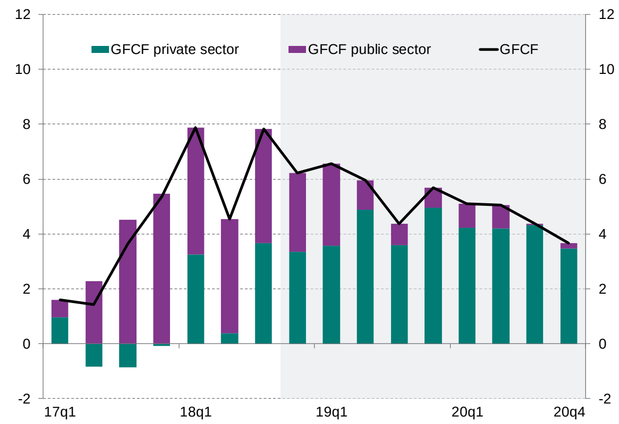
Source: GUS data, NBP calculations.

[44] *Consumer sentiment survey September 2018*, GUS, September 2018 .

The national accounts data indicate that investment growth in the private sector, including all sectors except for the general government, in 2018 Q2 was running at a low level (Figure 4.12). Data from corporate financial statements (F-01/I-01) show, however, markedly faster growth rate of fixed capital formation in non-financial medium-sized and large enterprises sector, which was higher by 13.5% compared with the previous year[45].

Over the horizon of the coming quarters corporate investment growth is forecast to pick up; however, it will not reach the peak of previous business cycles and in 2020 it will once more decline (Figure 4.12). On the one hand, the expected recovery in gross fixed capital formation of enterprises is supported by the currently favourable demand conditions, which is confirmed by the small percentage of firms, close to the record low, pointing to inadequate demand as a barrier to the development of their activity[46]. However, over the projection horizon the positive impact of this factor on investment will gradually fade, along with the weakening of both external and internal demand. At the same time, both NBP and GUS surveys point to a very high level of capacity utilisation in enterprises. However, housing investment is supported by the very good financial situation of households. The purchase of fixed assets financed by loans will be made easier by the record low level of interest rates, although the main source of financing for both households and corporate investment will remain own funds[47]. On the other hand, over the projection horizon investment will be limited by difficulties in finding employees[48], as well as rising prices of construction materials. The growth in electricity prices in the wholesale market, which will gradually translate into growth in costs of economic agents, will also hold back

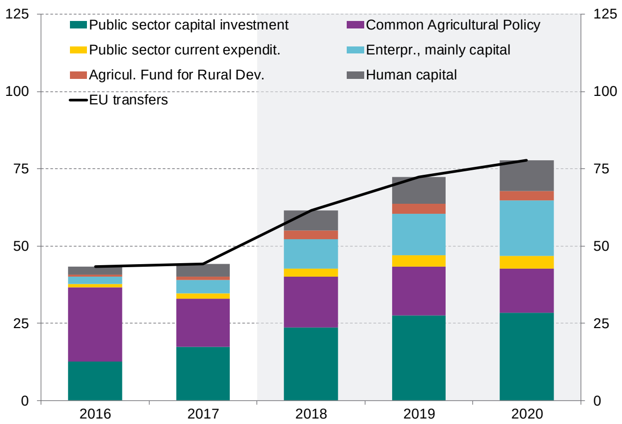
Figure 4.12 Gross fixed capital formation (y/y, %) – breakdown



Source: GUS data, NBP calculations.

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

Figure 4.13 Expenditure financed by EU funds (in PLN billion) – breakdown



Source: NBP calculations.

[45] *NBP quick monitoring. Economic climate in the enterprise sector*, NBP, October 2018.
[46] *NBP quick monitoring. Economic climate in the enterprise sector*, NBP, October 2018.
[47] *NBP quick monitoring. Economic climate in the enterprise sector*, NBP, October 2018. According to the findings of the research 50% of the investors finance new investment with their own funds, and only half of this percentage – with the use of bank credit. *Information on home prices and the situation in the housing and commercial real estate market in Poland in 2018 Q2*, NBP, October 2018.
[48] *NBP quick monitoring. Economic climate in the enterprise sector*, NBP, October 2018.

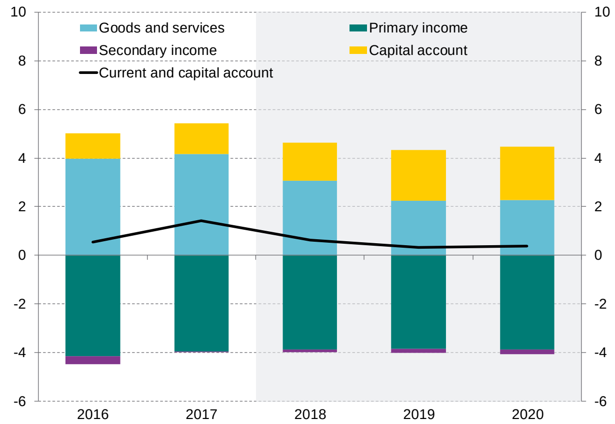
investment growth. At the same time, in the years 2019-2020 the positive contribution of the inflow of EU funds to corporate investment growth will decline (Figure 4.13).

Public consumption growth in 2018 is running high, influenced by the relatively robust growth in current expenditure of local government units. In 2019 public consumption growth will remain at a high level, exceeding the growth rate of GDP. According to the draft *2019 Budget Act*, next year for the first time since 2010 the base salary of public sector employees is to rise (by 2.3%), while the salaries of certain professions (among others teachers, academic teachers and employees of uniformed services) will rise even faster. Due to the lack of detailed information about the expected development of the general government sector spending, in 2020 a slight decline in the growth rate of this expenditure is assumed under the assumption of neutral fiscal policy stance.

Current and capital account balance

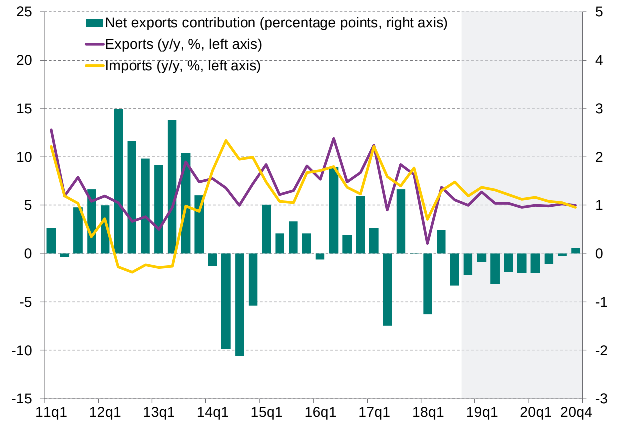
In the years 2018-2020, following the decrease in the trade surplus, a fall in the total balance of the current and capital account is expected, although it will continue to be positive (Figure 4.14). The trade surplus will be lowered by the expected negative contribution of net exports to growth (Figure 4.15). The future path of exports will be particularly influenced by declining economic growth in the euro area, including in Germany. At the same time, relatively higher import growth will result from the forecast gradual growth in investment and consumption demand in the Polish economy. The decline in the trade surplus over the projection horizon will also be driven by a less favourable terms of trade (Figure 4.16), mostly related to rising prices of energy commodities in the global markets. As a result, the lower surplus in trade in goods and services will not compensate– as it did in 2017 – the forecast high primary income deficit, despite its slight decline over the projection horizon (Figure 4.14).

Figure 4.14 Current and capital account balance (percent of GDP) - breakdown



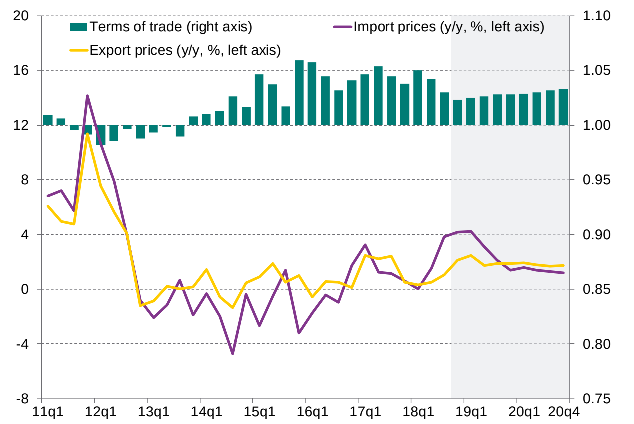
Source: GUS data, NBP calculations.

Figure 4.15 Foreign trade



Source: GUS data, NBP calculations.

Figure 4.16 Export and import prices



Source: GUS data, NBP calculations.

The balance of the primary income account in Poland's balance of payments is determined by the high negative direct investment income balance, which in the years 2018-2020 will remain at a relatively stable level. The slight decrease in the primary income deficit over the projection horizon will mainly be due to the more favourable portfolio investment income balance thanks to declining external public debt servicing costs to GDP.

The scale of the fall in the current and capital account balance in the years 2018-2020 will be partly mitigated by the growth in the surplus in the capital account related to the growing inflow of EU investment funds under the EU financial framework 2014-2020 (Figure 4.14).

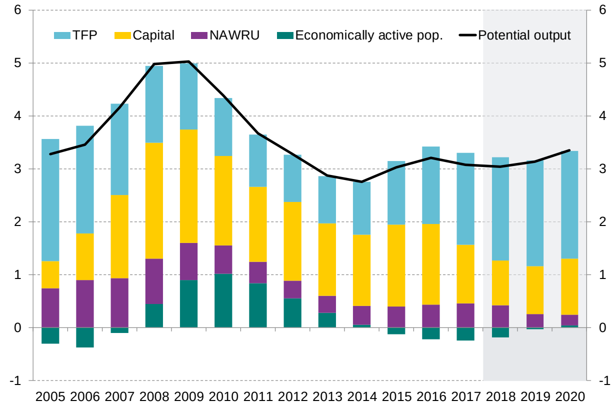
Potential output

Potential output growth will accelerate to 3.4% y/y over the projection horizon (Figure 4.17). This will result from the continued acceleration of total factor productivity (TFP) and pickup in productive capital growth due to the increase in the investment rate. The effective labour supply (taking into account the number of economically active people and the equilibrium unemployment rate; Figure 4.17, Figure 4.18) will make a slightly positive contribution to potential output growth.

Higher TFP growth over the projection horizon will be supported by a further improvement in the quality of human capital. This is reflected, among others, in the growing percentage of people with higher education in the group aged over 44, along with the entry into this group of younger cohorts characterised by a higher ratio of higher education. The increasing innovation performance of the Polish economy and the improvement of its position in the global value chains will also have a positive impact on total factor productivity growth.

The favourable situation in the labour market will encourage growth in labour force participation (Figure 4.19). In particular, this effect will concern pre-retirees (50-59/64 years old), whose labour

Figure 4.17 Potential product (y/y, %) – breakdown



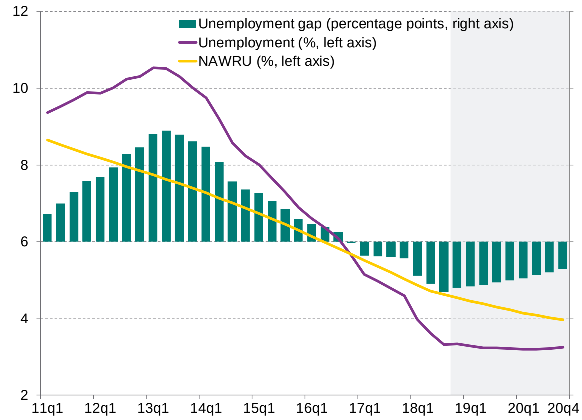
Source: NBP calculations.

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, $NAWRU_t$ – the equilibrium unemployment rate, K_t – productive capital. The output elasticity with respect to labour was set at the level of 0.67.

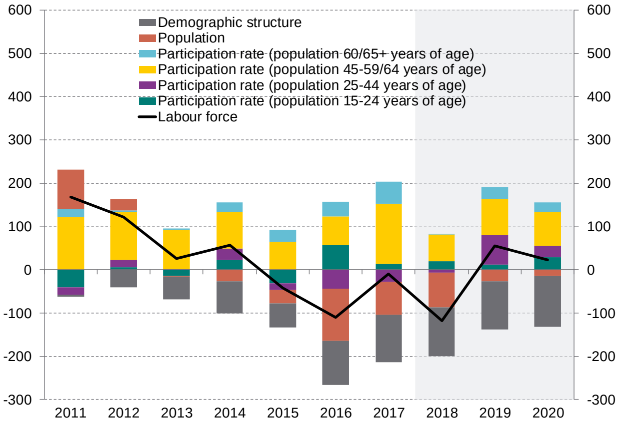
Figure 4.18 Unemployment



Source: GUS data, NBP calculations.

force participation is still significantly lower than in Western European countries. The presence of immigrants, especially Ukrainian citizens, on the domestic labour market, also has a positive impact on the labour supply[49]. At the same time, the lowering of the retirement age from 1 October 2017 reduces the growth of the labour force participation rate in the oldest age group (60/65+). Potential output growth over the projection horizon will be also limited by the continuation of negative demographic trends leading to a fall in the working age population in Poland.

Figure 4.19 Changes in the labour force (thous., y/y)

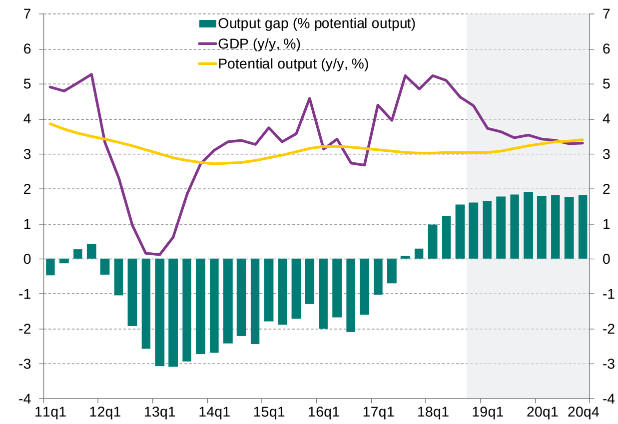


Source: GUS data, NBP calculations.

Output gap

The positive output gap is widening as a result of the high real GDP growth in 2018, which significantly exceeds potential output growth. In the years 2019-2020, along with a slowdown in economic growth, the output gap will stabilise at the level of 1.8% of potential output (Figure 4.20). The growth in demand pressure in the economy over the projection horizon will gradually translate into a pickup in CPI inflation.

Figure 4.20 Output gap



Source: 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.

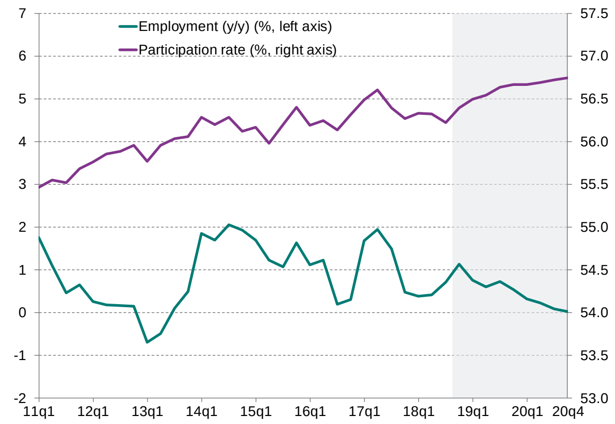
Labour market

The expected slowdown in GDP growth in the coming years will be accompanied by a gradual decline in growth in the number of employed persons (Figure 4.21). Besides slower growth in demand for labour, this will also be due to a decrease in the supply of employees. The number of the unemployed who could undertake employment is small, which is reflected in the record low unemployment rate (Figure 4.18, Figure 4.22). In enterprise surveys, the percentage of firms reporting staff shortages as a barrier to activity[50] and declaring vacant positions[51] is at a record high.

[49] Immigrants have a positive impact on the potential of the Polish economy, but due to the definition of Polish residents used in the LFS survey, they are included in the cohorts of the economically active and the employed only to a limited extent according to this methodology. In the NECMOD model, immigrants not included in the LFS population do not, therefore, increase the labour supply, but they affect the potential output through their positive impact on total factor productivity (TFP).
[50] *Business tendency in industry, construction, trade and services*, GUS, October 2018,
[51] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2018.

Wage growth in the years 2018-2020 will remain at an elevated level, exceeding the growth of labour productivity in real terms (Figure 4.23). On the one hand, wage growth will be boosted by the record low unemployment rate and the rise in consumer price inflation. In 2019 wage growth will also accelerate in the public sector, which accounts for almost one third of total employment in the national economy. On the other hand, over the projection horizon growth in demand for labour on the part of enterprises will slow down, and wage pressure in the economy will be additionally alleviated by the presence of immigrants from Ukraine. The results of NBP surveys also point to a stabilisation of wage growth in the coming quarters. According to the surveys, the percentage of firms forecasting wage rises and firms indicating the appearance of wage pressure is decreasing, although these indicators still record high levels.[52]

Figure 4.21 Employment and labour force participation

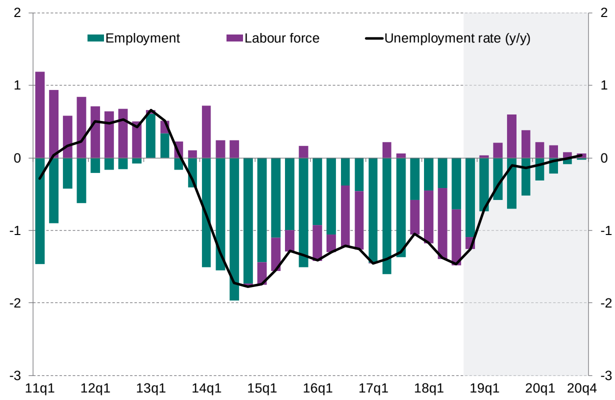


Source: GUS data, NBP calculations.

Exchange rate

In recent months, following an increase in uncertainty in global markets, the złoty weakened against the currencies of Poland's main trading partners. The current level of the exchange rate of the domestic currency is below the level resulting from fundamental factors. Therefore, over the projection horizon, the real effective exchange rate of the zloty is expected to strengthen and gradually approach the equilibrium exchange rate. The scale of the expected zloty exchange rate appreciation will be curbed by the declining interest rate disparity. The declining interest rate disparity is a result of the assumed lack of changes in NBP interest rates over the projection amid an expected increase in the cost of money in the external environment of the Polish economy.

Figure 4.22 Change in unemployment rate - decomposition



Source: GUS data, NBP calculations.

[52] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2018.

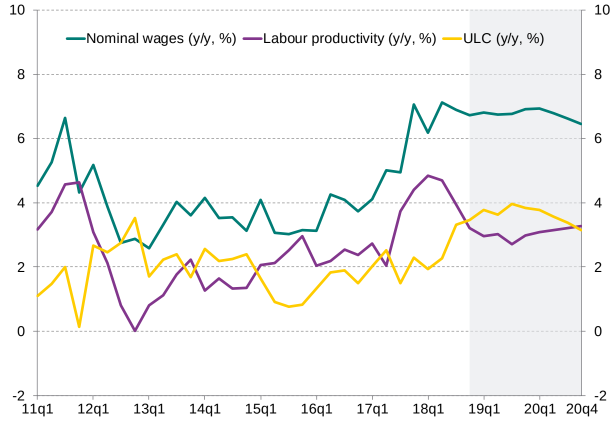
CPI inflation

CPI inflation will increase over the projection horizon and will run at the level of 3.2% in 2019 and 2.9% in 2020 (Figure 4.24).

This increase in CPI inflation will be driven by rising cost and demand pressure in the Polish economy, which will have a delayed impact on prices (Figure 4.24). Costs of enterprises are increased over the projection horizon in particular by the elevated level of wage growth, exceeding in real terms labour productivity growth (Figure 4.23). Higher inflation will also be the result of demand pressure, reflected by the positive output gap persisting in 2018-2020, while the sensitivity of prices with respect to changes in domestic economic conditions has decreased in recent years.[53] At the same time, the price of energy for households and companies will increase, with the strongest rise in 2019.

The pickup in domestic energy price inflation in 2019 and, to a lesser extent, in 2020 will result from the impact – extended over time – of the increase in global energy commodity prices observed in 2018 (Figure 4.25). In particular, higher coal prices combined with growing prices of allowances for CO2 emissions and green certificates has translated into strong, almost 60% growth, in electricity prices in the domestic wholesale market. From 2019, commodities exchange prices will gradually translate into higher bills for households. In the projection it was assumed that, as was the case in the past, the Energy Regulatory Office (URE) will spread the rise in electricity prices over several years in tariffs for this group of entities. However, it should be stressed that given the current situation on the electricity market, the forecast of the future level of URE tariffs for households is subject to exceptionally high uncertainty. From January 2019, electricity bills for households will also be increased by rising costs of ensuring energy

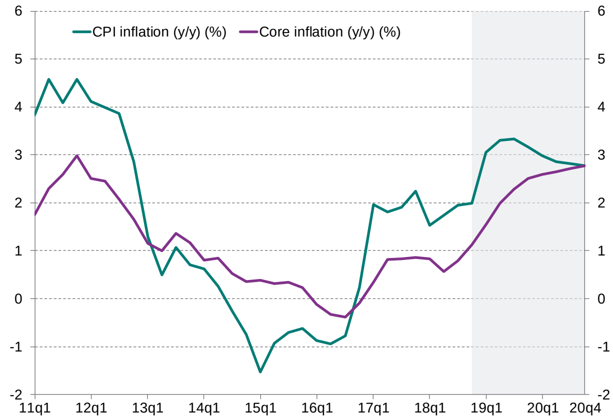
Figure 4.23 Unit labour costs



Source: GUS data, NBP calculations.

Unit labour costs are defined as the average cost of labour per unit of output produced. They are calculated by dividing the total remuneration 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.

Figure 4.24 CPI and core inflation



Source: GUS data, NBP calculations.

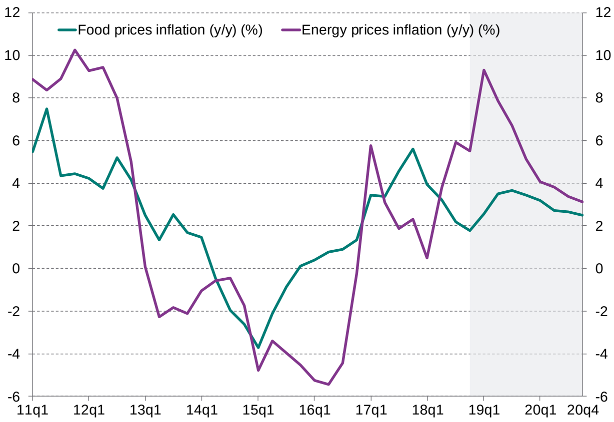
[53] Szafranek, Karol, 2017. Flattening of the New Keynesian Phillips curve: Evidence for an emerging, small open economy, *Economic Modelling*, Elsevier, vol. 63(C), pp. 334-348.

security and the support for renewable energy sources. Energy price inflation will also be boosted by the introduction of emission fee, which will result in an additional increase in fuel price growth next year. The expected end of arbitration proceedings between PGNiG and Gazprom this year will, however, mitigate the scale of the price increases of natural gas for households.

Besides the impact on the level of tariffs for households, growth in wholesale electricity prices will also increase the costs of companies. However, this process will be spread over time due to the long-term nature of contracts for the supply of electricity signed by enterprises. The results of the *NBP Quick Monitoring* indicate that electricity price growth will most likely not translate into a significant adjustment of producer prices. This is because enterprises declare relatively high resilience to possible changes in costs of raw materials.[54]

Despite the inflationary impact of demand and cost factors, food price inflation will run below the level of 2017 over the projection horizon, reducing the scale of total growth of the CPI inflation rate (Figure 4.25**Figure 4.25**). This will be caused by the lapse of the impact of unfavourable supply conditions and the limitation of shortages in the markets of certain agricultural commodities and products, which led to an increase in the price of fruit, vegetables, meat and dairy products last year.

Figure 4.25 Food and energy price inflation



Source: GUS data, NBP calculations.

4.4 Current versus previous projection

Data released after the cut-off date of the July projection contributed to an upward revision of the GDP growth forecast in 2018 and its downward revision in 2019-2020. New information also indicates the possibility of a higher inflation rate in 2019 (Table 4.2, Figure 4.26, Figure 4.28).

Table 4.2 November projection versus July projection

	2018	2019	2020
GDP (y/y, %)			
November 2018	4.8	3.6	3.4
July 2018	4.6	3.8	3.5
CPI inflation (y/y, %)			
November 2018	1.8	3.2	2.9
July 2018	1.8	2.7	2.9

Source: NBP calculations.

[54] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, October 2018.

GDP

The upward revision of GDP growth and the change in its structure in 2018 was due to inclusion of the national accounts data for 2018 Q2 and monthly indicators for 2018 Q3 showing that economic activity remains high. With this information taken into account in the November projection, household consumption in 2018 runs above the expectations of the previous forecasting round. Its high level is a result of the exceptionally optimistic consumer sentiment reported in GUS surveys. The contribution of net exports to GDP growth in 2018 is also revised upwards due to the stronger than expected acceleration of export growth in 2018 Q2. At the same time, gross fixed capital formation in 2018 Q2 grew slower than anticipated in the July projection, which partly limited the positive impact on the forecast of favourable readings of the remaining components of GDP (Figure 4.27).

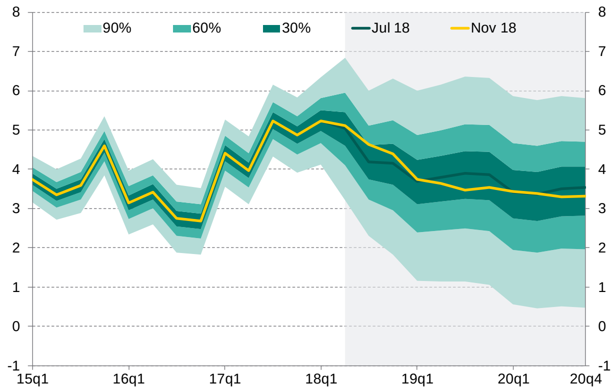
In 2019-2020 GDP growth will run slightly below the expectations of the July forecasting round as a result of the negative impact on economic activity of higher energy price inflation, alongside the simultaneous fading of the impact of factors boosting GDP growth in 2018.

Inflation

The upward revision of the forecast of CPI inflation in 2019 compared to the results of the July projection is mainly due to the increase in global commodity prices and the accompanying depreciation of the złoty against the US dollar. These determinants have the greatest impact on the future path of domestic energy prices (Figure 4.29).

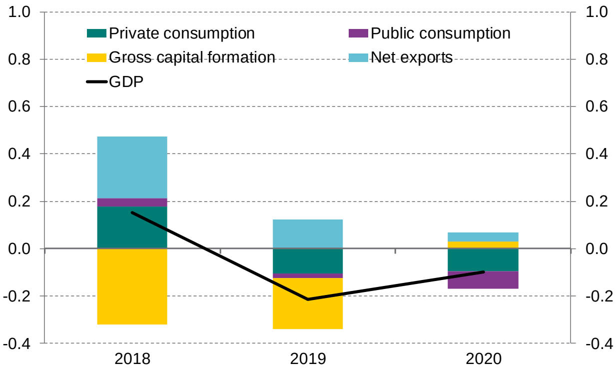
The rise in oil and coal prices will translate into higher domestic fuel and heating fuel prices in the November projection. Higher coal prices, along with the rise in the prices of allowances for CO2 emissions and green certificates, will also lead to higher electricity bills for households as compared to the July projection. CPI inflation will be

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



Source: NBP calculations.

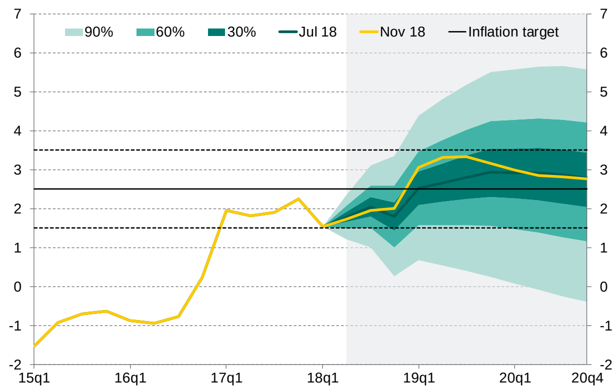
Figure 4.27 Decomposition of deviations between November and July projection: GDP growth (percentage points)



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.

Figure 4.28 November projection versus July projection: CPI inflation (y/y, %)

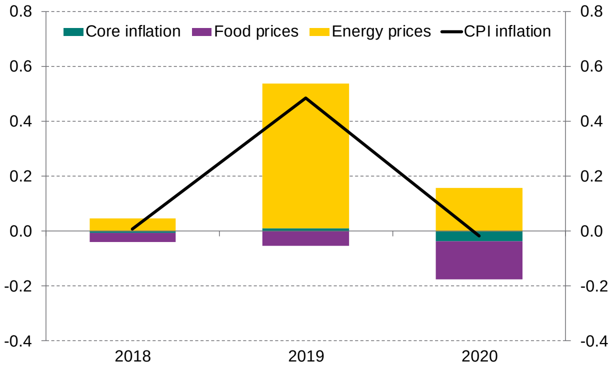


Source: GUS data, NBP calculations.

additionally boosted by the upward revision of global natural gas prices.

Due to the high share of administered prices, predicting the scale and timing of the transmission of cost factors to domestic energy prices is subject to significant uncertainty. In the November projection it is assumed that the greatest adjustment of energy price inflation compared to the July forecasting round will take place in 2019, and to a lesser extent in 2020.

Figure 4.29 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.

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 and Figure 4.2). The most important source of risk for economic activity in Poland are currently future global economic conditions. The pace of economic growth is also subject to uncertainty tied to the level of labour supply of migrants from Ukraine. In turn, the main risks for domestic inflation, apart from GDP growth abroad, consist of the developments in the energy commodity markets and their transmission to domestic energy prices. The balance of risks points to the possibility of the occurrence of slightly higher CPI inflation and a lower path of GDP growth than in the central scenario (Table 4.3). With the assumption of no change in the NBP reference rate, the probability of CPI inflation running within the symmetrical band of deviations from the NBP inflation target of 2.5% (with a width of +/- 1 percentage point) gradually declines from its current level of 92% to 45% at the end of the projection horizon (Table 4.3).

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%)
18q4	0.08	0.92	1.00	0.50	0.92
19q1	0.01	0.20	0.73	0.49	0.72
19q2	0.03	0.19	0.56	0.48	0.53
19q3	0.05	0.22	0.53	0.48	0.48
19q4	0.09	0.28	0.58	0.48	0.49
20q1	0.13	0.34	0.61	0.47	0.48
20q2	0.17	0.38	0.64	0.47	0.47
20q3	0.19	0.40	0.64	0.48	0.46
20q4	0.21	0.42	0.66	0.49	0.45

Source: NBP calculations.

Growth prospects in the global economy

The assumptions to the central projection path regarding developments in the external environment of Poland does not take into account the impact of events, both positive and negative, which may occur, but whose probability is assessed as low. In the current forecasting round it is judged that among these events the majority are those that could slow down GDP growth abroad. The most important risk factors for the central path are connected with the further escalation of trade disputes between the world's major economies and tensions in developing countries.

In the period since the last projection, some of the concerns related to the imposition of tariffs by the United States on successive tranches of imports from China have materialised. The announcement in September 2018 of a 10-percent tariff on a further USD 200 billion of imports from China, with the prospect of its increase to 25% in December 2018, met with an immediate retaliatory response. The US authorities have announced that a further USD 267 billion of goods from China will be subject to 25-percent tariffs. There is a risk that tariffs will also be imposed on all cars imported to the USA and auto parts with a total value of over USD 200 billion. These moves will also most likely be met with retaliatory measures. Although the measures taken up to now have only had a limited impact on sentiment in the states involved in the conflict, a further escalation of protectionist measures could result in disturbances in global supply chains, and thus a reduction in global trade and changes in international ties. The growing uncertainty about the conditions for economic activity in the future would restrict domestic investment and would also lead to the emergence of tensions in international financial markets.

The escalation of trade disputes would adversely impact all parties to the conflict, including the United States, where the risk of lower growth is additionally driven by slower growth of consumer spending along with a currently low household saving rate and a high share of financial assets in household assets. In particular, such a scenario could materialise if a sharper fall in share prices and a further rise in energy prices took place in the US markets.

A deterioration in the business climate and an increase in uncertainty on a global scale could additionally lead to a rise in the risk premium, deterioration in the debt servicing conditions in certain countries, and an outflow of capital and fall in asset prices in emerging economies, particularly those characterised by significant macroeconomic imbalances. This would lead to a further relative contraction in global demand.

Labour supply in Poland

The future labour force in Poland constitutes an important domestic source of risk for the central scenario of the current projection. In this context, the rising number of working migrants in Poland, above all from Ukraine, assumed over the projection horizon, is subject to particular uncertainty. The inflow of migrants will depend on both the situation in the domestic labour market and the changes in immigration policy in other European Union countries, in Germany in particular.

Impact of determinants of the energy sector on inflation in Poland

Changes in global prices of oil and of other energy commodities, as well as the pass-through of the conditions in the energy sector in Poland into consumer prices, continue to be a significant source of uncertainty for the inflation path in the baseline scenario.

Supply-side factors still represent a risk for the future development of oil prices. The level of production of OPEC member countries is subject to uncertainty, as well as the forecast of supply of shale oil in the United States taking into consideration the limits of oil transportation infrastructure in this country. Geopolitical factors, such as a production decrease in Iran as a result of the reinstatement of sanctions by the United States, could also boost oil prices compared to the assumptions of the July projection. In this context, the further development of the economic and political crisis in Venezuela, which so far has translated into a fall in oil production in this country of 1 million barrels per day compared to

2015, also represents a risk. Significant uncertainty in the current projection stems as well from the demand for energy commodities, in particular on the part of developing countries.

Another important source of uncertainty for future consumer price inflation is the development of other cost components of the energy sector in Poland. Between May 2017 and September 2018, prices of allowances for CO2 emissions rose more than four-fold, from EUR 4.7 per tonne to EUR 21.4 per tonne. This growth could have resulted, on the one hand, from the favourable business climate in Europe, and on the other, from the regulations accepted by the EU states which aim at further reduction of greenhouse gas emissions, an increase in energy efficiency and in the production of energy from renewable sources (the so-called "Winter Package"). In the central scenario of the projection a moderate, gradual growth in the prices of allowances for CO2 emissions was assumed. However, taking into account the rate of change of these prices in 2018, there is a risk that their actual growth in the years 2019-2020 could run at a considerably higher level. For significant emitters of carbon dioxide in Poland, including producers of concrete, steel and the chemical industry, this will mean an increase in production costs, which could be transferred to the prices of final goods.

As a result of the increase in coal prices, the prices of allowances for CO2 emissions and the prices of green certificates, in September 2018 wholesale electricity prices after taking into account all the fees and taxes were 60% higher than the average for 2017. The scale of future changes in the average bill for households, which must first be approved by the Energy Regulatory Office, as well as their timing, are unknown and subject to high uncertainty. The degree in which high operating costs of enterprises resulting from the growth in wholesale electricity prices will translate into the final prices of goods and services also represents a risk for the future inflation path.

Table 4.4 Central path of inflation and GDP projection

	2016	2017	2018	2019	2020
Consumer Price Index CPI (%, y/y)	-0.6	2.0	1.8	3.2	2.9
Core inflation net of food and energy prices (%, y/y)	-0.2	0.7	0.8	2.1	2.7
Food prices (%, y/y)	0.8	4.2	2.8	3.3	2.8
Energy prices (%, y/y)	-3.9	3.2	3.9	7.2	3.6
GDP (%, y/y)	3.0	4.6	4.8	3.6	3.4
Domestic demand (%, y/y)	2.2	4.7	5.3	4.0	3.5
Household consumption (%, y/y)	3.9	4.8	4.7	3.8	3.4
Public consumption (%, y/y)	1.8	3.4	4.1	4.2	3.0
Gross fixed capital formation (%, y/y)	-8.2	3.4	6.3	5.6	4.5
Contribution of net exports (percentage points, y/y)	0.8	0.1	-0.5	-0.4	-0.1
Exports (%, y/y)	8.8	8.2	4.9	5.4	5.0
Imports (%, y/y)	7.6	8.7	5.9	6.3	5.3
Gross wages (%, y/y)	3.8	5.3	6.8	6.8	6.7
Total employment (%, y/y)	0.7	1.4	0.7	0.7	0.2
Unemployment rate (%)	6.2	4.9	3.6	3.2	3.2
NAWRU (%)	5.9	5.3	4.7	4.3	4.0
Labour force participation rate (%, y/y)	56.2	56.4	56.3	56.6	56.7
Labour productivity (%, y/y)	2.3	3.2	4.0	2.9	3.2
Unit labour cost (%, y/y)	1.6	2.1	2.7	3.8	3.5
Potential output (%, y/y)	3.2	3.1	3.0	3.1	3.4
Output gap (% potential GDP)	-1.8	-0.3	1.3	1.8	1.8
Index of agricultural commodity prices (EUR; 2011=1.0)	0.90	0.90	0.86	0.89	0.86
Index of energy commodity prices (USD; 2011=1.0)	0.49	0.62	0.78	0.81	0.77
Inflation abroad (%, y/y)	0.9	1.3	1.7	2.0	1.9
GDP abroad (%, y/y)	1.9	2.4	2.0	1.9	1.6
Current and capital account balance (% GDP)	0.5	1.4	0.6	0.3	0.4
WIBOR 3M (%)	1.70	1.73	1.70	1.70	1.70

Source: Bloomberg, Eurostat, GUS, NBP calculations.

LFS data on total employment, labour force participation rate and unemployment rate. Index of agricultural prices is based on futures quoted mainly on European stock exchanges. Index includes prices of wheat, oilseed, pork, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter and frozen concentrated orange juice allowing for weights reflecting the consumption structure of Polish households. The index of the prices of energy commodities includes the prices of crude oil, coal and natural gas allowing for the consumption structure of these commodities in Poland.

5. The voting of the Monetary Policy Council members in mid-May – September 2018

Date: 29 May 2018

Subject matter of motion or resolution:
Resolution No. 4/2018 of 29 May 2018 on approving the report on the operations of Narodowy Bank Polski in 2017.

Voting of the MPC members:

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

Date: 4 September 2018

Subject matter of motion or resolution:
Resolution No. 5/2018 of 4 September 2018 on adopting monetary policy guidelines for 2019.

Voting of the MPC members:

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

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