NBP Narodowy Bank Polski

Monetary Policy Council

July 2017

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 22 June 2017.

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

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Summary

Signs of improvement in the global economy are strengthening, particularly in industry and trade. Economic growth abroad, including Poland's major trading partners, has accelerated somewhat recently, yet it remains lower than before the global financial crisis. In the euro area, the economy has been recovering over the past few quarters, while in the United States, GDP growth decelerated in quarterly terms in 2017 Q1. In Poland's largest emerging market trading partners, economic conditions have improved somewhat, yet remain relatively weak.

Price growth in advanced economies, following a noticeable acceleration at the turn of 2016 and 2017, has stabilised at a moderate level, primarily due to dissipating impact of an earlier rise in commodity prices. At the same time, improving economic conditions in the advanced economies are reflected in higher core inflation.

Monetary policy of the major central banks remains expansionary. The European Central Bank (ECB) is keeping the interest rates close to zero, including the deposit rates below zero, and continues its asset purchase programme, albeit, starting from April 2017, at a slower pace. In turn, the Federal Reserve (Fed) is tightening its monetary policy by raising interest rates. At the same time, the Fed is reinvesting principal payments from its holdings of securities purchased under the quantitative easing programme, yet intends to gradually reduce the scale of the reinvestment.

As a result of better global economic conditions and still expansionary monetary policy of the major central banks, sentiment in the international financial markets has improved over recent months, while financial asset price volatility has declined. Against this background, stock indices have risen significantly to reach record highs in several advanced economies, government bond yields have declined, and emerging market currencies, including Central and Eastern European ones, have appreciated.

In Poland, following a significant rise at the beginning of 2017, annual consumer price growth has stabilised at a moderate level, as the impact of the earlier rise in global commodity prices has been fading, while core inflation have risen against early 2017 levels on better domestic economic conditions, and the food price growth rate has accelerated. Unit labour costs growth has been moderate, remaining close to the average from recent years.

In 2017 Q1, GDP growth accelerated noticeably following a temporary slowdown in 2016. Economic growth is driven primarily by increasing consumer demand, supported by rising employment and wages, very good consumer sentiment and disbursement of benefits, with near-zero investment growth rate. Also contribution of net exports to GDP growth was close to zero, in spite of still significant pace of increase in exports and imports. Leading economic indicators as well as developments in industry and retail trade suggest that in 2017 Q2 GDP growth will be close to the previous quarter.

In spite of improving economic conditions, lending is growing steadily in line with nominal GDP growth. Loans to households, both consumer and housing loans, remain the most important component of lending growth to the non-financial sector, accompanied by an ongoing rise in loans to the corporate sector.

Against this background, the Monetary Policy Council has been keeping the NBP interest rates unchanged since March 2015, including the reference rate at 1.5%. Market participants expect stable level of the interest rates also in the coming quarters.

Polish government bond yields declined over recent months, mainly as a result of a fall in the term premium as well as an improving sentiment in the international financial markets. In addition, the zloty has appreciated and stock prices have increased to reach the highest level since 2007 in May. Residential real estate prices remain relatively stable, notwithstanding their slight pick-up in several cities.

In spite of the acceleration in GDP growth, external imbalances are not accumulating. In 2017 Q1 current account balance (in relation to GDP, in terms of a four-quarter rolling sum) rose to around zero. Other external imbalance indicators are also at favourable levels.

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 March – June 2017, together with the *Information from the meeting of the Monetary Policy Council* in July 2017 are presented in Chapter 3. *Minutes* of the MPC meeting held in July will be published on 24 August 2017 and so will be included in the next *Report*. The Monetary Policy Council voting records from the meetings held in March – May 2017 can be found in Chapter 5. This *Report* also includes two boxes: *Czech National Bank discontinues its exchange rate commitment* and *Decline in stock price volatility in the US stock market*.

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 March projection – prepared under the assumption of unchanged NBP interest rates and taking into account data available until 14 June 2017 – there is a 50-per cent probability that the annual price growth will be in the range of 1.6 – 2.3% in 2017 (compared to 1.6 – 2.5% in the March 2017 projection), 1.1 – 2.9% in 2018 (as against 0.9 – 2.9%) and 1.3 – 3.6% in 2019 (versus 1.2 – 3.5%). The annual GDP growth – under this projection – will be, with a 50-per cent probability, in the range of 3.4 – 4.7% in 2017 (as compared to 3.4 – 4.0% in the March 2017 projection), 2.5 – 4.5% in 2018 (as against 2.4 – 4.5%) and 2.3 – 4.3% in 2019 (versus 2.3 – 4.4%).

1 External developments

1.1 Economic activity abroad

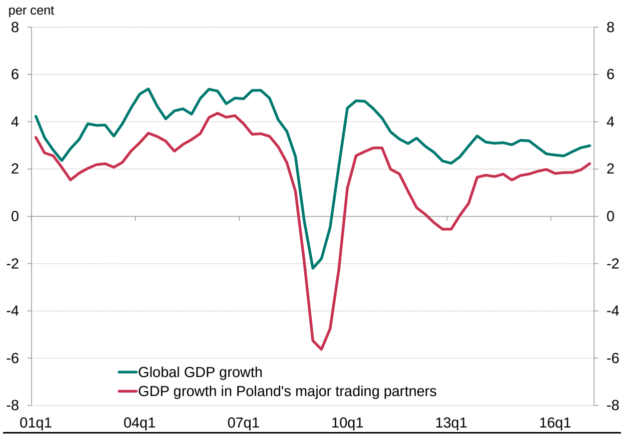
Signs of improvement in the global economy are strengthening, particularly in industry and trade (Figure 1.1, Figure 1.2). Economic growth abroad, including in Poland's major trading partners, has accelerated somewhat recently, yet it remains lower than before the global financial crisis.

In the euro area, the economy has been recovering over the past few quarters (Figure 1.3), supported by stable rise in private consumption amid improving labour market conditions in many euro area member states. Expansionary monetary policy of the ECB (see Chapter 1.4 Monetary policy abroad) and easy fiscal policy in many member states have also been contributing to economic growth in the euro area. Another factor of recovery in this economy is higher turnover in the international trade. Investment activity, though growing, remains below its pre-crisis level.

In the United States, GDP growth decelerated in quarterly terms in 2017 Q1, yet remained stable in annual terms (Figure 1.4). The decline in the GDP quarterly growth rate resulted from temporary factors, lower increase in inventories and private consumption, the latter related to i.a. postponed disbursement of income tax refund in early 2017. Data incoming in 2017 Q2 suggests some re-acceleration in this economy. At the same time, employment continues to grow and the contribution of investment to GDP growth has risen.

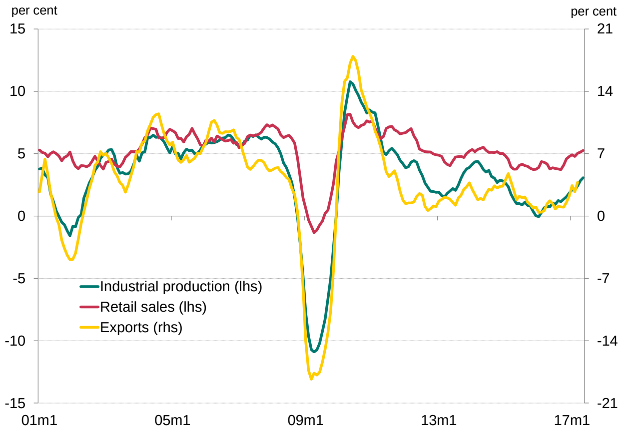
In Central and Eastern European countries, economic growth picked up in 2017 Q1 following a noticeable slowdown in the second half of 2016. (Figure 1.5). Consumption remains the main driver of economic growth in the majority of these countries. The improvement of economic

Figure 1.1 Global GDP growth and GDP growth in Poland's major trading partners (y/y)



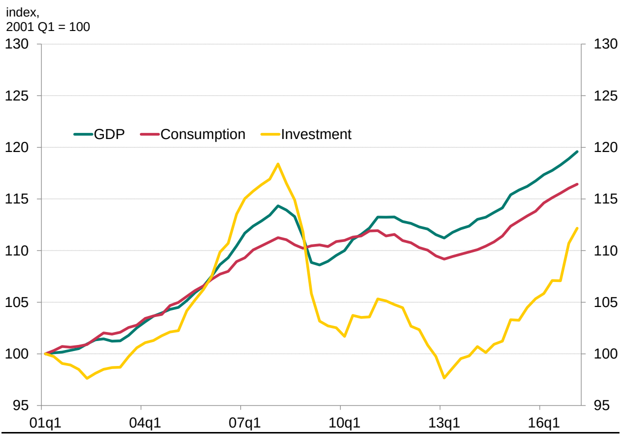
Source: Bloomberg, Eurostat and IMF data, NBP calculations.
Global GDP growth – GDP-weighted average of GDP growth in economies comprising 80% of global GDP in 2016. GDP growth in major trading partners – GDP-weighted average of GDP growth in economies constituting 60% of Polish exports in 2016.

Figure 1.2 Growth in global industrial production, retail sales and exports (y/y, 3-month moving average)



Source: Bloomberg, Centraal Planbureau and IMF data.
Industrial production and retail sales - GDP-weighted average of industrial production and retail sales in economies comprising 80% of global GDP in 2016. Exports – global export growth rate estimated by Centraal Planbureau.

Figure 1.3 GDP, private consumption and investment in the euro area



Source: Eurostat data.

conditions in the region was also supported by recovery in investment and the increase in global trade turnover.

In other emerging market economies being Poland's major trading partners, economic conditions have slightly improved, though they are still relatively weak. In China, GDP growth picked up in 2017 Q1, yet the recent data, particularly from the industrial sector, does not indicate a sustained acceleration in growth. In addition, imbalances continue to build up in the Chinese real estate sector, which limits the long-term economic growth outlook for this country. Russia has emerged from recession. However, economic conditions in this country are still largely dependent from oil prices, which decreased over recent months.

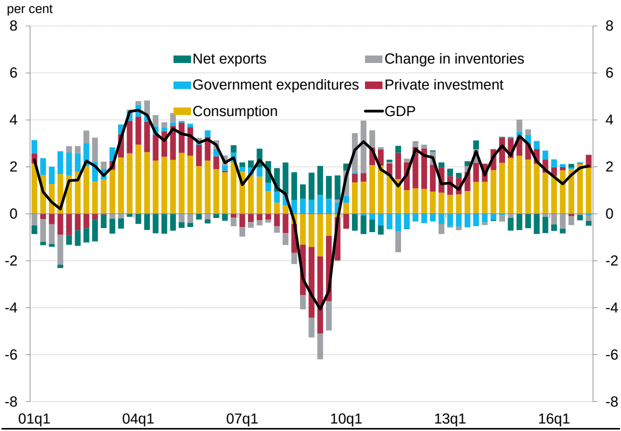
1.2 Inflationary developments abroad

After significant growth at the turn of 2016 and 2017, inflation in the global economy has stabilised at a moderate level.

The stabilisation of global inflation reflects mainly the gradually fading effects of the earlier increase in commodity prices (see Chapter 1.3 *Global commodity markets*). In particular, this concerns the immediate environment of the Polish economy, i.e. the euro area and Central and Eastern European countries (Figure 1.6). At the same time, along with an improvement in economic conditions (see Chapter 1.1 *Economic activity abroad*), core inflation in these economies has risen slightly (Figure 1.7).

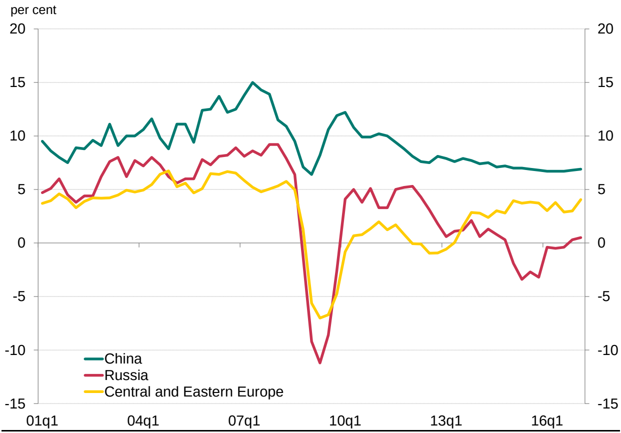
In the United States, growth of inflation has slowed down, although both headline and core CPI inflation remain higher than in the euro area (Figure 1.7).[1] This is supported by economic recovery and the gradual increase in employment (see Chapter 1.1 *Economic activity abroad*).

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



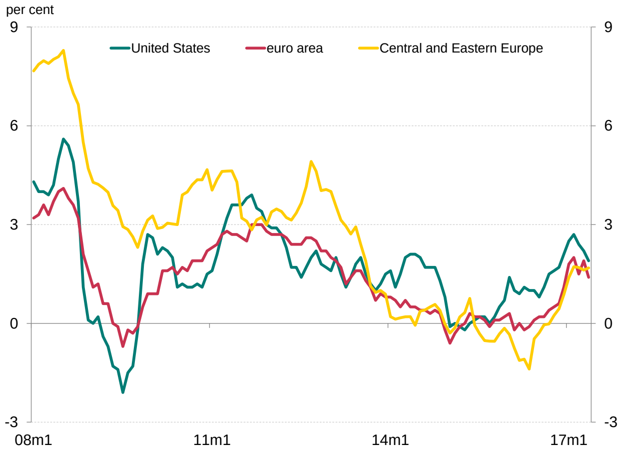
Source: Bureau of Economic Analysis data, NBP calculations.

Figure 1.5 GDP growth in Poland's emerging market major trading partners economies (y/y)



Source: Bloomberg and Eurostat data, NBP calculations.
Central and Eastern Europe – GDP-weighted aggregate based on national accounts data for Central and Eastern European EU member states, which are not euro-area members (excluding Poland).

Figure 1.6 CPI inflation in the United States, the euro area and Central and Eastern Europe (y/y)



Source: Bloomberg data, NBP calculations.
United States – annual CPI inflation; Euro area – annual HICP inflation; Central and Eastern Europe – GDP-weighted average of HICP inflation across EU member countries from Central and Eastern Europe, which are not euro-area members (excluding Poland).

[1] The decline in headline and core CPI inflation in the United States in the recent period was to a large extent a result of the fall in vehicle prices (new and used) and the slowdown in the growth in prices of medical and transportation services.

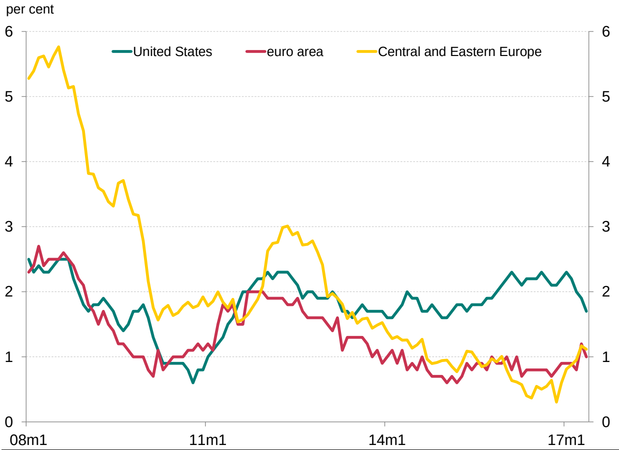
In the emerging economies, particularly in Brazil and Russia, inflation has fallen significantly lately. Apart from the waning effects of the earlier rise in commodity prices, this was also caused by the appreciation of the currencies of these countries (see Chapter 1.5 *International financial markets*). In China, in turn, inflation has risen slightly in recent months, although it is still running below the long-term average.

1.3 Global commodity markets

In the first half of 2017, prices of energy commodities declined (Figure 1.8). The fall in oil prices was driven by growing supply of this commodity caused by an extension of the agreement on oil production cuts by the Organisation of Petroleum Exporting Countries (OPEC) and a rise in shale production in the United States. In addition, natural gas prices have fallen due to lower demand for this commodity. At the same time, despite a rise in production, coal prices decreased only modestly, contained by an upward revision in coal demand forecasts after United States had withdrawn from the Paris climate agreement.

Global agricultural commodity prices have stabilised. This was due, on the one hand, to a drag on these prices from growing supply of milk, sugar, coffee, cocoa and orange juice, and on the other hand, a rise in the prices of other agricultural commodities. In particular, prices of pork have increased considerably, triggered by growing demand from emerging market economies amid some improvement in economic conditions in these countries (see Chapter 1.1 *Economic activity abroad*). Wheat prices have also risen on the back of lower wheat supply forecasts.

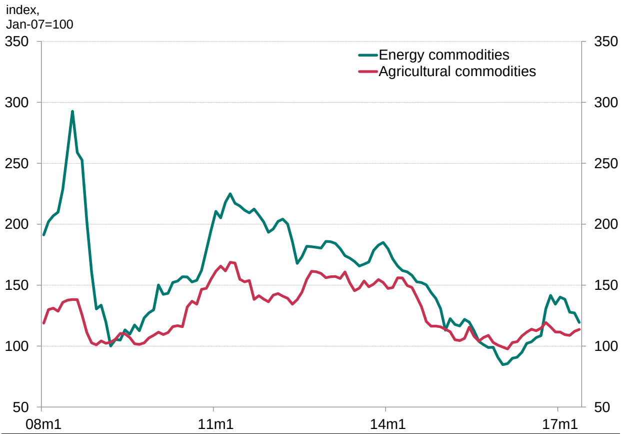
Figure 1.7 Core inflation indices in the United States, the euro area and Central and Eastern Europe (y/y)



Source: Bloomberg data, NBP calculations.

United States – annual CPI inflation excluding food and energy. Euro area – annual HICP inflation excluding the prices of unprocessed food and energy. Central and Eastern Europe – GDP-weighted average of HICP inflation excluding the prices of unprocessed food and energy across EU member countries from Central and Eastern Europe, which are not euro-area members (excluding Poland).

Figure 1.8 Price indices of agricultural and energy commodities



Source: Bloomberg data, NBP calculations.

The agricultural commodity index comprises of prices for wheat, colza, pork, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter and frozen orange juice concentrate. Weights reflect the consumption structure of Polish households. The energy commodity index comprises of prices for coal, oil and gas. Weights reflect the consumption of primary energy sources in the Polish economy.

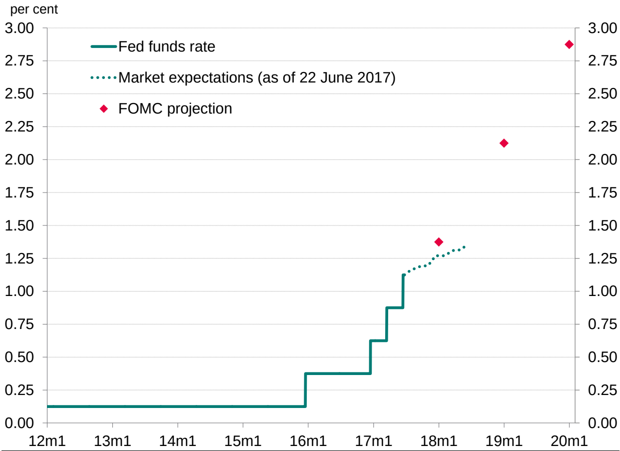
1.4 Monetary policy abroad

The Fed is tightening its monetary policy. In recent months, it raised the target range for the fed funds rate twice, each time by 0.25 percentage points to 1.00-1.25%. The median projection of the Fed's decision committee indicates that the fed funds rate might be risen once in 2017, by 0.25 percentage points, and by a total of 0.75 percentage points in 2018. Market participants also expect further increases in the fed funds rate over the coming quarters (Figure 1.9). Despite rising interest rates, the Fed has been reinvesting principal payments from its holdings of securities purchased under the quantitative easing programmes. However, the Fed intends to gradually reduce the scale of the reinvestment, and thereby its balance sheet (Figure 1.10).[2]

The ECB is keeping interest rates close to zero, including the deposit rate below zero, and purchasing financial assets, yet, since April 2017, at a somewhat lower pace.[3] The asset purchase programme is expected to be maintained at least until the end of 2017. As planned, at the end of March 2017 the ECB conducted the last targeted longer-term refinancing operation (TLTRO). At the same time, amid ongoing economic recovery, market participants expect the ECB to gradually scale back its monetary policy easing next year (Figure 1.11).

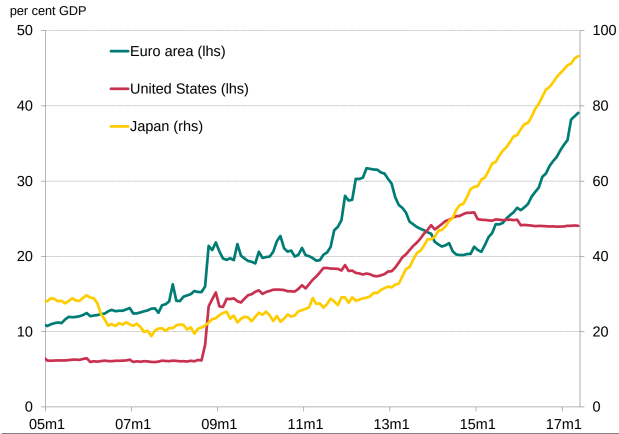
Most other central banks in advanced economies are keeping their interest rates at historical lows. Some are applying unconventional monetary policy measures, yet at a lower scale. The Bank of

Figure 1.9 Historical and expected interest rates in the United States (middle of the target range for the fed funds rate)



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

Figure 1.10 Assets of the major central banks



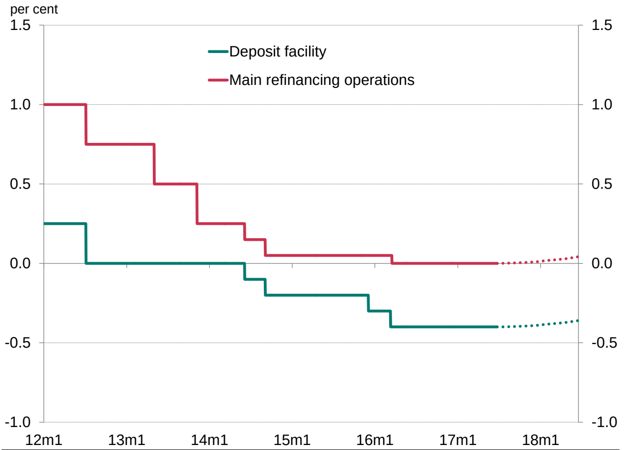
Source: FRED and Eurostat data, NBP calculations.

[2] The Fed intends to introduce monthly limits on non-reinvested funds in the amount of USD 6 billion for Treasury bonds and USD 4 billion for other securities purchased under the quantitative easing programme. Then, every three months, the Fed is to increase these limits by USD 6 billion and USD 4 billion respectively, to USD 30 billion and USD 20 billion monthly. The FOMC expects that it will start to limit reinvestment this year.

[3] From January 2015 (i.e. from the moment the extension of the asset purchase programme was announced) to March 2016, the Eurosystem were purchasing EUR 60 billion assets per month. Then, it decided to increase the monthly rate of purchases to EUR 80 billion. Since April 2017, the Eurosystem has again been purchasing EUR 60 billion assets monthly.

Japan and the Riksbank maintain their financial asset purchase programmes. However, the Riksbank has recently lowered the scale of its programme.[4] In May, the Bank of England reached the stock of asset purchases scheduled after the EU referendum, and since then has only been reinvesting the principal payments from purchased bonds.[5] The Swiss National Bank carries on interventions in order to prevent an excessive appreciation of the Swiss franc. By contrast, the Czech National Bank discontinued its asymmetric exchange rate commitment in April (see Box 1: *Czech National Bank discontinues its exchange rate commitment).*

Figure 1.11 ECB's interest rates, current and expected (as of 22 June 2017)



Source: Bloomberg data.

Future interest rates calculated from the overnight index swaps for the deposit and refinancing rates

Box 1: Czech National Bank discontinues its exchange rate commitment

On 6 April 2017, the Czech National Bank (CNB) decided to discontinue its commitment to keep the koruna exchange rate above 27 EUR/CZK (the so-called asymmetric exchange rate commitment). Yet, the CNB did not rule out using available policy instruments to mitigate potential excessive exchange rate fluctuations if needed (CNB 2017).

The asymmetric exchange rate commitment was introduced in November 2013, after the main policy rate had been cut to technical zero (0.05%). The commitment was aimed to further ease monetary conditions, amidst recession, which entailed deflation risk in the Czech economy (see Box 1: *Introduction of asymmetric exchange rate target by the Czech National Bank*, *Inflation Report – March 2014*, CNB 2013). Further significant interest rate cuts were not possible due to zero lower bound for nominal interest rates, which, in the case of the Czech Republic, is reflected to some extent in the legal system. In turn, an asset purchase programme would probably have had a limited impact, given the high liquidity surplus in the Czech banking sector and already low government bond yields (IMF 2013). When introducing the asymmetric exchange rate commitment, the CNB announced the earliest possible time of its expiration, which was being extended afterwards. In the second half of 2016, the CNB started to indicate that it may discontinue the exchange rate commitment in 2017 Q2, as current economic conditions and outlook had improved, which was conducive to inflation returning to the CNB's inflation target of 2% (Figure B.1.1).

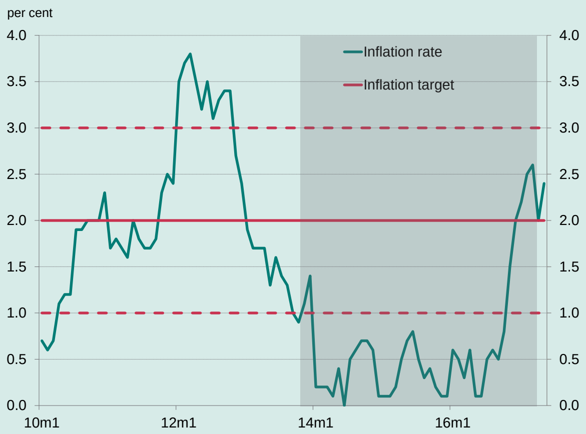
Following the CNB's announcements of a possible discontinuation of the asymmetric exchange rate commitment, market participants, in anticipation of this move and resulting appreciation of the koruna, started to open long positions in financial instruments denominated in this currency. This was reflected in a significantly higher participation of non-residents in the market for Czech government bonds and a decline in their yields. Since the asymmetric exchange rate commitment was lifted, the koruna has been appreciating, yet it is still weaker than before the commitment was imposed. The scale of the koruna appreciation was most likely contained by closing of the currency positions by some market participants as well as the CNB's

[4] The Bank of Japan is purchasing government bonds at a scale allowing for the stabilization of 10-year yields close to zero, i.e. approx. JPY 80 trillion a year, and also carrying out purchases of other financial assets, including ETFs (Exchange-Traded Funds). In April, the Riksbank extended its government bond purchase programme until the end of 2017, while again reducing the scale of purchases (down to SEK 15 billion in the second half of 2017 from SEK 30 billion in the first half of the year).

[5] In May 2017, the Bank of England reached the scheduled stock of government and corporate bond purchases (GBP 435 billion and GBP 10 billion, respectively).

communication signalling the possibility to use measures mitigating potential excessive exchange rate fluctuations.

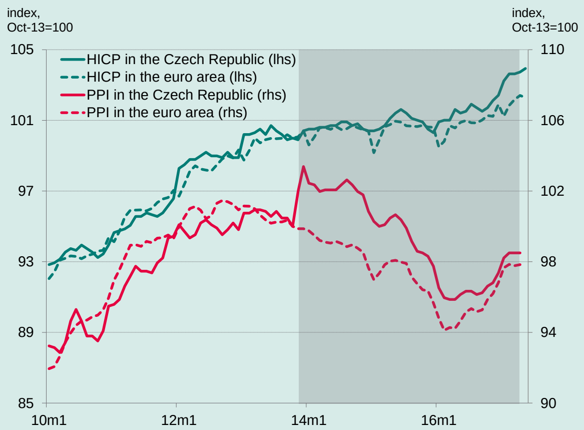
Figure B.1.1 CPI inflation and the inflation target in the Czech Republic



Source: Bloomberg and CNB data

The period of operation of asymmetric exchange rate commitment is marked in grey (applies also to the subsequent figures).

Figure B.1.2 Price indices in the Czech Republic and its trading partners in the euro area



Source: Eurostat data, NBP calculations.

Indices for the euro area have been calculated as the average for the euro area countries weighted by the share of those countries in the Czech Republic's external trade.

A preliminary assessment of the macroeconomic impact of the asymmetric exchange rate commitment shows that the CNB's exchange rate policy has helped to avoid deflation in the Czech economy. The main channel of transmission of this policy was a pick-up in the import price growth rate.[6] This is indicated by a similar scale of the increase in import prices and the depreciation of the koruna in the first months after the commitment was introduced.[7] As a result, price growth in the Czech Republic was substantially higher than in the euro area. Under the exchange rate commitment, the aggregate increase in consumer and producer prices in the Czech Republic was approximately 1 percentage point higher than in the euro area trading partners of the Czech Republic (Figure B.1.2).[8]

Although the introduction of asymmetric exchange rate commitment has helped mitigate deflationary trends, it has also resulted in a rise in the CNB’s foreign exchange reserves stemming from currency interventions. This rise concentrated directly after the introduction of the commitment and shortly before it was lifted, after its possible discontinuation had been announced, which resulted in increased capital inflows to the Czech Republic (Figure B.1.3). In 2017 Q1, i.e. the last full quarter of the exchange rate target operation, the value of the currency interventions was EUR 41.9 billion, or 24% of GDP. In total, the reserve assets of the CNB increased 3.5-fold under the exchange rate commitment (from EUR 34.8 billion in October 2013 to EUR 124.6 billion – i.e. about 71% of GDP – in April 2017, Figure B.1.4),[9] triggering a downside risk to the CNB’s future financial result due to potentially substantial changes in the value of foreign-exchange reserve assets, also as a result of possible further appreciation of the koruna. Already back in 2015, i.e. when foreign exchange interventions were still moderate, the CNB recorded a negative financial result driven primarily by a loss on currency operations.

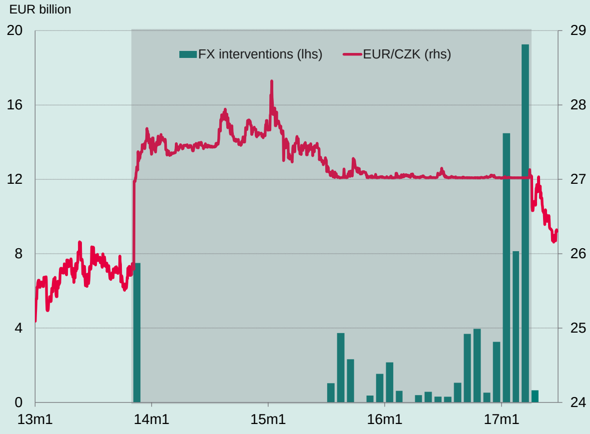
[6] This is related to the high degree of openness of the Czech economy. In the Czech Republic, the sum of exports and imports amounts to 153% of GDP, compared with 84% of GDP in the entire European Union.

[7] In the Czech Republic, in 2002-2012, 84% of the variation in the annual growth rate in import prices was explained by the annual growth rate in PPI in the euro area and the EUR/CZK exchange rate. Between October and December 2013, the annual EUR/CZK growth rate increased by 6.3 percentage points, while import price growth rate picked up by 5.5 percentage points. This compares with the rise of PPI inflation in the euro area by a mere 0.5 percentage points.

[8] It has to be noted that the difference in price growth between the Czech Republic and the euro area was contained by the changes in the administered prices and taxes, whose joint impact on the consumer prices in the Czech Republic in 2014-2015 was negative at 0.6 percentage points.

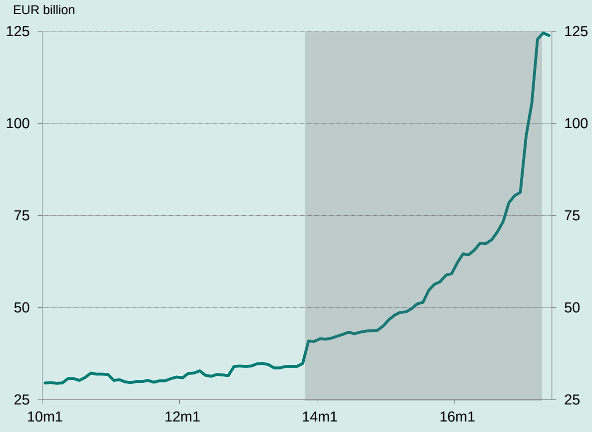
[9] The overall value of foreign exchange interventions in this period amounted to EUR 75.2 billion. The remaining growth in the reserve assets resulted from other currency operations.

Figure B.1.3 Amount of foreign exchange interventions in the CNB and the EUR/CZK exchange rate



Source: CNB data, Bloomberg

Figure B.1.4 Stock of reserve assets of the CNB



Source: Bloomberg data

To sum up, it can be considered that the asymmetric exchange rate target used by the CNB was an effective tool in containing deflationary trends in the Czech economy. However, this was achieved at the expense of a sharp rise in reserve assets, which, amidst the koruna appreciation as expected by the CNB, will have a negative impact on the central bank's financial result in the future.

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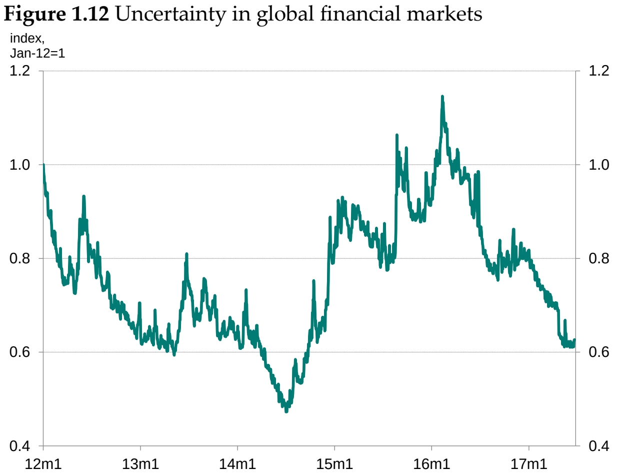
1.5 International financial markets

Sentiment in the global financial markets has improved over recent months. This was driven by the global economic recovery, especially in advanced economies (see Chapter 1.1 *Economic activity abroad*), amid still expansionary monetary policy of the major central banks, notwithstanding the gradual increase in the fed funds rate (see Chapter 1.4 *Monetary policy abroad*). Alongside that, financial asset price volatility has declined (see Box 2: *Decline in stock price volatility in the US stock market*, Figure 1.12).

Against this background, stock indices have increased worldwide to reach record highs in some advanced economies, including the United States (Figure 1.13).

Figure 1.12 Uncertainty in global financial markets

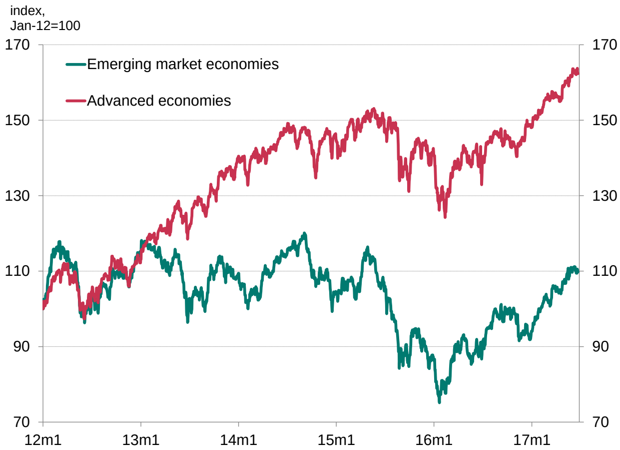


Source: Bloomberg data, NBP calculations.
Average of volatility measures in the crude oil market, G7 and emerging market currencies and stock market options (VIX), as well as spreads between corporate bond yields of the lowest and the highest investment grade and government bond yields of the United States and emerging market economies.

Improving sentiment in the global financial markets contributed to a fall in bond yields in emerging market economies (Figure 1.14). At the same time, bond yields in advanced economies have stabilised following their earlier rise. This was associated with a fall in inflation expectations, after a significant increase in previous quarters, largely due to lower energy commodity prices (see Chapter 1.3 *Global commodity markets*).

Improving sentiment in the global financial markets and lower risk aversion were reflected in appreciation of emerging market currencies, including these of Central and Eastern European countries (Figure 1.15). Emerging market currencies have appreciated particularly strongly against the US dollar, which has been weakened by elevated uncertainty about the US economic policy.

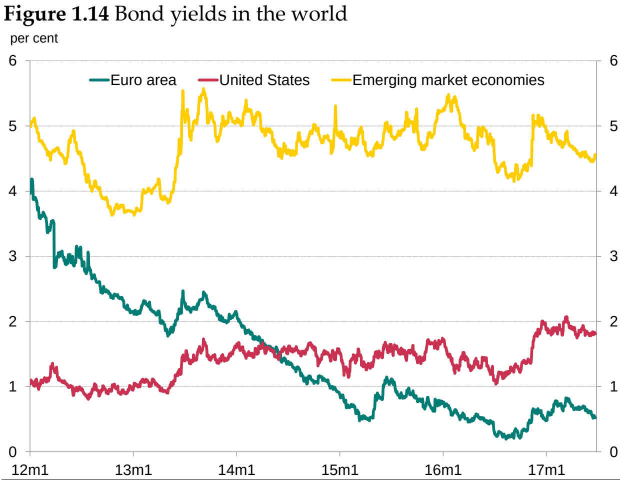
Figure 1.13 Global stock prices



Source: Bloomberg data.

Advanced economies – *MSCI world equity index*, emerging market economies – *MSCI Emerging Markets Equity Index*.

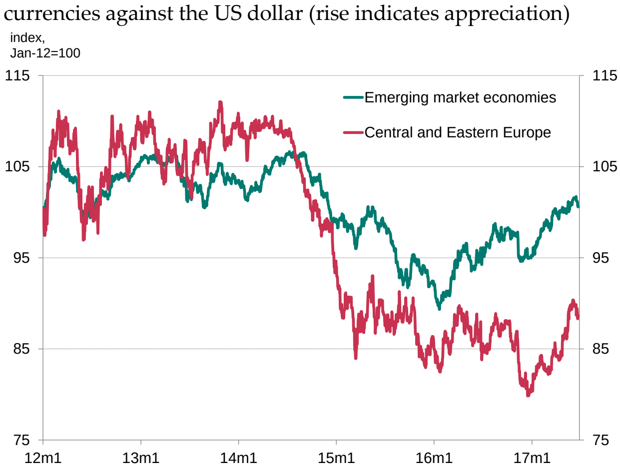
Figure 1.14 Bond yields in the world



Source: Bloomberg data.

Yields from Bloomberg bond indices: Eurozone Sovereign, US Treasury and Emerging Market Sovereign.

Figure 1.15 Nominal exchange rate of emerging market currencies against the US dollar (rise indicates appreciation)



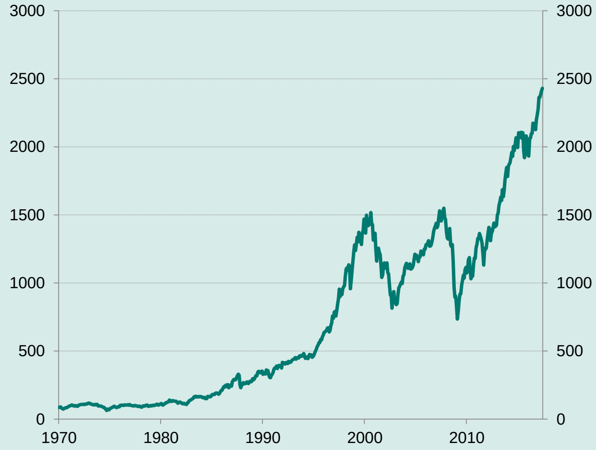
Source: Bloomberg data.

MSCI emerging markets currency index and GDP-weighted average of exchange rates of the Czech koruna, Polish zloty and Hungarian forint against the U.S. dollar.

Box 2: Decline in stock price volatility in the US stock market

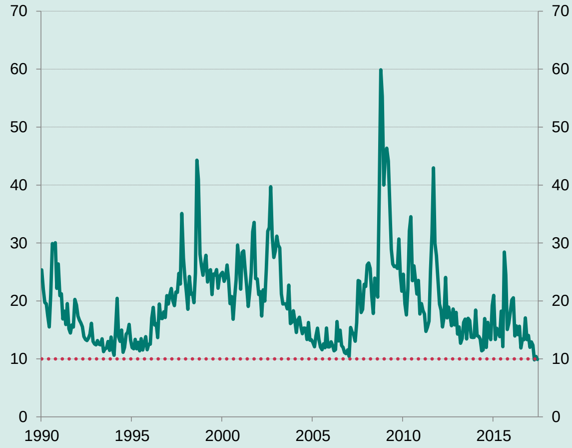
In 2017, global equity prices rose considerably, while their volatility declined. This was particularly acute in the United States, where the key stock price index, S&P 500, reached the highest point on record (Figure B.2.1), whereas its volatility – including the volatility expected by market participants, reflected in the VIX index – dropped substantially (Figure B. 2.2). This raised concerns – i.a. among some FOMC members,[10] – whether investors were accurately pricing financial risks and whether asset prices were not deviating too far from fundamental values. Below, we discuss the main causes of the low volatility in the US stock market and the risk posed by a reversal of the current asset price trends in the global financial markets.

Figure B.2.1 Index of prices of shares in the 500 largest companies listed on the US stock market (S&P 500)



Source: Bloomberg data

Figure B.2.2 VIX index, reflecting the expected volatility of S&P 500 (monthly data)



Source: Bloomberg data

VIX volatility index

The construction of the VIX index is based on S&P 500 index options. S&P 500 reflects equity prices of the largest companies listed on the US stock exchange. Options are financial contracts which enable investors to hedge against an undesirable increase ("call" option) or decrease ("put" option) in the price of the underlying instrument – in this case, the S&P 500 index. The key element of option pricing is volatility of the underlying instrument as anticipated by investors: the higher the volatility, the higher the expected return on the option, and hence its price. The VIX expresses the volatility of the S&P 500 index expected in a month's time.[11] The value of VIX rises when investors expect equity prices to become more volatile and are willing to pay more for the possibility of hedging against the risk of significant changes in equity prices.

In recent months the VIX has hit historical lows (Figure B. 2.2.), which suggests that investors perceive the risk of major movements in stock prices to be small. Specifically, in May 2017, the VIX fell to less than 10 points on several occasions, as compared with the long-term average of approx. 20 points. In the entire history of quotations, dating back to 1990, the VIX had dropped to 10 points only twice, in 1993 and 2007. On both occasions, this had been preceded by periods of mounting tension in the financial markets related to – in the first case – the turbulence in the US bond market in 1994, and in the second – with the onset of the subprime crisis in July 2007.

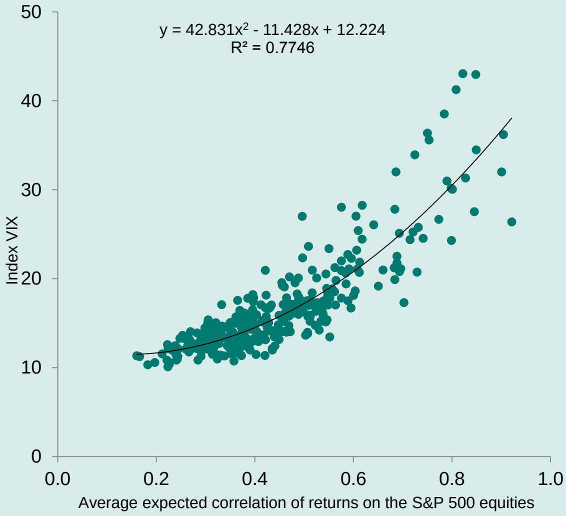
Drivers of volatility decline and related risks

Technically, the volatility of the S&P 500 index depends on two key factors: the equity volatility of the respective companies included in the index, and the degree of their mutual correlation. In the years 2010-2017, the expected average correlation of S&P 500 stocks returns accounted for nearly 80% of the change in the VIX index (Figure B. 2.3.).

[10] See e.g. *Minutes of the FOMC meeting* held on 14-15 March 2017.
[11] Technically, the VIX expresses the expected value of the annualised standard deviation of daily returns of the S&P 500.

Recently, this correlation has dropped significantly,[12] thus greatly contributing to a decline in the VIX. The fall in the expected – as well as the finally realized – average correlation of stock prices shows that investors attach a relatively smaller weight to their systematic determinants. In other words, they seem to believe that – amid strengthening improvement in economic conditions, upbeat sentiment and the sustained loose monetary policy stance of major central banks – uncertainty about future rates of return on equities is related primarily to factors specific to individual companies or sectors, and not to those common for the whole market.

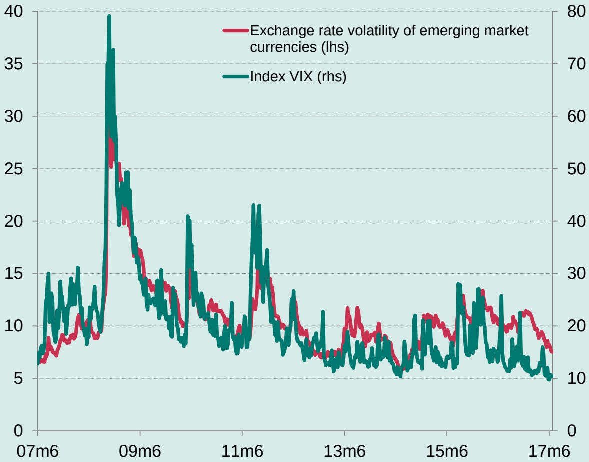
Figure B.2.3 Relationship between the VIX index and average expected correlation of returns on the S&P 500 equities



Source: Bloomberg data

Expected correlation denotes correlation implied from options for S&P 500 with a maturity of 1 month.

Figure B.2.4 Exchange rate volatility of emerging market currencies and the VIX index (weekly data)



Source: Bloomberg data

Volatility of emerging market currencies approximated with the JP Morgan Emerging Market Volatility Index.

The decline in the VIX may also be an indirect result of the extended period during which major central banks, including the Fed, pursued unconventional monetary policy. One of the intended aims of the unconventional measures was to influence the relative prices of financial instruments, in order to encourage investors to buy riskier assets (the so-called portfolio rebalancing channel). As yields declined on Treasury securities and other instruments traditionally considered safe, investors started to seek more profitable investment opportunities. Strategies involving writing options played a material role in this process. The options were purchased mainly by the so-called market makers, who typically hedged them in order not to bear the risk involved. In this case, the hedging strategy consisted in purchasing the underlying instrument (e.g. the S&P index) when its price was falling and selling it when the price was rising. As a result, market volatility diminished, which affected investors' expectations and translated into lower VIX index levels.

Yet, this mechanism can also work in the opposite direction. Should the S&P 500 index fall considerably, e.g. as a result of a sentiment slump in the financial markets, investors' demand for options hedging against the risk of similar extreme developments would rise. Market makers, striving to satisfy investors' demand, would write the desired options, and – like before – would hedge them. This time, however, it would involve selling the underlying instrument on down moves and buying it on the up moves. This would further aggravate the initial index decline and increase market volatility.[13] In consequence, the VIX would rise, probably spurring a general increase in risk aversion and a decline in asset prices in the global financial markets. At the same time, the exchange rates of emerging market currencies might also become more volatile, as they are closely correlated with the global investor sentiment (Figure B.2.4).

[12] The correlation of equity returns declined to 0.22 as compared with its long-term average of 0.45.

[13] A parallel mechanism was identified by the so-called Brady committee, appointed by president Reagan in 1988 to investigate the causes of the 1987 stock market crash. See Danielsson J. and Shin H. S., *Endogenous risk*, in: *Modern Risk Management — A History*, Risk Books, London 2002.

To sum up, recent months' decline in stock price volatility to the lowest levels on record reflects very strong investors' sentiment and high propensity to bear risks. This is related to improved global business conditions, amid the still very loose monetary conditions across the world. Low volatility may also partially result from the strategies applied by investors and market makers, which enhance shocks in the financial markets. In these circumstances, a sharp decline in stock prices might significantly boost volatility and dampen the sentiment in the global financial markets. For this reason, trends in the US stock markets will probably play an important part when deciding about the pace of a further monetary policy tightening in the United States.

2 Domestic economy

2.1 Consumer prices

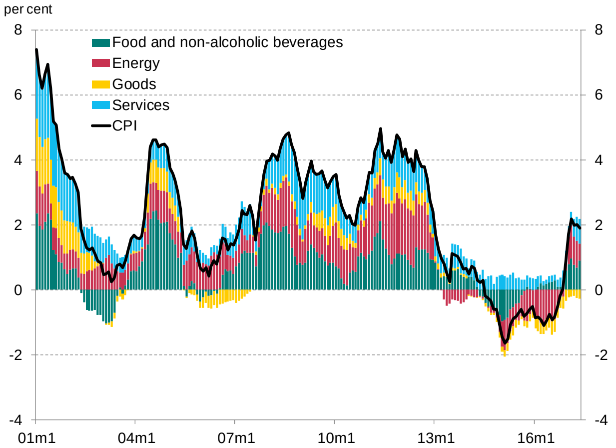
Annual consumer price growth in Poland has stabilised at a moderate level, after a significant rise in early 2017 (Figure 2.1)[14]. The stabilisation of CPI inflation in recent months was supported by a fading impact of an earlier increase in global commodity prices, combined with slightly higher core inflation, related to an improvement in domestic economic conditions, and stronger food price growth.

Core inflation, although it has risen since the beginning of 2017, remains low (Figure 2.2). This is associated with moderate price growth in the environment of the Polish economy, which, along with the appreciation of the zloty, contributes to a decline in prices of goods. At the same time, improving domestic economic conditions translate into growing prices of services.[15]

The recent falls in crude oil prices in the global markets (see Chapter 1.3 *Global commodity markets*) led to slower growth in fuel prices, thus contributing to the stabilisation of consumer price growth. Along with the decline in the prices of other energy commodities, this also constrained PPI growth, following its considerable pick-up in early 2017 (Figure 2.3).

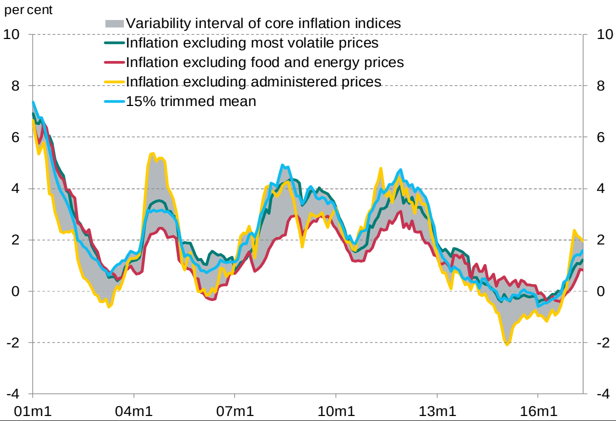
At the same time, inflation was driven up by higher food price growth. It was attributable to rapidly expanding demand from the emerging market economies and unfavourable agro-meteorological conditions, both in the south of Europe and in Poland.

Figure 2.1 Composition of CPI inflation (y/y)



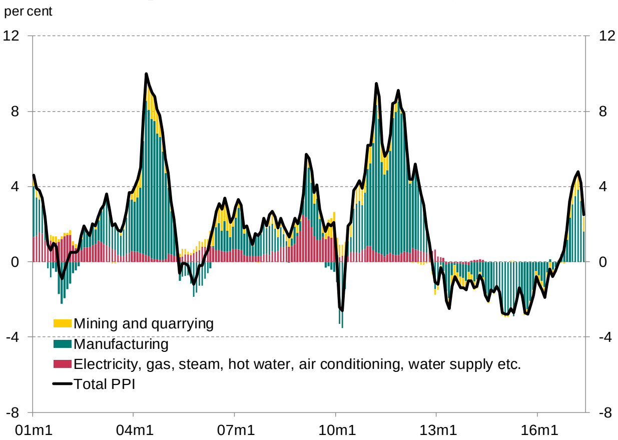
Source: GUS data, NBP calculations.

Figure 2.2 Core inflation indices (y/y)



Source: GUS data, NBP calculations.

Figure 2.3 Composition of total PPI inflation (y/y)



Source: GUS, Eurostat data.

[14] According to CPI flash estimate, which was published after the cut-off date for this *Report*, annual CPI inflation in June 2017 stood at 1.5% against 1.9% a month before. The final June inflation data, along with the decomposition, will be released on 11 July 2017.
[15] In 2017, the annual growth in the prices of services was also fuelled by statistical effects, including the positive base effect connected with a decline in the radio and television fees in March and April 2016.

Against this background, inflation expectations, following a rise in early 2017, have stabilised. In particular, inflation expectations of financial analysts and forecasts of economists surveyed by NBP indicate that in the coming quarters inflation should stabilise close to the present level (Table 2.1, Figure 2.4).

2.2 Demand and output

Following a temporary slowdown in 2016, economic growth has accelerated markedly. In 2017 Q1, the GDP growth rate increased to 4.0% y/y against 2.7% in 2016 (Figure 2.5). Growth was driven primarily by increasing consumer demand, supported by rising employment and wages, very good consumer sentiment and disbursement of benefits. At the same time, the investment growth rate was close to zero. Net exports also hardly contributed to GDP growth, with both exports and imports continuing to rise at a considerable pace. This was accompanied by an increase in inventories, mostly materials, which might point to further recovery in the coming quarters. Leading sentiment indicators as well as output and sales data released in the first months of 2017 Q2 suggest that economic growth in this quarter was similar to GDP growth in 2017 Q1.

2.2.1 Consumption

Consumer demand remains the primary driver of GDP growth. In 2017 Q1, private consumption increased by 4.7% y/y (as against 3.8% y/y in 2016). Growth in consumption is driven by rising employment and wages (see Chapter 2.4 *Labour market*, Figure 2.6), very good consumer sentiment (Figure 2.7) and child benefit payments under the "Family 500 plus" programme.[16] At the same time, it is contained by the higher consumer price inflation, which, in the absence of a significant

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

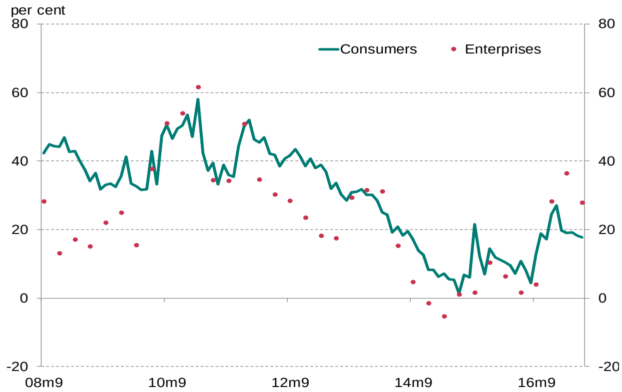
per cent	Survey conducted in:				
	16q2	16q3	16q4	17q1	17q2
Reuters Survey, inflation expected in 4 quarters	1.6	1.4	1.4	2.0	1.8
NBP Survey, inflation expected in 4 quarters	1.3	1.2	1.7	2.0	-
NBP Survey, inflation expected in 8 quarters	1.8	1.8	2.2	2.3	-

Source: NBP, Reuters data.

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

Inflation expectations of the participants to the NBP Survey of Professional Forecasters reflect the median probability distribution obtained from the aggregation of probability forecasts of the experts surveyed by NBP.

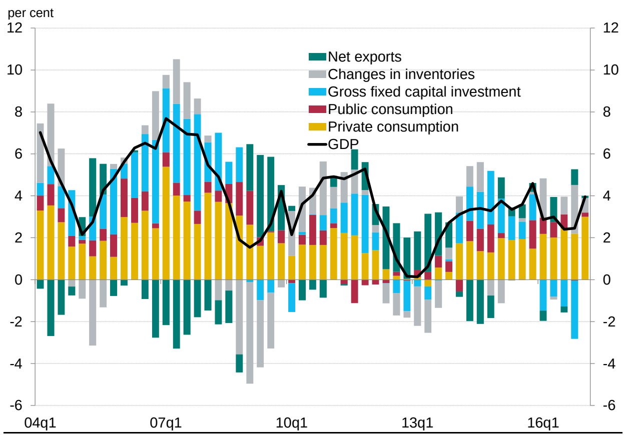
Figure 2.4 Balance statistics of consumer and enterprise inflation expectations



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. A rise in balance statistics should be interpreted as a shift in opinions towards higher rise in prices. For more on the balance statistics calculation, see: http://www.nbp.pl/homen.aspx?f=/en/statystyka/expectations.html

Figure 2.5 GDP growth and its components (y/y)



Source: GUS data.

[16] In 2016 Q4, payments of child benefits increased the growth rate of household disposable income by 2.1 percentage points (see *Sytuacja finansowa sektora gospodarstw domowych w IV kw. 2016*, NBP, June 2017, not available in English).

acceleration in wage growth, contains the rise in real disposable income of households.

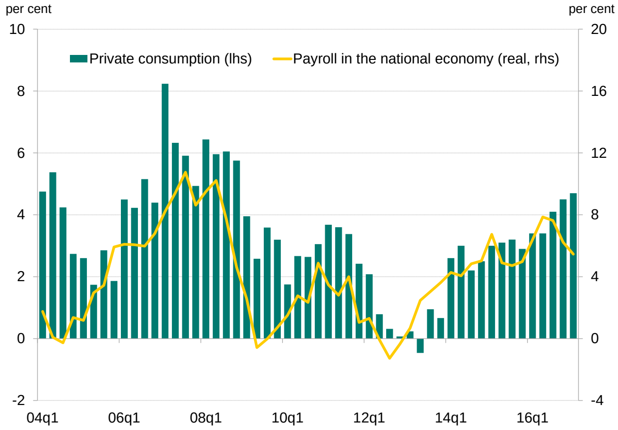
Data for the first months of 2017 Q2 suggest that growth in private consumption remains stable. In April and May, the average real retail sales growth rate was the same as in 2017 Q1 (7.1% y/y). Alongside this, consumer sentiment continued to improve and payroll growth in the enterprise sector increased slightly (in real terms to 7.4% y/y from 6.9% y/y in 2017 Q1). Yet, in the coming quarters, the positive effects of the "Family 500 plus" programme launched last year should be gradually waning, which will have a stabilising impact on the annual consumption growth rate.

2.2.2 Investment

In 2017 Q1, the investment growth rate was close to zero (-0.4% y/y as against -7.9% in 2016, Figure 2.8). According to NBP estimates, the fall in gross fixed capital formation was contained by a slower pace of decline in corporate investment as well as a slight increase in public investment and an acceleration in housing investment growth.

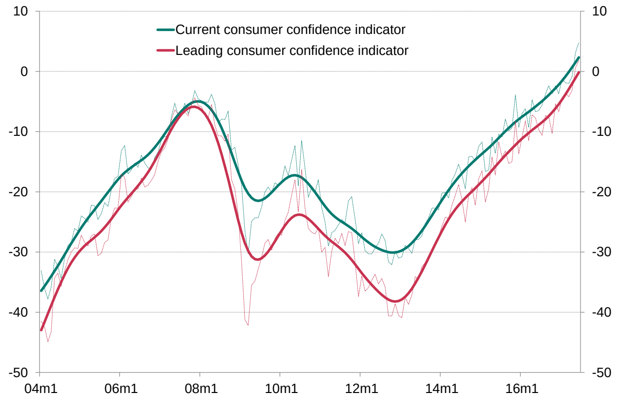
The major factor behind the increase in public gross fixed capital formation was a rebound in investment activity co-funded from the new EU financial perspective.[17] Decline in corporate investment narrowed, especially in sectors with investments backed to a great extent with EU funds (construction, water supply, energy sector and transport).[18] At the same time, investment in mining continued to fall. In services, trade and industry, in turn, investment resumed to grow, driven by rising demand and capacity utilization (Figure 2.9, Figure 2.10). Corporate investment was also supported by improving financial standing of enterprises, high availability of credit and

Figure 2.6 Growth in private consumption and payroll in the national economy (y/y)



Source: GUS data, NBP calculations.

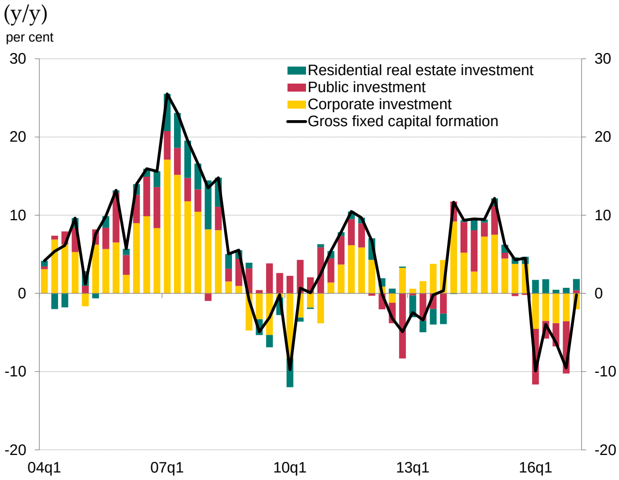
Figure 2.7 Consumer confidence indicators



Source: GUS data, NBP calculations.

A solid line denotes a trend, while a dashed one – raw data.

Figure 2.8 Investment in the economy and its major components (y/y)



Source: GUS data, NBP calculations.

NBP estimates, not seasonally adjusted.

[17] In 2017 Q1, the value of beneficiaries' applications for reimbursement of expenditures on public investment is estimated at approx. PLN 1.8 billion as against PLN 0.4 billion in 2016Q1.

[18] According to NBP estimates, the ratio of EU funds absorption to gross fixed capital formation in 2011 Q1 in these sectors averaged 16.5%, whereas in remaining sectors it stood at a mere 0.8%. The ratios of the planned expenditures of these sectors on the EU co-financed investment under the new financial perspective (according to applications for co-financing submitted until May 2017) to total corporate investment in those sectors in the years 2017-2019, as estimated on the basis of the July projection of inflation and GDP, are similar.

relatively low interest rates. Data on industrial output and construction (see Chapter 2.2.5 *Output*) indicate further rise in activity, and thereby a rebound in these sectors in 2017 Q2. However, uncertainty reported by enterprises as well as higher labour costs and commodity prices continue to drag on corporate investment.[19]

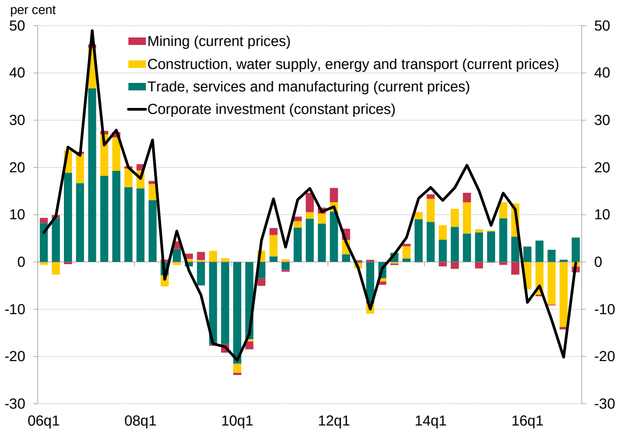
In 2017 Q1, housing investment accelerated. This was supported by improving financial situation of households, supported in particular by growing employment and wages (see Chapter 2.4 *Labour market*), lower interest rates on loans and relatively high profitability of home rental (compared to other forms of funds allocation, see Chapter 2.5.2 *Residential real estate market*).

2.2.3 Public finance

In 2016, the general government deficit declined to 2.4% of GDP (from 2.6% of GDP in 2015). Despite this decline, the impact of fiscal policy on aggregate demand was close to neutral.[20]

In 2017 Q1, the general government recorded a substantial surplus. This was due to a very low state budget deficit,[21] accompanied by surpluses in both local government and social security funds subsectors. The favourable state budget performance was mainly attributable to high growth in revenue, primarily from value-added tax, stemming from better tax collection, the impact of temporary factors[22] and improvement in economic conditions. In turn, a good financial standing of social security funds was supported by rising employment and wages.

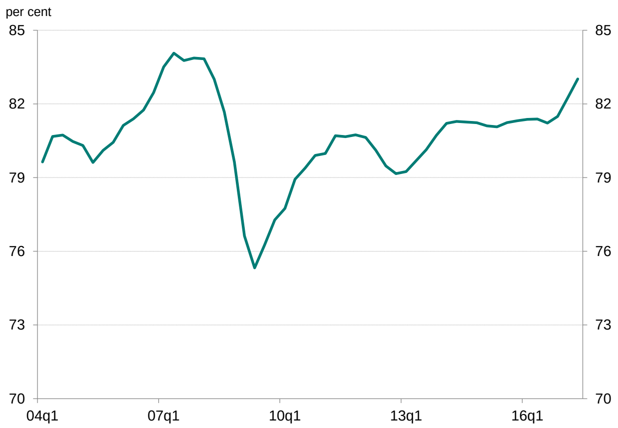
Figure 2.9 Corporate investment in the economy and its sectoral components (y/y)



Source: GUS data, NBP calculations.

Sector categories according to NACE. Data from the survey on revenues, costs, financial outcome and investment conducted by GUS (form F-01/I-01). Data differ from those presented on Figure 2.8 because the report does not include, unlike national accounts, scientific research and development, administration of the State and the economic and social policy of the community, higher education, public human health activities, creative, arts and entertainment activities, as well as financial and insurance activities. Gross value added of the latter decreased in Q1 2017, which can to some extent explain negative growth of corporate investment activity in this period.

Figure 2.10 Corporate capacity utilisation (seasonally adjusted)



Source: NBP data.

Data from *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*.

[19] See *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

[20] A close to neutral impact of fiscal policy on aggregate demand was a result of lower public investment expenditure being offset by higher expenditure on social and child benefits, the latter mostly due to the launch of the "Family 500 plus" child benefit payments programme.

[21] In 2017 Q1, the state budget deficit amounted to about PLN 2.3 billion (i.e. 3.8% of the statutory limit).

[22] Temporary factors that positively influenced VAT revenue growth rate (40.6% of GDP in 2017 Q1), included, among others, acceleration of refund payments towards the end of 2016, applying the reverse charge mechanism to certain construction services provided by subcontractors, as well as limiting the quarterly settlements of VAT starting from 2017.

In the coming months, a widening of the general government deficit can be expected on the back of, among other factors, a marked growth in public investment,[23] which in recent years were primarily carried out in the second half of the year. In the last quarter of 2017, the lowering of the general retirement age (to 60 years for women and 65 for men)[24] will also contribute to higher growth of public spending. Another factor which will negatively impact the general government balance, as compared with 2016, will be the full-year costs of the "Family 500 plus" programme.[25] However, the general government deficit will remain below 3% of GDP.

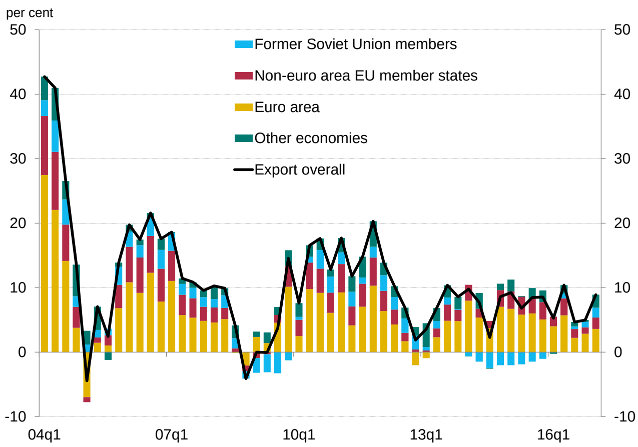
As a consequence of the higher than a year before public investment, including investment financed with EU funds,[26] as well as higher social benefit payments, fiscal policy will most probably have a positive, albeit moderate, impact on aggregate demand in 2017.

2.2.4 External trade

In 2017 Q1, growth in the value of exports and imports accelerated,[27] supported by a pick-up in the global trade turnover, high cost competitiveness of Polish products and the improvement in domestic economic conditions.

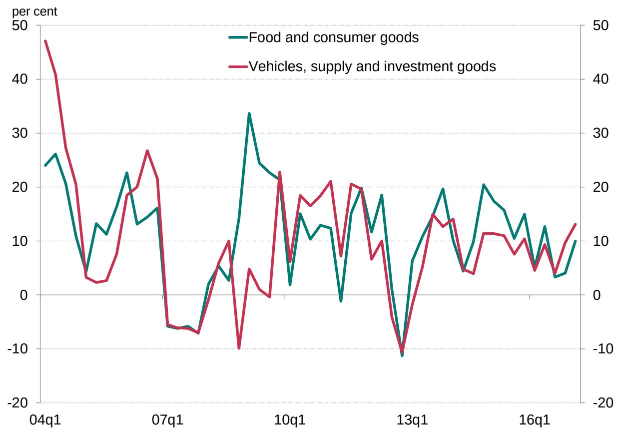
Value of exports accelerated across all destinations, most notably the euro area and other European countries (), backed i.a. by improving conditions in global manufacturing translating into a recovery in global value chains. In addition, a rebound in demand for Polish consumer goods and food was

Figure 2.11 Polish export growth by destination (y/y)



Source: GUS data, NBP calculations.

Figure 2.12 Polish export growth by commodity (y/y)



Source: GUS data, NBP calculations.

[23] *Convergence Programme 2017 Update* assumes expenditure on gross capital formation to increase in total by 1.2% of GDP, of which expenditure not subject to refund from the EU budget, by around 0.4% GDP.
[24] The financial consequences of the restoration of the general retirement age (65 years for men and 60 years for women) are estimated by the government to reach 0.1% of GDP in 2017 (according to ESA2010).
[25] In line with the information of the Ministry of Family, Labour and Social Policy, in 2016 beneficiaries of the "Family 500 plus" programme received a total of above PLN 17 billion (approx. 0.9% of GDP), and in 2017 Q1 close to PLN 6 billion (approx. 0.3% of GDP).
[26] According to ESA2010 methodology, EU-financed revenues and expenditures have no impact on general government sector balance, but they have an impact on aggregate demand.
[27] GUS data on the value of exports and imports of goods expressed in the Polish zloty are analysed in this chapter. Trends in trade of services are not discussed broadly due to a lack of detailed breakdowns by destination or type of services. Yet, it should be noted that according to NBP data, the growth rate of the export of services (10.7% y/y) remained markedly above that of the import of services (7.4% y/y).

observed in European economies (Figure 2.11). The growth in exports was also supported by a slight recovery in demand in the major emerging market economies (see Chapter 1.1 *Economic activity abroad*).

High price competitiveness of Polish goods was another factor supportive of export growth. Both prices and average hourly labour costs in Poland are among the lowest in Central and Eastern Europe.[28] Furthermore, the exchange rate of the zloty, despite appreciation (see Chapter 2.5 *Asset markets*), did not adversely affect the export activity of Polish enterprises.[29] In addition, the measures of the real effective exchange rate of the zloty remain below their long-term averages (Figure 2.12).

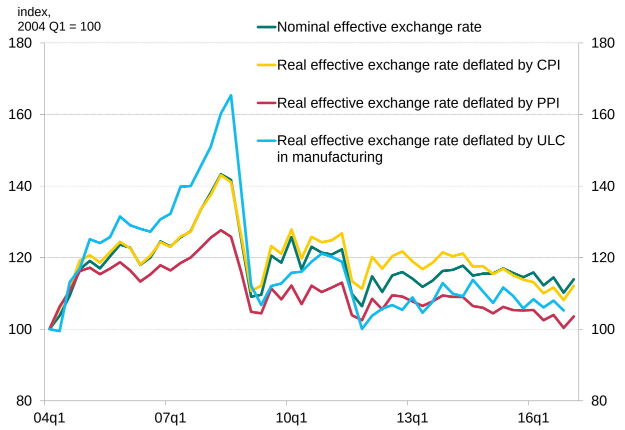
The acceleration in the value of imports resulted from higher crude oil prices on the one hand, and the recovery in domestic demand on the other (Figure 2.13). High consumer demand translated into faster import growth of consumer goods and food (see Chapter 2.2.1 *Consumption*). At the same time, import of investment goods rose slightly. Moreover the increased activity in the global supply chains was reflected in a marked rise in the import growth rate of supply goods and vehicle parts.

2.2.5 Output

Decomposition of GDP growth by sectors indicates that the acceleration in economic growth in 2017 Q1 stemmed from higher output growth in industry and construction amid a slowdown in services. In 2017 Q1, unlike in previous years, industry was the sector with the highest contribution to total value added growth (Figure 2.15).

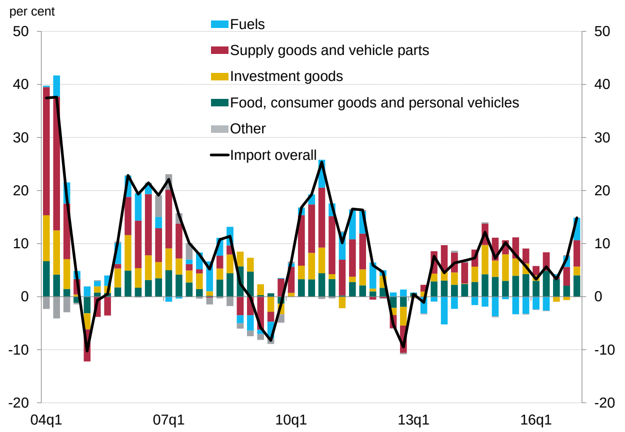
In industry, rising capital goods production was the main driver of the acceleration in value added

Figure 2.13 Effective exchange rates of the zloty



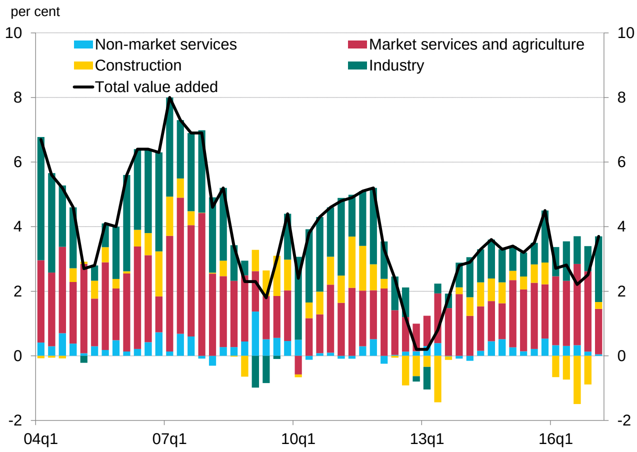
Source: OECD and Reuters data, NBP calculations.

Figure 2.14 Polish import growth by commodity (y/y)



Source: GUS data, NBP calculations.

Figure 2.15 Gross value added growth by sectors (y/y)



Source: GUS data, NBP calculations.

[28] The average price level in Poland remains lower than in Hungary, Czech Republic and Slovakia, by 7%, 21% and 23%, respectively. Average hourly labour costs are lower by 4%, 21% and 19%, respectively.
[29] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

growth. This was due to a stronger growth in exports of these goods, which was related to improving global economic conditions (see Chapter 1.1 *Economic activity abroad*). The growth rate of industrial output – after a substantial increase in 2017 Q1 – declined somewhat in the first months of Q2 (Figure 2.17), although sentiment in the sector remains upbeat.

Construction output growth, following a slump in 2016, rebounded in early 2017 on the back of a recovery in investments co-financed with EU funds. Output growth was recorded for all categories, including civil engineering (Figure 2.16). Stronger activity was also registered in the construction of buildings, especially office buildings, plants and warehouses, as well as in residential construction.

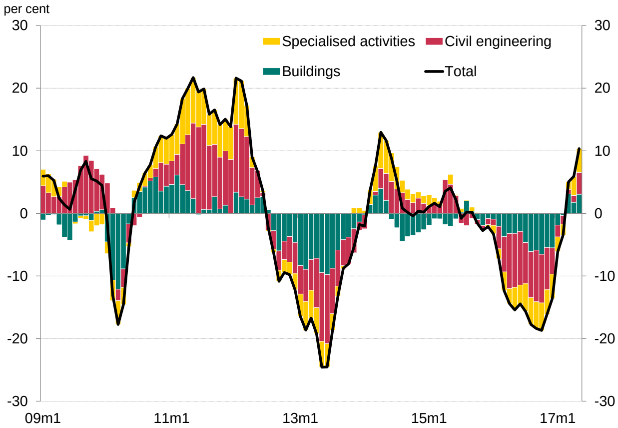
In 2017 Q1, value added growth in market services slowed down (to 3.2% y/y from 5.2% in 2016 Q4), which can be attributed mainly to a weaker activity in financial and insurance services compared to the corresponding period of the previous year resulting from a statistical base effect. At the same time, in other services – especially in trade and transport – value added continued to grow at a strong pace. Sentiment indicators for services remain high, which suggests that the slowdown in this sector is temporary.

2.3 Financial situation in the enterprise sector

The acceleration of economic growth is reflected in improving financial standing of the enterprise sector. In 2017 Q1, the gross financial result of companies increased by 20% y/y (Figure 2.18).

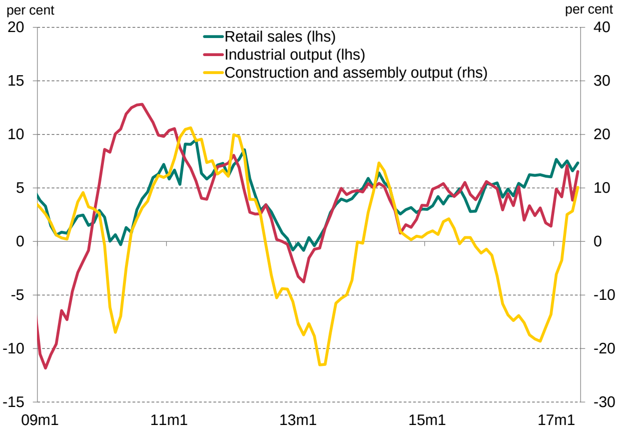
The main factor behind this improvement was a rise in the result from sale. Profitability ratios also increased and the percentage of profitable firms in the enterprise sector, despite a slight decline,

Figure 2.16 Construction and assembly output growth by construction objects (y/y, 3-month moving average)



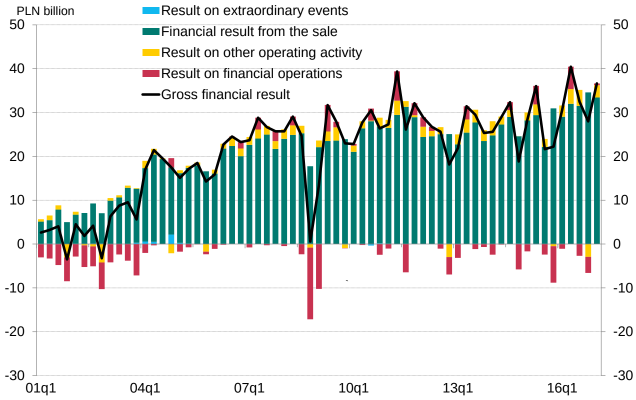
Source: GUS data, NBP calculations.

Figure 2.17 Economic conditions indicators (y/y, 3-month moving average)



Source: GUS and Bloomberg data.

Figure 2.18 Gross financial result of enterprises and its components



Source: GUS data, NBP calculations.
Data from the survey on revenues, costs, financial outcome and investment conducted by GUS (based on F-01/I-01 forms).

remained high (Table 2.2, Figure 2.19). Favourable developments in the enterprise sector resulted from higher revenues from sales amid stronger growth in economic activity (see Chapter 1.1 *Economic activity abroad*, Chapter 2.2.5 *Demand and output*). In particular, profitability ratios improved in manufacturing and services. At the same time, construction recorded losses, which could be related to still limited, yet rising, activity in this sector, especially in civil engineering.

A slightly stronger cost pressure than a year ago was a factor containing the profitability of companies. In 2017 Q1, costs of all their activities grew by 11.3% y/y, mostly due to the rise in commodity and goods prices. For this reason, the profitability ratios in some businesses declined, particularly in transport and the municipal services. Moreover, the increase in costs, along with somewhat larger payment bottlenecks – contributed to a slight decrease in the companies' liquidity, which, however, remains high.

2.4 Labour market

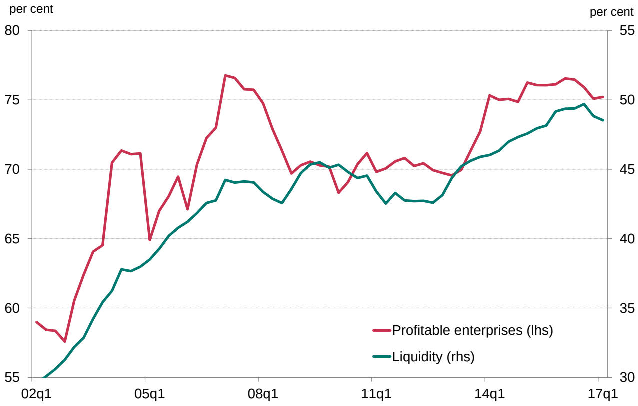
Employment continues to grow at a considerable pace, re-accelerating in the first half of 2017 after a slowdown in the second half of 2016 (Figure 2.20), as evidenced by the data from both the Labour Force Survey (1.7% y/y in 2017 Q1) and the corporate sector (4.5% y/y in May).[30] Stronger rise in employment has been supported by accelerating GDP growth amid rising capacity utilisation in the economy. High demand for labour is confirmed by a rising number of non-subsidised job offers and an increase in the average number of hours worked. At the same time, the fall in economically active population slowed down temporarily, as a

Table 2.2 Selected financial efficiency ratios in the enterprise sector

per cent	2015				2016				2017
	q1	q2	q3	q4	q1	q2	q3	q4	q1
Sales profitability ratio	4.9	4.9	3.6	4.8	4.9	5.1	5.0	5.0	5.1
Net turnover profitability	3.9	5.0	2.9	2.8	4.2	5.5	4.2	3.1	4.4

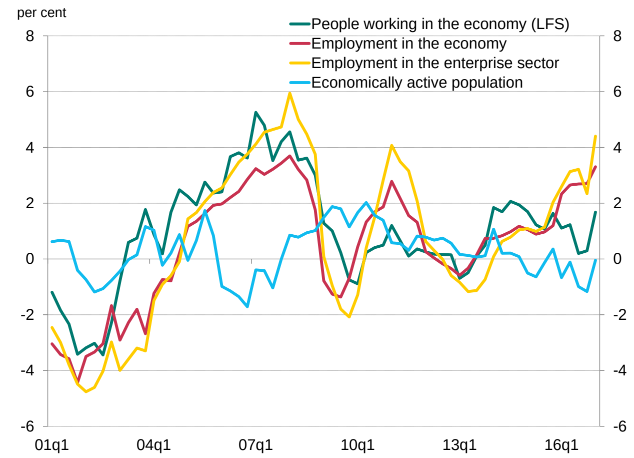
Source: GUS data, NBP calculations.
Data from the survey on revenues, costs, financial outcome and investment conducted by GUS (based on F-01/I-01 forms).

Figure 2.19 Percentage of profitable and highly profitable enterprises (seasonally adjusted)



Source: GUS data, NBP calculations.
Data from the survey on revenues, costs, financial outcome and investment conducted by GUS (based on F-01/I-01 forms).

Figure 2.20 Annual growth in employment and economically active population



Source: GUS data, NBP calculations.
People working in the economy is a survey-based estimate of employment, regardless of employment relationship. Employment in the economy denotes the enterprise-reported average number of persons performing paid work converted to the number of full-time jobs. This data does not cover i.a. entities employing up to 9 persons, individual farmers, and persons working under civil law contracts. In addition, data on employment in the enterprise sector does not cover the public sector and entrepreneurs.

[30] The annual LFS employment growth rate is lower than the annual growth rate of corporate employment due to a shift from temporary forms of employment to permanent job contracts. In 2017 Q1, the number of temporary employees declined by 3.1% y/y, while the number of permanent employees increased by 3.8%. In addition, the Central Statistical Office updated the sample of companies with more than nine employees at the beginning of 2017, which also contributed to relatively high corporate employment growth rate in 2017 Q1.

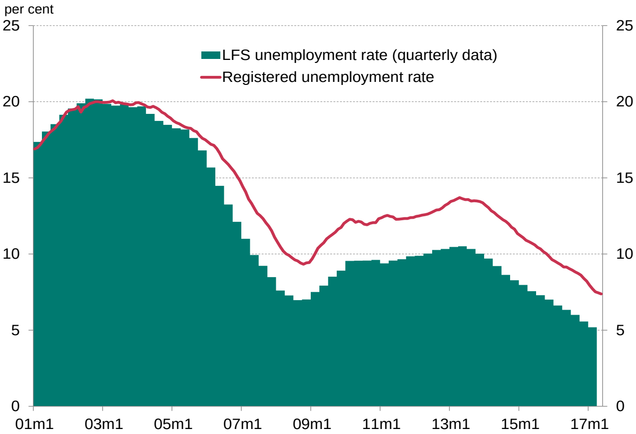
result of which the limitations for employment growth resulting from shrinking labour supply subsided.[31]

At the same time, unemployment has been declining gradually, as indicated both by the LFS and the labour offices (Figure 2.21). In 2017 Q1, the fall in unemployment resulted almost entirely from the rise in employment, with only negligible changes in economically active population.[32]

The fall in unemployment has occurred alongside stronger wage pressure than in previous years, as reported by enterprises in business climate surveys[33]. At the same time, the minimum wage hike at the beginning of 2017 was larger than in 2016 and contributed to an acceleration in nominal wage growth, which, however, remains moderate.[34] It is likely to be constrained by a growing number of foreign employees, mostly from Ukraine. Moreover, the rise in employment increasingly concerns less qualified, and therefore less productive and compensated employees, which may additionally reduce wage growth. Alongside that, the real wage growth has been contained by consumer price inflation running markedly higher than in previous years. In 2017 Q1, real wage growth was the lowest in over three years (Figure 2.22).

In 2017 Q1, both GDP and employment growth increased at a similar pace. As a result, labour productivity continued to grow at an annual rate close to 2%, while growth in unit labour costs remained moderate and close to its five-year average (Figure 2.23).[35]

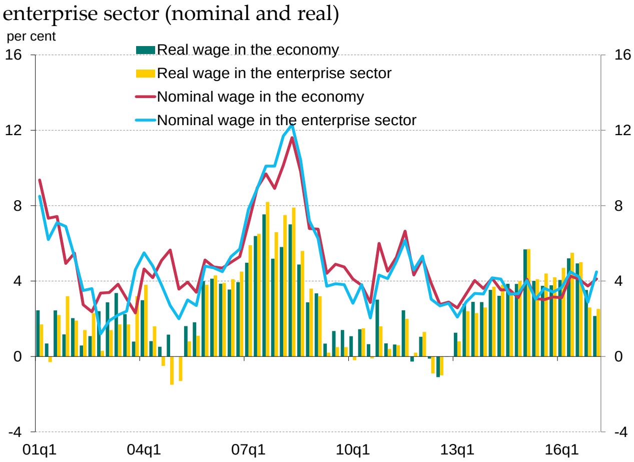
Figure 2.21 Unemployment rate (seasonally adjusted)



Source: GUS data, NBP calculations.

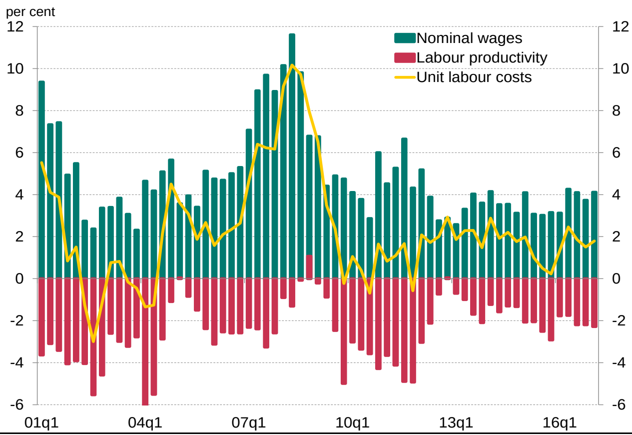
The differences between the registered unemployment rate and the LFS unemployment rate result from different definitions of an unemployed person and economically active population.

Figure 2.22 Annual wage growth in the economy and the enterprise sector (nominal and real)



Source: GUS data.

Figure 2.23 Unit labour costs growth and its determinants (y/y)



Source: GUS data, NBP calculations.

[31] According to the LFS, the fall in the working age population continued in 2017 Q1, although its scale diminished (-0.3% y/y against -0.9% in 2016 Q4). At the same time, following a slight decline in previous quarters, the labour force participation rate increased by 0.15 percentage points. Consequently, economically active population remained almost unchanged compared to the last year's level.
[32] In the past few quarters, the fall in unemployment was largely a result of the decline in economically active population.
[33] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.
[34] In 2017, the minimum monthly wage rose from PLN 1850 to PLN 2000, or by 8.1%. In addition, an hourly minimum wage was introduced for the self-employed and the employed under civil law contracts.
[35] In 2017 Q1, the unit labour cost growth rate in the economy stood at 1.8% and it was equal to the average for the past five years.

2.5 Asset markets

The Monetary Policy Council has been keeping the NBP interest rates unchanged since March 2015, including the reference rate at 1.50%. Market participants expect interest rates to remain stable also in the coming quarters (Figure 2.24).

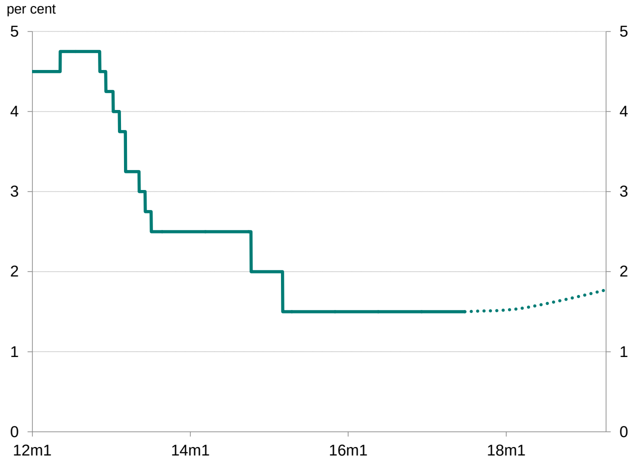
2.5.1 Financial market

Better sentiment in global financial markets has translated into higher capital inflows to emerging market economies, including Poland, and an increase in the prices of most Polish financial assets (see Chapter 1.5 *International financial markets*, Chapter 2.7 *Balance of payments*).

The Polish government bond yields have declined, driven largely by a fall in term premium (Figure 2.25). Share prices have grown strongly since the beginning of 2017. As a result, in May 2017, the main stock index reached its record high since 2007 (Figure 2.26).

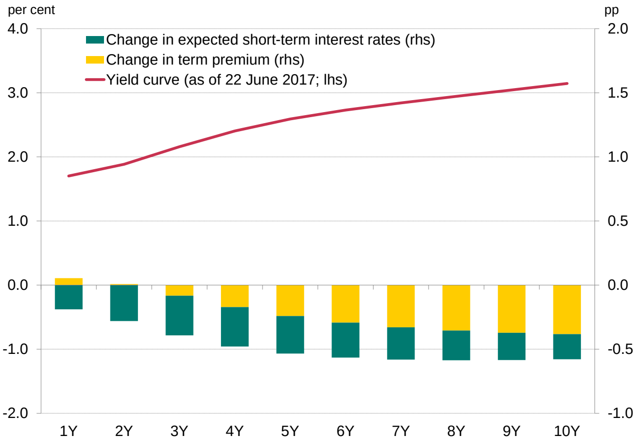
The decline in risk aversion in the international financial markets, together with improving domestic economic conditions and outlook, was reflected in a substantial appreciation of the zloty against the major currencies over recent months. Since the beginning of 2017, the zloty has appreciated by 3.8% against the euro, 9.3% against the US dollar and 5.0% against the Swiss franc (Figure 2.27).

Figure 2.24 NBP reference rate and FRA-implied 3M interest rate (as of 22 June 2017)



Source: NBP and Bloomberg data, NBP calculations.

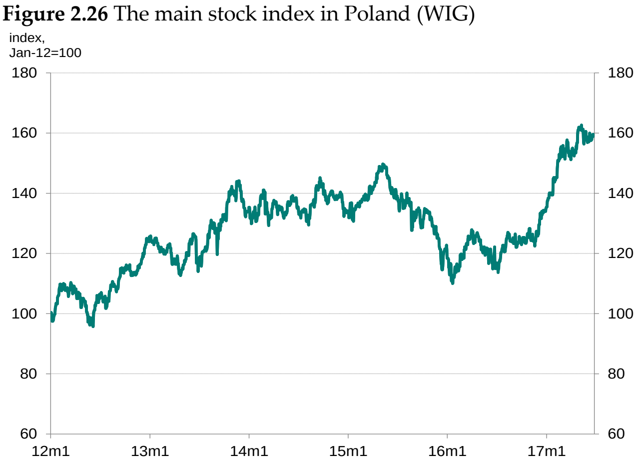
Figure 2.25 Polish government bonds yield curve and decomposition of its change since 23 February 2017



Source: NBP calculations, Bloomberg data.

Term premium estimation is based on methodology of Adrian *et. al.* (2013), *Pricing term structure with linear regressions*, Journal of Financial Economics. For more see: Box 2 in *Inflation Report – March 2016*

Figure 2.26 The main stock index in Poland (WIG)



Source: Bloomberg data.

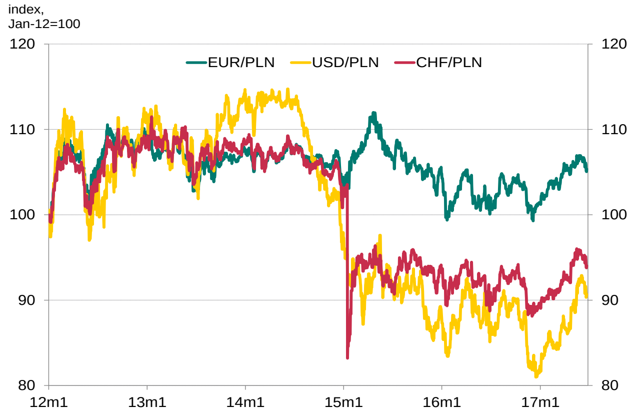
2.5.2 Residential real estate market[36]

The recovery in the housing market continues, which is reflected in a further increase in the number of dwellings sold (Figure 2.28). As sales growth is accompanied by a rising supply of housing, real estate prices remain relatively stable, despite their slight growth in some cities (Figure 2.29).

Demand for housing is fuelled by high affordability of mortgage loans and lower interest on these loans than in the previous years, amid growing employment and wages (see Chapter 2.4 *Labour market*).[37] Moreover, home sales are additionally supported by a relatively high profitability of home rental as compared to other forms of household investment.[38]

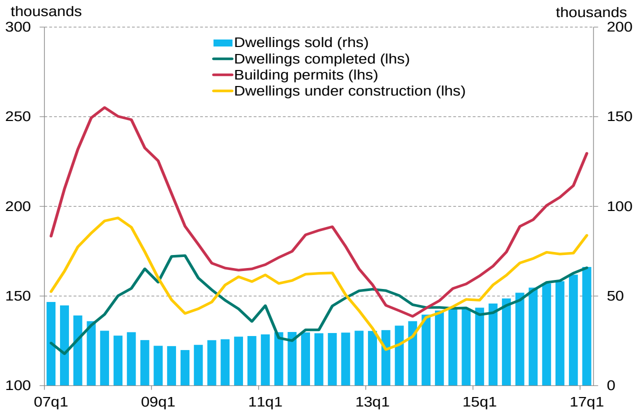
Rising home sales in the primary market and high rates of return on development projects continue to encourage real estate developers to embark on new investment. As a result, the number of both building permits issued and dwellings under construction is on a steady rise (Figure 2.28). This props up the current and future supply of housing, having a stabilising impact on home prices amid high demand[39].

Figure 2.27 PLN exchange rate (increase denotes appreciation)



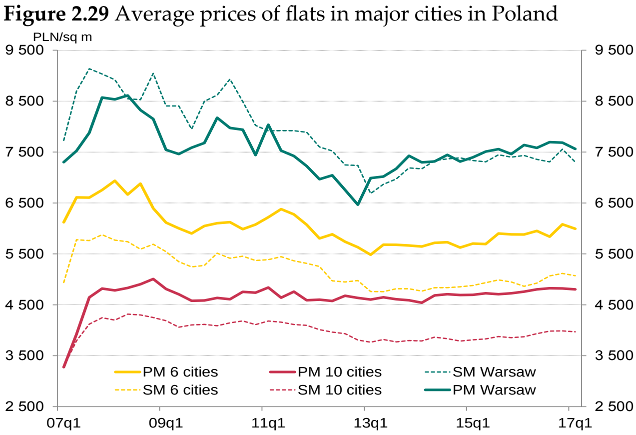
Source: Bloomberg data.

Figure 2.28 Residential construction in Poland (4Q moving avg)



Source: GUS and REAS data, NBP calculations.
Sales data is based on 6 major markets in Poland (4Q moving avg)

Figure 2.29 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.

[36] For more information on the situation in the housing 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 2017 Q1*, NBP, June 2017.
[37] Moreover, housing demand is still supported by the "Flat for the Young" scheme, although its impact on housing market is diminishing as the funds for 2017 have been used up. Also home subsidy applications for 2018 are no longer accepted as the 50% limit for 2018 has been reached.
[38] The estimated profitability of home rental, excluding transaction costs, exceeds almost 2.5 times the average 10-year government bond yield and almost 5 times the average interest rate on household deposits.
[39] At the same time, the average home selling time in the primary market continues to shorten, which may be a factor boosting prices in this market.

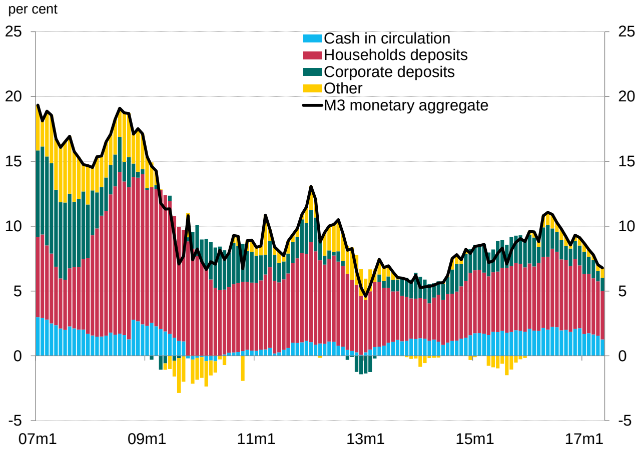
2.6 Money and credit

The broad monetary aggregate (M3) growth rate declined to 8.2% y/y in 2017 Q1 (compared to 9.7% y/y, on average, in 2016, Figure 2.30).[40] It is driven mainly by a rise in both household deposits (at the rate of 7.9% y/y in 2017 Q1), in particular current deposits, and, to a lesser extent, cash in circulation.

The stable growth in lending to the non-financial sector,[41] at the rate close to that of the nominal GDP growth (Figure 2.31), is the main source of broad money creation.

Loans to households remain the most important component of lending growth to the non-financial sector. Their pace of growth has been stable for several years, at close to 4.5% y/y (Figure 2.32). Within that, good financial situation of households and low interest rates continue to support the stable growth of both zloty housing loans (10.4% y/y in 2017 Q1)[42], and consumer loans (8.4% y/y in 2017 Q1), although credit standards on the latter were tightened significantly in 2017 Q1.[43]

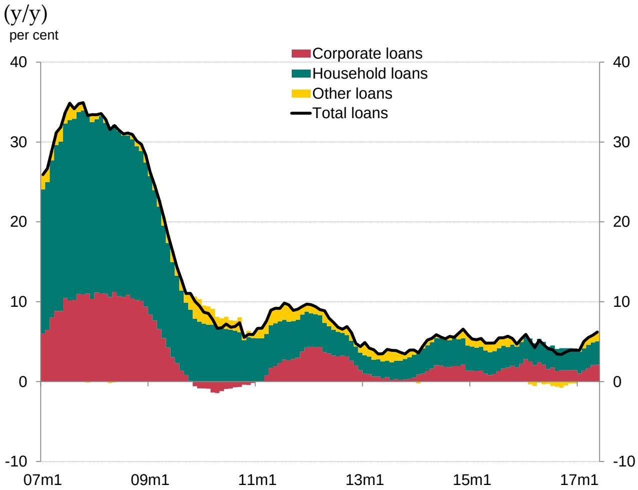
Figure 2.30 Composition of M3 growth (y/y)



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 2.31 Composition of growth in loans to non-financial sector (y/y)



Source: NBP data

The category *Other loans* covers non-monetary financial institutions, non-profit institutions serving households, local government units and social security funds.

[40] The decline in the M3 annual growth rate largely reflects the waning impact of the strong rise in the central government institutions' indebtedness to commercial banks in 2016. This tendency continued also in 2017 Q2, with M3 rising in April and May at an average rate of 6.9% y/y. The temporary growth in banks' exposure to government bonds in 2016 may be partially attributed to the introduction of the act on tax on assets, which excluded government bonds from the tax base. See *Financial Stability Report*, NBP, December 2016.

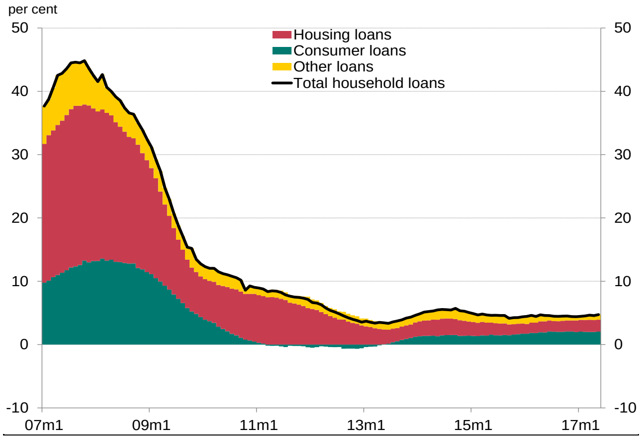
[41] In this chapter, growth in lending to a given sector of the economy is defined as growth in transaction changes in receivables of monetary financial institutions from that sector. The only exemptions are data on growth in lending to small and medium enterprises as well as to large corporations, which refer to non-transaction changes in line with the banking sector statistics of loans and advances.

[42] Housing loan growth in 2017 Q1 was additionally supported by the "Flat for the Young" programme. However, the impact of this programme will be limited in the coming quarters as the funds earmarked for 2017 were fully used up in the first months of the year and the loan applications for 2018 were stopped after the limit of 50% on the funds scheduled for 2018 had been reached. In 2017 Q2, annual growth of zloty housing loans amounted to 10.4% in April and May (on average), while consumer loans rose by 8.4%.

[43] See *Senior loan officer opinion survey on bank lending practices and credit conditions. 2nd quarter 2017*, NBP, April 2017.

Lending to the corporate sector has also been growing (at 4.6% y/y in 2017 Q1, Figure 2.33).[44] Loans to small and medium enterprises as well as large corporations were rising at a comparable pace (3.7% y/y and 4.5% respectively). Corporate lending growth is backed by improvement in economic conditions (see Chapter 2.2 *Demand and output*), which supports the increase in demand for credit.[45] Alongside that, corporate debt growth is constrained by steadily diminishing share of corporate loan applicants and tighter lending policy.[46] However, availability of corporate loans remains high, and their service costs are at historic lows.[47]

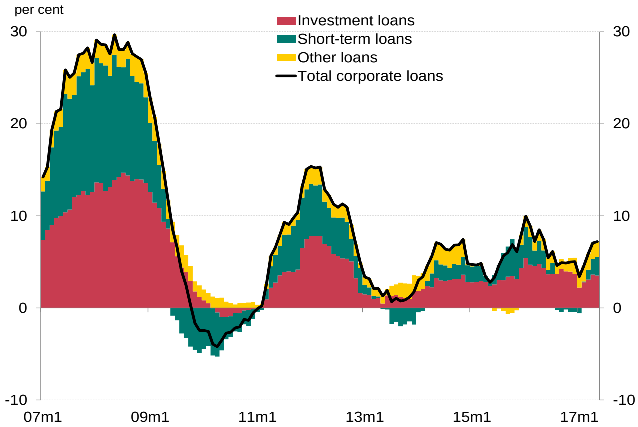
Figure 2.32 Composition of growth in loans to households (y/y)



Source: NBP data.

The category *Other loans* covers operating and investment loans to microenterprises.

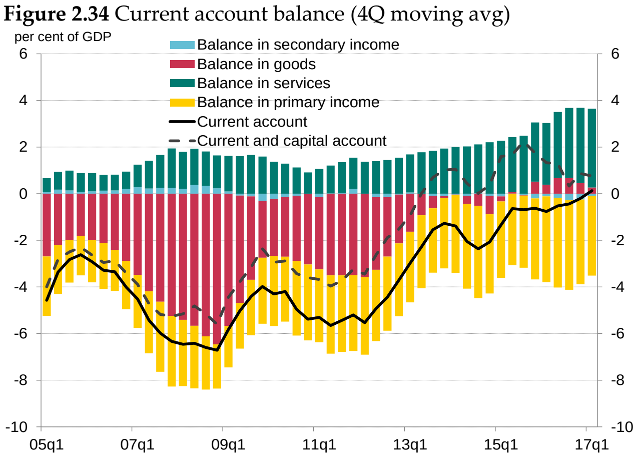
Figure 2.33 Composition of growth in loans to companies (y/y)



Source: NBP data.

The category *Other loans* covers i.a. loans for the purchase of securities or export loans.

Figure 2.34 Current account balance (4Q moving avg)



Source: NBP data.

[44] The higher growth rate of corporate loans in 2017 Q1 and Q2 (7.2% y/y) may in part result from a one-off transaction made by an economic entity in March. The transaction involved conversion of foreign debt into domestic debt, in the amount of approx. PLN 7 billion, which accounts for approx. 32% of the total annual corporate loan growth. As the impact of this factor wanes, the growth rate of loans to enterprises may decrease in the future.
[45] See *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.
[46] See *Senior loan officer opinion survey on bank lending practices and credit conditions. 2nd quarter 2017*, NBP, April 2017.
[47] The high availability of credit for the enterprise sector is evidenced by the fact that only 12% of loan applications filed with banks have been recently denied (see *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017).

2.7 Balance of payments

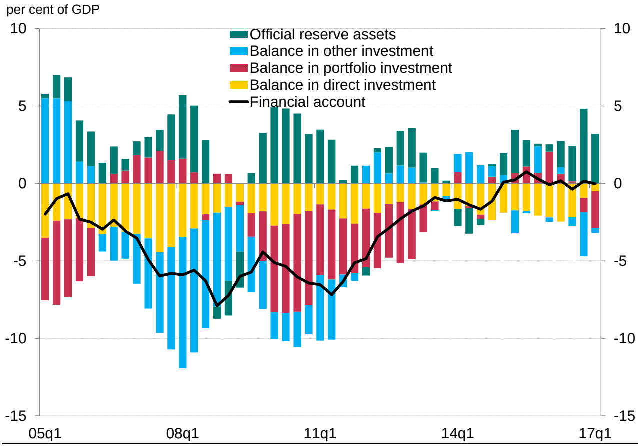
In the balance of payments, positive trends continue, with external imbalance indicators remaining at favourable levels. In 2017 Q1, the current account balance (in relation to GDP, in terms of a four-quarter rolling sum) rose to around zero (Figure 2.34, Table 2.3).[48]

Current account balance was supported by ongoing, yet slightly lower trade surplus. At the same time, although primary income balance remained negative due to income from foreign investment in Poland, it narrowed owing to an elevated level of the Common Agricultural Policy funding.[49]

Capital account remained in surplus, which was, however, likewise to previous quarters, relatively low. This resulted from limited inflow of structural funds, which are the main component of capital account inflows.

The financial account balance narrowed in 2017 Q1 (Figure 2.35),[50] which was related to significant fixed income capital inflows to Poland amid improving sentiment in international financial markets and favourable macroeconomic data from the Polish economy (see Chapter 1.5 *International financial markets* and Chapter 2.5 *Asset markets*). At the same time, there was an increase in foreign direct investment, mostly reinvestment of profits gained in Poland.[51]

Figure 2.35 Financial account balance (4Q moving avg)



Source: NBP data.

Positive values indicate an increase in Polish net assets (net capital outflows).

Table 2.3 Selected external stability indicators (per cent of GDP, 4Q moving avg if not stated otherwise)

	2013	2014	2015	2016 q1	2016 q2	2016 q3	2016 q4	2017 q1
Current account balance	-1.3	-2.1	-0.6	-0.8	-0.5	-0.4	-0.2	0.1
Current and capital account balance	1.0	0.4	1.7	1.3	1.3	0.3	0.9	0.8
Trade balance	1.9	1.4	3.1	3.0	3.5	3.7	3.7	3.6
Official reserve assets (in monthly exports and imports)	5.2	5.3	5.3	5.3	6.1	5.9	6.4	5.7
Foreign debt	70	73	72	71	75	74	76	72
Net international investment position	-69	-69	-62	-62	-61	-62	-62	-62
Official reserve assets (per cent of short-term foreign debt and predicted current account balance)	85	106	106	107	113	109	110	106
Official reserve assets (per cent of short-term debt)	95	110	108	107	116	114	116	116

Source: NBP data.

The last two indicators are estimates of Economic Analysis Department and include foreign debt and the level of official reserves at the end of the period.

[48] Within the framework of the Macroeconomic Imbalances Procedure, the European Commission applies two external stability indicators: current account balance to GDP ratio (a 3-year moving average) with the lower threshold signaling external imbalances at -4% and the upper threshold at 6% (the ratio for Poland amounts to -1.1%); net foreign assets to GDP ratio with a threshold amounting to -35% (the ratio for Poland stands at -62%). In case of Poland, the excessive value of the second indicator does not point to external imbalance, since it results from the real convergence process.
[49] The level of funding received by Poland under the Common Agricultural Policy in 2017 Q1 was PLN 10.7 billion compared with PLN 4.8 billion in the corresponding period of the previous year.
[50] With regard to the financial account, the presented figures should be interpreted as follows: a positive (negative) value of residents' investment abroad denotes an increase (decrease) in Polish assets abroad. Conversely, a positive (negative) value of non-residents' investment in Poland means an increase (decrease) in Polish liabilities against non-residents. The individual items in the financial account may be affected by changes resulting from tax optimisation. In November 2016, an exemption from corporate income tax for fixed income investment was introduced, while investment in equity was excluded from the exemption. This change in tax legislation have affected the portfolio and direct investment accounts, yet their combined impact on the financial account balance has been limited.
[51] Another factor containing financial account balance was a fall in the value of the official reserve assets resulting largely from NBP's own transactions (i.e. repo transactions serving the management of foreign exchange reserves).

3 Monetary policy in March – July 2017

At the meetings between March and July 2017 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 March and June 2017 as well as the *Information from the meeting of the Monetary Policy Council* in July 2017. *Minutes of the Monetary Policy Council decision-making meeting* in July 2017 will be published on 24 August, and thus included in the next *Report*.

Minutes of the Monetary Policy Council decision-making meeting held on 8 March 2017

Members of the Monetary Policy Council discussed monetary policy against the background of macroeconomic developments in Poland and abroad and the results of the March projection of inflation and GDP.

The Council reviewed the developments abroad which affect economic conditions in Poland. It was assessed that global economic growth remained moderate, with signs of economic recovery strengthening in many economies. It was emphasised that the euro area economic growth was stable, yet in 2016 Q4 it had been slower than previously estimated. Attention was also drawn to very good sentiment in the European industry. However, a decline in export orders in Germany was also cited. It was indicated that the available forecasts suggested a deceleration of economic growth in the euro area in 2017. In addition, the Council members mentioned a likely increase in uncertainty associated with upcoming elections in several euro area member states.

While discussing economic activity in the environment of the Polish economy, it was noted that in the United States economic conditions were favourable, supported by a rise in investment as well as labour market improvement in the last few years. It was stressed that in line with the available forecasts, economic growth in the United States should accelerate in 2017. At the same time, a deterioration in residential real estate market conditions was not excluded given higher mortgage interest rates. As to emerging market economies, a recent stabilisation in economic conditions in China was cited. It was also mentioned that Russia had recovered from recession.

While discussing price developments abroad, it was emphasised that commodity price growth had recently come to a halt. It was stressed that oil prices had been stable for several months. As certain Council members assessed, the stabilisation in oil prices resulted from higher investment in shale oil extraction industry in the United States on the one hand and production cuts in many oil net exporters on the other. It was therefore highlighted that even though inflation in the environment of the Polish economy had increased again in February, reaching inflation targets in many countries, its pace had been weaker than a month earlier. In addition, it was stressed that in many economies, including the euro area, demand pressure stayed weak, and core inflation was still low as a result.

Some Council members assessed that oil prices were unlikely to follow an upward trend in the coming quarters, thus limiting the rise in global inflation. However, certain Council members were of the opinion that the signs of global economic recovery observed in recent quarters could translate into higher demand pressure in many economies, resulting in a rise in inflation. In the opinion of certain Council members, a likely rise in wage growth associated with upcoming elections in some euro area member states was posing an additional upside risk to inflation in this economy.

Referring to monetary policy abroad, it was pointed out that the Federal Reserve had indicated a further rise in interest rates in 2017. It was pointed out that the probability of a hike in fed funds rate in March had increased of late. At the same time, it was assessed that tighter monetary policy in the United States had been translating into higher government bond yields in many countries, including in Poland. Yet, it was underlined that the rise in yields had been contained by ongoing quantitative easing and negative interest rates in the euro area.

While discussing the developments in Poland's real economy, it was emphasised that GDP growth in 2016 Q4 had been slightly higher than a quarter earlier. It was indicated that economic growth had been mainly driven by increasing consumer demand, supported by improving labour market, very good consumer sentiment as well as child and social benefit payments. It was underlined that in 2016 Q4 a fall in investment had narrowed due to higher absorption of EU funds. Certain Council members mentioned in addition an ongoing expansion in housing investment.

Council members stressed that recent economic data had been indicating further recovery. Attention was drawn to an acceleration in industrial output and retail sales growth in January 2017. It was highlighted that construction and assembly output had posted a growth in annual terms in January for the first time in over a year. It was emphasised, however, that sentiment in manufacturing had weakened somewhat in February 2017. In addition, it was noted that better data readings in January had resulted to some extent from statistical effects. Some Council members also drew attention to a slowdown in corporate lending over recent months, suggesting that this might indicate still weak investment demand. In this context, certain Council members pointed to spare capacity in the economy.

While discussing the labour market conditions, attention was drawn to accelerating employment and wage growth in the enterprise sector in January 2017. At the same time, it was indicated that data for the entire economy was suggesting rather weak rise in the number of working persons and a slower increase in wages in 2016 Q4, translating into slower growth in unit labour costs.

Regarding the Poland's macroeconomic outlook, it was emphasised that – according to the March GDP projection – economic growth in 2017 should pick up markedly, supported by a significant rise in investment amid higher inflow of EU funds, as well as ongoing robust consumption growth. Certain Council members indicated that a substantial acceleration in gross fixed capital formation in 2017 would result mostly from a stronger rise in infrastructural investment, with only a moderate increase in corporate investment. These Council members were of the opinion that such composition of the increase in gross fixed capital formation might be less supportive of economic growth over the medium term. Other Council members assessed, however, that corporate investment growth might be aided by lower legal uncertainty.

It was indicated that NBP's GDP projection for 2017 was higher than external forecasts. Yet, it was stressed that GDP growth, having picked up considerably in 2017, might weaken slightly in the coming years and should not exceed potential output growth to a large extent. Some Council members pointed to downside risks to economic activity in the coming years, i.a. a likely negative impact of higher commodity prices on household consumption growth.

While analysing price developments in Poland, it was highlighted that annual consumer price growth had picked up considerably over recent months. It was stressed that price growth had resulted mainly from higher global commodity prices translating into a rise in energy prices, as well as from increase in agricultural commodity prices reflected in higher food price growth. It was emphasised that core inflation was still low, indicating ongoing weak demand pressure. It was pointed out that wage pressure was also limited, which was reflected in still moderate unit labour costs.

The Council members underlined that – in line with the March inflation projection – following a considerable increase in the first months of the year, inflation would stabilise at a moderate level in the following quarters. Certain Council members judged that in the coming quarters inflation might be higher than envisaged in the March projection. On the one hand, these Council members did not exclude stronger demand pressure, and on the other hand, they pointed to upside risks to wage growth related to a possible decline in labour force participation after the reduction of the statutory retirement age in Poland. They also drew attention to stronger cost pressure in recent months, reflected in rising PPI, which may translate into higher consumer price growth. Other Council members indicated, however, that as the effects of higher global commodity prices dissipated, cost pressure should be fading out. Moreover, some Council members assessed that domestic inflationary pressure would grow only gradually, as economic growth was to run close to potential product growth in the coming years and there was still spare capacity in the economy. In addition, certain Council members expressed an opinion that wage pressure in the Polish economy would probably stay subdued due to weak bargaining position of Polish employees.

While discussing NBP's monetary policy, the Council decided that the interest rates should be left unchanged at the current meeting. In the opinion of the Council, given the current data and forecasts, including the March inflation projection, the risk of inflation running persistently above the target in the medium term was limited. At the same time, the decline in the real interest rates, related to higher inflation, would support the acceleration of economic growth in 2017. The Council confirmed its assessment that the stabilisation of the nominal interest rates helped to keep the Polish economy on a sustainable growth path and maintain macroeconomic balance.

The majority of the Council members judged that in light of available information stabilisation of the NBP interest rates was likely also in the following quarters. Yet, certain Council members were of the opinion that should incoming data and forecasts suggest stronger inflationary pressure than assumed in the March projection, it might be justified to consider an increase in the NBP interest rates. According to certain Council members, the interest rate decisions ought to reflect the impact of real interest rates on asset prices and savings in Poland. However, other Council members emphasised that the level of the real interest rates was not the main factor determining the savings rate and asset prices in the Polish economy. Moreover, certain Council members stressed that the interest rate increases might adversely affect corporate investment growth. Certain Council members underlined that in the coming months the analysis of the robustness and scale of the recovery and the resulting price developments should factor in the impact of the negative real interest rates on macroeconomic developments and asset prices. Other Council members pointed out that a more comprehensive assessment of the monetary policy outlook would be possible after the following projections of inflation and GDP.

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% and the rediscount rate at 1.75%.

Minutes of the Monetary Policy Council decision-making meeting held on 5 April 2017

Members of the Monetary Policy Council discussed monetary policy against the background of macroeconomic developments in Poland and abroad.

The Council reviewed the developments abroad which affect economic conditions in Poland. It was assessed that the rise in global economic activity remained moderate, with signs of recovery strengthening in many economies. It was emphasised that growth in the euro area was stable, although it had slowed down slightly in 2016 Q4. Nonetheless, very strong sentiment in the European economy was also brought to attention. It was noted that in the United States economic conditions were favourable, supported by improving labour market and a rebound in investment, i.a. in shale oil extraction industry, yet recent data was indicating somewhat weaker GDP growth in 2017 Q1. It was pointed out that in China economic growth was stable and the risk of a more notable slowdown had diminished. However, it was underlined that GDP growth, in line with forecasts presented by the Chinese authorities, was to decelerate in 2017. It was also highlighted that in Russia economic conditions were still weak, despite the end of the recession.

Referring to price developments abroad, it was noted that, although the annual inflation rates in many countries were significantly higher than in 2016, their rise had recently come to a halt. Attention was drawn particularly to a notable decline in inflation in the euro area in March. It was assessed that the halt in inflation growth had resulted from abating effects of the earlier rise in global commodity prices. In this context, a fall in global commodity prices in March was cited. Certain Council members argued that the major factors behind lower energy commodity prices included higher shale oil production and falling extraction costs of this commodity in the United States, as well as measures taken by some oil producers to maintain their market share. During the discussion on price developments abroad, it was also stressed that core inflation was still low in many economies, and in the case of the euro area it had even posted a decline in March.

Turning to monetary policy abroad, attention was drawn to lower monthly pace of asset purchases by the ECB starting from April. However, it was underlined that the ECB's monetary policy was still expansionary, with its interest rates close to zero, including the deposit rate below zero. It was also pointed out that, although the Federal Reserve had increased its interest rates, it was indicating that monetary policy tightening would proceed at a similar pace to previously expected. It was noted that sentiment in the global financial markets had been positive, and many emerging market currencies, including the zloty, had appreciated as a result, while share prices had risen, also on the Warsaw Stock Exchange.

While discussing developments in Poland's real economy, it was highlighted that recent data had been pointing to an improvement in economic conditions in 2017 Q1. It was judged that GDP growth in 2017 Q1 had been slightly higher than in previous quarter, albeit still moderate. It was emphasised that economic growth was mainly driven by increasing consumer demand, supported by improving labour market conditions, reflected in further growth in employment and wages, and also by very good consumer sentiment and the child benefit payments. It was underlined that ongoing sound increase in consumer demand in

2017 Q1 was indicated by a rapid rise in retail sales. However, attention was also drawn to a deceleration in annual industrial production growth as well as a fall in construction and assembly output in February. At the same time, it was stressed that both could be attributed mainly to statistical effects. Certain Council members also pointed to industrial sector sentiment in 2017 Q1, which was the strongest in a year.

Regarding Poland's economic outlook, the Council members underlined that in the coming quarters GDP growth should accelerate at a similar pace to the March GDP projection path. Economic growth will be supported by expected rise in investment resulting from higher inflows of EU funds, amid a steady rise in consumption. In this context, certain Council members pointed to an increasing number of contracts on the use of EU funds signed by local government units. In their opinion, good fiscal position recorded in previous years by local governments should be supportive of their investment expenditures in the coming quarters. According to certain Council members, it could not be excluded that economic growth in 2017 would be higher than envisaged in the March projection. Certain Council members judged, however, that the pace of corporate investment growth in the coming quarters was still uncertain. In addition, it was indicated that further acceleration in consumption growth could be contained by slower increase in real wages resulting from higher price growth compared to a year before.

When analysing inflation developments in Poland, it was stressed that the annual consumer price growth, after a significant rise at the beginning of the year, had declined somewhat in March. It was assessed that lower inflation had probably resulted from a fall in food prices and waning effects of the earlier global commodity price increases. Certain Council members cited a further rise in annual growth of producer prices in February, which, in their opinion, could point to intensifying cost pressure. According to certain Council members, improving economic conditions were contributing to a rise in demand pressure. Other Council members, however, emphasised that, given still negative output gap and spare capacity in the economy, demand pressure was still limited. It was also underlined that, despite improving labour market and a minimum wage hike at the beginning of 2017, wage growth, and hence the increase in unit labour costs, were still moderate. Some Council members noted in addition that the rise in the annual producer price growth rate in February originated mainly from a low base effect. In their assessment, this could indicate that the growth in cost pressure might have levelled off.

The majority of the Council members assessed that inflation would stabilise at a moderate level in the following quarters. They indicated that this would be supported by only gradual growth in domestic inflationary pressure related to improving economic conditions in Poland as well as decelerating growth in energy and food prices resulting from dissipating effects of the earlier increase in energy and agricultural commodity prices. At the same time, in the assessment of certain Council members, inflation might be higher than envisaged by forecasts available at the time of the meeting. These Council members did not exclude a stronger rise in demand pressure. They also pointed to an increase in inflation expectations in early 2017. Hence, they did not rule out that improving labour market could translate into stronger wage growth, and higher consumer price growth as a result.

While discussing NBP's monetary policy, the Council decided that the interest rates should remain unchanged. This decision was primarily justified by limited risk of inflation running persistently above the target in the medium term. At the same time, a decline in the real interest rates, related to higher inflation, should support the acceleration of economic growth in 2017. The

Council confirmed its assessment that, given the available information, the stabilisation of the nominal interest rates helped to keep the Polish economy on a sustainable growth path and maintain macroeconomic balance.

The majority of the Council members assessed that in light of available information stabilisation of the NBP interest rates was likely also in the following quarters. According to certain Council members, should data and forecasts incoming in the following quarters suggest stronger inflationary pressure than expected at the time of the meeting, it might be justified to consider an increase in the NBP interest rates. In the opinion of these Council members, the interest rate decisions ought to reflect, in particular, the impact of negative real interest rates on asset prices and the savings rate in the Polish economy. These Council members drew attention to a gradual deceleration in household deposit growth over the previous six months, which, starting from early 2017, was accompanied by higher inflows to investment funds from the household sector.

Other Council members emphasised, however, that the level of the real interest rates was not the main factor determining the savings rate and asset prices. They highlighted that the real interest rates in Poland were higher than in other European economies, while interest on loans in real terms was still markedly positive, which contained a risk of excessive lending growth. In this context, they pointed to moderate lending growth and relatively stable residential real estate prices, despite ongoing recovery in that market.

Certain Council members assessed that a more comprehensive assessment of the impact of lower real interest rates on the economy, and hence on the monetary policy outlook, would be possible after the July inflation and GDP projection.

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 17 May 2017

Members of the Monetary Policy Council discussed monetary policy against the background of current and future macroeconomic developments in Poland and abroad.

The Council reviewed the developments abroad which affect economic conditions in Poland. Further signs of global recovery, particularly in industry and international trade, were observed. It was noted that in the euro area economic recovery continued, albeit still at a moderate pace, and that investment growth was estimated to decelerate in 2017 Q1. It was stressed that sentiment indicators in the euro area had improved substantially in recent months, which, however, had not yet been fully reflected in data on economic activity. The decline in the 2017 Q1 growth rate in the United States was also cited, with an emphasis on its temporary nature. The Council members also pointed to an unexpected pick-up in the GDP growth rate in China, yet stressed that the latest data did not indicate a sustained acceleration of growth in this economy.

With reference to price developments abroad, it was observed that in many countries the annual inflation rates were markedly higher than in 2016. Yet, it was emphasised that a bulk of the increase had taken place in early 2017, while more recently inflation had stabilised. It was assessed, however, that this had resulted mainly from fading effects of the earlier rise in energy commodity prices, which had been propping up the annual price growth rates over preceding months. A decrease in energy commodity prices since the previous Council meeting was cited in this context. During discussion on inflation, it was stressed that in many economies, including the euro area, wage growth was still moderate, and inflation expectations were low.

Turning to monetary policy abroad, it was pointed out that the European Central Bank was keeping the interest rates close to zero, including the deposit rate below zero, and was continuing its asset purchase programme. It was also observed that the Federal Reserve was indicating further monetary policy tightening. Despite this, it was emphasised that sentiment in the international financial markets had been improving, which had translated into an appreciation of many emerging market currencies in the period preceding the Council meeting.

While discussing developments in Poland's real economy, the Council members pointed to flash GDP estimate which had indicated a considerable rise in the economic growth rate in 2017 Q1. It was assessed that economic growth was still driven primarily by increasing consumer demand, supported by rising employment and wages, good consumer sentiment and disbursement of child and social benefits. In the opinion of the Council members, improving conditions in industry and construction, confirmed by monthly data, may indicate that the 2017 Q1 economic growth had also benefited from a gradual recovery of investment demand. Some Council members noted that the pick-up in the annual GDP growth rate could result in part from a statistical base effect. In this context, they pointed to a downward revision to GDP growth data for 2016.

In the Council's opinion, in the coming quarters GDP growth should be supported by further investment recovery amid rising inflow of EU funds, along with stable consumer growth. At the same time, exports should continue to rise rapidly, propped up by economic recovery abroad. As a result, GDP growth in 2017 should be markedly higher than in 2016. The Council members stressed that a more comprehensive assessment of Poland's economic outlook for the coming quarters would be possible after becoming acquainted with NBP's July projection of GDP.

When analysing inflation developments in Poland, it was stressed that annual growth in consumer prices had stabilised at a moderate level following a significant rise at the beginning of 2017. As certain Council members underlined, inflation had stabilised somewhat earlier than expected. It was judged that this had resulted from fading effects of the previous increases in global commodity prices. At the same time, it was underlined that core inflation, though gradually increasing, remained low.

Certain Council members pointed to a rise in prices for services, which had been contributing to the increase in core inflation. Moreover, these Council members indicated that in 2017 Q1 labour costs were playing an increasingly important role in price developments. They also drew attention to a significant rise in the annual producer price growth rate over recent months.

However, other Council members emphasised that, despite higher wage growth in 2017 Q1, growth in unit labour costs was still moderate, amid rising labour productivity. It was also stressed that the increase in the annual producer price growth rate in February and March 2017 resulted from a low reference base.

The majority of the Council members assessed that in the coming quarters inflation would remain moderate. They judged that this would be supported by only a gradual rise in domestic inflationary pressure related to improving economic conditions in Poland, together with a fall in the annual growth rate of energy and food prices resulting from fading effects of the earlier increase in commodity prices. However, certain Council members assessed that inflation in the coming quarters could turn out to be higher than currently forecast. In their opinion, the risk that the wage pressure might intensify had grown over recent months. According to these Council members, upside risks might stem from lower immigration to Poland following the EU visa liberalisation with Ukraine and a possible decrease in the labour force participation rate after the introduction of lower retirement age. Moreover, certain Council members indicated that adverse weather conditions in the period preceding the Council meeting could translate into an increase in the food price growth rate in Poland.

While discussing NBP monetary policy, the Council decided that the interest rates should remain unchanged. The Council assessed that, despite improving economic conditions and good labour market conditions, inflationary pressure was limited and there were no imbalances building up in the economy. At the same time, the available forecasts indicate that inflation will remain moderate in the coming quarters. Therefore, in the Council's assessment, the risk of inflation running persistently above the target in the medium term is limited.

The majority of the Council members assessed that stabilisation of the NBP interest rates was likely in the following quarters, since – given the available information – it had been helping to keep the Polish economy on a sustainable growth path and maintain macroeconomic balance.

In the opinion of certain Council members, should data and forecasts incoming in the following quarters suggest stronger inflationary pressure than expected at the time of the meeting, it might be justified to consider an increase in the NBP interest rates.

The Council members concluded that a more comprehensive assessment of the monetary policy outlook would be possible after becoming acquainted with the incoming NBP's inflation and GDP projections.

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 7 June 2017

Members of the Monetary Policy Council discussed macroeconomic developments abroad analysing their impact on economic conditions in Poland. Further signs of strengthening in global activity were indicated, particularly in industry and international trade. It was noted that the euro area recovery continued, as confirmed by an improvement in many economic activity indicators. However, certain Council members pointed out that despite better economic conditions in the euro area, growth in this economy remained relatively weak. The divergence of both current and prospective GDP growth rates among the euro area countries was also underlined. While discussing economic developments in other countries, attention was drawn to the slowdown in the 2017 Q1 GDP growth rate in the United States, with an emphasis on its temporary nature. At the same time, it was stressed that current data had slightly increased uncertainty about the pace of the pick up in the US economic activity in the coming quarters. It was also pointed out that in China, after a rise in GDP growth rate in 2017 Q1, current data did not indicate a sustained acceleration in economic activity, amid reinforced concerns about rising imbalances in the Chinese economy.

With reference to price developments abroad, it was emphasised that despite ongoing global recovery, inflation had stabilised at a moderate level or even slightly declined in some countries. It was judged that this had primarily resulted from the fading effects of the earlier rise in commodity prices, alongside still low domestic inflationary pressure in many countries. At the same time, attention was drawn to the fall in energy commodity prices since the previous Council meeting. In particular, it was indicated that despite the extension of the OPEC countries agreement on restrictions in oil production, oil prices had been lower than in recent months. This was the result of the increased extraction of shale gas in the United States and the still high stocks of this commodity. In the opinion of certain Council members, geopolitical factors related to increased tensions in the Middle East might have some impact on the energy commodity prices in the coming quarters.

During the discussion on monetary policy abroad, it was pointed out that the European Central Bank – amid still weak domestic inflationary pressure despite economic recovery – was keeping interest rates close to zero, including the deposit rate below zero, and was continuing its asset purchase programme. It was also observed that the Federal Reserve was continuing monetary policy tightening, signalling further interest rate increases and the possibility of decreasing its reinvestment of the principle payments from securities in the coming quarters.

Turning to situation in the international financial markets, it was emphasised that the sentiment in these markets had clearly improved since the beginning of the year, which was translated into an inflow of portfolio capital to many emerging economies and an appreciation of their currencies. Attention was also drawn to the relatively high equity prices in the largest markets and their historically low volatility, which could reflect low risk aversion of investors.

While discussing developments in Poland's real economy, the Council members stressed that GDP data indicated a marked acceleration in economic growth in 2017 Q1. It was emphasised that growth continued to be driven primarily by increasing consumer demand, supported by rising employment and wages, very good consumer sentiment and disbursement of child and social benefits. At the same time, it was pointed out that investment growth rate in 2017 Q1 had been close to zero. As a consequence, as certain Council members stressed, the ratio of investment to GDP remained at a historically low level. Certain Council members judged that if investment growth stayed low, it would reduce the growth of potential output.

When referring to the monthly data on domestic economic activity, it was pointed out that in April a fall in industrial output as well as a slowdown in both construction and assembly output and retail sales were recorded, which, however, partly resulted from the lower number of working days than a year ago. At the same time, attention was drawn to the weakening of some leading economic indicators. The Council members judged that the recent data – though somewhat softer than expected – signalled stable economic growth in 2017 Q2. The Council members emphasised that economic growth in the coming quarters would be supported by the increased inflow of EU funds, translating into higher public investment. Certain Council members pointed out that a marked increase in public investment, along with a high degree of capacity utilisation, very good financial results of firms and growing domestic and foreign demand, should also boost the recovery in private sector investment activity. The Council members underlined that a more comprehensive assessment of Poland's economic outlook for the coming quarters would be possible after becoming acquainted with NBP's July projection of GDP.

When analysing inflation developments in Poland, it was underlined that annual growth of consumer prices remained moderate. At the same time, it was emphasised that core inflation, albeit gradually increasing, remained low. In addition, certain

Council members drew attention to the higher growth in prices of services, which signals, in their opinion, the rising impact of the improvement in domestic economic conditions on consumer prices.

The Council members assessed that in the coming quarters consumer price inflation would remain moderate. They judged that this would be supported by the fading effects of the earlier increase in global commodity prices, with only a gradual rise in domestic inflationary pressure related to improving economic conditions in Poland. At the same time, it was stressed that wage growth in enterprises, despite the observed wage pressure amid historically low unemployment, recently had not picked up markedly. It was indicated that, as a result, growth of the unit labour costs remained moderate owing also to continued labour productivity growth. However, according to certain Council members, in the coming quarters wage growth could increase due to the possibly lower migration to Poland after the lifting of visas for Ukrainian citizens by the EU, and also a possible decrease in the labour force participation in Poland following the introduction of lower retirement age. Moreover, certain Council members did not rule out that a recovery could translate into stronger growth of core inflation than currently forecasted.

While discussing NBP monetary policy, the Council decided that interest rates should remain unchanged. The Council assessed that, despite favourable economic conditions and good labour market conditions, inflationary pressure remained limited and there were no imbalances building up in the economy. At the same time, available forecasts indicate that inflation will remain moderate in the coming quarters. Therefore, in the Council's assessment, the risk of inflation running persistently above the target in the medium term was limited.

The majority of the Council members assessed that stabilisation of the NBP interest rates was likely in the following quarters, since – given the available information – it had been helping to keep the Polish economy on a sustainable growth path and maintain macroeconomic balance. In addition, certain Council members argued that the stabilisation of interest rates would support the expected recovery in investment.

In the opinion of certain Council members, should data and forecasts incoming in the following quarters suggest stronger inflationary pressure than expected at the time of the meeting, it might be justified to consider an increase in the NBP interest rates.

The Council members concluded that a more comprehensive assessment of the monetary policy outlook would be possible after becoming acquainted with the incoming NBP's inflation and GDP projections.

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 4-5 July 2017

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

Signs of improvement in the global economy are strengthening. In the euro area, data indicate an ongoing recovery driven by rising consumption and investment. In the United States, after a temporary decline, GDP growth probably picked up in 2017 Q2. In turn, in China current data point to a deceleration of economic growth in 2017 Q2.

Despite continuing global recovery, inflation abroad remains moderate, on the back of the fading effects of an earlier increase in commodity prices and stable oil prices, alongside low domestic inflationary pressure in many countries.

The European Central Bank keeps interest rates close to zero, including the deposit rate below zero. The ECB continues its asset purchase programme. The US Federal Reserve gradually tightens its monetary policy by raising interest rates.

In Poland, monthly data on economic activity indicate stable GDP growth in 2017 Q2. Growth is still driven primarily by increasing consumer demand, supported by rising employment and wages, disbursement of benefits and very good consumer sentiment. At the same time, data on industrial production and construction output, as well as leading economic indicators, suggest a continuation of favourable trends in the corporate sector. Together with the expected increase in the absorption of EU funds, this should support recovery in investment in the coming quarters.

The annual growth in prices of consumer goods and services remains at a moderate level, while core inflation, though gradually increasing, is still low. Growth in unit labour costs also remains moderate.

In the Council's opinion, in the following quarters inflation will remain moderate amid fading effects of the past increase in global commodity prices, with only a gradual rise in domestic inflationary pressure stemming from improving domestic economic conditions. In consequence, the risk of inflation running persistently above the target in the medium term is limited.

Such an assessment is supported by the results of the July projection of inflation and GDP, prepared by the Economic Analysis Department under the assumption of unchanged NBP interest rates. In line with the July projection based on the NECMOD model, there is a 50-percent probability that the annual price growth will be in the range of 1.6 – 2.3% in 2017 (against 1.6 – 2.5% in the March 2017 projection), 1.1 – 2.9% in 2018 (compared to 0.9 – 2.9%) and 1.3 – 3.6% in 2019 (compared to 1.2 – 3.5%). The annual GDP growth – according to this projection – will be with a 50-percent probability in the range of 3.4 – 4.7% in 2017 (against 3.4 – 4.0% in the March 2017 projection), 2.5 – 4.5% in 2018 (compared to 2.4 – 4.5%) and 2.3 – 4.3% in 2019 (compared to 2.3 – 4.4%).

The Council confirms its assessment that, given the available data and forecasts, the current level of interest rates is conducive to keeping the Polish economy on the sustainable growth path and maintaining macroeconomic balance.

The Council adopted *Inflation Report – July 2017*.

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 forecasted of economic developments under the assumption of the unchanged NBP interest rates. In terms of the contents, work involved in the creation of this projection was 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,[52] the projection was prepared as the outcome of an iterative process, in the course of which the paths of some variables were adjusted if they diverged from NBP experts' economic intuition based on their knowledge of economic processes. The Management Board of NBP approved the projection to be submitted to the Monetary Policy Council. The projection constitutes one of the inputs to the Monetary Policy Council's decision-making process concerning the NBP interest rates.

The July projection based on the NECMOD model covers the period from 2017 Q2 to 2019 Q4. The starting point for the projection is 2017 Q1.

The cut-off date for the data used in this Projection is 14 June 2017.

[52] Current version of the documentation of the model is available at the NBP website http://www.nbp.pl/homen.aspx?f=/en/publikacje/raport_inflacja/necmod.html

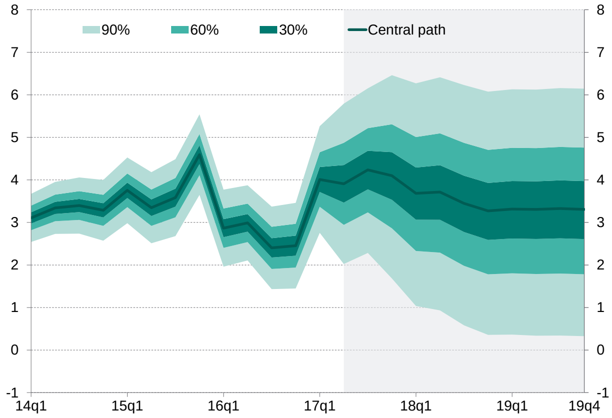
4.1 Summary

In line with the predictions presented in the March projection, the slowdown in economic activity observed in Poland in the second half of 2016, to a large extent related to a decline in the absorption of EU capital funds and the prevailing high levels of uncertainty, proved to be temporary. In 2017 Q1, output growth in Poland accelerated significantly and will probably run at close to 4% y/y until the end of 2017.

This year's GDP growth will continue to be driven mainly by private consumption, with a gradual increase in the investment growth rate. Robust consumption growth will be supported by a further improvement in the labour market as well as benefits under the "Family 500 plus" programme, boosting households' purchasing power and sentiment. The pick-up in gross fixed capital formation, expected in the coming quarters, both in the public and corporate sectors, will be related to the inflow of funds from the EU budget under the new 2014-2020 financial framework, and receding uncertainty about the business environment and the outlook for sales previously reported by non-financial corporations.

In the subsequent years, the outlook for private consumption and investment will remain strong, yet the increase in EU capital transfers will be losing steam, while the payments from the "Family 500 plus" programme will cease to drive up consumption growth. This will have a gradual dampening effect on GDP growth, reducing it to rates close to that of potential output. One of the obstacles to faster GDP growth is the forecasted slowing of output growth in euro area in the years 2018-2019. On the other hand, domestic demand will be propped up by low interest rates and the related low borrowing costs.

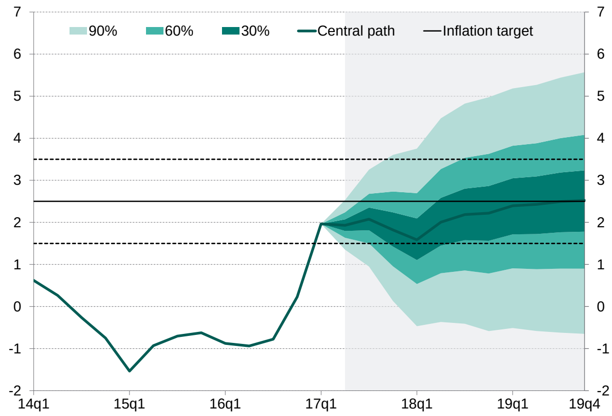
Figure 4.1 GDP (y/y, %)



Source: GUS data, NBP calculations.

The negative output gap will close in the second half of 2017 as consumer and investment spending rises, to reach positive, albeit moderate levels of slightly above 0.5% of the potential output in 2018-2019. The size of the output gap suggests that moderate demand pressure will continue in the coming years and the improved economic climate will gradually boost inflation, albeit to a limited extent. Inflation will also be fuelled by wage growth, which is forecasted to rise faster in the projection horizon than labour productivity growth. The pick-up in wages will be supported by the consistently robust employers' demand for labour, amid a steadily shrinking supply. On the other hand, domestic inflation will continue to be kept in check by the persistently moderate inflation in the euro area, low prices of energy commodities and the expected in projection appreciation of the zloty exchange rate.

Figure 4.2 CPI inflation (y/y, %)



Source: GUS data, NBP calculations.

Taking into account the impact of the above factors exerting upward and downward pressures on consumer price growth, CPI inflation will rise gradually in the projection horizon, reaching the inflation target in 2019. Inflationary pressure is rising somewhat faster than forecasted in the March projection, which results from the upward revision of the domestic economic growth path and the expected scale of improvement in labour market conditions in Poland.

The realisation of the projection scenario will depend to a significant degree on the scale of the recovery in the global economy. The future performance of the US economy, notably the shape of fiscal and monetary policy, which is currently hard to predict, will be the main source of uncertainty for the scenario. Among domestic factors, labour supply is a significant risk factor to the path of inflation and GDP. The record-low levels of unemployment have a beneficial effect on the situation of households. However, a shortage of labour supply may create a barrier preventing enterprises from further expanding the scale of production.

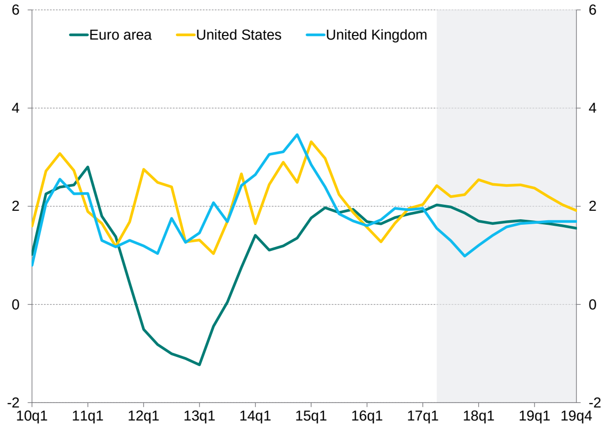
The assessment of the above-mentioned factors points to a nearly symmetrical distribution of risks for CPI inflation and GDP growth, as reflected in relevant fan charts (Figure 4.1, Figure 4.2).

4.2 External environment

The current projection assumes that during the next few years the recovery will continue in the euro area, which is Poland's most important trading partner (Figure 4.3). Current assumptions about the situation in the external environment of the Polish economy also indicate to an improved economic climate in the United States throughout projection horizon, and slightly slower GDP growth in the United Kingdom. Growth in these economies will be supported chiefly by domestic demand, notably consumption, which will benefit from the sustained positive trends in the labour market and the continuation of the accommodative monetary policy stance in the euro area and in the UK (Figure 4.4). On the other hand, sluggish labour productivity growth will continue to hamper global economic growth. In the current projection, the expected GDP growth in the external environment of the Polish economy has been revised upwards, owing to stronger outlook for economic activity in the euro area and in the United States. The key factor of uncertainty for the assumptions of this projection about macroeconomic developments abroad, both in the short and in the medium term, is the future course of the US economic policy.

Throughout the projection horizon, GDP growth in the United States will continue to be fuelled mainly by private consumption, as households' purchasing power will be boosted by wages and

Figure 4.3 GDP abroad (y/y, %)



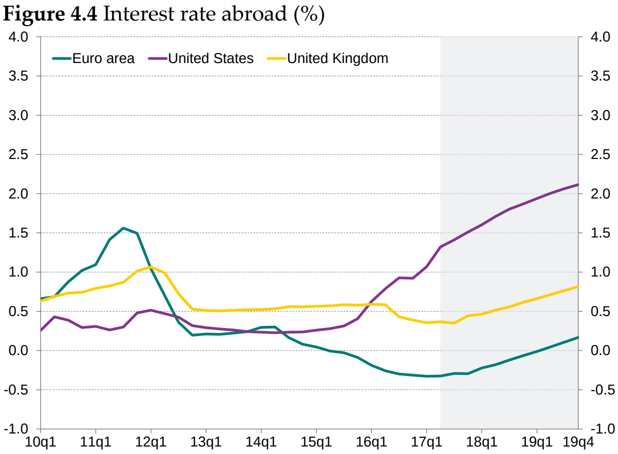
Source: Bloomberg, Eurostat data, NBP calculations.

employment growth. The increase in households' net worth – occurring on the back of the rising value of their financial and non-financial assets – will also add to this trend. Given the strengthening consumption demand, faster global economic growth and the weakening US dollar (Figure 4.5), the currently observed rebound in US corporate profits is expected to continue, which will in turn be conducive to more investment. Robust activity in the extractive sector will also contribute to accelerated accumulation of productive capital in the US economy, despite the anticipated stabilisation of oil prices in the projection horizon at a relatively low levels. As the US companies extracting oil from shale deposits represent high and rising productivity and cost efficiency, they may find production profitable even at lower levels of oil prices than those seen today. The favourable conditions for consumption and investment in the United States also relate to the planned fiscal policy changes, involving a reduction in taxation of households and enterprises, as well as the expected continuation of the relatively mild monetary policy stance of the Fed (only minor interest rate rises are envisaged, Figure 4.4). On the other hand, the US output growth may be held back by sluggish labour productivity growth, against the background of full employment which the US economy is set to achieve.

In the current projection, slightly faster GDP growth in the United States has been assumed than in the previous forecasting round, owing to the inclusion of the tax reform planned by the new administration. The scale of the revision is constrained by the uncertainty about the funding of the proposed changes, as well as about the new regulations in the area of trade and migration policy.

In the euro area, similarly to the United States, private consumption, further supported by stable

Figure 4.4 Interest rate abroad (%)



Source: Bloomberg data, NBP calculations.

growth of households' disposable income, will continue to act as the key component of economic growth. Private consumption growth, as well as the pick-up in housing investment, will also be underpinned by low lending rates. They are related to the accommodative monetary policy of the ECB, which consists in keeping short-term interest rates negative until mid-2019 (Figure 4.4).[53] Despite these favourable conditions, corporate investment growth will remain weak, held back by the uncertainty about the economic policy in the euro area and in the United States, as well as the persistently high corporate debt in some euro area member states. In line with the base scenario, GDP growth in 2018-2019 will decrease somewhat on this year's level (Figure 4.3), which will mainly be due to slower private consumption growth. This results from the fact that the expected pick-up in inflation will constrain growth of households' disposable income in real terms.

The upward revision of the forecast GDP growth in the euro area in comparison with the March projection is related to the inclusion of data readings from recent months, pointing to an increasingly strong recovery in this economy. Another factor working in the same direction is the expected rise in the export activity of enterprises, resulting from the announced changes in the US fiscal policy and the continuation of the global trend of a gradual rebound in international trade, noted at the beginning of 2017.

In the current projection, as in the previous round, a moderate slowdown in GDP growth has been assumed for the United Kingdom in comparison with its 2014-2016 pace (Figure 4.3). This stems from the fact that uncertainty related to the terms of the UK's exit from the European

[53] The forecast of short-term nominal interest rates in the Euro area, included in the projection, was compiled using quotations of interest rate future contracts, thus reflecting the market expectations for the future path of this category.

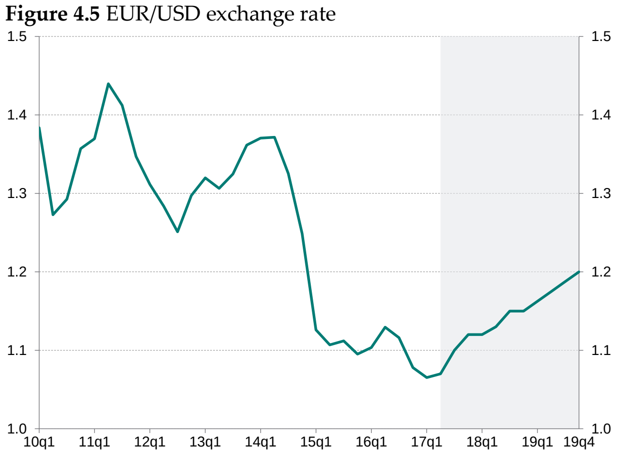
Union may dampen investment demand in this economy, despite the weakening of the British pound, which boosts price competitiveness of the country's exports, and the accommodative monetary policy of the Bank of England (Figure 4.4). At the same time, higher inflation will reduce the purchasing power of households, thus undermining private consumption growth (Figure 4.6).

In the July projection, it is expected that the euro exchange rate will gradually appreciate, despite the faster pace of the Fed's nominal interest rate rises (Figure 4.4, Figure 4.5). This forecast is related to the lower risk of the adverse impact of the political situation on economic conditions in the euro area, with uncertainty lingering with respect to the future reforms of the US administration.

In recent months, prices of energy commodities in global markets have been running slightly below the levels in the March projection. In the current projection round, oil and natural gas prices are expected to stabilise, while coal prices are anticipated to continue on their current downward trend. The aggregate index of energy commodity prices will thus decline gradually in the coming years, running below the level adopted in the previous projection (Figure 4.7).

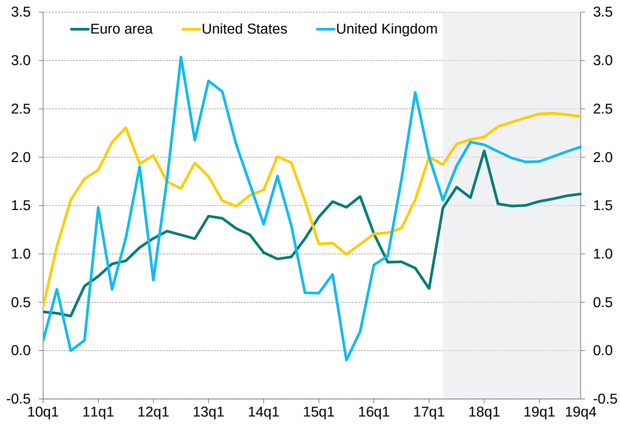
Given the moderate and fairly stable global demand growth, prices of oil in the global markets will be determined primarily by supply-side factors. On the one hand, the limits on oil output imposed by the OPEC countries and some non-member ones at the beginning of the year were extended in May. On the other hand, due to the progress in extraction technology, reducing the cost of obtaining oil from unconventional sources, the increase in production in the United States will most likely continue. In light of the above developments, oil prices are anticipated to stabilise at low levels in the projection horizon.

Figure 4.5 EUR/USD exchange rate



Source: Bloomberg data, NBP calculations.

Figure 4.6 Inflation abroad (y/y, %)



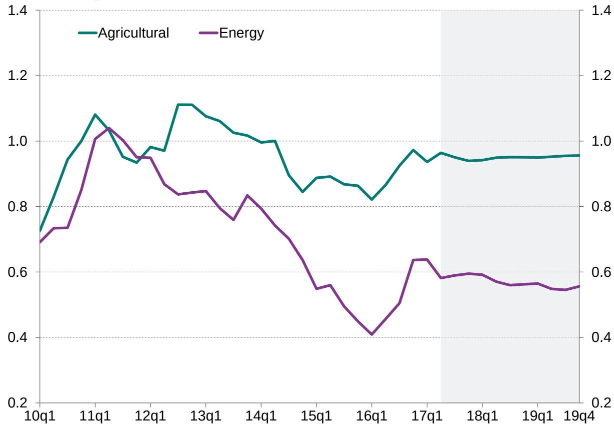
Source: Bloomberg, Eurostat data, NBP calculations.
Inflation as measured by the value added deflator.

The assumed path of natural gas prices is similar, which results from the correlation in the prices' fluctuations of both commodities. The forecast of coal prices assumed in this projection points, in turn, to their gradual decline. This is due to the decreasing demand for this commodity as a result of the developed economies' climate policies that reduce the consumption of hard coal as a source of energy. This will probably be coupled with an greater scale and reduced cost of obtaining energy from renewable sources.

The value of the index of agricultural commodity prices rose last year, mostly on the back of the situation in the market of food products of animal origin (meat and dairy products). In particular, the decline in the headcount of swine and cattle in the European Union was confronted with rising demand, mainly from China. The impact of those factors will probably wear off in the projection horizon, and the prices of agricultural commodities will stabilise at current levels, amid moderate demand from emerging market economies (Figure 4.7).

The current forecast assumes only a moderate rise in inflation in the external environment of Poland (Figure 4.6). In the United States, inflation will be fuelled by the situation in the labour market. Recent estimates show that the US economy will reach full employment by the end of this year. Further growth in demand for labour under conditions of limited supply will translate into rising inflationary pressures, as the gradual acceleration of wage growth will be accompanied by a limited increase in labour productivity. In the euro area, on the other hand, prices will slightly accelerate in the next few quarters, driven by rising corporate profit margins. In the longer term, inflation will be supported, as in the US economy, by rising cost pressures related to improving labour market conditions. However, due to the relatively larger scale of underutilisation of the labour force and the

Figure 4.7 Index of agricultural prices (EUR, 2011=1) and index of energy prices (USD, 2011=1) in the global markets



Source: Bloomberg data, NBP calculations.

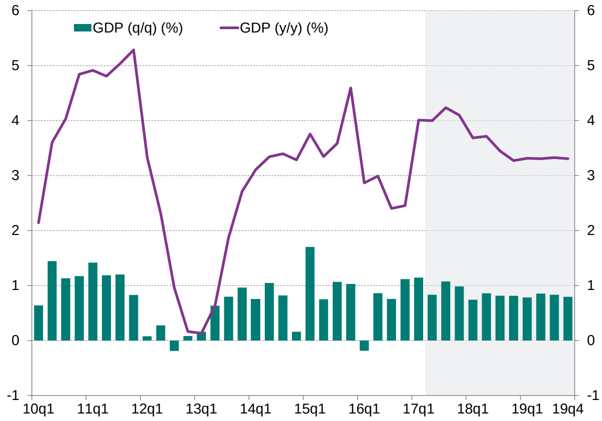
expected slower closing of the negative output gap[54], the euro area inflation in 2017-2019 will be lower than in the United States (Figure 4.6). A pick-up in price growth in the United Kingdom this year is in turn linked to the weakening of the British pound following the decision to leave the European Union.

Apart from the above-mentioned factors influencing prices in the external environment of the Polish economy, inflation abroad will, in the projection horizon, be curbed by the low prices of energy commodities in the global markets (Figure 4.7).

4.3 Polish economy in 2017-2019

In 2017 Q1 GDP growth in Poland picked up significantly to 4.0% y/y, and in line with the current projection will remain at a similar level until the end of 2017 (Figure 4.8). This will be driven by a rapid growth in private consumption supported by the continued recovery in the labour market and the positive effects of the implementation of the "Family 500 plus" programme observed since the last year (Figure 4.9). Additionally, in the second half of 2017 the robust economic growth will be the result of a rebound in gross fixed capital formation of both the public and the private sector, which is due to the inflow of funds from the EU budget under the new financial framework 2014-2020.

Figure 4.8 Economic growth



Source: GUS data, NBP calculations.

In the subsequent years, the outlook for growth in investment and consumption will remain favourable, yet capital transfers from the EU will rise at a slower pace, and the funds paid under the "Family 500 plus" scheme will cease to support private consumption growth. This will

[54] The estimated size of the output gap is strongly differentiated for the euro area countries – from a highly negative output gap in countries such as Greece, Spain, and Italy, to a positive ones, e.g. in Germany and Ireland.

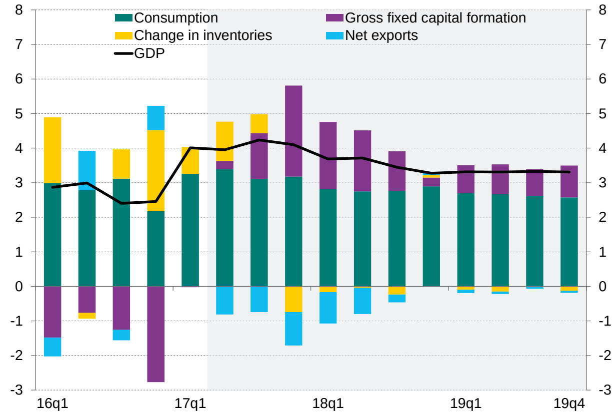
result in gradual slowdown in economic growth to a level close to the potential output growth. Such a scenario will be supported by the forecasts of a merely moderate recovery in the euro area.

Along with gradually rising demand and cost pressure, core inflation will also increase over the projection horizon (Figure 4.10). The currently negative output gap will close along with an increase in consumption and investment spending, and increasing problems of enterprises related to shrinking labour supply will result in wage growth outpacing labour productivity growth. Domestic inflation will be curbed by persistently low inflation in the euro area, low commodity prices and the anticipated appreciation of the nominal effective zloty exchange rate. National currency will appreciate especially against the US dollar, which is the effect of the forecasted weakening of the dollar against the euro. In 2017, as a result of the base effect of low energy commodity prices in 2016 and unfavourable weather conditions, both energy price inflation and food price inflation will run at elevated levels. These factors are temporary, and thus with their fading away in the subsequent years, growth in food and energy prices will decline despite the inflationary pressure of the recovery in domestic economy (Figure 4.10).

Domestic demand

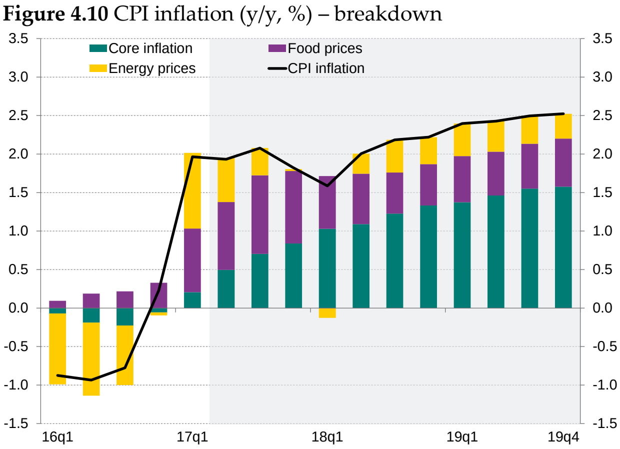
Since the second half of 2016 household consumption spending has been on the rise at a level exceeding 4% in year-on-year terms, which has been made possible by favourable financial condition of households (Figure 4.11). Household disposable income is increasing on account of the improving situation in the labour market and as a result of the implementation of the "Family 500 plus" programme since April 2016. Due to intertemporal smoothing of the consumption path, additional child benefits lead to growing

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



Source: GUS data, NBP calculations.

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



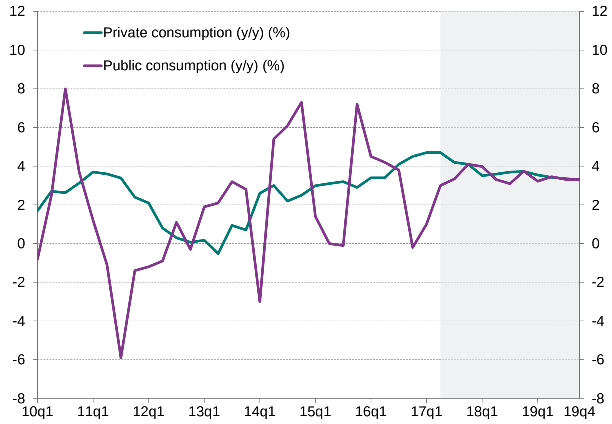
Source: GUS data, NBP calculations.

household expenditure with a certain lag, boosting consumption growth not only in 2016 but also in 2017.

In subsequent years, developments in the labour market will have a positive impact on private consumption growth. The unemployment rate is expected to continue to decline and wage growth is expected to pick up. At the same time, the purchasing power of households will be limited by rising inflation. The robust sentiment of consumers will also have a positive impact on their propensity to consume. This is corroborated by GUS surveys, which, for the first time in the history of the survey, pointed out that the leading indicator of consumer confidence has entered the positive territory.[55] This means that the number of respondents in the survey with a positive outlook on the future exceeded the number of pessimists. Consumers' declarations point to positive trends in making major purchases as well as diminishing concerns about Poland's future economic conditions or risk of unemployment. Over the projection horizon growth in consumption will also be supported by the low level of interest rates, positively affecting the costs of financing consumption spending with credit. Due to the above factors, household consumption will be on a steady rise in the coming years, yet the increase will be less pronounced than in 2017, when the impact of the "Family 500 plus" programme boost consumption growth.

The decline in investment in 2016, as in other countries of the region,[56] was caused by the prolonged transition period between EU funds utilisation under the previous financial framework (2007-2013) and under the new financial framework (2014-2020) (Figure 4.12). The decline in EU funds absorption mostly affected public investment, but it had also significant

Figure 4.11 Private and public consumption



Source: GUS data, NBP calculations.

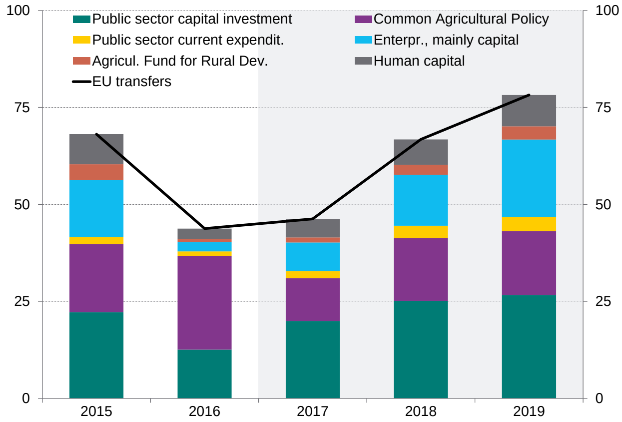
[55] *Koniunktura konsumencka. Maj 2017 r.*, GUS, May 2017 (available in Polish only).

[56] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

impact on corporate investment, including investment of state-owned enterprises and local government units, and was concentrated mainly in the power sector, transport and water sector. It is expected that a further increase in the number of investment projects of enterprises co-financed by the EU budget will be seen as early as 2017, yet the inflow of EU funds will pick up significantly in 2018-2019 (Figure 4.12). Over the projection horizon, gross fixed capital formation of enterprises financed with domestic funds will also rebound (Figure 4.13). NBP surveys indicate a slight improvement in investor sentiment and a planned increase in fixed capital formation.[57] The impact of the factor that negatively affected the investment climate in 2016 when firms reported increased uncertainty about their business environment and sales prospects is also fading.[58] The increasing need to rebuild the fixed asset base is indicated by the currently low investment rate, which is accompanied by the highest level of capacity utilisation in the corporate sector since 2008, both according to NBP and GUS surveys. The determinants of sources of investment financing are also positive. The persistently robust financial standing of companies has a positive impact on the possibility of using own funds to finance growing investment expenditures. At the same time, the historically low level of interest rates helps to finance fixed asset purchases with loans or financial lease.

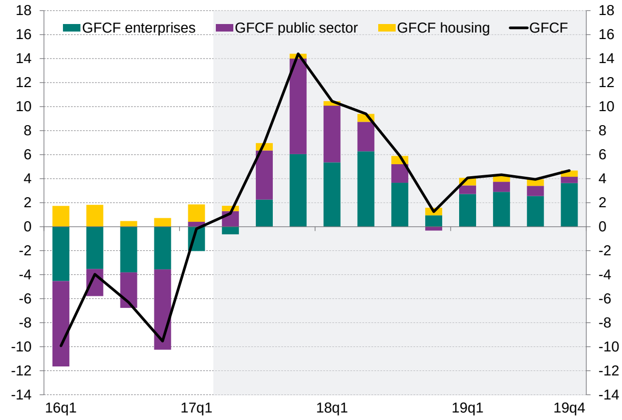
Public sector investment is much more related to the absorption of EU funds than corporate investment. A significant increase in public sector investment expenditure will be seen in 2017-2018, when we expect a pronounced rise in the use of transfers assigned to general government capital expenditure under the new financial perspective (Figure 4.12). This is evidenced by the data from

Figure 4.12 Expenditure financed with EU funds (in PLN billion) – breakdown



Source: NBP calculations.

Figure 4.13 Gross fixed capital formation (y/y, %) – breakdown



Source: GUS data, NBP calculations.

[57] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

[58] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

the Ministry of Economic Development[59] on agreements signed for the use of EU funds under individual operating programmes, and a significant rise in capital expenditure of local government units assumed for 2017 in their long-term financial plans in the budget report for 2017 Q1.[60]

In the projection horizon, the favourable financial situation of households will also boost residential investment spending, particularly as the largest part of home purchase costs is financed with own funds.[61] Consumers' optimistic expectations increase their propensity to incur long-term debt, which is confirmed by the GUS survey of economic conditions[62] and the demand for mortgage loans.[63] Growing household income will increase households' borrowing capacity, which combined with low interest rate level will facilitate the financing of residential investment. On the other hand, credit availability may be curbed by the expected continued tightening of the criteria for granting mortgage loans[64] and the expiry after 2018 of the "Flat for the Young" government scheme, all the more so as half of the quota for 2018 has already been exhausted.[65] Thus, this scheme will not help as much as in the previous years to finance buyers' own contribution in home purchase. As a result of these changes, housing investment, although still high, will decline as compared to the years 2015-2016.

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[59] *Lista projektów realizowanych z funduszy europejskich w Polsce w latach 2014-2020*, Ministerstwo Rozwoju, https://www.funduszeeuropejskie.gov.pl/strony/o-funduszach/projekty/lista-projektow/lista-projektow-realizowanych-z-funduszy-europejskich-w-polsce-w-latach-2014-2020/ (available in Polish only).

[60] http://www.mf.gov.pl/ministerstwo-finansow/dzialalnosc/finanse-publiczne/budzety-jednostek-samorzadu-terytorialnego/sprawozdania-budzetowe (available in Polish only).

[61] Data for the seven largest cities in Poland show that 67% of the value of purchased housing is paid with own funds. *Information on home prices and the situation in the residential and commercial real estate market in Poland in 2017 Q1,* NBP, June 2017.

[62] *Koniunktura konsumencka. Maj 2017 r.*, GUS, May 2017 (available in Polish only).

[63] *Senior loan officer opinion survey on bank lending practices and credit conditions, 2017 Q2,* NBP, April 2017.

[64] *Financial stability report,* NBP, June 2017.

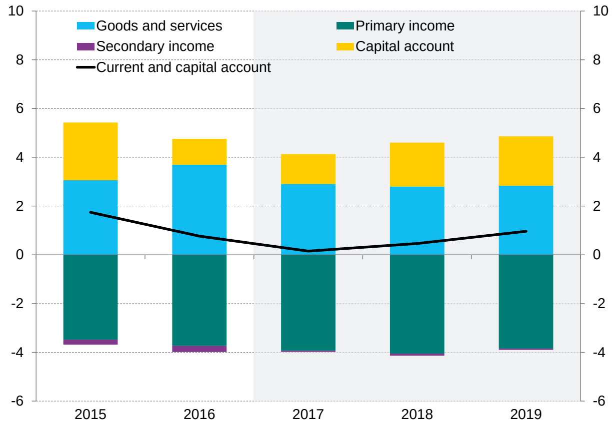
[65] http://mib.gov.pl/2-InformacjeoMdMnastronachBGK.htm (available in Polish only).

Public consumption growth in 2017 will run a little below the expected GDP growth. The assumption of moderate public consumption growth adopted in the projection results from the provisions of the draft 2017 Budget Act, which envisages relatively slow growth in current expenditure of budgetary units and in spending on targeted subsidies earmarked to finance current expenditure of other units of the sector. Due to the absence of detailed information on further measures aimed at limiting expenditure of the general government sector in the following years, a neutral fiscal policy is assumed in the long-term projection horizon, which means a slight acceleration in public consumption growth in 2018-2019.

Current and capital account balance

In 2016 the current and capital account balance decreased, yet remained positive (0.8% of GDP). This was driven by a record high surplus in the trade in goods and services (Figure 4.14) resulting from favourable structural changes in the Polish economy connected with, among other things, a considerable inflow of foreign direct investment observed for many years. As a result of those changes, the quality of Polish products increased which, coupled with persistently high price and cost competitiveness of the Polish economy, translates into rising value of Polish exports. This is corroborated by the high profitability of exporters, which significantly outpaces the performance of companies present in the domestic market only. The high price profitability of the sales of Polish goods and services abroad is also indicated by a very small share of unprofitable activity reported by exporters. [66] The high surplus in the trade in goods and services in 2016 was also driven by favourable terms of trade (Figure 4.15) due to low prices of imported energy commodities. The balance of foreign trade in 2016

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



Source: GUS data, NBP calculations.

[66] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

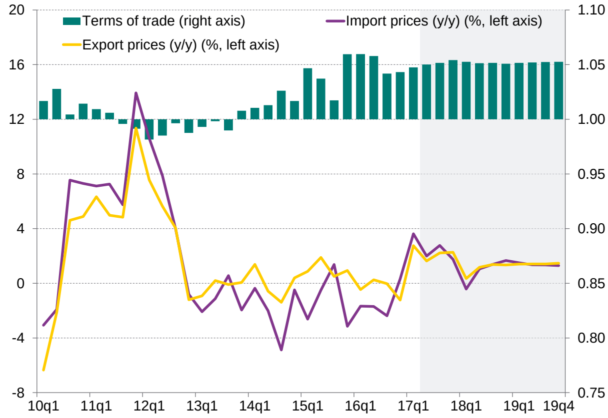
was also boosted by declining investment demand in the Polish economy impacting imports, which was coupled with a revival in EU demand for Polish exports.

At the same time, the surplus in the current and capital account in 2016 was limited by a negative balance of the primary income from direct investment and – to a lesser extent – portfolio investment. The higher income of foreign investors as compared to that of Polish investors resulted both from the higher value of invested capital and its higher rate of return.

In 2017, following a decrease in the surplus on the trade account, the balance of the current and capital account is expected to drop to close to 0.1% of GDP. The lower trade surplus is in turn the effect of relatively high spending on imported goods and services (Figure 4.16), which is related to stronger domestic demand amid higher prices of imported commodities. The rising income of immigrants performing short-term work in Poland (mainly Ukrainians), recorded in the primary income account as expenditure, will have the same effect. The scale of deterioration in the current and capital account will be mitigated by a higher inflow of EU funds assigned for investment than in the previous quarters, related to the implementation of projects under the new financial EU framework 2014-2020 (leading to an increase in the surplus on the capital account).

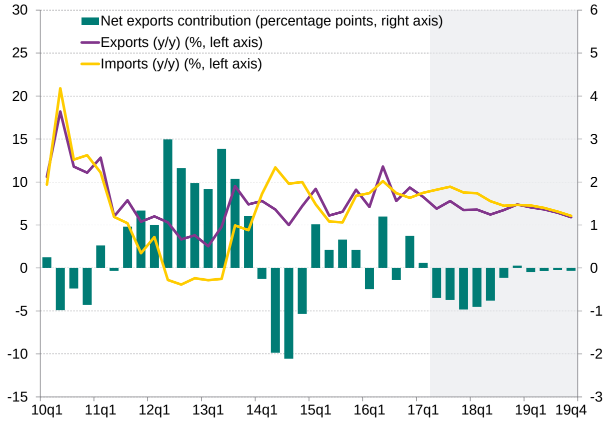
In the following years, a further inflow of these funds will be observed. It will be accompanied by an increased inflow of other EU funds recorded in the current account. Considering the concurrent slowdown in domestic demand which will halt import growth and the downward trend in the surplus in the trade in goods and services, the years 2018-2019 are expected to bring a further improvement in the ratio of the current and capital account balance to GDP.

Figure 4.15 Export and import prices



Source: GUS data, NBP calculations.

Figure 4.16 Foreign trade



Source: GUS data, NBP calculations.

Potential output

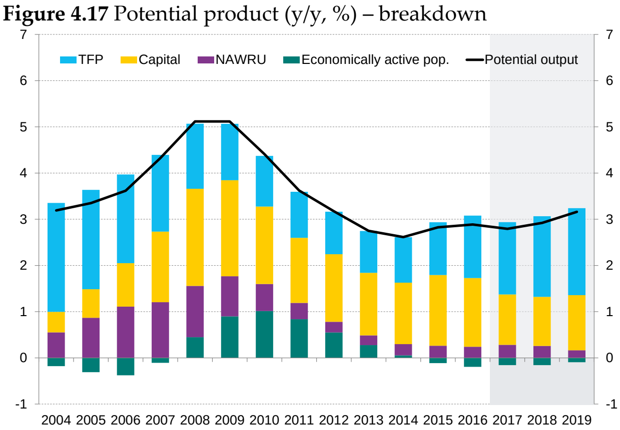
Potential output growth will accelerate in the projection horizon from 2.8% in 2017 to 3.2% in 2019. The level of Poland's economic potential in the coming years will be positively affected by the following factors: growing total factor productivity (TFP), rising productive capital accumulation and the declining equilibrium unemployment rate NAWRU. The shrinking labour force will have an opposite effect. Despite increase, potential output growth will run at only a moderate pace (Figure 4.17).

The real convergence process of the Polish economy in the last twenty years has largely been effected through the increase in total factor productivity (TFP). In this period Poland has seen one of the largest contributions of TFP to GDP growth among EU countries. Although TFP growth rate is expected to increase in Poland in the coming years, it will not return in the projection horizon to the level observed before the global financial crisis. This is so because the possibilities of increasing TFP associated with further improvement in their allocation, as well as the import of technology as part of foreign direct investment, are gradually coming to an end.[67]

Potential output growth also comes from the increasing level of productive capital. However, due to the decline in the investment rate as a result of a significant decrease in investment spending of the public and corporate sectors in 2016, its contribution to potential growth over the projection horizon is smaller than in the previous years.

Potential output growth is also boosted by the steady decline in the NAWRU equilibrium unemployment rate, which will continue until the end of 2019 (Figure 4.18). The NAWRU rate is decreasing due to structural changes in the labour

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



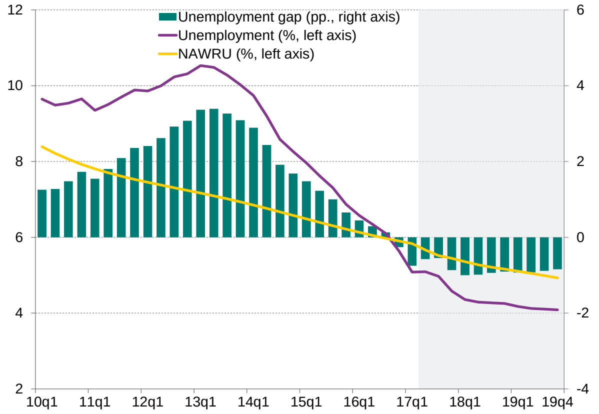
Source: NBP calculations.

[67] *Potencjał innowacyjny gospodarki: uwarunkowania, determinanty, perspektywy*, NBP, May 2016 (available in Polish only).

market, which are reflected in the lasting and significant lowering of the current unemployment rate, including a decline in the number of permanently unemployed. In recent years, a relatively sharper decline in the unemployment rate was observed in the younger cohorts, consisting of individuals without any work experience, as well as persons with poor educational background. One of the factors contributing to this situation is the tendency observed in 2014-2016. This period of strong labour demand was marked by a sharp rise in demand for less qualified labour, translating into employees' skills being matched more easily with employer's needs.[68] Labour flexibility in this segment of the labour market is also increased by the inflow of immigrants, mainly from Ukraine, performing work requiring primarily lower qualifications.[69] However, it is expected that as immigrants are given more specialized positions requiring higher qualifications, as has been the case with migration waves in Europe in the past decades, in the future they may affect the functioning of other segments of the labour market.

At the same time, the observed increase in the time needed to find a new employee results from the lower unemployment rate, and not from a deterioration in the efficiency of the labour market. This is evidenced by the steadily rising number of vacancies and proportional decline in number of unemployed (and thus the absence of signs of a shift in the so-called Beveridge curve).[70] The positive developments in the labour market benefit from the persistently low import prices of intermediate goods (despite the recently observed rise in commodity prices), which increase enterprises' capacity to hire new employees without much damage to their margins.

Figure 4.18 Unemployment



Source: GUS data, NBP calculations.

[68] *Kwartalny raport o rynku pracy – IV kw. 2015 r.*, NBP, March 2016 (available in Polish only).

[69] *Obywatele Ukrainy pracujący w Polsce – raport z badania*, NBP, 2016 (available in Polish only).

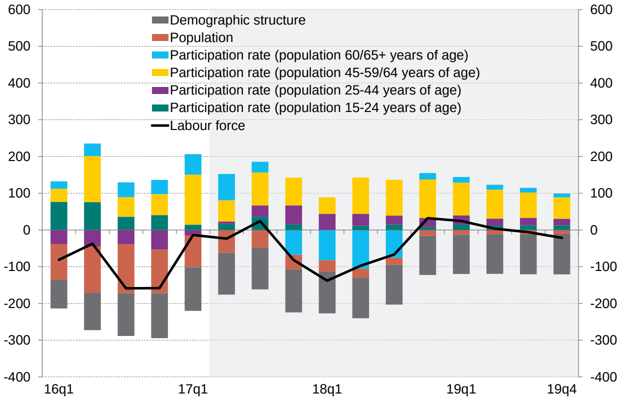
[70] *Kwartalny raport o rynku pracy – I kw. 2017 r.*, NBP, July 2017 (available in Polish only).

Taking into account the total impact of the above described factors, the downward trend in the NAWRU unemployment rate is expected to continue over the projection horizon. Yet, the decline in the NAWRU rate will be smaller than that in the LFS unemployment rate. Besides the greater inertia of the former category, this is also a result of the rise in the minimum wage in 2017 and 2018, which slightly boosted the natural unemployment rate.

The rise in the potential output in the projection horizon is limited by the declining labour force (Figure 4.19). The decline is due to the impact of the sustained downward demographic trends observed in Poland, i.e. the decrease in the size of the cohorts entering the labour market and the increased share of people at post-productive age.[71] At the same time, the labour participation rate in the latter of the two groups will probably decrease following the lowering of the statutory retirement age as of 1 October 2017. The possible negative impact of the above conditions on labour supply will be partly mitigated by the favourable labour market conditions encouraging labour participation. This will especially affect people in the pre-retirement age (50-59/64), whose participation rate is still significantly lower than in advanced economies of Western Europe. The decline in labour supply will also be mitigated by the presence of immigrants from Ukraine on the domestic labour market.

The impact of the "Family 500 plus" programme on the labour market remains difficult to assess. On the one hand, there are concerns about a possible decline in economic activity of some currently active persons as a result of the increased family benefits. Higher transfers raise the opportunity cost of taking up employment, in

Figure 4.19 Change in economically active population (thous., y/y)



Source: GUS data, NBP calculations.

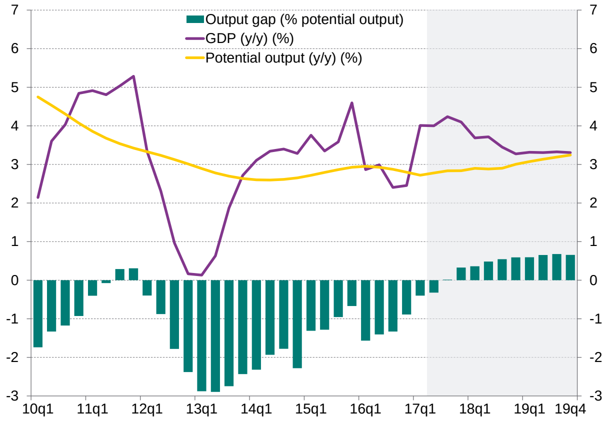
[71] The NECMOD model distinguishes four age groups. The term "persons at post-productive age" refers to the oldest group, comprising women aged 60 or more and men older than 64. The boundaries for this age group do not follow the changes in the statutory retirement age.

consequence discouraging lower income persons from seeking and undertaking employment. Yet, the scale of adjustments to the increased level of family benefits still remains limited, as suggested by the data released until 2017 Q1, which do not point to any changes in the trends of labour activity of persons aged 25-44.[72] On the other hand, the continued upward trend in employment of all age groups is supported by higher consumer demand, which is boosted by transfers from the budget.

Output gap

In the short-term projection horizon, the currently negative output gap narrows, and in 2018-2019 stays in positive territory, slightly exceeding 0.5% of the potential output (Figure 4.20). Such a development of the output gap results from the fiscal stimulus generated by the inflow of benefits under the "Family 500 plus" programme and increased investment in the economy, including investment financed by EU funds. The rise in production capacity will be observed with a lagged effect as compared to growth in demand in the economy. Hence, potential output growth will run below GDP growth throughout the projection horizon. At the same time, however, the small output gap suggests that, on average, demand pressure in the economy will be only moderate in the coming years, and consequently, the improving economic activity will gradually affect the inflation rate, although only to a limited extent.

Figure 4.20 Output gap



Source: GUS data, NBP calculations.

Labour market

After a relatively high rise in the number of the employed persons in 2017 Q1 (see Chapter 2.4 *Labour market*) employment growth is expected to dissipate over the projection horizon (Figure

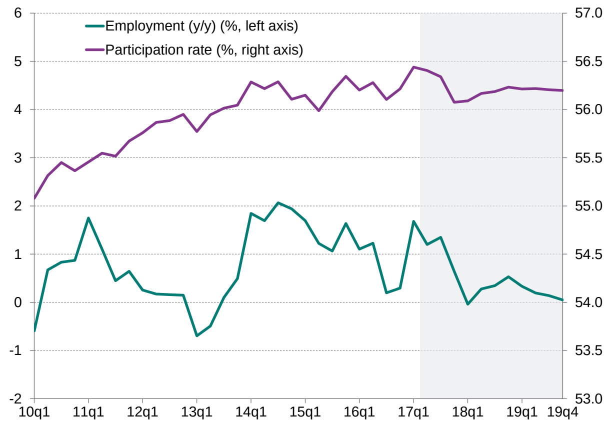
[72] NBP research indicate, i.a., that the benefits under the "Family 500 plus" program lower the reservation wages of non-working family members, who are to receive them (see *Kwartalny raport o rynku pracy – IV kw. 2017 r.*, NBP, March 2017 - available in Polish only).

4.12). Although the determinants of demand for labour remain favourable, which is suggested, among other things, by forecasts of the employment level reaching the record high since 2007 as declared by the enterprises survey by NBP[73], given the record low unemployment rate, the shrinking labour supply is increasingly curbing growth of the number of the employed. This is reflected in increasing problems with finding suitable employees (despite the mitigating effect on the labour market of the inflow of immigrants from Ukraine) reported by every third enterprise as a barrier to development.[74] Another sign of this trend is the growing number of vacancies.

Demand and supply in the labour market will be matched primarily by increased labour intensity. This will be supported by the expected acceleration in the growth of total factor productivity (TFP) and growth in production capital leading to capital deepening.

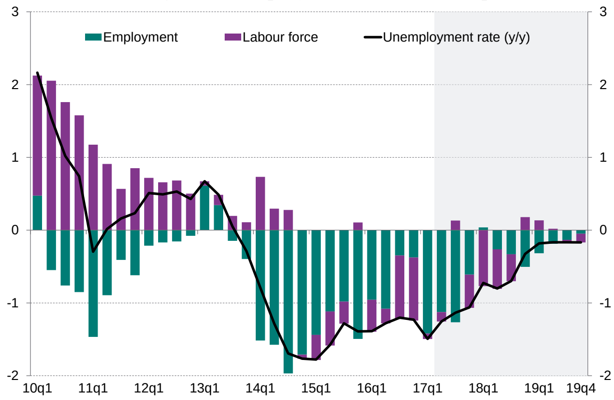
The LFS unemployment rate, which is already at the lowest level on record (Figure 4.18), will fall further in the projection horizon. This decline will be driven by the growing number of the employed persons and shrinking labour force resources (Figure 4.22). The falling unemployment, large number of vacancies and the diminishing probability of losing a job will result in accelerated wage growth, as indicated in company forecasts by the higher percentage of employees covered by wage rises than the long-term average (Figure 4.23).[75] Also increasing inflation and the rise in the minimum wage as of the beginning of 2017 and 2018 will add to the wage growth. Other factors affecting the NAWRU equilibrium unemployment rate, leading to its decline over the projection horizon, will limit the

Figure 4.21 Employment and labour force participation



Source: GUS data, NBP calculations.

Figure 4.22 Change in unemployment rate - decomposition



Source: GUS data, NBP calculations.

[73] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

[74] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

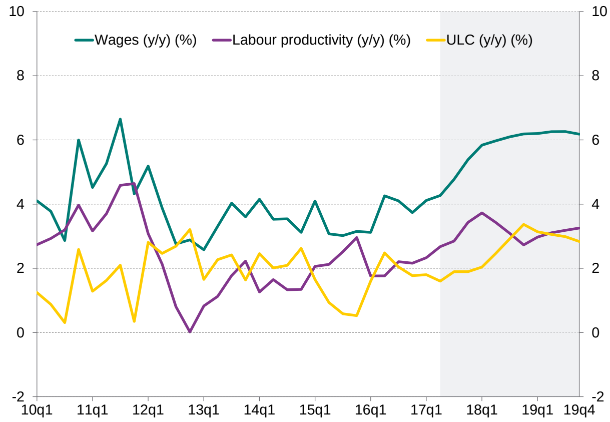
[75] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector*, NBP, April 2017.

growing wage pressure in the economy (Figure 4.18). This concerns in particular the presence of immigrants from Ukraine on the domestic labour market, who have less possibility to exert pressure on the employer.[76] With wage growth outpacing labour productivity growth, unit labour cost dynamics will gradually increase over the projection horizon, reaching 3.0% in 2019.

Exchange rate

With improving sentiment in the global financial markets and the accompanying decline in risk aversion observed since the beginning of 2017, the zloty continued to appreciate against the currencies of Poland's main trading partners (see Chapter 1.5 *Global financial markets*). At the same time, the exchange rate continues to run significantly below the level resulting from fundamental factors. This is suggested, among other things, by a marked surplus in the balance of the current and capital account observed in the last few quarters. In the projection horizon, the effective exchange rate of the zloty is expected to strengthen slightly and gradually approach the equilibrium exchange rate. The appreciation of the exchange rate will be largely impacted by the growing inflow of EU transfers and the high trade surplus, conducive to the maintenance of the positive balance of the current and capital account. The expected strengthening of the zloty is also suggested by the gradual process of real convergence of the Polish economy reflected in the higher growth rate of the domestic potential output as compared with potential GDP growth in countries being Poland’s main trading partners. The declining interest rate disparity, resulting from the absence of changes in NBP’s monetary policy parameters assumed in the projection, and gradual, albeit limited, interest rate increases in the advanced economies, will work in the opposite direction. At the same time, following

Figure 4.23 Unit labour costs



Source: GUS data, NBP calculations.

[76] *NBP Quick Monitoring Survey. Economic climate in the enterprise sector,* NBP, April 2017.

the depreciation of the US dollar against the euro, as assumed in the projection, the Polish zloty will appreciate more against the US currency than against the common European currency.

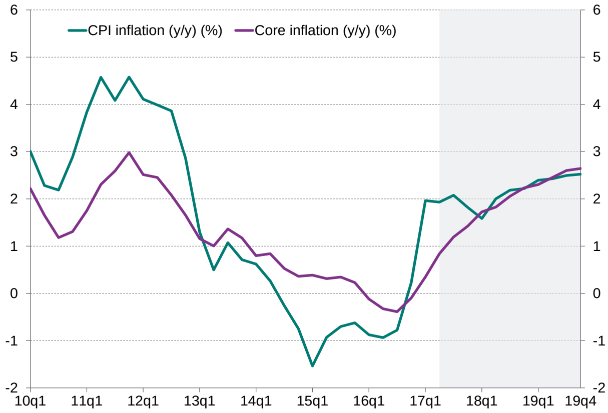
Components of CPI inflation

The path of CPI inflation in the current projection is determined by a gradual rise in core inflation (Figure 4.24) and the fading of temporary factors boosting energy and food price inflation in 2017.

The increase in core inflation over the projection horizon (to 2.5% y/y in 2019) will be driven by rising cost and demand pressures (Figure 4.24). Problems of enterprises with insufficient labour supply will translate into wage growth exceeding labour productivity growth, boosting unit labour costs over the projection horizon (Figure 4.23). Higher core inflation will also be the result of demand pressure, which will be on the rise in the years 2017-2019 (although the sensitivity of price growth to changes in the domestic economic conditions has decreased in the recent years).[77] Along with increasing consumer and investment spending, the currently negative output gap is expected to close in the second half of 2017 and enter the positive territory, slightly in excess of 0.5% of the potential output in the subsequent years.

The impact of domestic factors on price growth will be mitigated by the low growth rate of import prices over the projection horizon, resulting from limited inflation in the euro area and the appreciation of the zloty. Price growth in the corporate sector will also be curbed by the stabilization of global energy commodity prices combined with the forecast depreciation of the dollar, the currency in which commodities are quoted.

Figure 4.24 CPI and core inflation



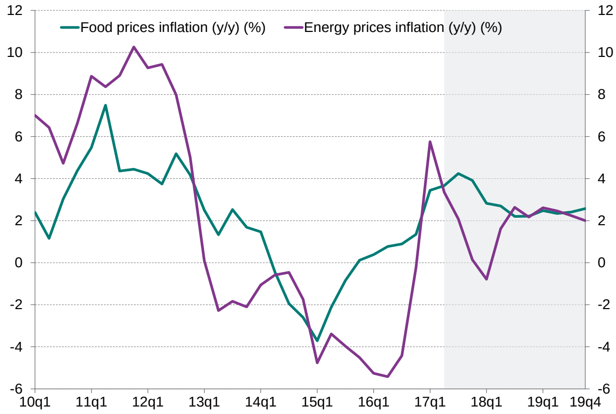
Source: GUS data, NBP calculations.

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

In the first half of 2017, energy price inflation was at an elevated level due to the base effect of low prices of energy commodities in the global markets in 2016. This effect will fade away, and amid the stabilisation of energy prices at a low level in the global markets and the gradual strengthening of the zloty exchange rate, especially against the US dollar, the price of energy will decrease in the projection horizon (Figure 4.25). Energy price inflation at the beginning of 2018 will also be curbed by the expected decline in natural gas prices for households due to the likely closing of PGNiG's negotiations with Gazprom in the second half of 2017.

Food price inflation, which in the first half of 2017 significantly accelerated on account of rising wholesale prices of vegetables and agricultural commodities in the world markets (see Chapter 2.1 *Consumer prices*), will continue to run at an elevated level in the second half of the year (Figure 4.25). This will be supported by the increase in fruit prices expected over the projection horizon as a result of reduced fruit supply due to unfavourable weather conditions in April and May 2017. The rise in food prices will also be backed by high demand from households. In 2018-2019, with the stabilization of the global agricultural commodity price index and the appreciation of the zloty, inflation of food prices is expected to slow down. This will also be supported by strong competition in this market and the relatively low energy prices affecting agricultural production costs.

Figure 4.25 Food and energy price inflation



Source: GUS data, NBP calculations.

4.4 Current versus previous projection

In the current forecasting round as compared to the March projection, GDP growth was revised upwards throughout the projection horizon (Table 4.1, Figure 4.26). The CPI inflation forecast has been slightly revised downwards in 2017 and raised in 2019 (Table 4.1, Figure 4.28).

Economic growth will be supported by higher economic activity in Poland's main trading partners than assumed in the previous forecasting round and by lower prices of energy commodities in the global markets.

CPI inflation will be pushed up by higher demand and cost pressures, while during the first quarters of the projection, falling energy prices in the global markets will have the strongest impact.

Table 4.1 July projection versus March projection

	2017	2018	2019
GDP (y/y, %)			
July 2017	4.0	3.5	3.3
March 2017	3.7	3.3	3.2
CPI inflation (y/y, %)			
July 2017	1.9	2.0	2.5
March 2017	2.0	2.0	2.3

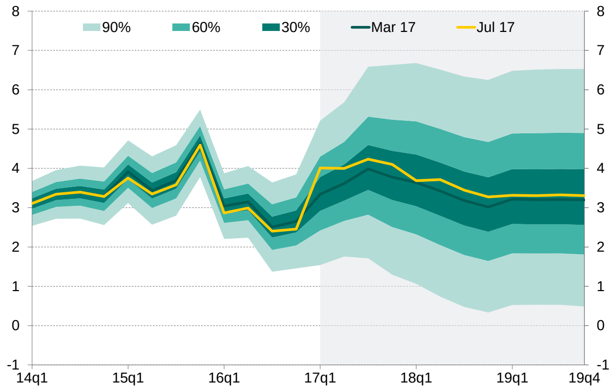
Source: NBP calculations.

GDP

Information released after the closure of the March projection has led to an increase in the expected GDP growth by 0.3 percentage points in 2017, and by 0.2 and 0.1 percentage points in 2018 and 2019 respectively (Figure 4.27).

The upward revision in GDP growth was driven by an increase in economic growth forecasts in Poland's main trading partners, especially in Germany, and thus raising forecasts of demand for Polish exports. The improvement of the economic conditions abroad and more optimistic sentiment of entrepreneurs and households will lead to cyclical adjustment of inventories, investments and individual consumption, amid higher wage and employment growth than assumed in the March projection and a stronger decline in the unemployment rate. At the same time, due to a higher forecast revision of domestic demand than that of GDP abroad and a stronger zloty exchange rate, limiting the price

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



Source: NBP calculations.

competitiveness of domestic production, the contribution of net exports to GDP will be lower than in the March projection.

Lower prices of energy commodities, especially oil prices, will also be a factor behind faster GDP growth. Their currently low level is due to the relatively high export of this commodity from OPEC countries despite cuts in oil production and the strong upward trend of oil production in the United States.

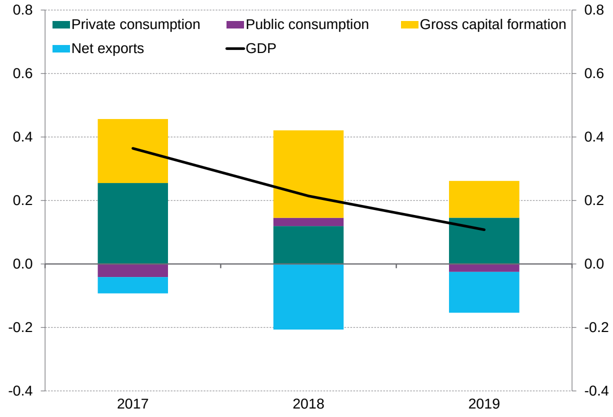
The revised forecasts of the GDP path results from the inclusion of data for 2017 Q1. GDP growth in Q1 stood at 4.0% y/y, amid the highest consumption growth reading since 2008 (this category has the biggest contribution in correction of GDP forecast for 2017). Both categories clearly outstripped the expectations of the March projection. Faster GDP growth in 2017 will also be supported by higher-than-expected growth in inventories in 2017Q1.

Inflation

Information released after the completion the March projection led to a 0.1 percentage point decrease in CPI inflation forecasts in 2017 and a 0.2 percentage point rise in its forecasts in 2019 (Figure 4.29). The lower path of energy price inflation contributed to the downward revision of the expected CPI inflation in 2017 (it is mitigated by a somewhat faster rise in food prices). The higher core inflation path led to an upward revision of CPI inflation over the longer-term projection horizon.

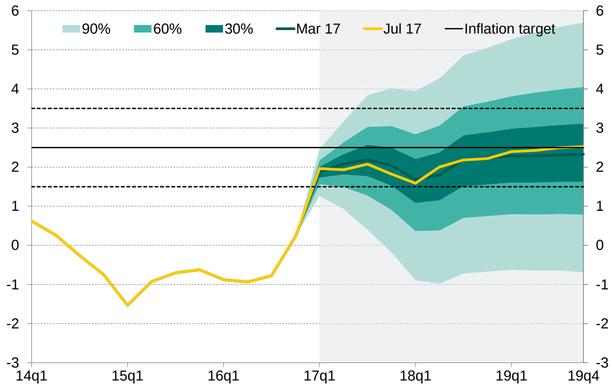
Lower energy price growth as compared to the March projection may be attributed to a fall in energy prices in the world markets, in particular those of oil affecting prices of fuel. This drop is also contributed to a stronger decline in the natural gas bill for households as of April 2017

Figure 4.27 Decomposition of deviations between July and March projection: GDP growth (percentage points)[78]



Source: NBP calculations.

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



Source: GUS data, NBP calculations.

[78] The data presented in the chart may vary slightly from those in Table 4.1, due to rounding of numbers to one decimal place.

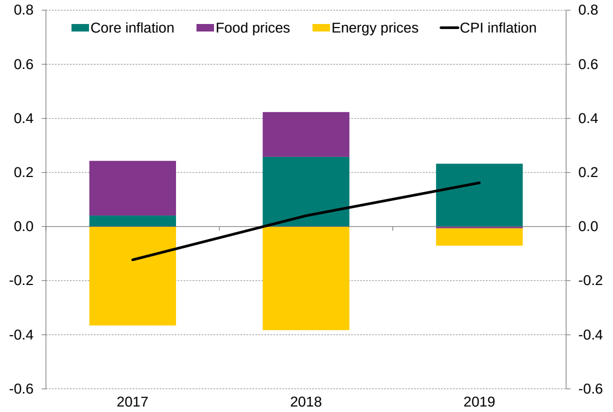
compared to the expectations of the previous forecasting round. The impact of falling prices of imported energy commodities on inflation is strengthened by the appreciation of the zloty against the US dollar.

The stronger recovery in economic activity in Poland is a factor leading to higher inflation forecast compared to the expectations of the March projection. These changes are reflected in an upward revision of the output gap, being a synthetic measure of demand pressure in the economy. At the same time, as a result of higher wage and employment growth, the years 2017-2019 may see a stronger pick up in unit labour costs dynamics compared to the March projection.

Import prices will, in turn, remain close to the level expected in the previous forecasting round. This is due to the fact that the impact of higher economic activity and inflationary pressures abroad will be balanced by the appreciation of the zloty exchange rate and falling prices of imported energy commodities.

Inflation of food prices in 2017 will be boosted by unfavourable weather conditions observed in Poland at the turn of April and May, leading to a significant fall in fruit supply. Growth of food prices will also be driven by higher prices of products of animal origin in the world markets resulting from high demand, primarily from the Asian markets.

Figure 4.29 Decomposition of deviations between July and March projection: CPI inflation (percentage points)[79]



Source: NBP calculations.

[79] The data presented in the chart may vary slightly from those in Table 4.1, due to rounding of numbers to one decimal place.

4.5 Forecast uncertainty sources

The central scenario of the July projection, presenting the most likely macroeconomic developments in Poland, is subject to uncertainty reflected in the fan charts (Figures 4.1 and 4.2). The balance of its factors points to a near-symmetrical distribution of risks to CPI inflation and GDP growth (Table 4.2). Under the assumption of the unchanged NBP reference rate, the probability of CPI inflation running within the symmetric band for deviations from the NBP inflation target 2.5% (+/-1 percentage point), which is currently high, gradually declines in the coming quarters, while in 2018-2019 it stabilises at around 40% (Table 4.2). The most significant forecast uncertainty sources for the July projection are presented below.

Table 4.2 Probability of inflation running:

	Below 1.50%	Below 2.50%	Below 3.50%	Below the central projection	In the range (1.5-3.5%)
17q2	0.11	0.94	1.00	0.49	0.89
17q3	0.20	0.72	0.98	0.49	0.78
17q4	0.37	0.73	0.94	0.49	0.57
18q1	0.46	0.75	0.92	0.49	0.47
18q2	0.36	0.62	0.84	0.49	0.48
18q3	0.33	0.57	0.79	0.50	0.46
18q4	0.34	0.57	0.78	0.50	0.44
19q1	0.31	0.53	0.75	0.51	0.44
19q2	0.31	0.53	0.74	0.51	0.43
19q3	0.31	0.52	0.72	0.51	0.41
19q4	0.30	0.51	0.71	0.51	0.40

Source: NBP calculations.

Deterioration in the prospects of growth in the global economy

The risk of the GDP growth rate in Poland running below the baseline projection scenario is largely a result of the possible deterioration of the global economic conditions. One of the significant sources of uncertainty are concerns about the future state of the US economy.

Expectations for the administration of the new US President, Donald Trump, regarding the planned economic stimulus measures such as fiscal easing and deregulation, have led to a marked improvement in the sentiment of economic agents in the US. One of the symptoms of this improvement is the strong rise of stock indices reflecting the expectations of higher corporate profits in the future, particularly in those sectors which would benefit from the proposed solutions to the largest extent. Certain stock market valuation ratios (e.g. Shiller CAPE) suggest that stock prices may currently be overvalued. At the same time, measures of uncertainty in the financial markets remain low. The risk of the economic growth rate in the US economy running below the level assumed in the projection is associated with a possible deterioration of household and corporate sentiment caused, among others, by the smaller scope of implemented reforms or a delay in their implementation. Also taking into consideration in this scenario a stock market correction, which would have an impact on consumption through the wealth effect, and a likely growth in uncertainty, the future economic growth rate in the United States would decline.

Another source of risk for economic growth in Poland's external environment are fears about a slowdown in GDP growth in China. Potential problems with the stability of the financial system in this country continue to pose a threat. This results from the rapid growth of debt in the Chinese economy, including corporate debt due to overinvestment, mainly in heavy industry. The problems of enterprises with debt repayment could translate into problems in the banking sector and among shadow banking institutions. Another threat for Chinese economic growth is a sharper than expected fall in housing investment as a result of real estate purchases becoming less attractive due to restrictions imposed by local authorities. However, there is only a slight risk of a marked slowdown in China before the next National Congress of the Communist Party of China (November 2017) is held, as the Chinese authorities are likely to implement stabilising measures.

A sharper slowdown in China, which is one of the most important trading partners of the United States, would lead to an even more marked slowdown in the US economy. Falls in global oil prices in response to the reduced demand in China would additionally cause a decline in investment and activity in the US extraction industry. Should the economic conditions in the United States and China deteriorate, significant shocks in the global markets and a slowdown in the global economy, both through the trade channel and also as a result of a deterioration in consumer and corporate sentiment, can be expected.

Additionally, uncertainty about the outlook for growth in Poland's external environment is associated with the condition of the financial system in the euro area. The long period of very low interest rates contributes to the decline in profitability of European banks and other financial institutions. At the same time, in certain countries, e.g. in Italy, the share of non-performing loans in the balance sheets of banks is at an elevated level. These factors could lead to an increase in the risk premium and curb lending, and, as a result, could cause a decline in corporate investment. The risk of lower growth in the global economy than assumed in the central scenario, particularly in the long-term projection horizon, is also associated with the slowdown in labour productivity growth observed in many economies. Should this process continue and should productivity growth remain permanently subdued, it would be an additional factor hindering the return of the global (and Polish) economy to the growth path it followed before the global financial crisis.

A significant economic slowdown in Poland's environment and restrictions on world trade could have a negative impact on Poland's GDP growth. On the one hand, falling demand for the production of exporters would lead to a deterioration in sentiment in this sector and a decline in investment expenditures and employment. On the other hand, a fall in foreign direct investment inflows could result in a slowdown in total factor productivity growth in Poland. Deteriorating sentiment would also affect the household sector, translating into reduced consumer spending. A lower business activity in Poland and abroad would curb demand pressure, which, along with falling prices of agricultural and energy commodities in the global markets, would cause CPI inflation to run below the central projection path.

Improvement in global economic conditions

With the election of Donald Trump as President of the United States, there is a higher probability that the fiscal stance will become more expansionary. The tax reforms proposed in April 2017, the effects of which were to a large extent taken into account in the July projection, assume the lowering of personal income tax and corporate income tax. The possible implementation of the announced infrastructure investment plan could further contribute to a pick-up in economic growth in the US. The final form of these proposals, which would have a chance of being passed by the US Congress, is, however, fraught with uncertainty. Nevertheless, an increase in government expenditure could lead to an improvement in economic activity in the USA as compared to the path assumed in the central scenario of the projection. Due to the position of the United States in the global economy, the fiscal stimulus measures launched by the new administration could lead to an increase in economic activity and an improvement in sentiment in other parts of the world as well.

The combined effect of fiscal easing on US GDP growth would depend not only on the type and the scale of implemented changes, but also on the hard-to-predict response of the Federal Reserve. In particular, should the Fed respond to the increase in inflationary pressures with more pronounced interest rate increases, they could dampen the scale of the recovery in investment and consumer demand as well as contribute to an appreciation of the US dollar and restrain exports. On the other hand, fiscal expansion could have a stronger impact on consumer confidence if accompanied by a marked increase in consumers' net worth as a result of a rise in the prices of assets. Given the above, the current rising trend in the savings rate related to household deleveraging would probably be reversed, driving up GDP growth in the US economy.

Accelerated GDP growth in the euro area could also result from the rise in corporate gross fixed capital formation, in particular with respect to investment in plant and machinery. Corporate investment growth might also benefit from the increase in capacity utilisation and the fact that euro area enterprises have been withholding decisions on modernization of their machinery for some time now despite the improvement in the situation. Factors working in favour of investment growth also include the likely weakening of the euro against the US dollar, which would enhance price competitiveness of exports from the countries of the currency union, and the continued quantitative easing in the euro area, facilitating access to corporate and consumer loans.

An improvement in the business climate in Poland's external environment would drive up demand for Polish exports, boosting growth of corporate investment and thus contributing to a further revival in the labour market. The sound financial standing of households, combined with low policy interest rates, could contribute to a significant rise in consumption at the expense of a lower savings rate than assumed in the projection's baseline scenario. Higher demand pressure would in turn translate into an upward revision of the forecasted inflation rate. Accelerated import price growth as a result of growing price levels in the global economy would add to the revision, although the likely zloty appreciation might curb this impact.

Labour supply in Poland

The situation in the labour market in the recent period was determined by a sharp increase in demand for labour resulting from favourable business conditions and manifested in the growing number of employed persons. On the other hand, as a result of the unfavourable changes in the demographic structure of the population, the number of economically active people has decreased over the past two years. The impact of both of these factors concurrently contributed to a significant fall in the unemployment rate and an extension of the time needed to find a new employee. Therefore, the labour supply trend over the projection horizon will be a significant risk factor both for the path of inflation and GDP growth.

The uncertainty about the size of the workforce is a result of the difficulties in assessing the rate of retirement of people who will be entitled to retire under the current law lowering the statutory retirement age. In the case of good economic conditions and high number of vacancies, retirement may be postponed. In the case of a slowdown in economic growth, such people may, however, leave the labour market sooner than assumed in the baseline scenario. A similar process of a relative fall or rise in the labour force participation rate may also affect other age groups.

A factor potentially increasing the size of the labour force in Poland could be the return migration of Poles from the United Kingdom as a result of the lack of possibility of extending their stay in the face of the United Kingdom withdrawing from the European Union and also the postponement of planned departures.

The impact on the Polish labour market of the introduction in June 2017 of visa-free short stays in the EU for Ukrainian citizens remains difficult to predict. It cannot be ruled out that Ukrainian citizens will migrate from Poland to countries with high labour demand which until now had a more restrictive visa and migration policy towards Ukrainians. The number of employees from Ukraine in Poland could also decline as a result of a sharpening of the crisis in eastern Ukraine leading to restrictions on foreign travel imposed by the Ukrainian authorities. The presence of Ukrainians on the Polish labour market mitigates labour shortages in certain sectors and is probably one of the factors curbing wage growth. A reduction in the number of migrants could lead to a faster wage growth and a rise in inflation.

Labour supply barriers could lead to a slowdown in economic growth over the projection horizon, limiting the possibility of increasing current output and corporate investment by weakening potential output growth.

Oil prices in the global markets

Another source of uncertainty for the central scenario are fluctuations in the prices of oil and other energy commodities in the global markets, which are highly dependent on hard-to-predict supply conditions. In spite of the ongoing agreement of the OPEC countries on the oil production cuts, oil prices have grown slower than expected in recent months. This could have been caused by increased exports of OPEC oil stocks. There is a possibility that in the future oil prices will begin to grow more rapidly, particularly if the restrictions on oil production imposed by the OPEC countries are more clearly reflected in the volume of exports. At the same time, any sign that certain signatories of the agreement exceed the agreed quotas might result in a renewed decline in oil prices. In addition, it is also unclear what decisions will be taken by non-OPEC oil producers and countries that were excluded from the obligation to reduce production. In particular, the scale of the future growth in the number of drilling sites and oil output in the United States are unknown.

Demand factors related to the prospects of growth in the global economy, in particular in the emerging Asian economies, also add to the uncertainty associated with the path of oil prices assumed in the baseline scenario.

Table 4.3 Central path of inflation and GDP projection

	2015	2016	2017	2018	2019
Consumer Price Index CPI (%, y/y)	-0.9	-0.6	1.9	2.0	2.5
Core inflation net of food and energy prices (%, y/y)	0.3	-0.2	0.9	2.0	2.5
Food prices (%, y/y)	-1.6	0.8	3.8	2.5	2.4
Energy prices (%, y/y)	-4.2	-3.8	2.8	1.4	2.3
GDP (%, y/y)	3.8	2.7	4.0	3.5	3.3
Domestic demand (%, y/y)	3.3	2.4	4.7	4.0	3.4
Private consumption (%, y/y)	3.0	3.8	4.4	3.6	3.4
Public consumption (%, y/y)	2.4	2.8	2.8	3.5	3.3
Gross fixed capital formation (%, y/y)	6.1	-7.9	5.7	6.6	4.3
Contribution of net exports (percentage points y/y)	0.6	0.3	-0.6	-0.5	-0.1
Exports (%, y/y)	7.7	9.0	7.5	6.8	6.5
Imports (%, y/y)	6.6	8.9	8.9	7.7	6.7
Gross wages (%, y/y)	3.3	3.8	4.7	6.0	6.2
Total employment (%, y/y)	1.4	0.7	1.2	0.3	0.2
Unemployment rate (%)	7.4	6.2	4.9	4.3	4.1
NAWRU (%)	6.4	6.0	5.6	5.3	5.0
Labour force participation rate (%, y/y)	56.2	56.2	56.3	56.2	56.2
Labour productivity (%, y/y)	2.4	2.0	2.8	3.2	3.1
Unit labour cost (%, y/y)	0.9	2.0	1.8	2.7	3.0
Potential output (%, y/y)	2.8	2.9	2.8	2.9	3.2
Output gap (% potential GDP)	-1.1	-1.3	-0.1	0.5	0.6
Index of agricultural commodity prices (EUR, 2011=1.0)	0.88	0.90	0.95	0.95	0.95
Index of energy commodity prices (USD, 2011=1.0)	0.51	0.50	0.60	0.57	0.55
Inflation abroad (%, y/y)	1.3	1.1	1.5	1.7	1.7
GDP abroad (%, y/y)	1.9	1.7	1.9	1.7	1.7
Current and capital account balance (%, GDP)	1.7	0.8	0.1	0.5	1.0
WIBOR 3M (%)	1.75	1.70	1.73	1.73	1.73

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 March – May 2017

■ Date: 4 April 2017

Subject matter of motion or resolution:
Resolution No. 1/2017 of 4 April 2017 on approving the Annual Financial Report of Narodowy Bank Polski prepared as of 31 December 2016.

Voting of the MPC members:

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

■ Date: 17 May 2017

Subject matter of motion or resolution:
Resolution No. 2/2017 of 17 May 2017 on approving the report on monetary policy in 2016.

Voting of the MPC members:

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

J. J. Kropiwnicki was absent.

■ Date: 17 May 2017

Subject matter of motion or resolution:
Resolution No. 3/2017 of 17 May 2017 on the evaluation of the activities of the NBP Management Board as regards the implementation of monetary policy guidelines for 2016.

Voting of the MPC members:

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

J. J. Kropiwnicki was absent.

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