INFLATION REPORT

2018
DECEMBER

'... wise is the man who can put purpose to his desires.'

Miklós Zrínyi: The Life of Matthias Corvinus

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Pursuant to Act CXXXIX of 2013 on the Magyar Nemzeti Bank, the primary objective of Hungary's central bank is to achieve and maintain price stability. Low inflation ensures higher long-term economic growth and a more predictable economic environment and moderates the cyclical fluctuations that impact both households and companies.

In the inflation targeting system in use since August 2005, the Bank has sought to attain price stability by ensuring an inflation rate near the 3 percent medium-term target. The Monetary Council, the supreme decision-making body of the Magyar Nemzeti Bank, performs a comprehensive review of expected developments in inflation every three months, in order to establish the monetary conditions consistent with achieving the inflation target. The Council's decision is the result of careful consideration of a wide range of factors, including an assessment of prospective economic developments, the inflation outlook, financial and capital market trends and risks to stability.

In order to provide the public with a clear insight into how monetary policy works and to enhance transparency, the Bank publishes the information available at the time of making its monetary policy decisions. The Report presents the inflation forecasts prepared by the Directorate Economic Forecast and Analysis, the Directorate Monetary Policy and Financial Market Analysis, the Directorate for Fiscal and Competitiveness Analysis and the Directorate Financial System Analysis, as well as the macroeconomic developments underlying these forecasts. The forecast is based on the assumption of endogenous monetary policy. In respect of economic variables exogenous to monetary policy, the forecasting rules used in previous issues of the Report are applied.

The analyses in this Report were prepared under the direction of Barnabás Virág, Executive Director for Monetary Policy and Economic Analysis. The Report was prepared by staff at the MNB's Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate for Fiscal and Competitiveness Analysis and Directorate Financial System Analysis. The Report was approved for publication by Márton Nagy, Deputy Governor.

The Report incorporates valuable input from other areas of the MNB and the Monetary Council's comments.

The projections are based on information available for the period ending 14 December 2018.

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THE MONETARY COUNCIL'S KEY FINDINGS RELATED TO THE INFLATION REPORT

The Magyar Nemzeti Bank's (MNB) single anchor is inflation, its primary objective is to ensure that the consumer price index meets the 3 percent target in a sustainable manner. The volatility of inflation has increased significantly. Therefore, in assessing the outlook, the Monetary Council pays even more attention than usual to developments in the measures of underlying inflation capturing persistent trends. Core inflation excluding indirect tax effects has been rising, which signals the strengthening of persistent inflationary trends. The Hungarian economy has grown dynamically in 2018; however, if the assumptions of the current projection hold, economic growth is likely to slow gradually from 2019. Regarding long-term, sustainable economic growth, the improvement in competitiveness will be given increasing emphasis.

Although global economic growth continued in the third quarter of 2018, downside risks to growth intensified. The Central and Eastern European region remains to be the economic growth centre of the European Union. Global inflation continued to increase somewhat in the past quarter, exceeding central bank target values in several countries. Core inflation, however, is still moderate in most countries.

In the third quarter of 2018, the global economy continued to grow surrounded by intensifying risks. GDP growth in the United States accelerated further, while the Chinese economy slowed somewhat. The euro-area economic growth in the third quarter of 2018 fell behind expectations. The persistence of these developments is uncertain. Similar to the past quarters, the Central and Eastern European region proved to be the growth centre of the European Union. GDP growth in the region exceeded the expansion of the euro area by nearly 3 percentage points.

Amid high volatility, after a temporary rise global oil prices began to fall sharply at the end of October. The main contributor to the moderate growth in global inflation rates was the energy price increase observed at the beginning of the period. In the euro area, headline inflation has been around the 2 percent target; however, core inflation staying close to 1 percent persistently signals moderate underlying inflation. Inflation decreased in the countries of the Central and Eastern European region. In the Czech Republic, core inflation decreased slightly, while increased somewhat in Poland and Romania.

During the period, rate hike expectations in developed countries shifted to a later date in parallel with the deterioration of growth prospects and falling oil prices.

In September the Federal Reserve continued its gradual interest rate increases. According to decision-makers' projections and market pricing, an additional raise of 25 basis points is expected in December this year, while rate hike expectations for the next year weakened. The European Central Bank (ECB) ends its asset purchase programme at the end of 2018. According to the ECB's communication, its key interest rates will remain at their present levels at least through the summer of 2019 and in any case for as long as necessary. Owing to the uncertainty surrounding the medium-term growth prospects of the euro area and moderate underlying inflation, market expectations about the timing of the first interest rate increase by the ECB have shifted to a later date. This suggests that monetary conditions in the euro area may remain loose for a longer period of time. Decision-makers of the Czech central bank decided to raise the policy rate both in September and November, but the Polish and Romanian central banks left monetary conditions unchanged. Rate hike expectations related to regional central banks eased in the past quarter.

Risk acceptance declined in international financial markets with perceivable effects both in developed and emerging markets.

Investor sentiment deteriorated overall in the past period. This was influenced by expectations about the monetary policy of world's leading central banks, and the uncertainties related to international trade policies, the debate of Italy's government budget, the Brexit agreement and the deceleration of global economic growth. Bond markets exhibited risk aversion in the past quarter, both developed and emerging bond markets recorded capital outflows. Sentiment was uncertain even in equity markets, volatility elevated in the US equity market.

A decline in yields was observed in Hungarian financial markets; both interbank and government securities market yield curves shifted downward.

BUBOR rates declined in the interbank market. In the past period both interbank and government securities market yield curves shifted downward. In the third quarter, Hungarian long-term yields decreased in a greater extent than in any other

country in the region, which was also driven by the continuing rise in the forint government securities holdings of non-residents. The forint depreciated slightly against the euro during the quarter.

Volatile items, sensitive to movements in global commodity prices, led to a greater-than-usual volatility of domestic inflation. Over the short term, volatility remains elevated. Therefore, over the monetary policy horizon, developments in the measures of underlying inflation capturing persistent inflationary trends deserve more attention in assessing the sustainable achievement of the inflation target. Strong domestic demand causes the strengthening of persistent inflationary trends.

During the autumn months of 2018, volatile items, sensitive to movements in global commodity prices, led to a greater-than-usual volatility of inflation. As a result, the consumer price index rose in September and October, then decreased significantly in November. The moderation in inflation was mainly due to a fall in fuel prices in November. However, measures of underlying inflation capturing persistent trends continued to rise.

Over the short term, volatility of inflation remains elevated. After a temporary rise in the first quarter of 2019, consumer price index is expected to fall below 3 percent. In assessing the sustainable achievement of the inflation target over the monetary policy horizon, the Monetary Council pays even more attention than usual to developments in the measures of underlying inflation capturing persistent inflationary trends. According to the ECB's forecast, underlying inflation in the euro area will remain moderate in the coming years, which may suggest moderate external inflationary environment over the forecast horizon. In parallel with strong domestic demand, core inflation excluding indirect tax effects is likely to rise above 3 percent in early 2019 and then stays close to 3 percent over the monetary policy horizon. Over the period ahead, incoming data will be key in the assessment of persistent inflationary trends.

The Hungarian economy has grown dynamically in 2018; however, if the assumptions of the current projection hold, economic growth will slow gradually from 2019. Regarding long-term, sustainable economic growth, the improvement in competitiveness will be given increasing emphasis.

Economic growth is expected to continue across a broad range of sectors. Strong domestic demand will continue to play a central role in economic output developments in the coming years, where the determining factors are household consumption and investment. Consumption growth is supported by the increase in real wages, the high level of net financial worth and consumer confidence, and the second-round effects of the upswing in the housing market. Looking ahead, an expansion in whole-economy fixed investment is expected. Increasing investment activity in all three sectors (corporate, government and households) contribute to the expansion in investment in the first half of the projection, while government investment is expected to decrease in the second half of the forecast horizon. The effective utilisation of EU funds peaks in 2019 and declines gradually in subsequent periods. Consistently with the weakening external – primarily European – demand, the export growth is likely to be more subdued; however, the surge in the production of new capacities improves Hungary's export market share over the forecast horizon.

Amid the decreasing interest rate risks of SME and housing loans outstanding, the credit expansion is expected to continue dynamically.

In the third quarter of 2018 corporate lending and household loans outstanding increased by 13 percent and nearly 4 percent, respectively, year on year. Also supported by the MNB's programmes stimulating bank lending, stock of SME lending increases at a rate similar to that of total corporate lending. The Funding for Growth Scheme Fix will be launched with a total amount of HUF 1,000 billion in January 2019 to raise the proportion of long-term, fixed-rate lending to SMEs. New housing loans shifted to a healthier structure, which was also supported by the modification of the debt cap rules and the gaining ground of Certified Consumer-friendly Housing Loans. Driven also by the economic upswing, the continuing heightened credit demand and the low interest rate environment, the dynamic expansion of corporate and household loans may continue in the coming years.

Net lending is expected to stabilise at high levels, while the surplus of the current account persists in the long run. As a result of the favourable external balance position, debt indicators of the Hungarian economy improve further, net external debt may drop to zero by 2020.

In parallel with the trade balance, the surplus of the current account decreases in 2018 and 2019. Decelerating external European demand and the increase in import-intensive domestic investment both contribute to the decline in net exports. This effect will be offset by the improvement in the transfer balance in line with the expanding absorption of EU funds, and thus net lending will remain steadily around 3 percent of GDP over the entire forecast horizon. The improvement generated in the foreign trade balance by the surge in the production of new capacities combined with the gradual decrease in the income balance deficit improve the current account in 2020 and 2021. Parallel to the decline in the absorption of EU transfers, the surplus of the transfer balance starts to decrease from 2020, but the effect of the decline will be largely offset by the rising surplus of the current account. Owing to the persistently favourable external balance position, external debt ratios decline further, and thus net external debt is expected to drop to zero by 2020.

Owing to the dynamic rise in tax revenues the deficit of the budget may be around 2.0–2.1 percent of GDP in 2018, which is even lower than the 2.4 percent deficit target. In 2019 and 2020 the deficit may shrink to 1.6–1.7 percent and 1.4–1.6 percent, respectively, thus the deficit reduction target defined in the Budget Act and the Convergence Programme may also be met. In parallel with the continuing decline in the foreign currency debt ratio, the Maastricht debt ratio will fall below 65 percent of GDP by the end of the forecast horizon.

The macroeconomic outlook is surrounded both by upside and downside risks.

In addition to the baseline projection in the December Inflation Report, the Monetary Council highlighted three alternative scenarios. The scenario that assumes the implementation of competitiveness reform may result in lower inflation and higher potential growth than the baseline scenario. In the case of the alternative scenario assuming a stronger inflationary impact from consumption growth, domestic economic growth will be more robust and inflation will be somewhat higher than in the forecast of the baseline scenario. In the case of the scenario that presents the capital outflow from emerging markets the rise in risk spreads will result in slower growth and a higher inflation path compared to the baseline scenario. In addition to the scenarios set forth above, the Monetary Council discussed, as further risks, a scenario that assumes more subdued external demand, an increase in market uncertainties over Italy and a lasting rise in oil prices.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy)

	2017	2018	2019	2020	2021
	Actual	Projection			
Inflation (annual average)					
Core inflation[1]	2.3	2.5	3.5	3.3	3.0
Core inflation excluding indirect tax effects	2.2	2.4	3.2	3.1	3.0
Inflation	2.4	2.8	2.9	3.0	3.0
Economic growth					
Household consumption expenditure	4.7	5.4	3.4	3.1	2.8
Government final consumption expenditure	1.8	1.9	1.0	1.0	0.5
Gross fixed capital formation	18.2	16.8	8.1	0.7	1.6
Domestic absorption	6.8	6.3	4.0	2.0	2.0
Exports	4.7	5.8	6.5	6.5	6.7
Imports	7.7	7.5	7.2	5.7	5.8
GDP	4.1	4.7	3.5	3.0	3.0
Labour productivity[6]	2.1	2.6	2.9	2.7	3.0
External balance[2]					
Current account balance	3.2	1.1	0.7	1.3	1.9
Net lending	4.2	2.8	2.7	3.1	3.1
Government balance[2,5]					
ESA balance	-2.2	(-2.0) – (-2.1)	(-1.6) – (-1.7)	(-1.4) – (-1.6)	(-1.4) – (-1.6)
Labour market					
Whole-economy gross average earnings[3]	12.9	11.0	8.5	6.9	6.9
Whole-economy employment	1.6	1.1	0.5	0.3	0.0
Private sector gross average earnings[3]	11.6	10.5	8.2	7.3	7.0
Private sector employment	2.2	1.4	0.9	0.4	0.2
Unemployment rate	4.2	3.7	3.6	3.5	3.4
Private sector nominal unit labour costs	3.2	5.1	3.6	3.2	2.1
Household real income[4]	6.1	6.1	3.0	2.6	2.4

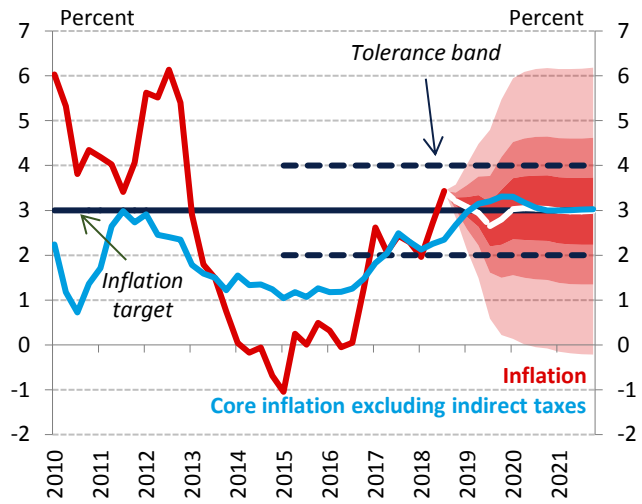
[1] Based on seasonally unadjusted data.
[2] As a percentage of GDP.
[3] According to the original HCSO data for full-time employees.
[4] MNB estimate.
[5] The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.
[6] Whole economy, based on national accounts data.

1. INFLATION AND REAL ECONOMY OUTLOOK

1.1. Inflation forecast

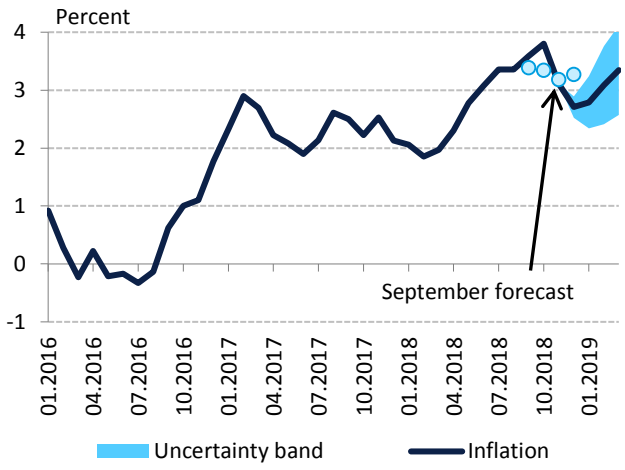
Volatile items, sensitive to movements in global commodity prices, led to a greater-than-usual volatility of inflation. Over the short term, volatility remains elevated. Therefore, on the monetary policy horizon, developments in the underlying measures capturing persistent inflationary trends deserve even more attention than usual in assessing the sustainable achievement of the inflation target. Core inflation excluding indirect taxes is rising, which points to stronger persistent inflationary trends. In line with robust domestic demand, core inflation excluding indirect taxes may rise to above 3 percent in early 2019 and then be around 3 percent over the monetary policy horizon.

Chart 1-1: Fan chart of the inflation forecast



Note: Based on seasonally unadjusted data.
Source: HCSO, MNB

Chart 1-2: Monthly evolution of the near-term inflation forecast



Note: Annual change. The uncertainty band shows the root mean squared error of previous years' near-term forecasts.
Source: HCSO, MNB

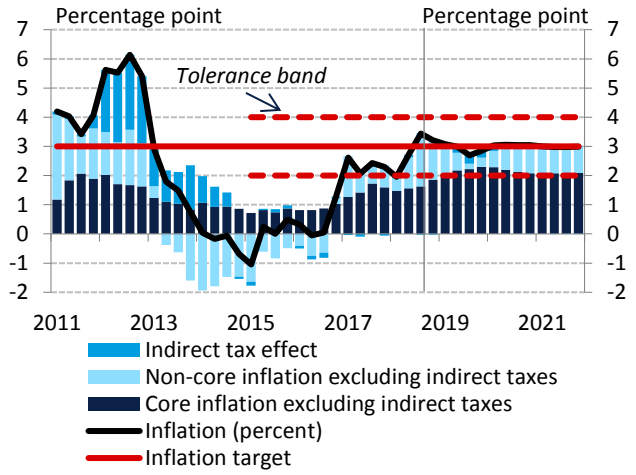
As a result of developments in fuel and unprocessed food prices, **inflation was volatile in the past period** (volatile factors that affect developments in inflation are discussed in detail in Box 3-3). **According to our forecast, inflation will remain volatile over the short term.** In December, as a result of declining fuel prices, the consumer price index will continue to decrease and fall below 3 percent (Chart 1-2). Inflation will rise temporarily again early next year and will then decline again from April, due to the base effect of fuel prices.

This year, average annual inflation will develop in line with our earlier expectations. Next year, however, **we expect lower inflation** than our September forecast as a result of the major fall in oil prices observed from mid-October. According to our current forecast, annual average inflation will be 2.9 percent in 2019 and 3.0 percent in 2020–2021.

In a changing cost environment, indicators of underlying developments that better reflect the lasting trends in inflation gain importance. According to our expectations, over the short run, in parallel with rising prices of tradable goods and repricing at the beginning of the year, **core inflation excluding indirect taxes will increase further. At the start of 2019, core inflation excluding indirect taxes will increase to above 3 percent** (Chart 1-1). Over the medium term, the increase in core inflation excluding indirect taxes is **explained by the expansion in household consumption**. Strong domestic demand adds to companies' leeway in terms of pricing, which points to stronger persistent inflationary trends. **Over the medium term, wage costs will be in line with productivity**, which is also supported by the social contribution reductions set forth in the wage agreement. If the assumptions of our current forecast materialise, **core inflation excluding indirect taxes will be slightly higher than our previous forecast, reaching an annual average rate of 3.2 percent in 2019, 3.1 percent in 2020 and 3.0 percent in 2021**.

External inflation is assumed to remain moderate. As the effects of the previous increase in oil prices fade out,

Chart 1-3: Decomposition of the inflation forecast



Source: HCSO, MNB

Table 1-1: Details of the inflation forecast

		2018	2019	2020	2021
Core inflation		2.5	3.5	3.3	3.0
Non-core inflation	Unprocessed food	6.8	8.9	3.2	3.6
	Fuel and market energy	8.2	-1.9	3.2	3.1
	Regulated prices	0.1	0.6	1.9	2.6
	Total	3.7	1.5	2.5	2.9
Inflation		**2.8**	**2.9**	**3.0**	**3.0**

Note: Based on seasonally unadjusted data.

Source: MNB

inflation in the euro area will fall to 1.4 percent by the end of 2019 and then increase to 1.8 percent by 2021. Looking ahead, core inflation is expected to rise, which is due to the accelerating wage dynamics owing to the tighter labour market and the improving cyclical position of the euro area economy.

The **tax content** of inflation will gradually increase until September 2019, before declining as the tax effect of the measures drops out of the base (Chart 1-3). The **excise tax hike for tobacco products that** started in September 2018 **will continue with two further steps** (in January and July 2019), and – similarly to this year's pass-through – we expect **faster pass-through than what has been observed previously**. The impact of other tax changes (VAT on milk, financial transaction levy, public health product tax) on inflation is moderate on the whole.

The inflation of fuel prices will fall into negative territory over the short run (Table 1-1), with contributions from recent weeks' price declines and base effects as well. Looking ahead, futures prices show moderate price dynamics, and thus following the fading out of the effects of the oil price decline, the price dynamics of this product group will be around 3 percent. In the case of **unprocessed food**, as a result of the price rise in recent months, price dynamics next year are expected to be above the historical average. After that, a more moderate price change is expected.

Regulated energy prices will not change until the end of the forecast horizon, and moderate price dynamics are expected in the case of non-energy regulated prices.

Box 1-1: The role of persistent inflation trends in international central bank experiences

Based on international experiences it is a generally observed phenomenon that although central banks determine the inflation target as the consumer price index, when assessing developments in inflation **they monitor other indicators as well, in order to better understand the more persistent trends**. These indicators play a particularly important role in the case of high volatility of cost factors and changes in indirect tax measures. These **indicators, which capture more persistent developments in inflation, exclude the effects of one-off and temporary factors**. The underlying indicators applied by the central banks of developed countries and the countries in the region typically do not contain **the effect of indirect taxes and often the price changes of volatile price items** – mainly fuels and unprocessed food – either. In this box we examine international examples and their conclusions that are relevant in respect of inflation in Hungary.

Most central banks use the underlying inflation indicators to evaluate actual developments and draw conclusions concerning medium term inflation outlook (Table 1-2). One general experience is that compared to headline inflation these indicators provide a better forecast for medium term developments in inflation.

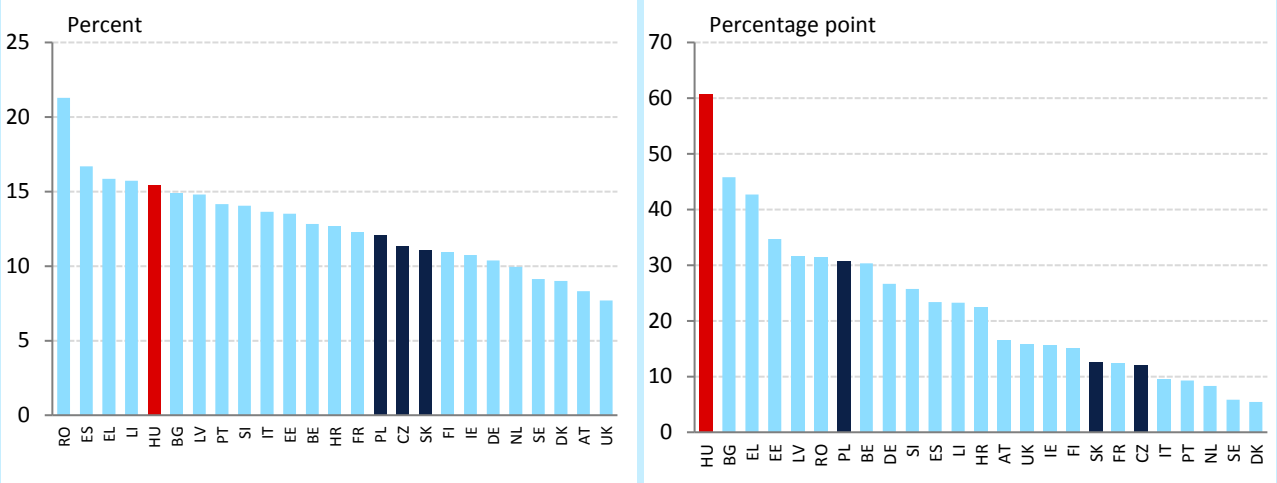
Table 1-2: Use of indicators capturing persistent inflation trends by central banks of developed countries and countries of the region

	Applied in stance analysis	Published forecast for the inflation measure	Additional forecasted inflation measure
ECB	✓	✓	HICP excl. energy HICP excl. energy and food HICP excl. energy, food and indirect tax changes
Fed	✓	✓	PCE minus food and energy
Bank of Japan	✓	✓	CPI (all items less fresh food)
Bank of Canada	✓	✗	-
Norges Bank	✓	✓	CPI-ATE (CPI adjusted for tax changes and excl. energy products)
Czech National Bank	✓	✓	Monetary policy relevant inflation (inflation excl. indirect tax changes) Inflation excl. energy, food and indirect tax changes
National Bank of Poland	✓	✓	HICP excl. energy and food
National Bank of Romania	✓	✓	CORE2 inflation (inflation excl. administered prices and highly volatile items) Adjusted CORE2 inflation (CORE2 inflation excl. tobacco and alcohol prices)

Sources: central banks

Oil and food prices, which are not taken into account by the underlying indicators, were volatile in the past period, affecting the price dynamics in the opposite direction in November. These cost factors had a major impact on the price index in a number of countries. **In Hungary**, however, their effect was amplified by the fact that the weight of **fuel and unprocessed food prices** is significant compared to EU countries. In addition, based on historical experiences, these **items are also characterised by higher volatility, and thus the fluctuation in their contribution to inflation is the highest in the European Union** (Chart 1-4).

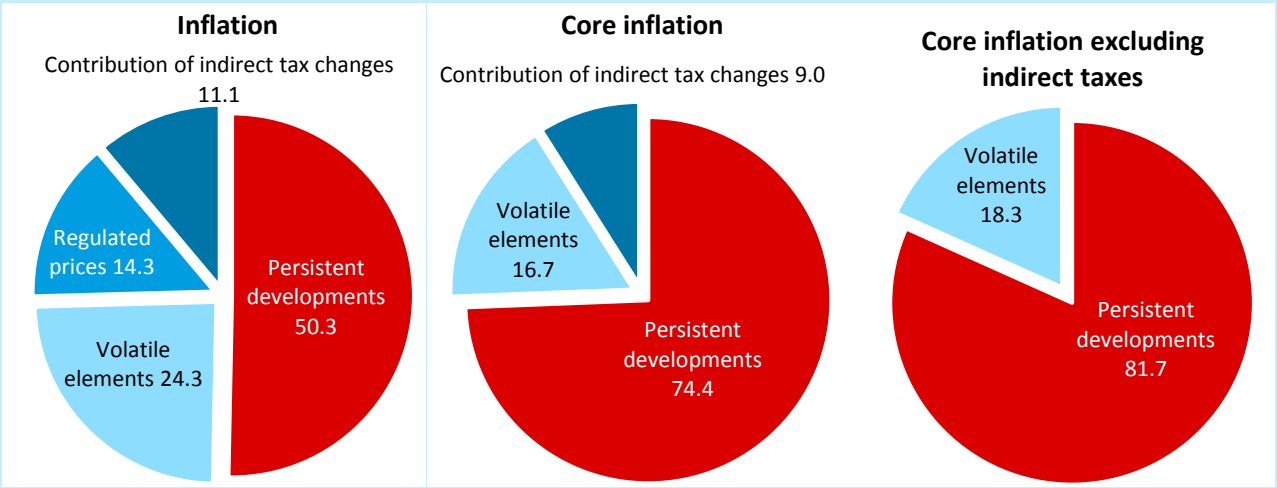
Chart 1-4: Weight (left panel) and variance (right panel) of fuels and unprocessed food



Sources: Eurostat, MNB

The higher volatility of inflation is expected to persist over the short term. Therefore, on the monetary policy horizon, developments in the **underlying measures capturing persistent inflationary trends deserve even more attention than usual in assessing the sustainable achievement of the inflation target.** In headline inflation, the weight of items capturing persistent developments is hardly more than 50 percent, while volatile items account for nearly one quarter of the consumer basket, and the contribution of changes in taxes is also significant. By contrast, **in core inflation excluding indirect taxes, persistent developments** are the determinants, **constituting nearly 82 percent** of the indicator (Chart 1-5).

Chart 1-5: Weights of persistent developments and volatile items



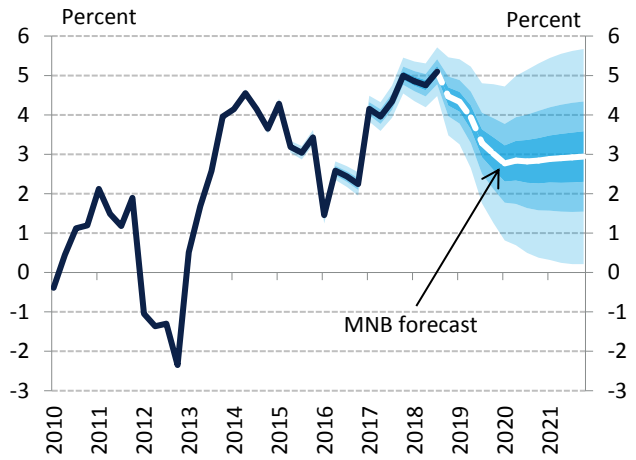
Note: In the case of the tax effect, the contribution to average inflation since January 2004 is indicated. Volatile elements: unprocessed food, processed food, fuels and market energy. The weights of the individual main groups were proportioned after deducting the contribution of tax effects to inflation, based on their weight in the consumer basket (2018).

Source: MNB calculation

1.2. Real economy forecast

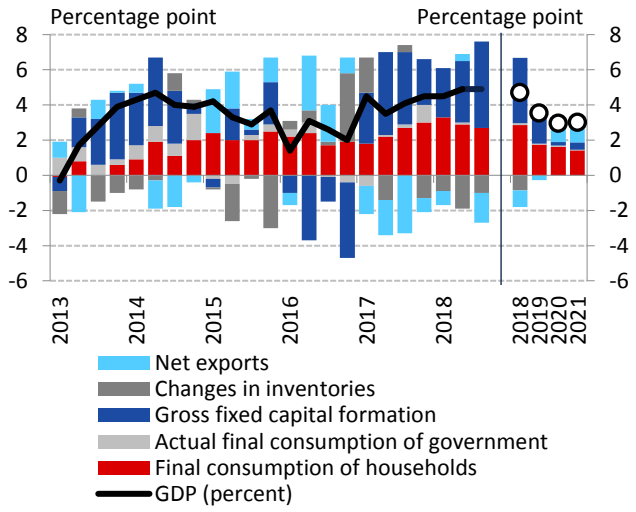
The Hungarian economy is expanding dynamically in 2018, but with our forecast assumptions economic growth is expected to gradually slow down from 2019 onwards. According to our forecast, expansion in domestic demand, driven by household consumption and expansion in investment, will continue to play an important role in domestic growth. Consumption growth is supported by the rise in real incomes, high net financial wealth and consumer confidence, as well as the second-round effects of the boom in the housing market. Private investment will increase over the entire forecast horizon driven by large investment projects (BMW, MOL, Mercedes), high capacity utilisation, the tight labour market, the FGS Fix programme, as well as the expansion in household investment. By contrast, government investment will moderate in 2020 and 2021 according to our projection. Despite subdued growth in Hungary's main foreign trade partners, domestic exports are not expected to slow down, due to an increase in Hungary export market share. In terms of sustainable, long-term economic growth, reforms targeting the competitiveness of the economy are increasingly important.

Chart 1-6: Fan chart of the GDP forecast



Note: Based on seasonally and calendar adjusted and reconciled data.
Source: HCSO, MNB

Chart 1-7: Contributions to annual changes in GDP



Source: HCSO, MNB

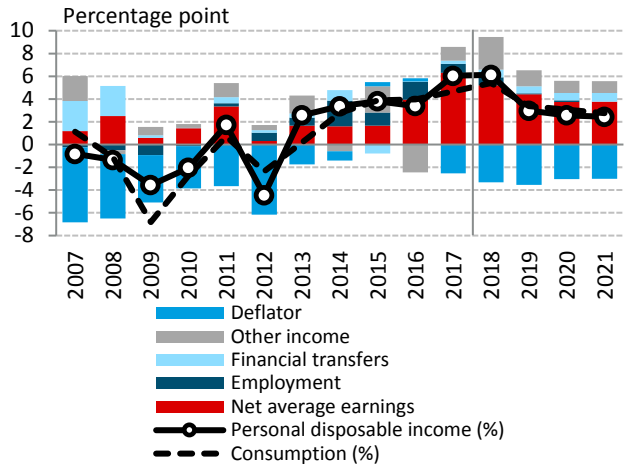
Strong GDP growth is expected for this year. Gross domestic product is expected to grow by 4.7 percent this year, and then – if the assumptions of the current forecast hold – we forecast expansion of 3.5 percent in 2019 and 3 percent in 2020 and 2021 (Chart 1-6). Driven by household consumption and growth in investment, the **expansion in domestic demand will continue to play an important role** in Hungary's growth. At the same time, with the slowdown in real wages, investment activity and external demand the rate of economic growth will decline by the second half of the forecast horizon (Chart 1-7).

We expect continued expansion in household consumption in our forecast. The increase in household consumption expenditures is strongly supported by the favourable underlying income trends related to the continued robust increase in wages and growth in employment. Demographic trends represent an increasingly effective constraint for employment expansion at the end of the forecast horizon, resulting in a decline in the dynamics of the real net wage bill, and therefore we expect the rate of household consumption growth to decelerate (Chart 1-8). The previously accumulated **high net financial wealth**, the high level of **consumer confidence** as well as the **second-round effects of the pick-up in the housing market contribute to the expansion in consumption**.

Increasing household consumption is also supported by growth in household lending. Looking forward, the rise in the gross volume of new credit agreements will continue. Banks are expecting further expansion in demand for both consumer and housing loans, and hence **we expect a further increase in lending to households** over the short run in our forecast, supported by increased willingness to borrow as well as the favourable lending programmes serving home creation purposes.

In line with the expansion in incomes, we expect **continued consumption growth in a broad range of product groups**.

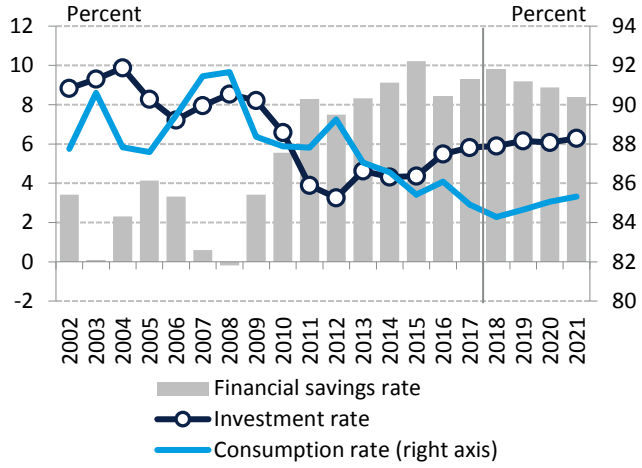
Chart 1-8: Decomposition of personal disposable income



Note: Annual changes.

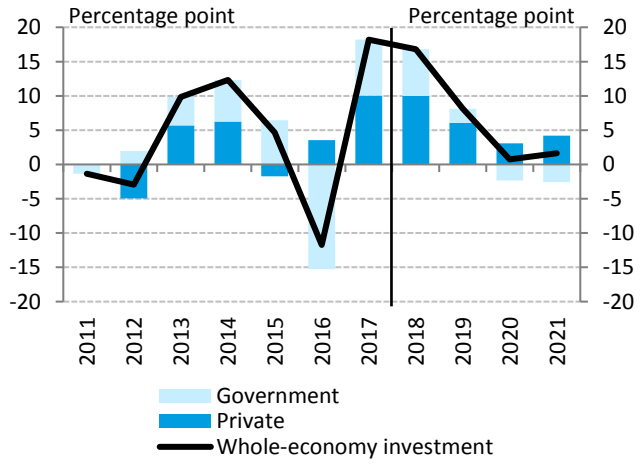
Source: MNB

Chart 1-9: Evolution of households' consumption, investment and financial savings rates as a percentage of disposable income



Source: HCSO, MNB

Chart 1-10: Contributions to annual changes in investments



Source: HCSO, MNB

The growth rate of the consumption of services has been historically high this year, and the purchase of durable and semi-durable goods also expanded dynamically. Looking ahead, we expect that **purchases of durable products and services will increasingly determine aggregate consumption**.

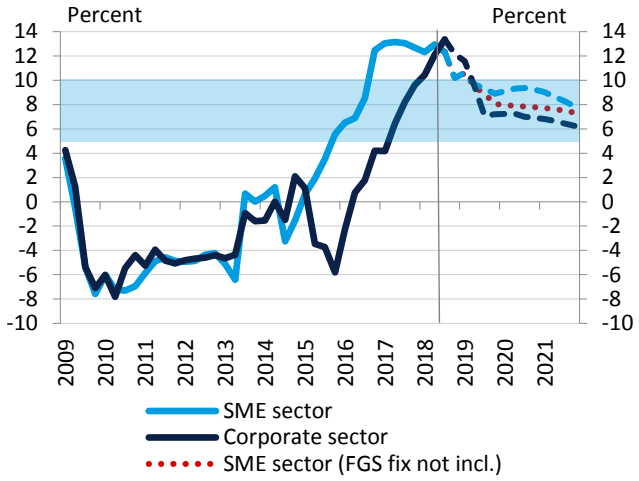
In the coming years, the expansion in consumption will exceed the growth rate of disposable incomes, and thus **we expect a slight rise in the consumption rate**. Households' investment rate will also increase slightly over the forecast horizon. Consequently, the savings rate will gradually decline from its high level observed in 2018 (Chart 1-9).

Whole-economy investment is expected to grow over the entire forecast horizon, with contributions from rising investment activity in all three sectors in 2018 and 2019. This notwithstanding, **in the second half of the forecast period the decline in government investment** will lower the growth rate of whole-economy investment (Chart 1-10). Looking ahead, the **whole-economy investment rate will be above 25 percent.**

Developments in corporate sector investment activity will be favourable, in line with rising domestic demand, the low interest rate environment, high capacity utilisation, the tight labour market and expansion in SME loans. **Over the forecast horizon** we expect that – following this year's rate of 12 percent – **the expansion in corporate lending** will continue at an average rate of around 7 percent until 2021, **supported by the FGS Fix programme** as well (Chart 1-11). In addition to the previously announced large investment projects and capacity expansions, **construction of the BMW factory may gradually pick up at the end of the forecast period**, contributing to the expansion in corporate investment (Chart 1-12). **The BMW investment** (taking into account second-round effects and adjusted for imports as well) **may increase economic growth by nearly 0.3 percentage point between 2019 and 2021.** The actual utilisation of EU funds, a considerable portion of which serves the purpose of economic development, supports the rise in corporate investment until 2019.

In line with the expansion in home-building, **household investment is expected to increase**. The significant number of residential building permits and the gradual upswing in the construction of new homes also indicate buoyant household investment activity. Pursuant to an amendment of the law, in the case of homes that had a final building permit on 1 November 2018 **the five percent VAT on housing can be applied until 2023**. As a result of the cessation of the uncertainty and the constraint to complete

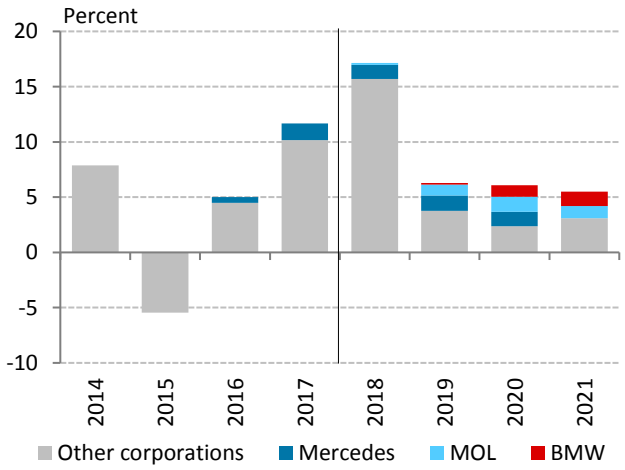
Chart 1-11: Annual changes in lending to non-financial corporations and SMEs



Note: Transaction-based, year-on-year data.

Source: MNB

Chart 1-12: Estimated contributions to annual changes in corporate investments



Source: MNB estimation

the construction, certain projects may be postponed from end-2019 to 2020, and thus, **compared to our previous assumptions, we expect lower home-building activity in 2019 and stronger activity in 2020**. Our forecast is still based on the assumption that home-building will peak in 2019.

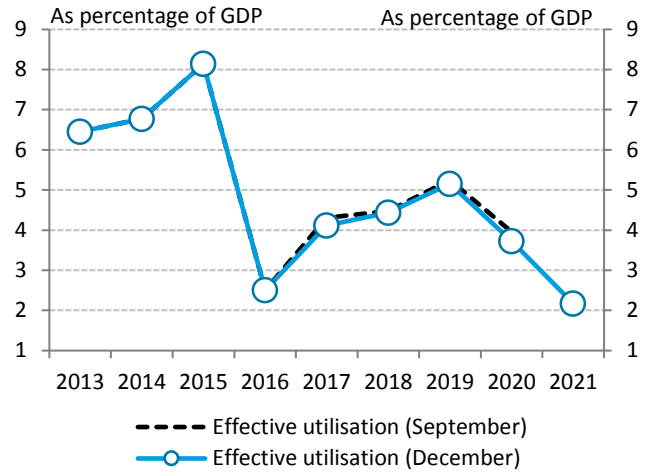
Government investment is expected to expand in the first half of the forecast period, in line with a pick-up in the actual absorption of EU funds. In line with our previous assumption we expect that actual utilisation will reach its peak in 2019, before gradually declining by 2021. Consequently, **public investment is expected to decline in 2020 and 2021** (Chart 1-13).

Compared to the September Inflation Report, **external demand is expected to expand more slowly**, which is also indicated by the forecasts prepared (and typically downgraded) by international institutions. Projections call for **a decline in the foreign trade intensity of global economic growth**, resulting in a stronger decrease in import-based external demand. **Global and European economic activities are surrounded by downside risks**. Increasing trade tensions, a slowdown in the Chinese economy, Brexit (and the uncertainty stemming from the related negotiations) as well as the high government debt in Italy and the financial and real economy risks stemming from the expected fiscal policy may all affect developments in Hungary's external demand.

As a result of moderate economic growth in Hungary's main trading partners and the subdued performance of the German automotive industry we project **weaker external demand**. At the same time, in line with the installation of new export capacities affecting a wide range of industrial subsectors and the dynamic expansion in services exports, the **Hungarian export market share will increase further, and thus exports will steadily grow over the forecast horizon** (Chart 1-14).

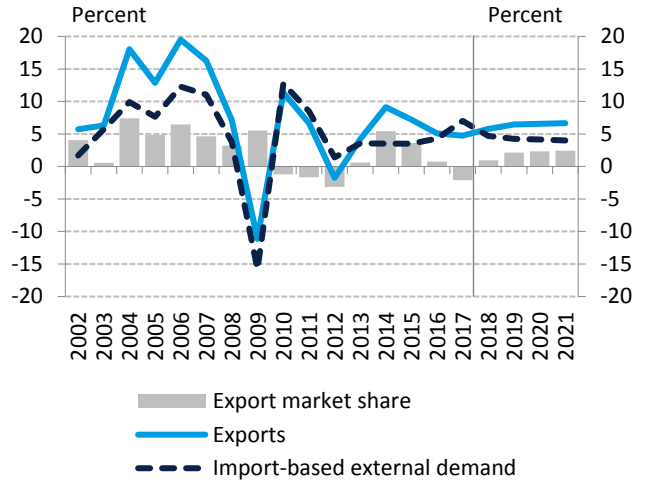
In parallel with rising exports, imports will also continue to increase. The expansion in domestic demand factors (consumption, investment) also boosts import growth. Accordingly, we expect **net exports to reduce economic expansion considerably in 2018 and slightly in 2019.** Although the expansion of imports restrains economic growth through a decline in net exports over the short run, the expansion of investment-related imports contributes to growth in potential GDP by increasing the capital stock over the long run (Chart 1-15). Additionally, as due to a slowdown in the growth rate of household consumption and investment, the import demand of the economy will

Chart 1-13: Effective use of EU funds



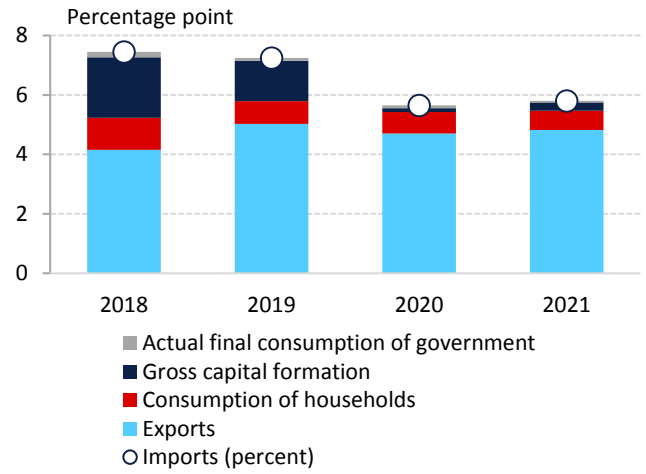
Source: Ministry of Finance, MNB

Chart 1-14: Changes in export market share



Note: Annual change.
Source: HCSO, MNB

Chart 1-15: Contributions to annual changes in imports



Source: MNB

decline in the second half of the forecast horizon. **In 2020 and 2021, the contribution of net exports to economic growth will be positive.**

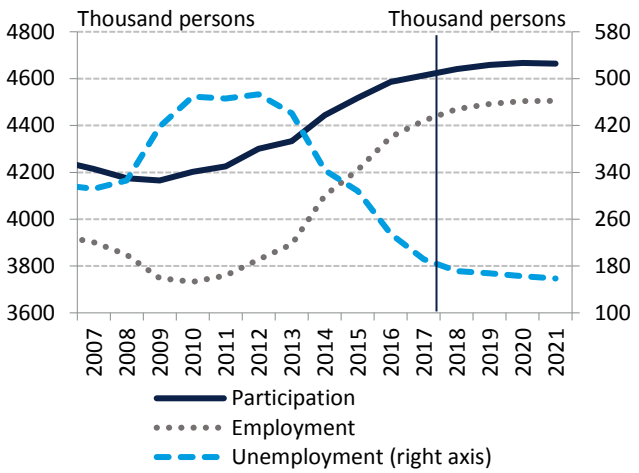
In line with the favourable corn harvest, **the contribution of agriculture to this year's economic growth may be slightly positive**. Looking ahead, however, the prolonged drought and shortage of water may have damaged the performance of the sector, and may increasingly prompt producers to sow other plants instead of corn, which requires a lot of water. Accordingly, agricultural performance may be more restrained next year.

Based on our estimate, GDP has been close to potential output, slightly above it. Therefore looking ahead, the expansion in the supply side of the economy is becoming decisive for the sustainability of growth. **In our forecast we expect improvement in labour productivity**, although this process is rather explained by cyclical factors. A generally observed phenomenon is that in the ascending phase of economic activity an increase in labour productivity is typical (Kaldor–Verdoorn law). In the medium term, the high investment rate, the announced large investment projects and the capacity expansions of the supplier network generate positive feedback across market services with higher value added (information and communication, finance, logistics, marketing) as well. **Looking ahead, the developments in productivity determine the long-term, sustainable expansion in GDP. Economic policy can raise the rate of potential growth through measures aimed at improving competitiveness while maintaining stability.**

1.3. Labour market forecast

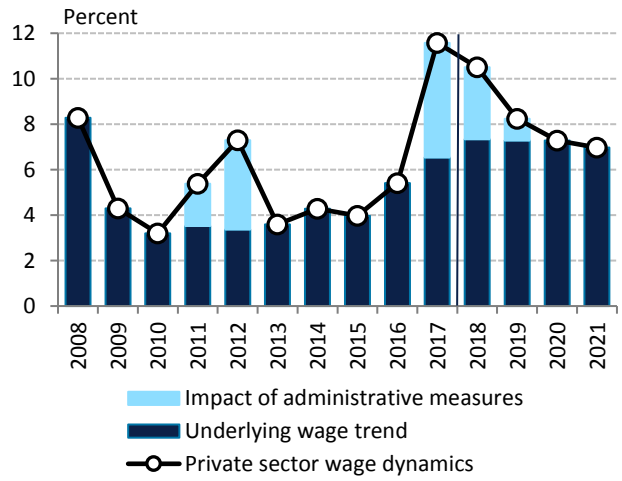
Over our forecast horizon, in parallel with economic growth, the steadily high labour demand of the private sector contributes to the further expansion in employment, but demographic developments constitute an increasingly effective constraint, and thus the growth rate of employment will gradually slow. The unemployment rate will decline to 3.4 percent by the end of the forecast period. Wages are expected to increase by 6-8 percent. Past years' rapid wage growth was allowed by the fall of the wage share to a historically low level, and thus the wage share caught up with its historical average. In the future, wages will increasingly be determined by developments in productivity and competitiveness. The inflationary effect from the cost side will be moderated by the contribution reductions set forth in the wage agreement.

Chart 1-16: Employment, participation and unemployment in the whole economy



Source: HCSO, MNB

Chart 1-17: Private wage forecast and its decomposition



Note: Impact of administrative measures is separated from underlying wage trend by at least 1 percentage point.
Source: HCSO, MNB estimation

According to our expectations, as the demographic developments (the change in the size of the working-age population and its composition by age and gender) become increasingly effective, **the increase in activity will slow down in the first half of the forecast period**, and **the expansion in labour supply will not continue from 2020** (Chart 1-16). In parallel with the demographic trends and in line with recent years' dynamic expansion in headcount, the potentially available labour reserve declined to a historical low, thus representing an increasingly effective constraint for employment growth.

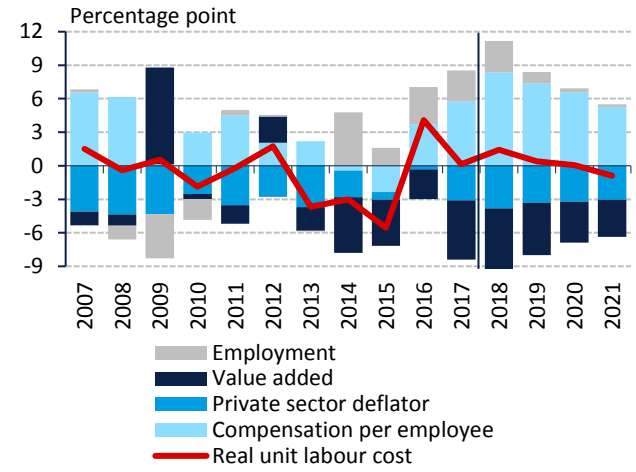
In parallel with economic growth, the steadily high labour demand of the private sector contributes to further expansion in employment, although the rate of employment growth is gradually decelerating. The scarcity and mismatch problems of the labour reserves (inadequate skills of the labour force and lack of job mobility) make companies' headcount-expanding efforts especially difficult.

The number of public workers declined to below 150,000 in Q3, and a further decrease in public work is expected over the forecast horizon. **In the tight labour market environment, many of those who leave public employment may return to the primary labour market.** Employment in the public sector will remain practically unchanged in the coming years.

In parallel with the continued increase in employment, **the current unemployment rate of 3.8 percent will decline to 3.4 percent** by the end of the forecast period.

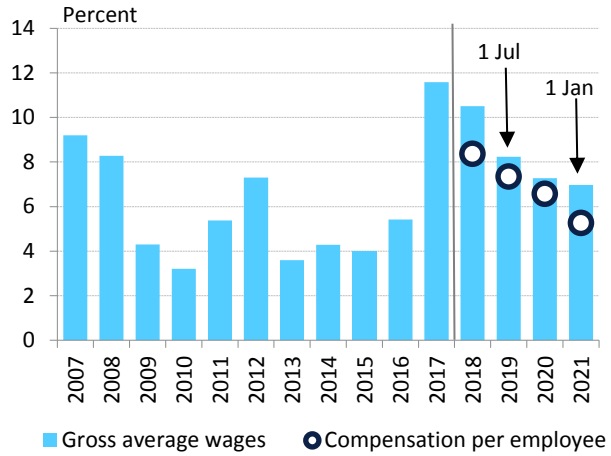
In the historically tight labour market environment, there is strong competition among companies to retain labour and fill vacancies, which leads to dynamic underlying wage-setting trends. **Wage growth in 2018 is expected to exceed the September forecast. This is justified by the underlying wage-setting trends, which are stronger in the short run.** However, in view of the increase in the minimum wage and the guaranteed wage minimum to a lesser extent than last year, wage dynamics in the private sector may be lower on the whole than last year. **In our forecast, wages are**

Chart 1-18: Decomposition of real unit labour cost growth in the private sector



Source: HCSO, MNB

Chart 1-19: Annual changes in gross average wages and labour cost in the private sector and expected timing of next cuts in social contribution tax



Source: HCSO, MNB

expected to increase by 6-8 percent. In 2019, administrative measures will also add to the wage dynamics: according to our estimate, the restructuring of the cafeteria system and the contribution reduction in July may contribute to the rise in private sector wages by 1 percentage point (Chart 1-17).

The rapid wage growth in past years was allowed by the fall of the wage share to a historically low level, and thus the wage share caught up with its historical average (for more details, see Special topic 6.1). **In the coming years, as companies' leeway in wage setting is narrowing, growth in wages will increasingly be determined by productivity and competitiveness.** Over the forecast horizon, the increase in producer real wages (real labour cost) will be in line with the expansion in productivity (Chart 1-18).

The inflationary effect from the cost side will be moderated by the contribution reductions set forth in the wage agreement. Following the declines of 5 percent last year and 2.5 percent at the beginning of this year, the social contribution tax will decrease further in four steps of 2 percentage points each, depending on the rise in real wages. Based on next year's draft budget, the rate of the social contribution tax will be reduced by 2 percentage points as of 1 July 2019. Following that, according to our projection, the next contribution reduction may take place in early 2021 (Chart 1-19).

Box 1-2: Assumptions applied in our forecast

Hungary is a small, open economy, and as such our forecasts for the most important macroeconomic variables are fundamentally influenced by developments in external factors and changes in the assumptions related to such. The purpose of this brief presentation of the changes in the external assumptions is to make our forecasts more transparent (Table 1-3).

Table 1-3: Main external assumptions of our forecast

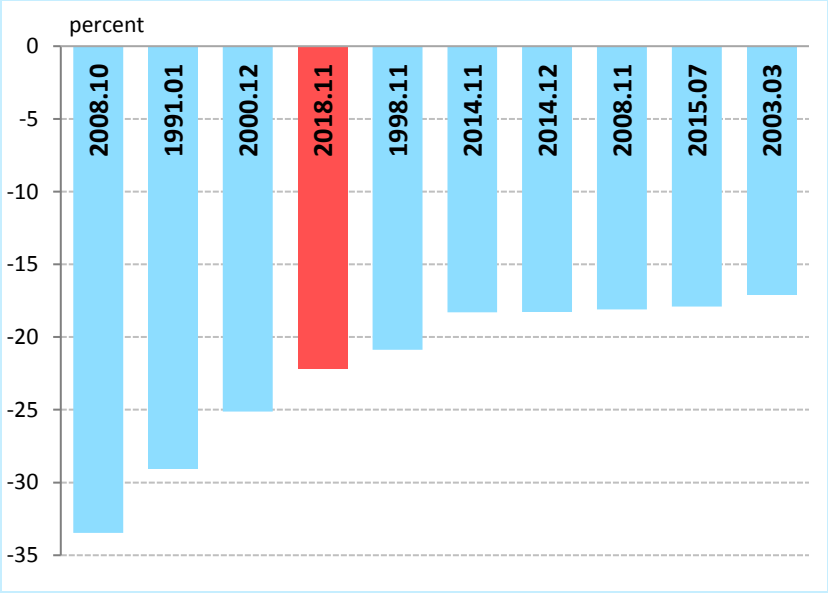
Technical assumptions	2018		2019		2020		2021	Change		
	Previous	Current	Previous	Current	Previous	Current	Current	2018	2019	2020
EUR/USD	1.19	1.18	1.16	1.14	1.16	1.14	1.14	-0.5%	-2.4%	-2.4%
Oil (USD/barrel)	73.4	71.4	75.4	61.1	71.8	61.2	61.2	-2.7%	-19.0%	-14.7%
Oil (EUR/barrel)	61.8	60.5	64.8	53.8	61.7	53.9	53.9	-2.1%	-17.0%	-12.6%
Food prices										
Wheat (USD/bushel)	4.99	4.94	5.60	5.31	5.91	5.75	5.99	-0.9%	-5.1%	-2.7%
Maize (USD/bushel)	3.65	3.67	3.83	3.87	4.09	4.12	4.23	0.6%	1.0%	0.8%
Euro area inflation (%)	1.7	1.8	1.7	1.6	1.7	1.7	1.8	0.1 pp.	-0.1 pp.	0 pp.
GDP growth of Hungary's main trading partners*(%)	2.6	2.5	2.5	2.4	2.4	2.3	2.2	-0.1 pp.	-0.1 pp.	-0.1 pp.

Note: Annual average in the case of oil prices. *Growth rate of Hungary's 21 most important export partners, weighted by share in exports. Sources: CBT, Bloomberg, OECD, Consensus Economics, MNB, ECB

Commodity prices

In the autumn months, oil prices fluctuated widely. On the news of the sanctions against Iran and as a result of the related uncertainty in supply, the price of Brent crude per barrel **soared to over USD 85 in September and early October**. The price rise was followed by a correction in the second half of October, and **by the end of November, prices had fallen to below USD 60, marking the fourth largest drop in oil prices since 1990** (Chart 1-20). Prices fell not only on account of the expansion of global oil production, but also because the US granted a temporary waiver to eight countries from the sanctions against Iran,[1] and therefore these countries can still import Iranian oil.

Chart 1-20: Top 10 monthly decrease in oil prices since 1990



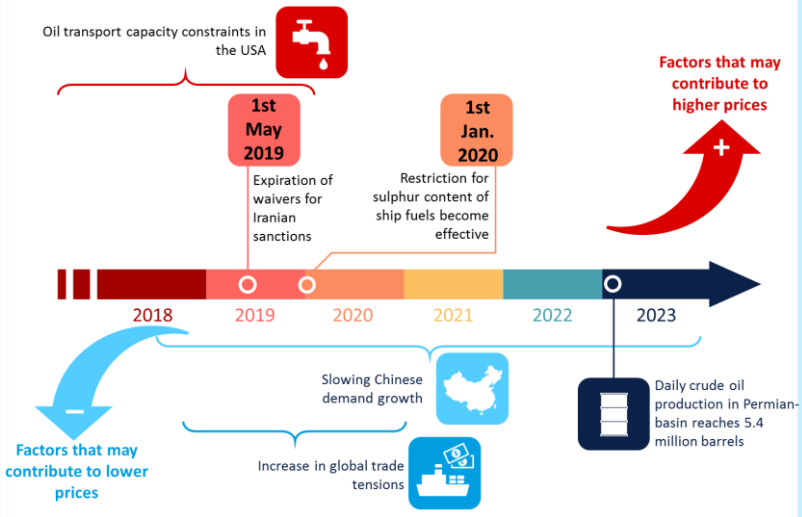
Note: Brent oil prices in USD at the end of the month compared to the price level at the end of the previous month. Source: Bloomberg

On the basis of futures quotations, **oil prices may develop at the same level over the forecast horizon, and thus we expect lower oil prices compared to the assumptions in the September Inflation Report.** Nevertheless, **price developments involve substantial uncertainties**: the December survey of Consensus Economics shows that experts' expectations for December 2019 oil prices vary widely (between USD 50 and USD 87.5). Medium-term oil price developments are mainly

[1] South Korea, Greece, India, Japan, China, Italy, Taiwan and Turkey.

influenced by supply and demand, expected world economic performance and changes in the financial market conditions (such as changes in the exchange rate of USD), of which the volume of production and consumption can be affected by several factors in the coming years (Chart 1-21).

Chart 1-21: Factors determining future oil price developments

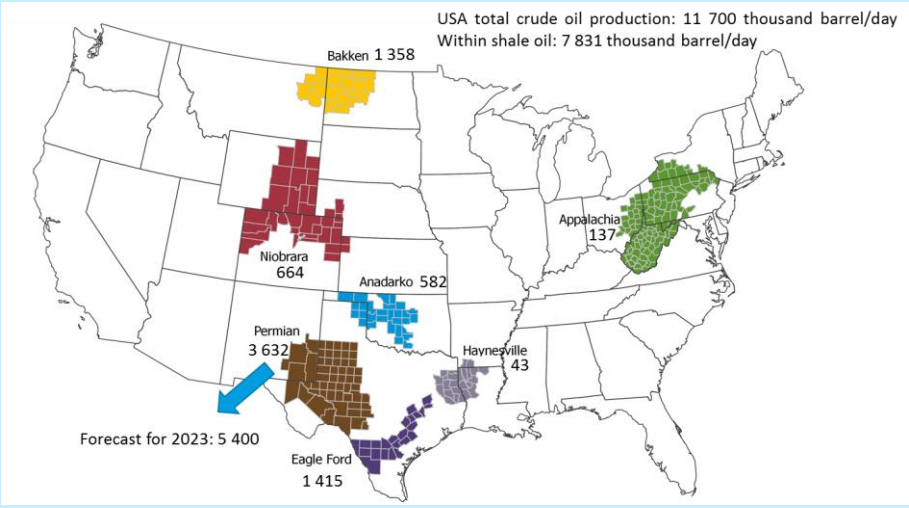


Source: MNB

Oil prices may also increase **as waivers from the sanctions against Iran expire in May 2019**, which may lead to a contraction in Iranian oil exports and global supply. **The regulation of the International Maritime Organisation effective from 1 January 2020**, which requires sea and ocean liners to use fuels lower in sulphur, may also bring about higher oil prices. However, **prices may be lowered by the developments in Chinese demand** (and China's increasing energy efficiency) **as well as the shrinking oil demand resulting from the potential heightening of trade tensions**.

The rapidly expanding American shale gas extraction may also point towards lower oil prices. The primary source of the growth may be the **Permian Basin** in New Mexico and Texas. The region provides one-third of the US shale oil production, and **its daily output has doubled in the past two years**. According to current forecasts, the Permian Basin's output may continue to rise dynamically in the next years, reaching 5.4 million barrels by 2023 (Chart 1-22), which would only be surpassed by Saudi Arabia's production among OPEC members. In addition, as a result of the technological developments undertaken by American producers in recent years, **production costs have nosedived, and currently various estimates put the production price per barrel between USD 20 and 40**. This means that extraction may remain economical in the region even in the context of lower oil prices, which supports production growth in the long run.

Chart 1-22: Largest US shale gas production regions



Source: EIA, MNB

At the same time, **considerable uncertainties surround the production developments in the region and the US**. Infrastructure and the amount of labour were unable to fully keep up with the recent dynamic expansion in the Permian Basin. Despite the ongoing investments, **the constricted capacity of pipelines may restrain production growth in the Permian Basin until the beginning of 2020**, and **the lack of an adequate amount of skilled labour may prove to be an obstacle even in the longer term**.

Compared to our previous projection, **our assumption concerning raw food prices remained practically unchanged.** Based on futures prices, **both wheat and corn prices are expected rise gradually in the coming years**. With regards to the EUR/USD cross rate, on a technical basis, a weaker euro is expected over the forecast horizon than in our September assumption.

External inflation

In the latest forecast of the European Central Bank, inflation in the euro area will fall to 1.4 percent by the end of 2019, in parallel with the fading effect of the previous oil price increase. After that, it gradually increases and reach 1.8 percent in 2021. Looking ahead, core inflation will gradually increase over the forecast horizon as a result of rising wages caused by the tightening labour market, and the improving cyclical position of the economy. Consequently, core inflation in the euro area is projected to rise to 1.8 percent annually in 2021. **The inflation forecast for this year is slightly higher, while for the next year it is slightly lower.** The revision of the forecast is explained by the volatile nature of oil prices in the recent period and the lower projection for core inflation. The more subdued core inflation compared to the September forecast is caused by the lower economic growth and the wage projection for the euro area.

External demand

Growth forecasts regarding the performance of the global economy were revised downwards. As a result of more restrained growth prospects in Germany and other economies relevant in terms of Hungarian exports as well as in view of the decline in the production of the German vehicle industry, **Hungary's external demand may fall short of the September assumptions**. Looking ahead, there are risks to European economic activity, such as an increase in global trade tensions, restrained industrial production, the adjustment seen in indicators of European economic activity, the slowdown of the Chinese economy and Brexit, which may have a negative impact on growth prospects in Hungary's export markets. Besides this, the financial and real economic risks from high Italian government debt and the expected fiscal policy may also influence the evolution of Hungary's external demand.

Fiscal assumptions

Recently, the Government has made decisions concerning **a reduction of the number of civil servants as well as pay rises in several steps for government officials and those working in health care and defence**. Compared to the forecast in the September Inflation Report, these measures increase public wage expenditures by annually rising amounts of 0.2 percent and 0.4 percent of GDP in gross terms in 2019 and 2021, respectively. In addition to minor changes, when the tax laws were adopted in the autumn, decisions were made to raise the road toll (its annual impact is some HUF 10 billion) and to terminate the possibility of offering the corporate tax to performing art organisations. **Over the entire forecast horizon, tax revenues may exceed earlier expectations**, and thus the deficit may also be lower than what was expected in the September Inflation Report.

Table 1-4: Changes in projections compared to the previous Inflation Report

	2017	2018		2019		2020		2021
	Actual	Projection						
		Previous	Current	Previous	Current	Previous	Current	Current
Inflation (annual average)								
Core inflation[1]	2.3	2.4	2.5	3.3	3.5	3.2	3.3	3.0
Core inflation excluding indirect tax effects	2.2	2.3	2.4	3.1	3.2	3.1	3.1	3.0
Inflation	2.4	2.8	2.8	3.1	2.9	3.0	3.0	3.0
Economic growth								
Household consumer expenditure	4.7	4.9	5.4	3.2	3.4	3.1	3.1	2.8
Government final consumption expenditure	1.8	1.1	1.9	0.7	1.0	0.8	1.0	0.5
Gross fixed capital formation	18.2	14.9	16.8	8.9	8.1	0.7	0.7	1.6
Domestic absorption	6.8	6.2	6.3	4.0	4.0	2.0	2.0	2.0
Exports	4.7	6.9	5.8	7.2	6.5	6.5	6.5	6.7
Imports	7.7	9.2	7.5	7.9	7.2	5.7	5.7	5.8
GDP	4.1	4.4	4.7	3.5	3.5	3.0	3.0	3.0
Labour productivity[6]	2.1	2.2	2.6	2.9	2.9	2.6	2.7	3.0
External balance[2]								
Current account balance	3.2	1.0	1.1	0.7	0.7	1.3	1.3	1.9
Net lending	4.2	2.9	2.8	3.0	2.7	3.3	3.1	3.1
Government balance[2,5]								
ESA balance	-2.2	(-2.2)-(-2.3)	(-2.0)-(-2.1)	(-1.7)-(-1.8)	(-1.6)-(-1.7)	(-1.4)-(-1.8)	(-1.4)-(-1.6)	(-1.4)-(-1.6)
Labour market								
Whole-economy gross average earnings[3]	12.9	10.5	11.0	7.9	8.5	6.8	6.9	6.9
Whole-economy employment	1.6	1.4	1.1	0.6	0.5	0.2	0.3	0.0
Private sector gross average earnings[3]	11.6	10.0	10.5	8.2	8.2	7.3	7.3	7.0
Private sector employment	2.2	1.8	1.4	1.0	0.9	0.3	0.4	0.2
Unemployment rate	4.2	3.5	3.7	3.4	3.6	3.3	3.5	3.4
Private sector nominal unit labour cost	3.2	5.2	5.1	3.1	3.6	3.2	3.2	2.1
Household real income[4]	6.1	6.0	6.1	2.9	3.0	2.5	2.6	2.4

[1] Based on seasonally unadjusted data.
[2] As a percentage of GDP.
[3] According to the HCSO data for full-time employees.
[4] MNB estimate.
[5] The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.
[6] Whole economy, based on national accounts data.

Table 1-5: MNB baseline forecast compared to other forecasts

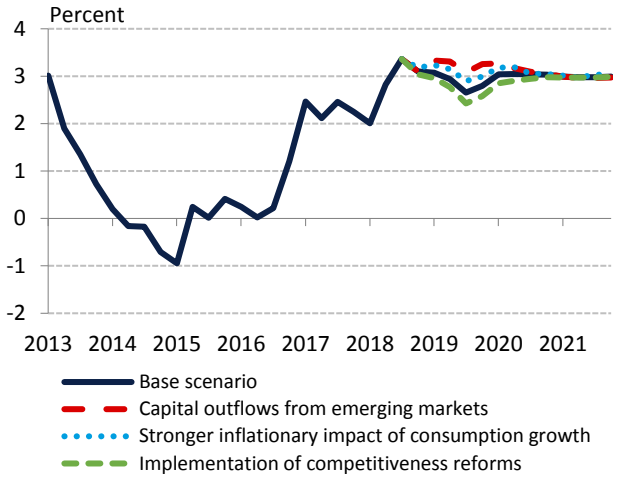
	2018	2019	2020	2021
Consumer Price Index (annual average growth rate, %)				
MNB (December 2018)	2.8	2.9	3.0	3.0
Consensus Economics (November 2018)[1]	2.7 – 2.9– 3.2	2.7 – 3.3 – 3.8		
European Commission (November 2018)	3.0	3.3	3.0	
IMF (October 2018)	2.8	3.3	3.0	3.0
OECD (November 2018)	3.0	4.0	4.0	
Reuters survey (December 2018)[1]	2.8 – 2.9 – 3.1	3.0 – 3.2 – 3.4	3.0 – 3.1 – 3.3	
GDP (annual growth rate, %)				
MNB (December 2018)	4.7	3.5	3.0	3.0
Consensus Economics (November 2018)[1]	4.1 – 4.4 – 4.8	2.0 – 3.3 – 4.2		
European Commission (November 2018)	4.3	3.4	2.6	
IMF (October 2018)	4.0	3.3	2.6	2.4
OECD (November 2018)	4.6	3.9	3.3	
Reuters survey (December 2018)[1]	4.6 – 4.7 – 4.9	3.2 – 3.7 – 4.2		
Current account balance[3]				
MNB (December 2018)	1.1	0.7	1.3	1.9
European Commission (November 2018)	1.2	0.0	0.3	
IMF (October 2018)	2.3	2.1	1.9	1.4
OECD (November 2018)	1.7	0.9	0.6	
Reuters survey (December 2018)	1.8 – 2.5 – 3.5	1.1 – 2.2 – 3.1		
Budget balance (ESA 2010 method)[3,4]				
MNB (December 2018)	(-2.0) – (-2.1)	(-1.6) – (-1.7)	(-1.4) – (-1.6)	(-1.4) – (-1.6)
Consensus Economics (November 2018)[1]	(-2.0) – (-2.4) – (-3.0)	(-1.7) – (-2.2) – (-3.0)		
European Commission (November 2018)	-2.4	-1.9	-1.8	
IMF (October 2018)	-2.4	-2.0	-1.9	-1.8
OECD (November 2018)	-2.4	-2.0	-2.0	
Reuters survey (December 2018)[1]	(-1.7) – (-2.2) – (-2.8)	(-1.7) – (-2.1) – (-2.8)		
Forecasts on the size of Hungary's export markets (annual growth rate, %)				
MNB (December 2018)	4.7	4.3	4.1	4.0
European Commission (November 2018)[2]	4.7	4.7	4.1	
IMF (October 2018)[2]	4.6	4.8	4.5	4.3
OECD (November 2018)[2]	3.7	4.3	4.2	
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)				
MNB (December 2018)	2.5	2.4	2.3	2.2
Consensus Economics (November 2018)[2]	2.5	2.2		
European Commission (November 2018)[2]	2.5	2.4	2.2	
IMF (October 2018)[2]	2.5	2.3	2.0	2.0
OECD (November 2018)[2]	2.4	2.2	1.9	

[1] For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies, we also indicate the lowest and the highest values to illustrate the distribution of the data.
[2] Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Certain institutions do not prepare forecast for all partner countries.
[3] As a percentage of GDP.
[4] The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used.
Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

2. EFFECTS OF ALTERNATIVE SCENARIOS ON OUR FORECAST

The macroeconomic outlook is surrounded both by upside and downside risks. In addition to the baseline projection in the December Inflation Report, the Monetary Council highlighted three alternative scenarios. The scenario that assumes the implementation of competitiveness reform may result in lower inflation and higher potential growth than the baseline scenario. In the case of the alternative scenario assuming a stronger inflationary impact from consumption growth, domestic economic growth will be more robust and inflation will be somewhat higher than in the forecast of the baseline scenario. In the case of the scenario that presents the capital outflow from emerging markets the rise in risk spreads will result in slower growth and a higher inflation path compared to the baseline scenario. In addition to the scenarios set forth above, the Monetary Council discussed, as further risks, a scenario that assumes more subdued external demand, an increase in market uncertainties over Italy and a lasting rise in oil prices.

Chart 2-1: Impact of alternative scenarios on the inflation forecast



Source: MNB

Implementation of competitiveness reforms

According to our estimate GDP has been close to potential output, slightly above it. In the current cyclical situation, competitiveness measures that expand supply, i.e. potential output, are of key importance. In the alternative scenario, we take into account a comprehensive package of measures aimed at boosting competitiveness. These targeted measures stimulate economic growth from the supply side, resulting in an **expansion in potential output and faster economic growth**. Due to the rise in potential output, the output gap will be more closed, restraining the rate of increase of prices.

In the baseline scenario, the increase in productivity is basically the result of cyclical factors. Rising labour productivity is usually typical in the current phase of the economic cycle, but this is not the same as the long-term effect on productivity of the comprehensive competitiveness reform package.

In our alternative scenario, the comprehensive package of government measures aimed at improving competitiveness further stimulates the economy from the supply side. As a result of the higher potential GDP, the output gap may be more closed, resulting in a lower inflation path. Taking the lower inflation path into account, compared to the baseline scenario, **looser monetary conditions may materialise** over the forecast horizon.

Stronger inflationary impact of consumption growth

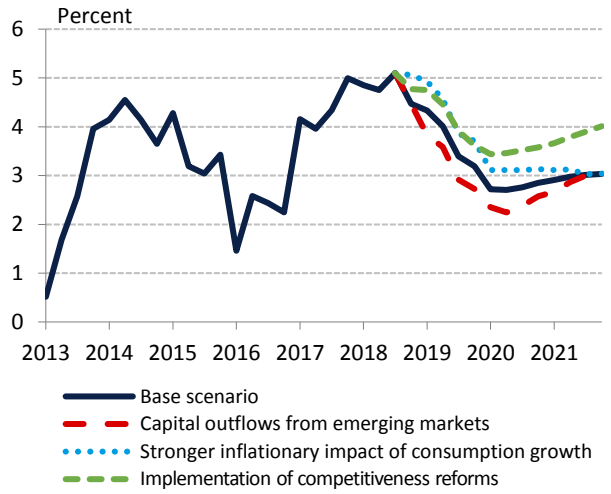
In the past period, household consumption continued to expand dynamically. **If the expansion in household consumption, and thus in domestic demand, exceeds our expectations, there may be an upside inflationary risk.** Although on the basis of domestic and international experiences the change in the cyclical position of the economy results in a more moderate inflationary effect compared to the pre-crisis correlation, **the cyclical position of the economy may affect the degree of the impact of the expansion in consumption on inflation**. Consumption

growth in a favourable demand environment may result in a higher rise in inflation compared to previous experiences, and based on historical experiences, **the correlation between demand and core inflation may become stronger.**

In our baseline scenario, household consumption continues to expand, which is supported by favourable income developments, high net financial wealth and consumer confidence as well as the second-round effects of the pick-up in the housing market. The inflationary effects from rising consumption remain subdued, in line with previous years' experiences and anchored inflation expectations.

According to the assumptions of **our alternative scenario**, the expansion in consumption will exceed our expectations. In addition, the structure of consumption growth will also increasingly shift towards services. As a result of the faster consumption growth, companies' leeway in terms of pricing will expand, and thus the impact of demand on core inflation may strengthen. In the case of a stronger impact of the dynamic consumption growth on core inflation than observed before, compared to the baseline scenario, **tighter monetary conditions ensure the achievement of the inflation target.**

Chart 2-2: Impact of alternative scenarios on the GDP forecast



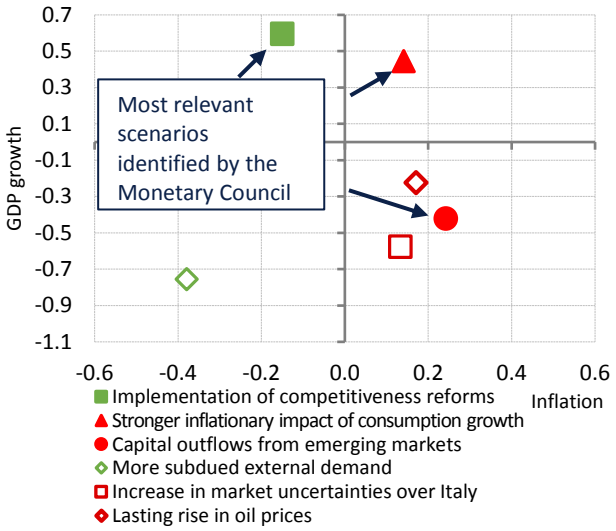
Source: MNB

Capital outflows from emerging markets

In past months, **the Fed continued to gradually tighten monetary conditions, and rising US yields were coupled with mounting risk aversion.** Due to the deterioration in emerging market sentiment, the volatility of financial markets increased considerably, which was also reflected in a fall in stock market price indices as well as in continued capital outflows from emerging markets. Compared to the Asian and Latin American regions, emerging European countries were less affected by capital outflows. **At the same time, the inflationary risks appearing indirectly as a result of capital outflows from the emerging markets led to various monetary policy responses** due to the peculiarities of the inflation targeting systems of the central banks in the region. **The fundamentals of the Hungarian economy are stable**, but as a result of the further rapid tightening of the Fed's monetary policy and the continued capital withdrawal, **upside risks to inflation can be identified through the decline in domestic asset prices**.

In the baseline scenario, in addition to sustained favourable market sentiment, we expect gradual tightening by the world's leading central banks and continued but moderate capital outflows from emerging markets.

Chart 2-3: Risk map: effect of alternative scenarios on the baseline forecast



Note: The risk map presents the average difference between the inflation and growth path of the alternative scenarios and the baseline forecast on the monetary policy horizon. The red marker means tighter monetary policy and the green markers mean looser monetary policy as compared to the baseline forecast.

Source: MNB

In the alternative scenario, we assume that – due to the Fed's faster-than-expected interest rate hikes and an increase in uncertainties related to certain emerging countries – the rate of capital outflows will accelerate, resulting in higher volatility on the financial markets. The decline in domestic asset prices generates higher inflation than in the baseline scenario. On the whole, all of this **warrants a tighter monetary policy** compared to the baseline scenario.

Other risks

In addition to the scenarios highlighted above, the Monetary Council considered three more alternative scenarios. The scenario that assumes **more subdued external demand** points to lower growth and lower inflation paths than the baseline scenario. The scenario that assumes **an increase in market uncertainties over Italy** is consistent with a lower growth path and higher inflation path compared to the baseline scenario. A **lasting rise in oil prices** suggests a higher inflation path.

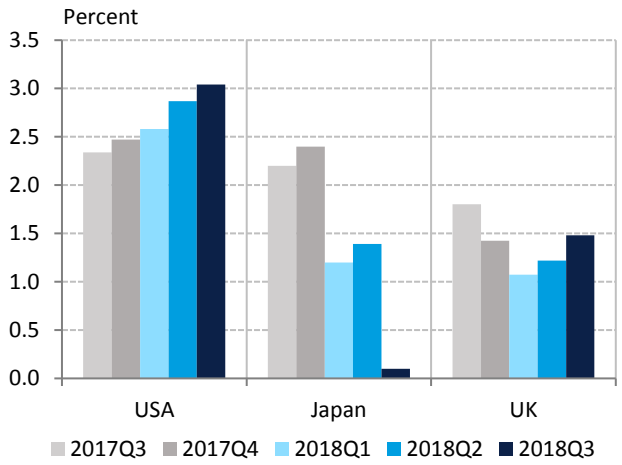
3. MACROECONOMIC OVERVIEW

3.1. Evaluation of international macroeconomic developments

Global economic expansion continued in 2018 Q3, while risks strengthened. The Visegrád region is still the growth centre of the European Union. Due to the weaker growth prospects and the significantly decline in commodity prices, the expected interest rate path of the globally dominant central banks shifted downwards in the past quarter. In the region, the decision-makers of the Czech National Bank raised its policy rate in September and November as well, while the Polish and Romanian central banks did not change monetary conditions in the previous quarter.

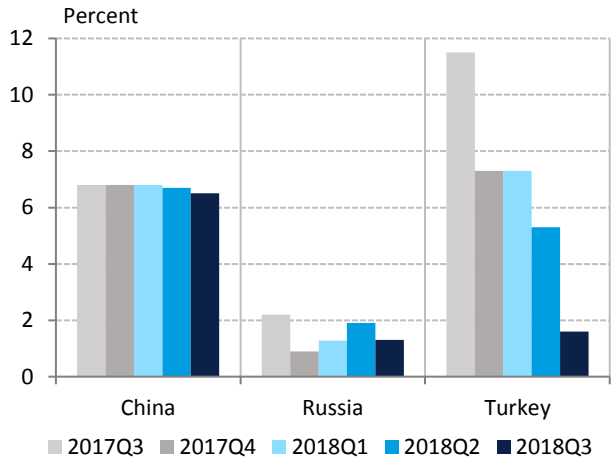
3.1.1. Developments in globally important economies

Chart 3-1: Annual changes in GDP in certain key global economies



Note: Seasonally adjusted series.
Source: OECD

Chart 3-2: Annual changes in GDP in some emerging economies



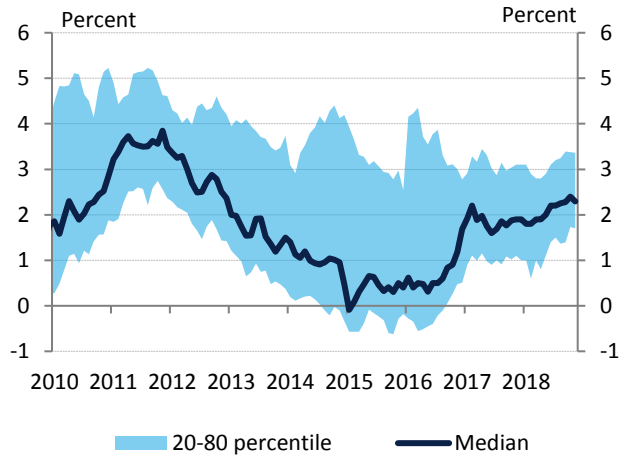
Source: Trading Economics

The **US economy expanded** at the fastest pace since 2015, **producing a rate of 3.0 percent year-on-year, in 2018 Q3** (Chart 3-1). Growth was mainly driven by household consumption, with a strong contribution from tax reform adopted at the end of last year which reduced the personal income tax rate. The economic expansion was also helped by corporate investments and government spending. Net exports curbed growth considerably, which was offset by large inventory investments. The **growth prospects of the US economy are favourable on the whole**, supported by the tax cuts and the economic stimulus effects of the infrastructure investment programme. However, the end of the growth supporting measures represents a downside risk to economic performance from 2020. Moreover, due to the significant weight of the US within global imports, **the measures that increase trade tensions may have a substantial impact on the growth of the global economy**.

Economic growth in the UK continued in the third quarter, but remains below the growth rate from last year. The expansion of the economy was mainly driven by household consumption, and exports also contributed positively to the performance. Corporate investments reduced economic growth, which was also influenced by investments postponed on account of Brexit. In spite of the recent progress in the negotiations, the conditions for the exit process are still unclear, which entails downside risks for medium-term growth prospects. The **Japanese economy stagnated in annual terms, while compared to the previous quarter, economic growth was 0.6 percent slower in Q3** (Chart 3-1). On account of natural disasters, a wide range of expenditure items dropped.

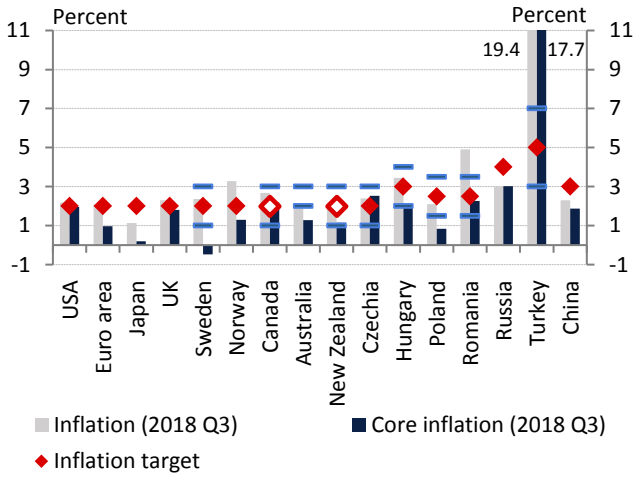
Among the major emerging countries, the Chinese economy expanded at a rate of 6.5 percent in 2018 Q3 (Chart 3-2). The reported data was slightly below analysts' expectations. The economic expansion is mainly related to household consumption, although investment also contributed to growth. Net exports moderated the economic performance, which is mainly attributable to the slowdown in exports related to higher tariffs. The potential

Chart 3-3: Global inflation developments



Note: Percentage change on the same period of the previous year, based on data from 43 developed and emerging countries.
Source: OECD

Chart 3-4: Inflation targets of central banks, actual inflation and core inflation



Note: The blue lines represent the inflation control range in Australia, Canada and New Zealand, while in other countries they mark a permissible fluctuation band. In Canada and New Zealand the mid-point of the target band is accentual, which is marked by empty diamond. The core inflation is based on OECD calculations of the annual change of the consumer prices index which excluded energy and food prices. In case of the USA, we used PCE core inflation data.
Source: OECD, FRED, National Institute of Statistics Romania

escalation of trade tensions poses downside risks to the growth prospects of the Chinese economy. **In Russia, economic growth decelerated** in the third quarter, mainly as the result of more muted performance in construction and agricultural output.

Global inflation has been volatile in the past months (Chart 3-3). **Inflation rates rose slightly until October**. In most developed countries, inflation was close to and sometimes even surpassed the central bank targets in the third quarter (Chart 3-4). Subsequently, in November global inflation decreased due to the fall in commodity prices, primarily in oil prices (Chart 3-5).

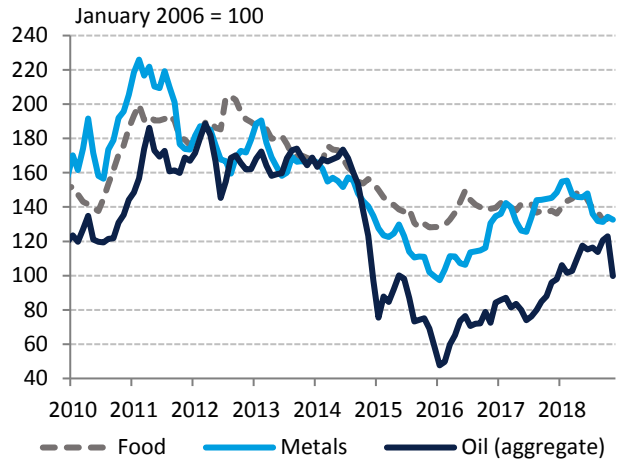
Following the 25-basis point interest rate hike in September, the decision-makers of the Fed left the policy rate unchanged in November as expected. Based on the median of the decision-makers' forecasts, another 25-basis point increase is expected, consistent with market pricing. In October, the limit on the reinvestment of maturing securities reached its long-term value presented in the normalisation strategy, and therefore, *ceteris paribus*, the Fed's balance sheet total will diminish by USD 600 billion per year (Chart 3-6).

In the past quarter, the Bank of Japan did not change the monetary conditions, continuing to align its Quantitative and Qualitative Easing Programme with the 0-percent long-term yields. Since the announcement of yield curve targeting, the rate of monthly purchases has declined further. The central bank wishes to permanently maintain the current extremely low level of short- and long-term interest rates. In the September forecast, the inflation path shifted downwards over the whole horizon relative to earlier expectations. According to the decision-makers, the output gap is positive and the labour market is even tighter, but inflation has not shown any major convergence towards the inflation target.

The decision-makers of the Bank of England did not change the base rate and the asset purchase programme at their October meeting. According to the November forecast, inflation will be above target due to external factors, which is projected to persist for most of the forecasting period, before the indicator reaches 2 percent by the end of the third year. Decision-makers believe that the monetary policy response to Brexit will not be automatic, irrespective of its form, and it could go in any direction.

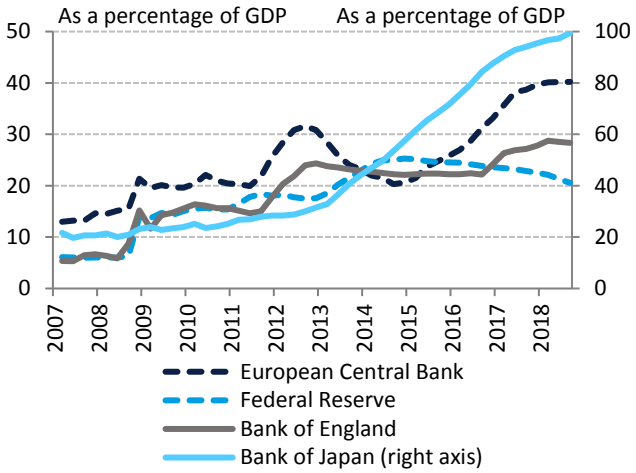
Contrary to the expectations, the Russian central bank raised the key interest rate by 25 basis points, to 7.5 percent, in September. This was the first hike since

Chart 3-5: Major commodity price indices



Note: Calculated from prices in USD.
Source: World Bank

Chart 3-6: Central bank balance sheet totals in developed countries



Source: Databases of central banks, Eurostat, FRED

2014 on account of the growing inflationary pressure, the weakening ruble and US sanctions. Although the central bank indicated in the press release on the decision that further interest rate increases could be expected, **they did not change the base rate at their October meeting**, citing the stabilisation of the financial market.

The Chinese central bank cut the reserve requirement ratio by 1 percentage point in October. This measure was necessary to further support the real economy, optimise the liquidity profile of commercial banks and financial markets, reduce financing costs and stimulate lending to SMEs, non-state-owned and innovative companies. According to the central bank's press release, banks need to spend a portion of the funds from the reduction of the reserve requirement ratio on repaying the funds drawn down from the Chinese central bank's Medium-term Lending Facility. However, in addition to the repayments, additional capital in the amount of CNY 750 billion will become available to the banking system.

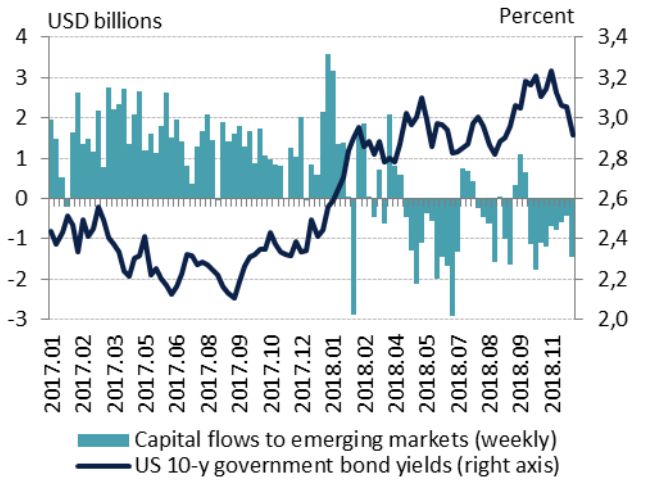
Risk appetite has contracted in the past quarter, affecting both developed and emerging markets. Investor sentiment has recently been dampened, mainly due to the raising of the Italian budget deficit target, news about the deceleration of global growth and the mixed perception of US corporate flash reports. Bond markets were also risk-averse in this quarter, with disinvestments amounting to some USD 6 billion in emerging bond markets in the past three months (Chart 3-7).

Over the course of the period, market expectations for interest rate hikes by developed-country central banks initially increased and then turned downwards, as growth prospect deteriorated and oil prices slumped, so overall expectations about the interest rate increase of the Fed and the ECB have dropped to around the level in September. The 10-year US yield rose to 3.2 percent in the third quarter and dropped to the September level of 2.9 percent at the end of the period. At the same time, German 10-year yields were down by some 20 basis points. In the risk-averse sentiment, developed-market stock prices weakened by 5–10 percent in the past three months. Volatility rose most markedly in US equity markets, with the VIX index rising from 12 to 21 percent.

3.1.2. Developments in the euro area

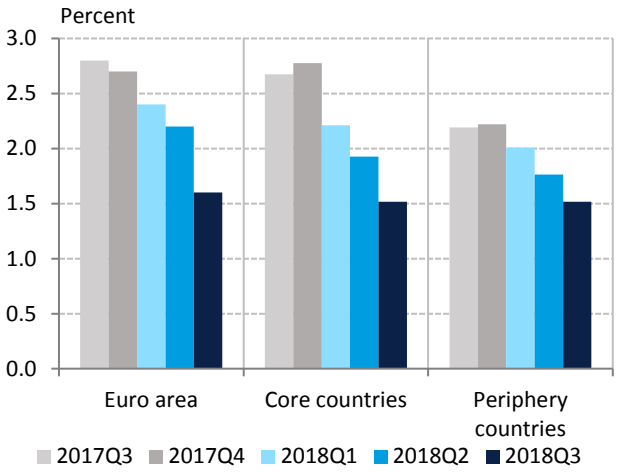
The euro area economy expanded by 1.6 percent year-on-year in 2018 Q3, slower than the rate from the previous year (Chart 3-8). The economic performance of **Germany**, Hungary's largest trading partner, **decelerated substantially** in the third quarter. The 1.2 percent year-on-

Chart 3-7: Capital flows to emerging markets (weekly) and US 10-y government bond yields



Source: EPFR, Bloomberg

Chart 3-8: Annual changes in euro area GDP



Note: Seasonally and calendar adjusted series. Periphery countries (Portugal, Italy, Greece, Spain), Core countries (Belgium, Germany, France, Netherlands, Austria).

Source: Eurostat

year growth was mainly supported by investments, while household consumption was rather muted. In line with weak industrial output, exports were lower than in the previous quarter. The growth of euro area **core countries** was consistent with the growth of periphery countries, supported by the expansion of the Austrian economy (+2.4 percent) and Dutch economy (+2.3 percent). The growth of **periphery countries** decelerated in most of the countries that constitute the region.

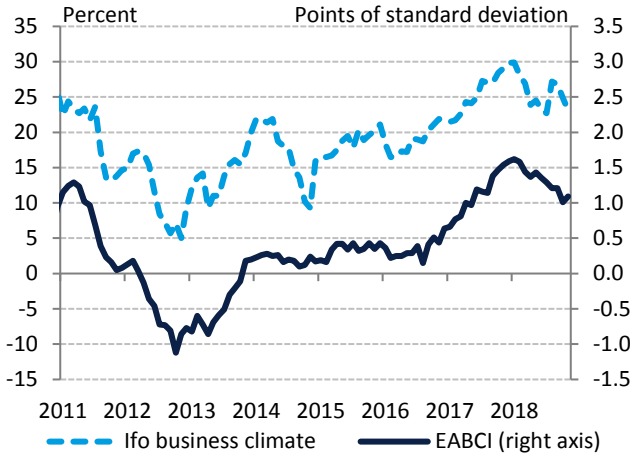
Both the business confidence index capturing the prospects of the euro area (EABCI) and the expectations for the German economy (Ifo) declined in the past period (Chart 3-9). The lower values are primarily explained by the weakening of the business prospects of the responding companies. **With respect to the growth prospects of the euro area, downside risks have strengthened** (the expansion of measures curbing trade, the vulnerability of the Italian economy arising from high government debt, Brexit and the slowdown of the Chinese economy). As far as longer-term growth prospects are concerned, slow expansion in productivity continues to pose risks.

In line with the volatile trend in global oil prices, inflation in the euro area rose to 2.2 percent by October and then fell to 2.0 percent in November. Accordingly, inflation is close to the 2-percent central bank target in most Member States. By contrast, **core inflation continues to indicate muted price dynamics**. 5-year inflation expectations 5 years ahead still fall short of the ECB's inflation target.

At its October and December meeting, the Governing Council of the European Central Bank left the key interest rates unchanged. According to the press release, policy rates in the euro area will remain at their current levels at least "through the summer" of 2019, or even after that if necessary. According to the ECB's decision in December, net purchases will continue in the asset purchase programmes in the amount of EUR 15 billion until the end of December 2018, with the purchases to be terminated after that. The reinvestment of maturing securities purchased within the framework of the asset purchase programmes will continue well after the first increase of the base rate. According to market expectations, the key interest rates will remain at their present levels at least until the beginning of 2020.

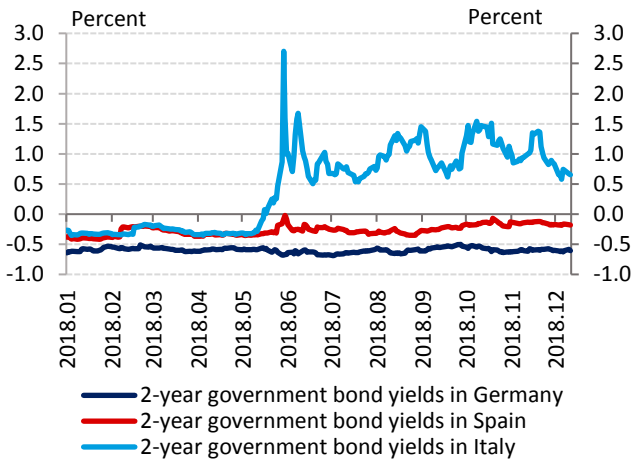
Among the periphery countries of the euro area, Italian asset prices came under pressure during the period, while there was no similar observable risk aversion in the case of Portugal or Spain. On account of the dispute between the new Italian government and the European Commission over the submitted Italian budget draft and the risk of an

Chart 3-9: Business climate indices for Germany and the euro area



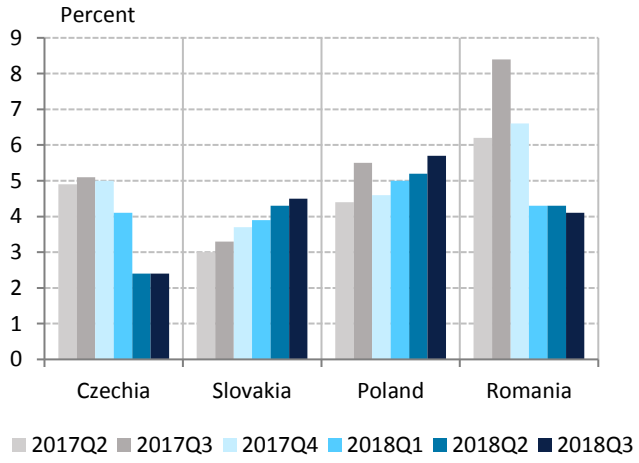
Source: European Commission, Ifo

Chart 3-10: 2-year government bond yields in Germany, Italy and Spain



Source: Bloomberg

Chart 3-11: Annual changes in GDP in CEE countries



Note: Seasonally and calendar adjusted series. In the case of Slovakia, only seasonal adjustment.

Source: Eurostat

excessive deficit procedure, Italian short-term and long-term yields rose by some 60–70 basis points by the second half of November, while the Italian CDS spread increased from 227 to 290 basis points. However, by the end of November the Italian government softened its previously unwavering position about reducing the deficit target, which resulted the CDS spread and the two-years government security yield decreasing to the September level (Chart 3-10).

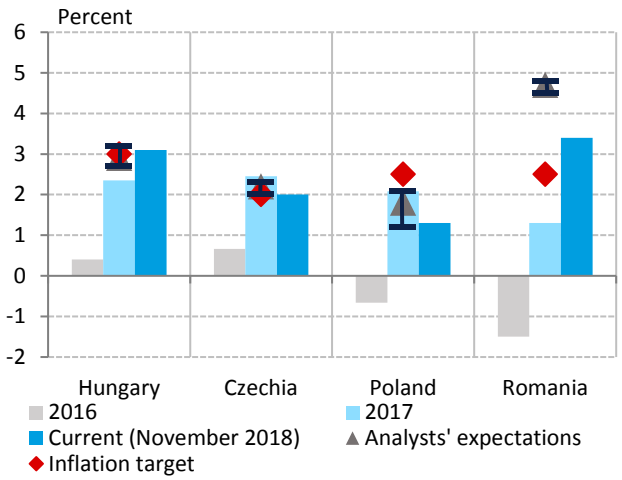
3.1.3. Developments in the CEE region

As in the previous quarters, the CEE region proved to be the engine for European Union growth in 2018 Q3 again (Chart 3-11). Poland, Slovakia and the Czech Republic recorded economic growth of 5.7 percent, 4.5 percent and 2.4 percent, respectively, in Q3. Looking at the region as a whole, growth was mainly supported by domestic demand. After exceptional growth in 2017, the Romanian economy's performance decelerated further in the third quarter, as the Romanian GDP grew by 4.1 percent of GDP year-on-year.

Overall, inflation decreased in the countries of the region in recent months. In the Czech Republic, inflation gradually declined towards its target in the recent period, coming in at 2.0 percent in November. In Poland, the rate of price increase decelerated somewhat, with the price index at 1.3 percent in November. Romanian inflation dropped from 5.1 percent in August to 3.4 percent in November, thus decreasing below the upper limit of the tolerance band around the inflation target. According to the November forecast of the central bank, inflation will continue to decrease. Based on the November consensus forecast, this year's average inflation will be close to central banks' target in most countries of the region, even surpassing it by a wide margin in Romania (Chart 3-12). Core inflation has gradually moderated in the Czech Republic since the summer months, while it remained basically unchanged in Romania and rose in Poland during the period.

Among the central banks in the region, the decision-makers of the Czech National Bank decided to raise the policy rate by 25 basis points in both September and November. Based on the latest projection of the central bank, inflation will fall to the 2 percent target later than predicted, by the end of 2019 or early 2020. If the forecast turns out to be correct, no further interest rate increases can be expected this year, although a weaker-than-expected koruna exchange rate may even prompt such a measure. **During the past quarter, the Polish central bank's decision-makers did not change the policy rate.** The central bank's statements suggest that the base rate may

Chart 3-12: Inflation targets of central banks, inflation, and economic agents' expectations



Note: Analyst's expectations relate to annual average in 2018.
Source: OECD, Trading Economics, National Institute of Statistics Romania, Consensus Economics

remain unchanged at least until end-2019. According to the latest forecast, inflation may be close to the target over the transmission horizon of monetary policy. Based on the assessment of the council members, the stable interest rates support the achievement of the inflation target as well as the sustainable growth and the macroeconomic stability of the Polish economy. **The Romanian central bank's decision-makers did not change the monetary conditions in the past period.** According to the November forecast of the central bank, inflation will continue to decrease and return to the upper bound of the tolerance band by the end of the year, and then it may be in the upper section of the tolerance band over the forecast horizon.

Box 3-1: The future of the monetary policy stances of the ECB and the Fed

Following the outbreak of the crisis, in reaction to the unfavourable macroeconomic developments, the Federal Reserve (Fed) and the European Central Bank (ECB) were among the first to start their respective interest rate cut cycles. The central bank policy rates declined to historical lows, reaching their nominal lower bound. At the same time, while Fed quickly reached the nominal lower bound in 2008, the ECB ended its interest rate cut cycle – temporarily interrupted with two interest rate hikes in 2011 – in 2016.For the necessary further easing, **the central banks introduced unconventional instruments**. The timing, type and extent of unconventional instruments were significantly different in the case of the two central banks. The Fed began the quantitative easing simultaneously with the launch of the interest rate cut cycle, while the ECB subsequently introduced and implemented unconventional measures more slowly and initially to a lesser extent than the Fed (Table 3-1).

Table 3-1: Development of the monetary policy stances of the ECB and the Fed

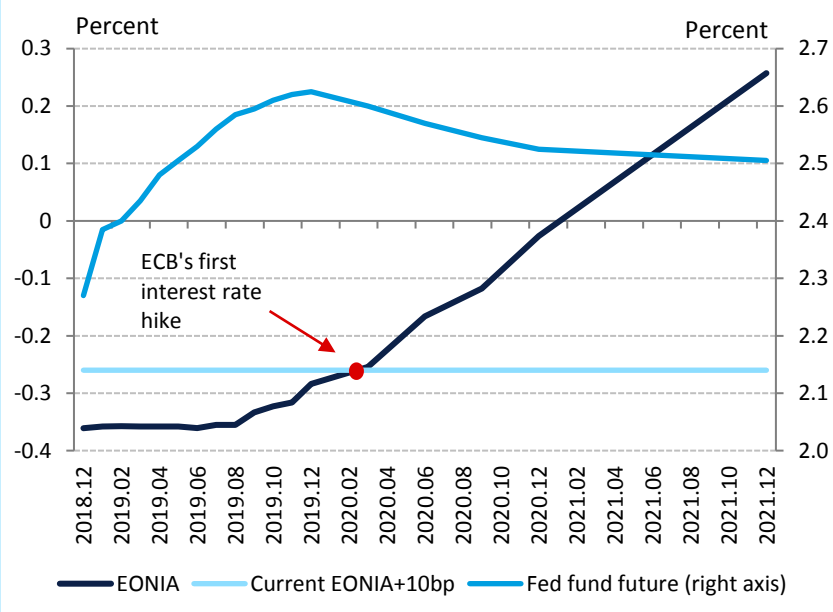
		2008	2009	2010	2011	2012-2014	2015-2016	2017-2018	2019-2020*
Fed	interest rate	↓	-	-	-	-	↑	↑	↑
	balance sheet	↑	↑	↑	↑	↑	-	↓	↓
EKB	interest rate	↓	↓	-	↑	↓	↓	-	↑
	balance sheet	-	-	-	↑	↓	↑	↑	↓

Note: Green areas mean loosening, red areas mean tightening and yellow means no change. *Our baseline projection.
Source: MNB

The divergence between the two central banks started after the 'tapering talk', which has been reflected in interest rates and the development of central bank balance sheets since 2015. The Fed ended its quantitative easing in October 2014, launched its interest rate hike cycle in December 2015, and started deleveraging in October 2017. In 2017 and 2018, the European Central Bank gradually reduced the amount of asset purchases, but the markets did not yet consider it a sufficiently strict measure, and they priced it in advance. In the case of the ECB, June 2018 may be deemed the first step towards the normalisation, when the amendment of the forward guidance and the announcement that the government securities purchase programme would be closed by end-2018 took place simultaneously. According to the new forward guidance, the ECB's policy rates will remain at the current levels at least through the summer of 2019, or even after that if necessary.

In our baseline scenario, we expect convergence of the monetary policy stances of the ECB and the Fed. At the same time, normalisation is surrounded by downside risks in the case of both central banks and divergence may even come to the fore again (Chart 3-13).

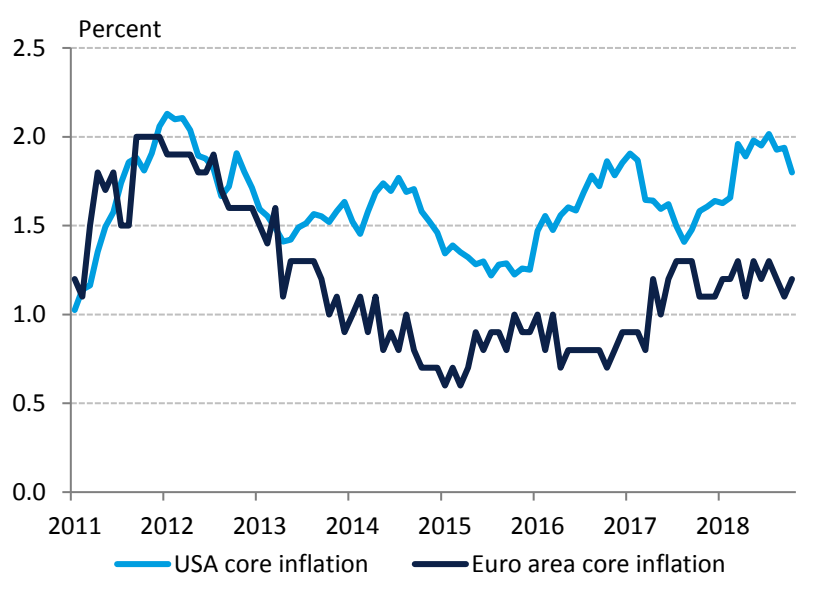
Chart 3-13: Expected interest rate path on the basis of market pricing in the euro area and in the USA



Note: Expectation on December 14, 2018.
Source: Bloomberg

In the past period, the **deterioration of US growth prospects and the mounting risk of recession generated some uncertainty about the further path of the Fed's interest rate hikes**. The rise in downside risks is also illustrated by market pricing, as this indicates 2 additional interest rate hikes in 2019, but an interest rate cut from 2020. The Fed's decision-makers have different opinions concerning the outlook for normalisation; based on the September dot plot, 4 FOMC members each expect 2, 3 and 4 interest rate hikes for 2019. **In the past period, market expectations concerning the commencement of the ECB's interest rate hikes shifted to a later date, with the market pricing in the first rate hike for 2020 Q1.** This is primarily due to the weaker-than-expected macroeconomic data and the lower indicators of economic activity. The Q3 growth figure was below expectations, and the fall in the PMI composite index indicates further deceleration in the euro area. All of this may weaken underlying inflation developments. Inflation has been rising in the euro area since the start of the year, although core inflation remains low (Chart 3-14). **As far as the ECB's and the Fed's future monetary policy stances are concerned**, due to the downside risks both central banks may implement a relatively looser interest rate path, and therefore global conditions will tighten to a lesser degree.

Chart 3-14: Development of core inflation in the euro area and in the USA



Note: Euro area HICP excluding energy and unprocessed food, USA PCE excluding food and energy.

Sources: Eurostat, FRED

3.2. Analysis of the production and expenditure side of GDP

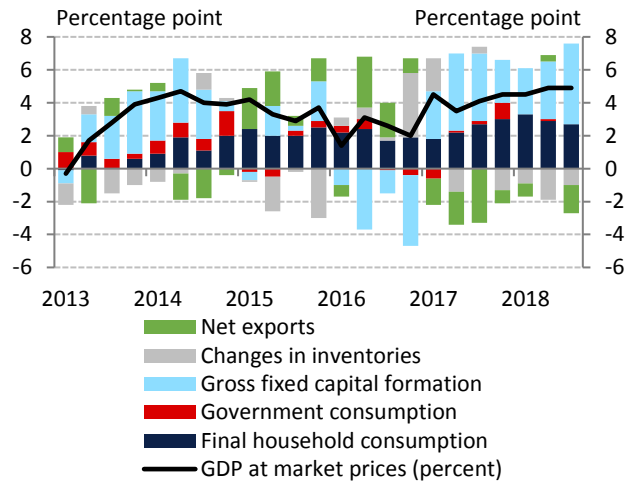
Economic growth in Hungary continued to pick up in the third quarter of this year. A wide range of sectors contributed to the 4.9 percent growth in gross domestic product. In the expenditure approach, domestic demand items – consumption and investment – continued to contribute to growth to the largest degree, while the contribution of net exports to growth was negative. In the production approach, in addition to continued growth in market services, contributions to GDP growth also came from construction as well as industrial sectors – mainly the chemical industry, food industry and metal industry.

In 2018 Q3, gross domestic product increased by 4.9 percent year on year, while compared to the previous quarter GDP expanded by 1.3 percent. As before, economic growth was supported by domestic demand, primarily through the pick-up in consumption and investment. Growth in exports of goods and services declined in Q3. In parallel with the increase of domestic demand items, the growth dynamics of goods imports exceeded the growth rate of exports, and thus the contribution of net exports to GDP growth was negative in the period between July and September (Chart 3-15).

Household consumption continued to expand in 2018 Q3. In parallel with the upswing in the housing market cycle, **the rise in spending on durable and semi-durable goods**, which have a high recovery potential, **significantly exceed the aggregate expansion in consumption**. The consumption of durable products rose 14.4 percent, while purchases of semi-durable goods expanded by 9.6 percent in Q3 (Chart 3-16). In addition, the **consumption of services expanded by 6.8 percent** in Q3 of this year, exceeding the **aggregate expansion in consumption,** which is considered to be outstanding growth by historical standards as well. Dynamic wage increases and continued expansion in employment supported growth, as well as the high consumer confidence, willingness to borrow and net financial worth (Chart 3-17). The dynamics of consumption growth are corroborated by the retail trade turnover of October as well, which shows a rise of 6.6 percent on the basis of preliminary data (Chart 3-18). The upswing in households' investment activity was in line with the increase in real incomes of households.

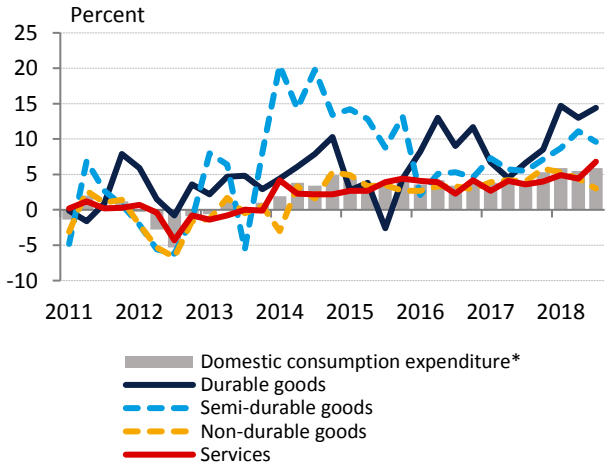
Household loans outstanding rose nearly 4 percent in the past one year, which means stagnation in real terms. In 2018 Q3, household loans outstanding to the overall financial intermediary system expanded by HUF 130 billion as a result of disbursements and repayments, corresponding to annual loan dynamics of 3.8 percent. The annual average growth in the volume of loan agreements concluded with households was 27 percent. Within that, the extension of new housing loans and personal loans increased by 39 percent and 49 percent, respectively. The issue of housing loans was already close to the pre-crisis volume, but in real terms it is still significantly lower, and

Chart 3-15: Contribution to annual changes in GDP



Source: HCSO

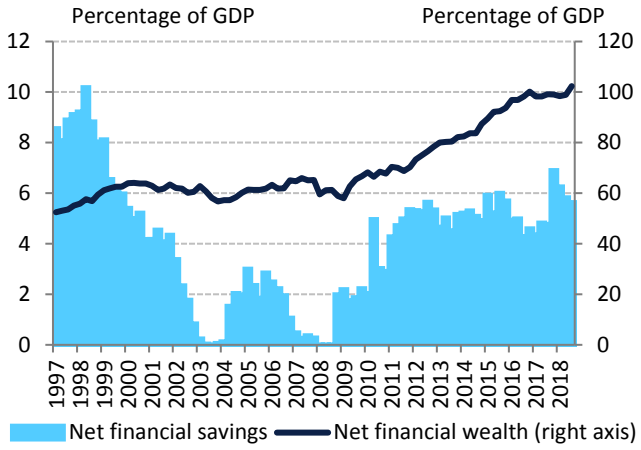
Chart 3-16: Annual change in aggregate consumption and its subcomponents



Note: *Domestic consumption expenditure does not include the balance correction for tourism and therefore differs from household consumption expenditures in the national accounts data.

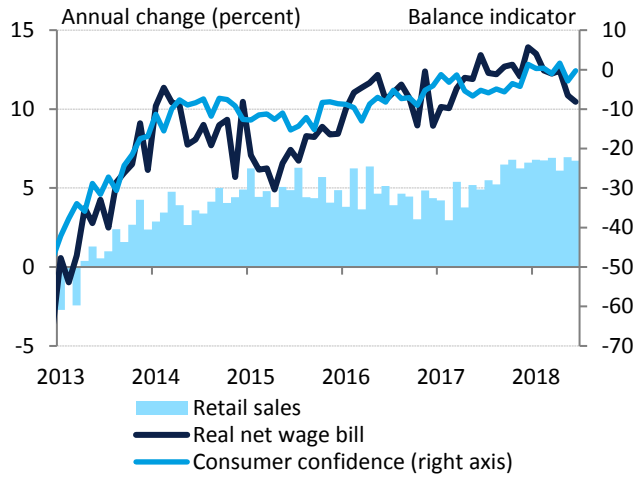
Source: HCSO

Chart 3-17: Net financial savings of households



Note: Seasonally adjusted series.
Source: HCSO

Chart 3-18: Developments in retail sales, income and the consumer confidence index



Note: Seasonally adjusted retail sales series.
Source: European Commission, Eurostat, HCSO

the prevailing debt cap rules protect the household sector from the risk of excessive indebtedness. Among the housing loans taken out during the quarter, the ratio of loans with interest rates fixed for a period of more than one year rose to 87 percent, while the share of certified consumer-friendly housing loans (within the issues with an interest rate fixation of at least 3 years) increased to nearly 60 percent. According to responses to the Lending Survey, banks continue to perceive strong demand for both housing loans and consumer loans, and expect the same for the next half year as well. Housing market developments and the significant wage dynamics continue to support households' investment and consumption objectives.

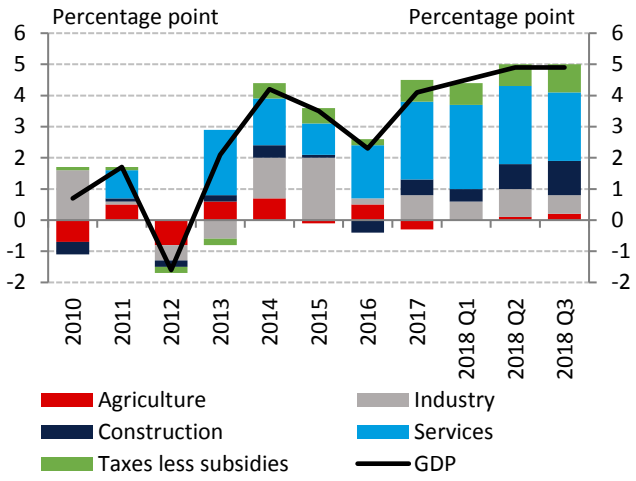
Value added increased in all sectors. In line with rising domestic demand, market services contributed to economic growth in Q3 (Chart 3-19). Growth was also significant in trade, catering, professional, scientific and the administrative services sector (Chart 3-20). The dynamics of government-related services were unchanged in year-on-year terms.

In 2018 Q3, the level of public consumption remained unchanged, while the volume of in-kind social benefits received from the government increased considerably year-on-year.

In 2018 Q3, whole-economy investments rose by 22.1 percent year-on-year (Chart 3-21). The investment of companies producing and providing services for the domestic market accelerated compared to the previous quarter, which is partly attributable to the pick-up in investment activity by the trade and construction and the accommodation services and catering sectors. The investment of sectors producing mainly for external markets increased slightly, supported by several manufacturing subsectors (manufacturing of electric equipment, metal-working and electronics industry), but at the same time the performance of the vehicle industry, which has a high weight, declined. Brisk expansion in investment was observed in public sectors (health care, public administration) and in sectors closely related to the public sector (transport, energy) – primarily as a result of developments implemented from EU and own funds. **In line with the buoyant investment activity, the dynamic increase in construction output continued in Q3.**

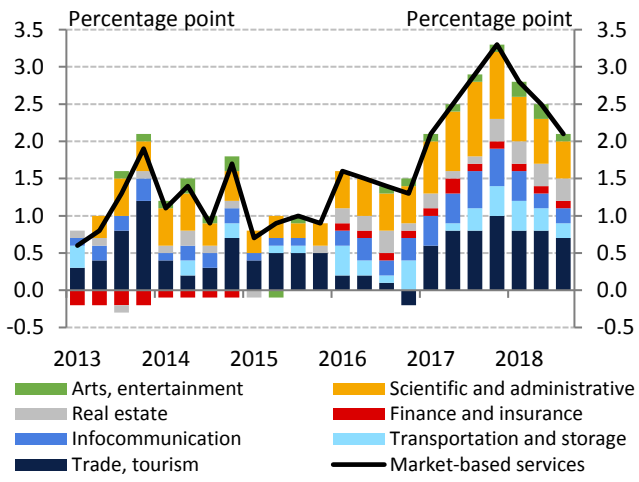
In Q3, corporate loans outstanding expanded by 13 percent year on year (Chart 3-22). Non-financial corporations' loans outstanding vis-à-vis the financial intermediary system increased by HUF 342 billion in Q3 as a result of transactions, and thus corporate loans outstanding and the SME sector's (including the self-

Chart 3-19: Contribution to annual changes in the production of GDP



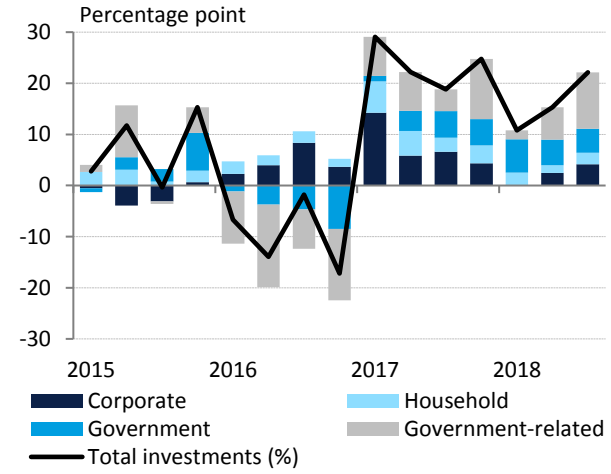
Source: HCSO

Chart 3-20: GDP growth decomposition of the subsectors of market-based services



Source: HCSO

Chart 3-21: Decomposition of the annual change of investments



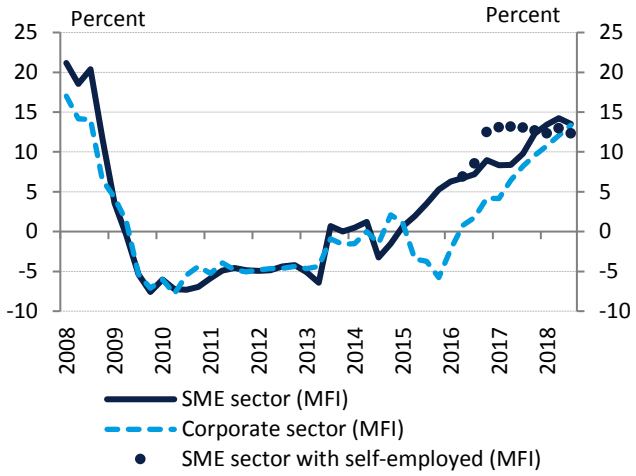
Source: HCSO

employed) loans outstanding expanded by 13.4 percent and 12.3 percent, respectively, year on year. The annual volume of credit institutions' contracts concluded with companies – excluding money market transactions – exceeded the issue observed a year earlier by 19 percent. Within the disbursements to the SME sector, the ratio of long-term loans with fixed interest rate is low. In response to that, in 2019 the MNB will launch the Funding for Growth Scheme Fix (FGS Fix), with the objective of reducing the interest rate risk of outstanding SME loans. According to banks, corporate credit conditions continued to ease, while demand for – mainly long-term – loans strengthened. According to financial intermediaries, the buoyant demand is sustained by the investment funding requirement of undertakings, which is also supported by the favourable interest rate environment. Expectations are different from that only regarding commercial real estate loans: although in the next half year banks still envisage significant demand in connection with the financing of office buildings, in the case of residential projects, with the phasing out of the housing cycle, they expect a fall in home-building and thus a decline in credit demand.

Households' investment activity continued to increase in Q3. In parallel with the favourable demand conditions, expansion in housing construction continued (Chart 3-23), also significantly supported by households' high willingness to borrow and the home-building programmes that provide favourable credit conditions. In line with the previously issued building permits, 3,701 new homes were completed in 2018 Q3, corresponding to an expansion of 24.3 percent year on year. The number of newly issued residential building permits was at the similar level compared to the same period of the previous year. However, the number of total issued building permits is still high, and thus we expect further expansion in housing construction in the next quarters. **As a result of the brisk demand, housing prices continued to rise, driven by price changes of pre-owned and new homes as well.** The deceleration in housing price appreciation experienced in the past quarters is still observed, which can be explained by the fact that the weight of homes located outside of Budapest, where the price level is typically lower, increased in the housing market turnover.

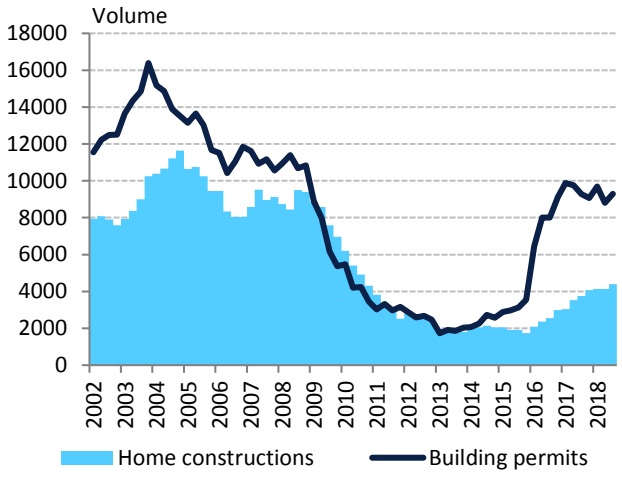
The contribution of net exports to domestic economic growth was negative in Q3. In line with the developments in industrial production, growth in goods exports decelerated in Q3. In parallel with rising domestic demand items (household consumption, investment), goods imports continued to grow. Hungary's services exports expanded further, primarily related to the exports of financial and

Chart 3-22: Annual changes in lending to non-financial corporates and SMEs



Note: Data for corporate loans total are based on transactions. For SME loans, estimated transactions are applied from Q4 2013.
Source: MNB

Chart 3-23: Evolution of housing starts and building permits



Note: Seasonally adjusted data.
Source: HCSO

other business services, in addition to tourism and transportation services. In Q3, the growth in services imports was more restrained compared to exports, and thus **the services balance increased further, offsetting the negative goods balance**. As a result of the import demand of domestic demand items, the annual dynamics of total exports was exceeded by the growth rate of imports, and thus, **on the whole, net exports had a negative impact on economic growth in Q3.**

The contribution of agriculture to economic growth was slightly positive in 2018 Q3. As a result of the summer weather conditions, wheat production remained unchanged, while corn output rose considerably compared to last year. Thus, on the whole, agricultural value added increased. The changes in inventories decelerated economic growth again in Q3, although to a lesser extent than in Q2.

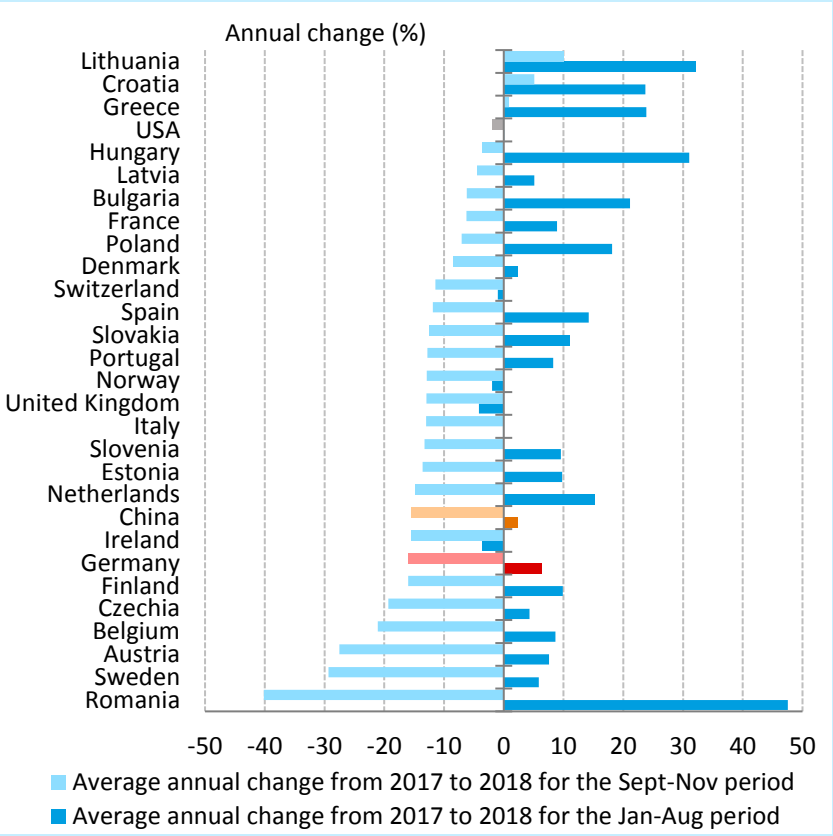
Box 3-2: Challenges to the global automotive industry

Changes in global automotive industry trends have a major impact on the future developments in industrial production and economic growth in Hungary. The spread of electromobility and the increasing importance of environmental considerations have a significant effect on the model shifting strategy of the major vehicle manufacturers. As a result of Hungary's embeddedness in the value chains of automotive industry, this also affects the performance of domestic production units. In addition, future developments in the Chinese automotive market and the possible increase in trade tensions have an impact on the performance of the Hungarian industry through the demand of the global vehicle industry. The box below presents the global trends in the vehicle industry, paying special attention to the factors that are determinants of domestic production.

During the first eight months of 2018, there was a significant rise in car registrations in most of the countries of the European Union. Nevertheless, **between September and November the number of new cars registered for the first time declined by an average 13.6 percent year on year in the European Union**. Compared to the same two months of 2017, car registrations in Germany and China fell by 16 percent and 15.4 percent, respectively, and this decrease was also observable in most European countries (Chart 3-24).

The modest registration numbers may partly be attributable to the latest European emission standards. The essence of the newly introduced WLTP testing (Worldwide Harmonised Light Vehicle Test Procedure) is that only cars and motorcycles tested in real traffic conditions can be registered in the EU starting from September 2018. WLTP approval typically concerns heavier cars with larger engine capacity and bigger consumption, but the scarce number of official measuring stations **significantly delayed the registration of the new models of several German car manufacturers, while in the case of Audi and the entire Volkswagen Group a number of engine types were even phased out**.

Chart 3-24: Registration of new cars



Source: MNB calculation based on the Association of German Automobile Manufacturers (VDA) and ACEA

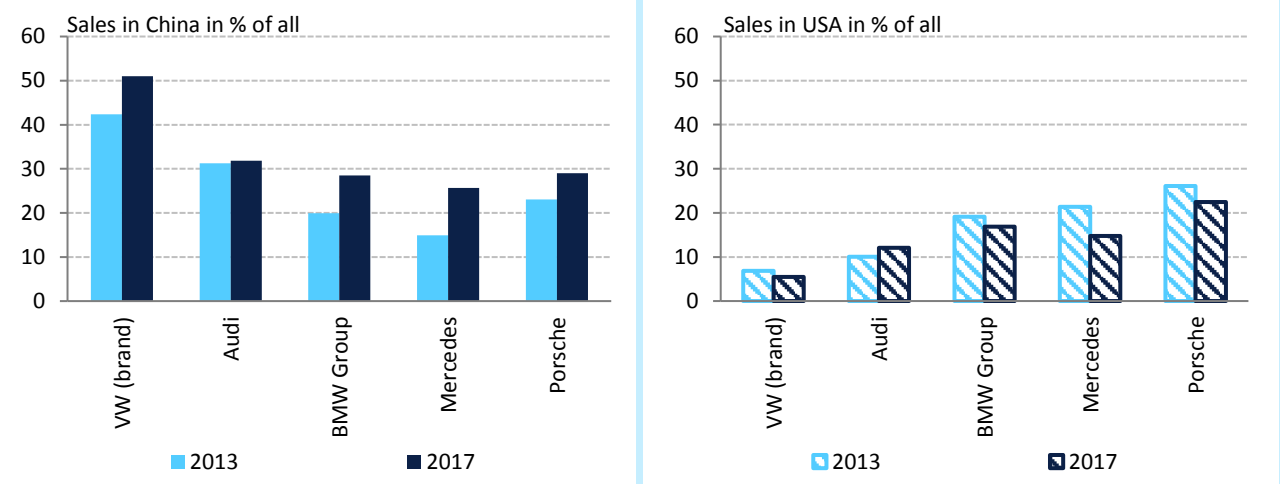
The protracted testing and approval process of the new WLTP procedure may cause significant delays in production and delivery for manufacturers. **Over the short run, the delays may considerably affect the Hungarian automotive industry**

through the reduction of companies' production and changes to the production portfolio as well. The domestic automotive industry accounts for 46 percent of Hungarian goods exports to Germany and may be especially hit hard by the weaknesses of the German automotive industry. Additionally, the longer than-expected licencing procedures may also affect the planned model shifting strategy of the domestic automotive manufacturing facilities and shifts in production as well. **Over the longer run, environmental and industry trends may increase the role of motor vehicles driven by alternative energy.**

Over the medium and long term, developments in the global automotive industry may primarily be determined by changes in demand. The growth trend for **car sales in China** gradually weakened in the past period, with the November data showing the biggest drop since 2012. The association of Chinese automotive manufacturers explained the fall with a slowdown in the domestic economy, debt reduction by households and the increasingly strict environmental requirements.

Relying on the dynamic growth opportunities, actors in the automotive industry concentrated a major part of their sales on China in the past decade. In recent years, the rapidly expanding and prospering Chinese middle class has become one of the main target groups for the German automotive industry and a main buyer of German luxury cars. According to company reports from 2017, 51 percent of the own-brand sales of the Volkswagen, and nearly 32 percent of the sales of Audi and 30 percent sales of Porsche – the latter two both belong to the VW Group – were realised in China. In recent years, sales of Mercedes and the BMW Group have increased similarly in China, and by now 25–30 percent of their total annual sales occur there (Chart 3-25). In parallel with that, the share of these manufacturers in the US market typically declined. **A further slowdown in car sales in China may have a major negative impact on global automotive industrial production and industrial exports.**

Chart 3-25: Shares of China and the USA in total sales of the five big German car manufacturers



Note: No comparative data is available for the VW Group itself, hence data for VW, Audi and Porsche are presented for the individual brand only.

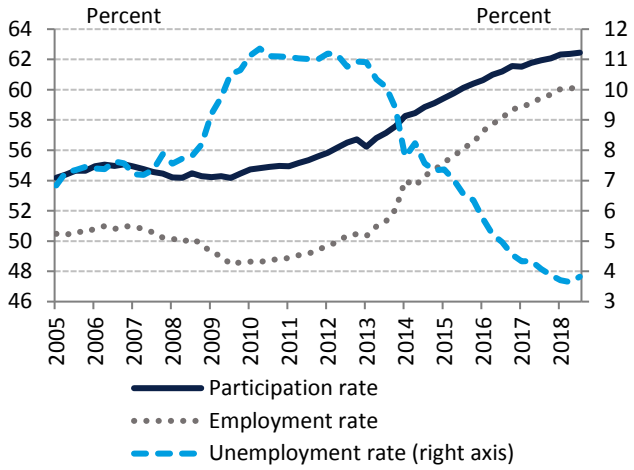
Sources: Corporate annual reports, press information

Further economic risks may be entailed by a **possible increase in trade tensions**. Recently, the USA held out the prospect of introducing punitive tariffs for **passenger cars and vehicle parts** as well, which are particularly important goods for the Central Eastern European region. Nearly 12 percent of the sales of Audi and 15 percent of the sales of Mercedes, which have manufacturing plants in Hungary, are realised in the USA. At the same time, the US exposure of important actors of the domestic industry declined in the past years, in line with the upturn in sales to China. Growth in Hungary's region is exposed to the increase in trade tensions due to the **significant weight of the automotive industry in the economy**. In the case of Hungary, direct automotive exports to the USA account for only half percent of the total exports, but indirect sales through the exports from Germany to the USA may affect Hungarian exports to a greater extent.

3.3. Labour market

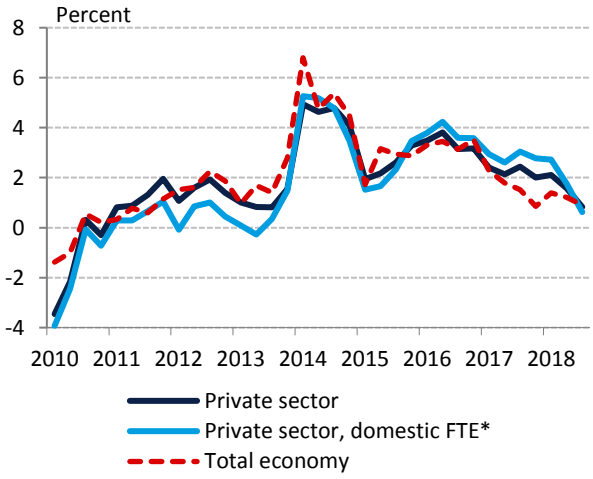
In 2018 Q3, employment in the private sector was unchanged. In parallel with deceleration in industrial production, the number of employed in manufacturing did not change significantly, while employment in the market services sector rose in line with the buoyant growth in output. The number of public workers dropped below 150,000. The unemployment rate climbed to 3.8 percent in the third quarter.

Chart 3-26: Participation, employment and unemployment rate in the total economy



Note: Seasonally adjusted data.
Source: HCSO

Chart 3-27: Annual change in main employment indicators



Note: *Full-time equivalent employment, excluding cross-border workers. Seasonally adjusted data.
Source: MNB calculation based on HCSO data

In 2018 Q3, the participation rate of 15- to 74-year-olds stood at 62.8 percent, while the proportion of active people in the population aged 15–64 years was 72.3 percent. **According to seasonally adjusted data, the number of economically active people increased slightly** (Chart 3-26).

The annual growth of employment in the national economy slowed to 0.9 percent, **as employment in both the public and the private sector stagnated quarter-on-quarter**.

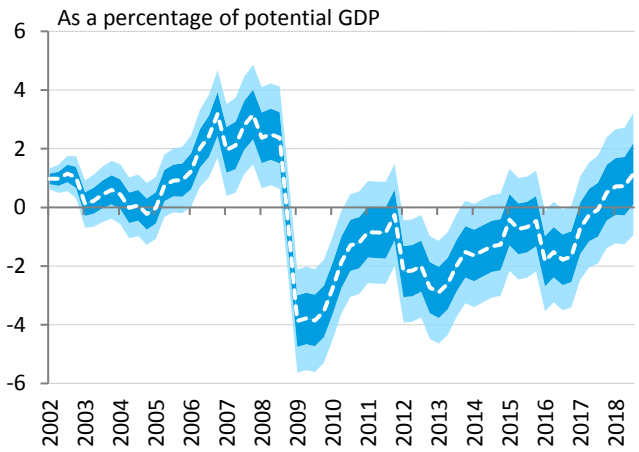
In the private sector, in parallel with deceleration in industrial production, the number of employed in manufacturing did not change significantly, while employment in the market services sector rose in line with the buoyant growth in output as compared to the previous quarter. The number of people employed abroad fell moderately, following the growth registered in the previous quarter, amounting to 105,000 in the third quarter. The full-time equivalent number of employees in Hungary adjusted for the number of hours worked grew at a rate similar to that of employment (Chart 3-27).

Within the government sector, **the number of public workers dropped below 150,000**, whereas employment outside of the public work scheme increased. In the third quarter, the number of unemployed grew, as **the unemployment rate climbed to 3.8 percent**. Based on the rate of vacancies, corporate labour demand was unchanged at a high level in manufacturing, while it continued to increase slightly in the market services sector.

3.4. Cyclical position of the economy

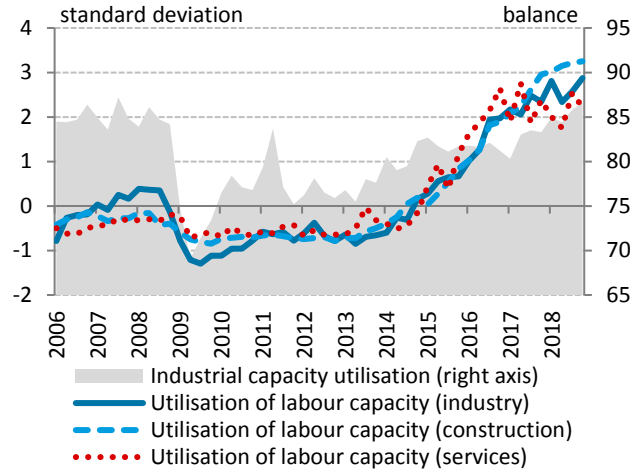
According to our estimate, GDP has been close to potential output, slightly above it. Corporate capacity utilisation rose further, and the quantity of labour represents an increasingly significant bottleneck for production. With the closing of the output gap, the expansion in the supply side of the economy will become a determinant in terms of growth sustainability. Economic policy can raise the rate of potential growth through specific measures aimed at improving competitiveness and boosting productivity while maintaining stability.

Chart 3-28: Uncertainty band of the output gap



Note: The blue area shows the estimation uncertainty band.
Source: MNB

Chart 3-29: Capacity utilisation and assessment of labour



Source: ESI

According to our estimate, GDP has been close to potential output, slightly above it. (Chart 3-28). **Our view of the Hungarian economy's cyclical position remained essentially unchanged** compared to our estimate in the September Inflation Report.

Based on questionnaire surveys, **corporate capacity utilisation continued to increase**, and in 2018 it reached the average level of the pre-crisis period. The dynamic expansion in employment in the past period contributed to an increasingly tight labour market. The **quantity of labour represents more and more of a significant bottleneck** in production for industrial, construction and services companies (Chart 3-29).

Closing the output gap can be achieved through a decline in demand and an expansion of supply as well. Therefore, from a social perspective, **competitiveness measures that expand supply, i.e. potential output**, will be of key importance in the coming period.

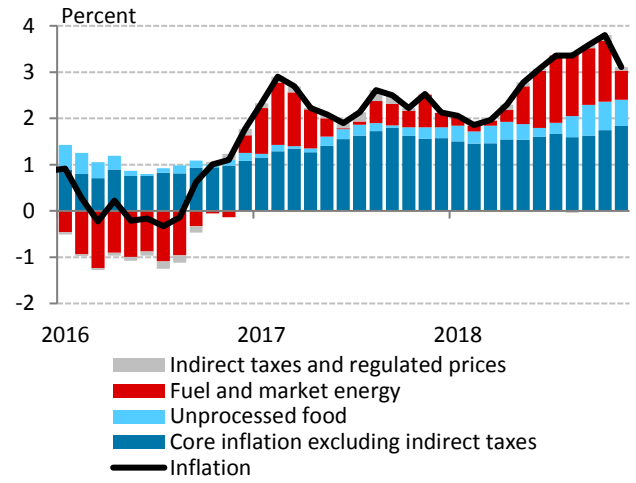
Productivity rose in the past period, but these developments are more attributable to cyclical factors than to improvement in the competitiveness of the economy. In the medium term, however, the high investment rate, the announced large investment projects and capacity expansion in the supplier network also generate positive feedback across **market services with higher value added** (information and communication, finance, logistics, marketing).

According to estimates, the output gap of the **euro area** may close this year, while the cyclical position of the **regional economies** may already remain in persistently positive territory, which has an impact on the cyclical position of the Hungarian economy as well.

3.5. Costs and inflation

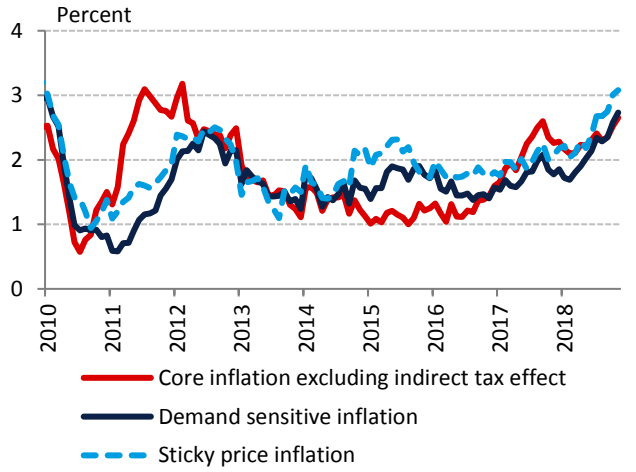
Volatile items (fuels and unprocessed food), sensitive to movements in global commodity prices, led to a greater-than-usual volatility of inflation. As a result, inflation rose in September and October and then fell sharply in November. Measures of underlying inflation which capture longer-term inflationary trends rose, owing to price increases for tradable goods and market services partly as the result of base effects. In Q3, private sector gross average earnings rose by 10.8 percent compared to the same prior-year period. In addition to the historically tight labour market environment determining the underlying wage-setting trend, another factor behind the continued vigorous wage growth was this year's increase in the minimum wage and the guaranteed wage minimum by 8 and 12 percent, respectively. The cost-side inflationary effect of wage growth was reduced by the reduction of the social contribution tax.

Chart 3-30: Decomposition of inflation



Source: MNB calculation

Chart 3-31: Underlying inflation indicators



Source: MNB calculation based on HCSO data

3.5.1. Consumer prices

In the autumn months, inflation was characterised by high volatility, which was explained by developments in prices of cost-sensitive items, such as fuels and unprocessed food. **Inflation rose until October, followed by a steep decline in the price index in November**. The decline in inflation in November was caused by the decrease in price of fuels (Chart 3-30).

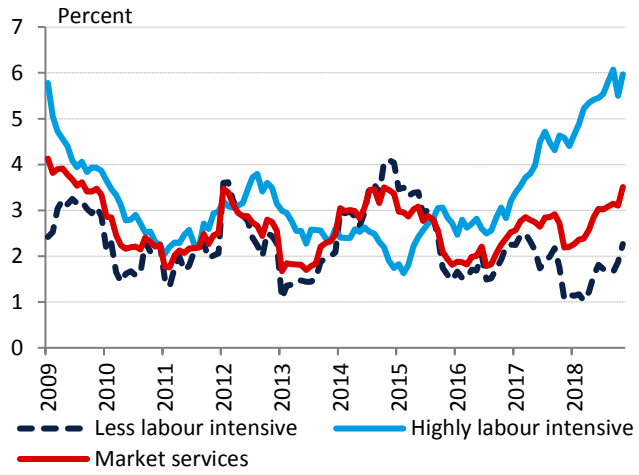
Indicators capturing longer-term inflation trends (core inflation excluding indirect taxes, inflation of demand-sensitive and sticky-price products) **continue to increase during the autumn months** (Chart 3-31). **The acceleration of core inflation** was caused by the rising inflation of tradable goods and market services partly due to base effects.

Higher inflation was registered for tradable goods in the autumn. Both durable and non-durable goods contributed to the acceleration of price dynamics in this product group. The change in the prices of durable goods was primarily attributable to one high-weight item that accounts for some 30 percent of durable goods, i.e. **the increase in the prices of new cars**. Price changes for non-durable goods were caused by higher inflation for various products, with contributions from base effects.

Market services inflation increased in the past months. After increasing early in the year, the inflation of highly labour-intensive services did not change significantly in the autumn months (Chart 3-32). The inflation of less labour-intensive (technology-intensive) services increased partly owing to base effects from mobile phone and Internet charges. One reason for this was that prices of mobile phone and Internet services dropped again this November, but the decline was lower than the same month last year.

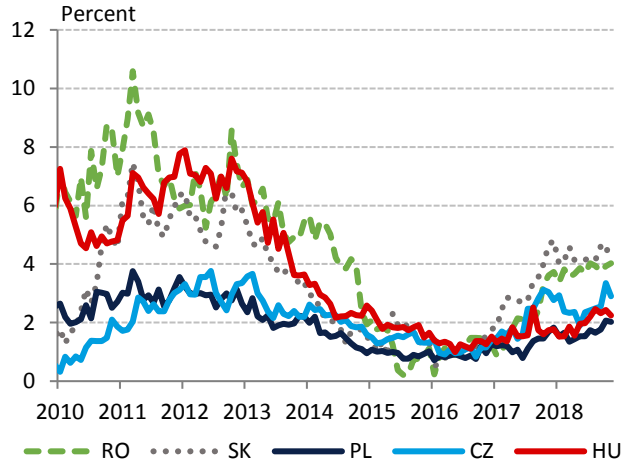
On the whole, food prices pointed to higher inflation in recent months, but prices of processed and unprocessed food evolved differently. The inflation of unprocessed food rose considerably, which was attributable to **price increases for seasonal products** – mainly vegetables – **between July**

Chart 3-32: Inflation of market services



Note: Annual change, excluding the effect of indirect taxes.
Source: MNB calculation based on HCSO data

Chart 3-33: Inflation expectations in the region



Source: MNB calculations based on European Commission data

and October. At the level of food products, its effect was only partly offset by the deceleration in the price dynamics of processed food led by milk prices.

Fuel prices were very volatile in recent months. They temporarily rose to above HUF 400 by mid-October, followed by a decline of more than HUF 30 by end-November, in parallel with falling oil prices. There were no major price changes in the case of regulated-price products in the past months.

The volatile inflation in recent months exceeded the projection of the September Inflation Report in September and October, but was in line with it in November. Most of the deviation was due to volatile cost-sensitive items, i.e. fuels and unprocessed food. **In the autumn months, core inflation excluding indirect taxes was higher than our September projection.** The difference was caused by the higher-than-expected price dynamics of tradable goods in October.

3.5.2. Inflation expectations

Households' inflation expectations are still at moderate levels, indicating that expectations are anchored. Expectations in Hungary were in line with the expectations observed in the countries of the region, which had previously also been characterised by steadily low inflation (Chart 3-33).

3.5.3. Wages

In 2018 Q3, gross average earnings in the private sector rose by 10.8 percent year on year (Chart 3-34). Along with the historically tight labour market environment determining the underlying wage-setting trend, another factor behind the ongoing vigorous wage growth was this year's increase in the minimum wage and the guaranteed wage minimum by 8 and 12 percent, respectively. In addition, the 2.5 percentage point cut in the social contribution tax also supported corporate wage-setting decisions. Within the private sector, wage dynamics in the market services sector were stronger than in manufacturing. The quarterly increase in regular average earnings and the degree of bonus payments exceeded the levels observed in the same period of the previous year. Wage dynamics were still higher in the sectors that pay under the average wage than in the ones above the average wage. **The cost-side inflationary effect of wage growth was reduced by the reduction of the social contribution tax.**

3.5.4. Producer prices

Agricultural producer prices increased in year-on-year terms in 2018 Q3, mainly as a result of changes in the prices

Chart 3-34: Annual change in gross average wages in the private sector

Note: Quarterly moving averages.
Source: HCSO

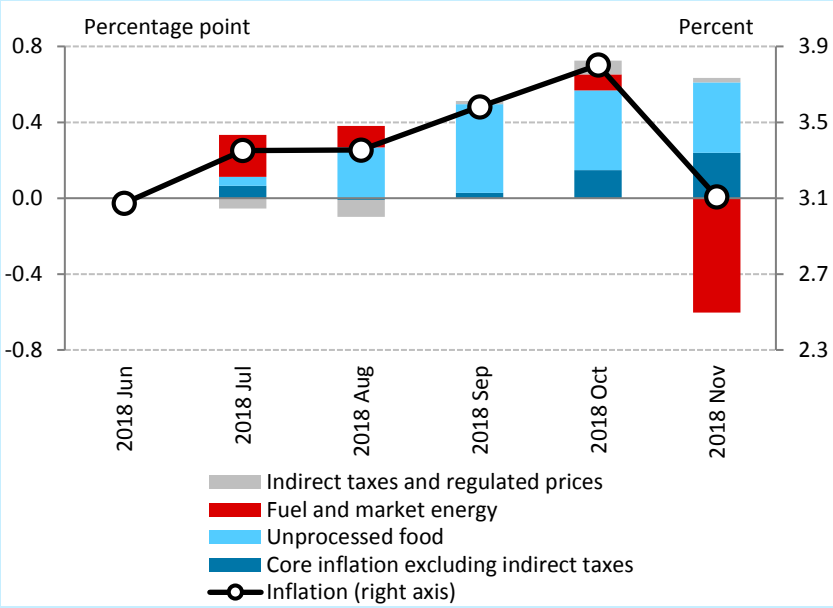
of seasonal products. Vegetable prices rose considerably from July, which was only partly offset by the decline in fruit prices. In addition to seasonal products, grain prices were also up year on year, while the prices of products of animal origin declined in the past period.

Producer prices of consumer goods rose slightly, while domestic sales prices in industry as a whole increased to a somewhat larger degree than the historical average in year-on-year terms, which was mainly attributable to the energy producing sectors.

Box 3-3: Temporary and permanent factors influencing inflation

Inflation has developed on a volatile path recently. **The consumer price index was mainly influenced by cost-sensitive products** (fuel and unprocessed food), **which basically have a temporary effect on inflation** (Chart 3-35). **Inflation rose to the upper part of the tolerance band by October**, with nearly 70 percent of that rise attributable to higher fuel and unprocessed food prices. After that, however, fuel prices fell sharply, causing **inflation to drop to 3.1 percent in November**. This box investigates the sources of the significant volatility in inflation.

Chart 3-35: Decomposition of changes in inflation since June 2018

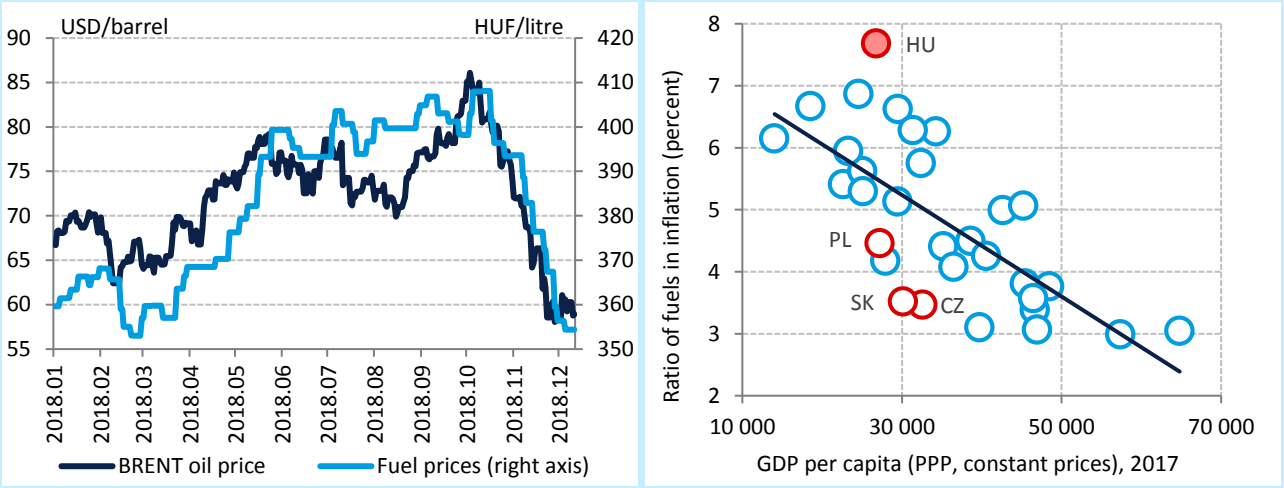


Source: HCSO, MNB calculation

In the case of fuels, price movements are principally affected by **oil price** developments. Oil prices are influenced by several factors, which are analysed in detail in Box 1-2. Shifts in oil prices are quickly reflected in fuel prices (Chart 3-36, left panel). The recent strong fluctuations in fuel prices have a major impact on Hungarian inflation, by virtue of the fact that **the**

weighting of fuels in the consumer basket is large relative to the country's economic development and is almost twice the figure in the other countries of the region (Chart 3-36, right panel). As a result, **inflation in Hungary is sensitive to oil price changes, even in an international comparison**.

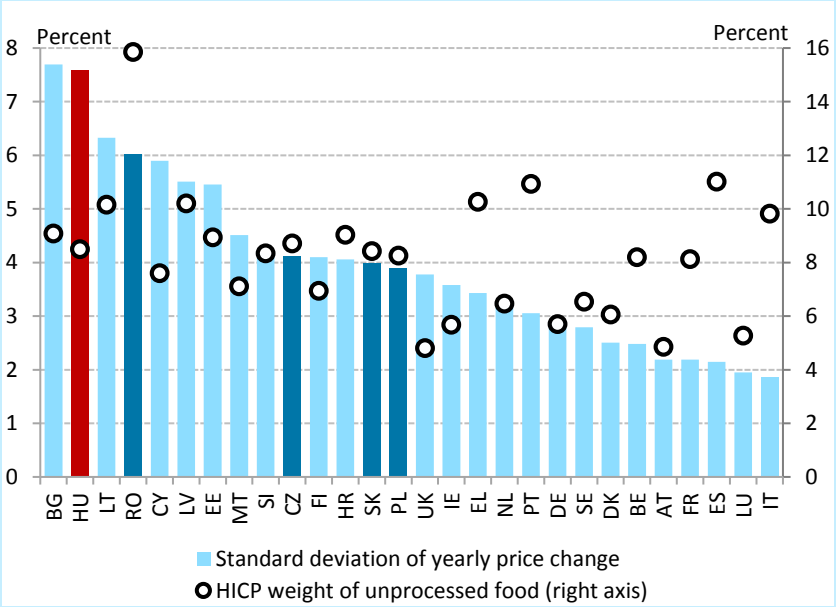
Chart 3-36: Daily development of oil and Hungarian fuel prices (left panel) and the weighting of fuel in inflation in an international comparison (right panel)



Source: Bloomberg, holtankoljak.hu, Eurostat, WDI

In addition to fuel prices, **food prices also have a large, temporary effect on inflation**. In the case of food prices, price volatility is typically due to variations in supply conditions, most often in relation to weather conditions and agricultural yields for the given period. Unprocessed food inflation was around 10 percent on average in the last four months, significantly exceeding the historical average (5.5 percent). In Hungary, **the volatility of unprocessed food prices is among the highest among European countries** (Chart 3-37). Therefore **Hungarian food prices are more sensitive to temporary shifts in supply conditions**, causing larger fluctuations in overall inflation as well.

Chart 3-37: Standard deviation of unprocessed food prices in an international comparison



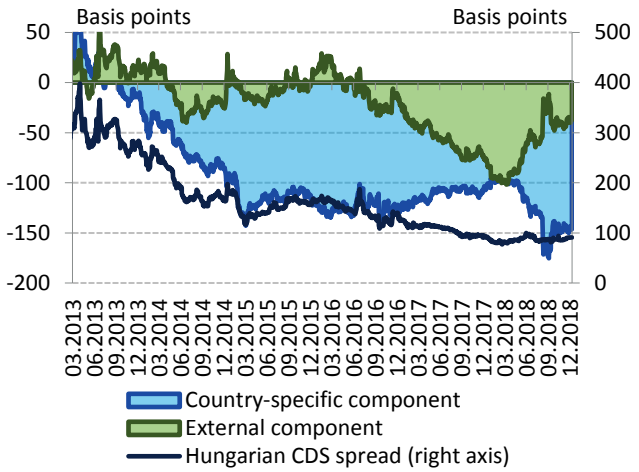
Source: Eurostat

4. FINANCIAL MARKETS AND INTEREST RATES

4.1. Domestic financial market developments

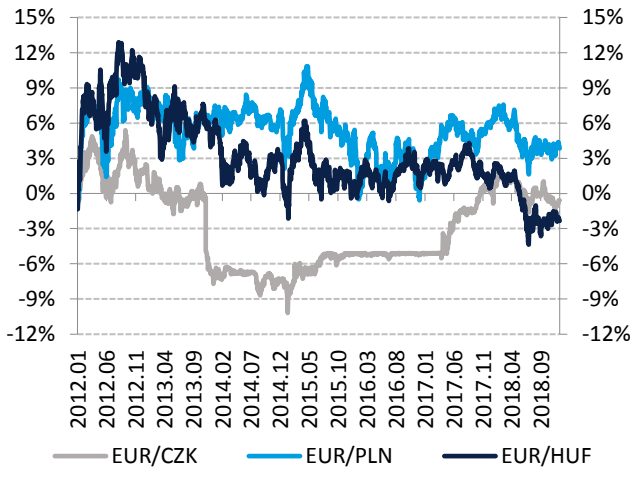
In the past quarter there was a significant, 10 percentage point rise in the VIX index, a measure of stock market volatility. Long-term market yields on government securities from the developed markets have fallen by 10–20 basis points since mid-September with a parallel, gradual rise in the emerging bond market EMBI Global index, and by the end of the period this index rose to the highest level recorded since mid-2016. Fuelled in part by news of an economic slowdown in the euro area, the appreciation of the US dollar against the euro continued. In Q3, Hungarian long-term yields dropped faster than yields of regional peers, which was also driven by the continuing rise in the forint government securities holdings of non-residents. At the same time, regional credit risk indicators increased slightly. The forint appreciated against the euro.

Chart 4-1: Components of the 5-year Hungarian CDS spread



Note: The decomposition method used can be found in the MNB Bulletin: Variance decomposition of sovereign CDS spreads, Kocsis–Nagy (2011).
Source: Bloomberg

Chart 4-2: Exchange rates in the region



Note: Changes compared to beginning of 2012. Positive values mean an appreciation of the currency.
Source: Bloomberg

4.1.1. Hungary's risk assessment

Hungary's credit spread increased moderately in the fourth quarter (Chart 4-1). As the moderate increase in Hungary's credit spread took place against the backdrop of a relative decline in international factors, the decomposition methodology shows an increase in the country-specific component. At this time, however, the increase in the individual component reflected the fact that neither the Hungarian spreads nor the regional spreads mirrored the CDS spread decline resulting from the improvement in Turkey's risk assessment. Similarly, the surge in the Turkish spread in September had no effect on regional developments, which was reflected in a decline in the country-specific component at the time and a partial adjustment occurred in this value in Q4.

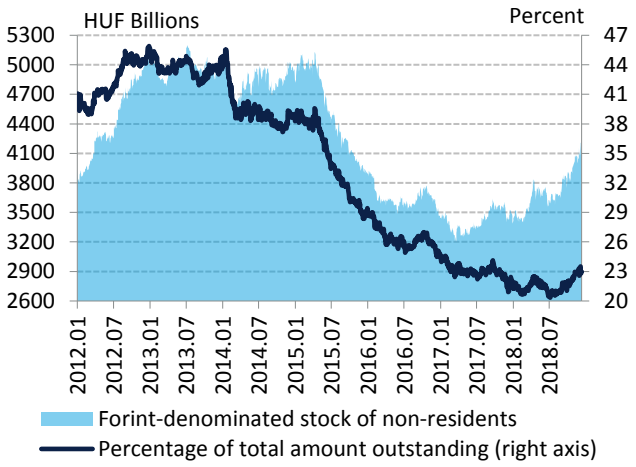
4.1.2. FX market developments

The forint appreciated against the euro by 0.2 percent, while the exchange rate of the Polish zloty was the same as at the end of September. The Czech koruna and Romanian leu weakened by 1.4 and 0.4 percent, respectively, in the period under review (Chart 4-2). Since mid-September, the forint exchange rate has fluctuated at a somewhat higher level compared to the previous quarter, moving within a narrow band of 321–326. In the first half of the period the forint depreciated, and following strengthening at the beginning of November it fluctuated at a level of 321–324 at the end of the period. Owing to the strengthening of the US dollar and international risk aversion, regional currencies weakened by 2–4 percent against the US currency.

4.1.3. Government securities market and changes in yields

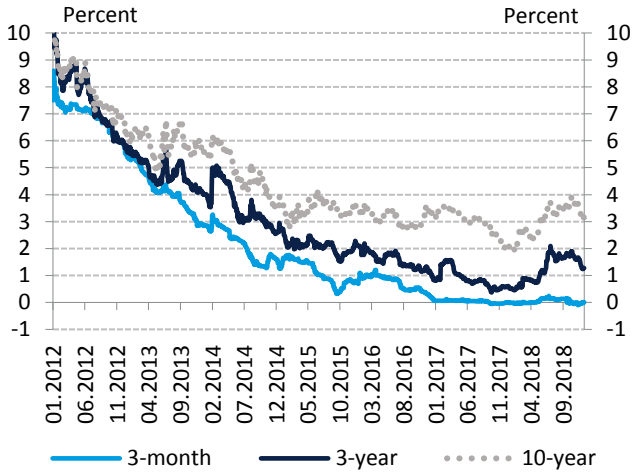
Non-residents' HUF-denominated government securities holdings continued to rise last quarter (Chart 4-3). Following a practically continuous decline since 2015, non-residents' HUF-denominated government securities holdings first stabilised and then started to rise from March 2018. The mid-year increase began to accelerate in the fourth quarter. Holdings of non-residents have increased by

Chart 4-3: Hungarian HUF-denominated government securities held by non-residents



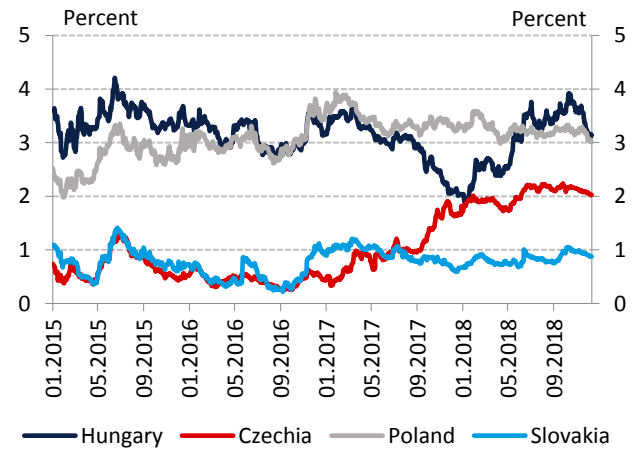
Note: The chart only shows the stock of T-bills and T-bonds and the amount of government securities held by non-residents; retail securities are not included. Source: MNB

Chart 4-4: Yields of benchmark government securities



Source: Government Debt Management Agency (ÁKK)

Chart 4-5: 10-year government benchmark yields in CEE countries



Source: Bloomberg

HUF 240 billion since September overall, while non-residents' ownership share also edged up by more than 1 percentage point to approximately 23 percent.

For the most part, demand was strong at the auctions of government securities; in the case of longer-term securities, the Government Debt Management Agency often accepted higher amounts than announced. With respect to short maturities, both 3-month and 12-month average auction yields declined. As for longer maturities, the yields on 3-, 5- and 10-year government bonds fell even more significantly than the yields on discount treasury bills.

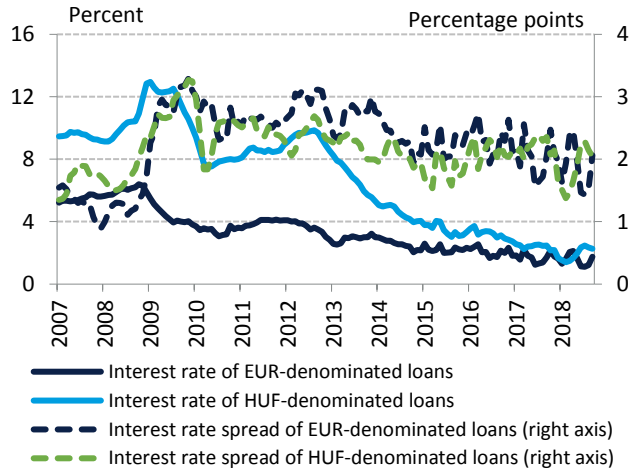
In the secondary government securities market, the yield curve shifted downwards by 15–45 basis points (Chart 4-4). Amid volatile emerging market sentiment, medium-term Hungarian benchmark yields rose until mid-October, but this was followed by a steep fall in yields. Presumably, this decrease can be attributed to mounting demand by non-resident investors and, on the other hand, the steep drop in oil prices supported a decline both in developed and regional securities market yields. The yield on 3-month discount treasury bills moved in a negative range for most of the period. From a level of around 3 percent in mid-September, the 5-year yield dropped to 2.7 percent, while the 10-year yield decreased to 3.1 percent from 3.6 percent. In terms of interbank yields, the shifts basically mirrored government securities market developments.

Long-term benchmark yields mostly decreased in the region during the quarter (Chart 4-5). The largest decline – amounting to around 50 basis points – was recorded for the 10-year forint yield, while Polish and Czech 10-year yields dropped by 16 and 13 basis points, respectively. Meanwhile, the Slovakian 10-year yield rose by 9 basis points.

4.2. Credit conditions of the financial intermediary system

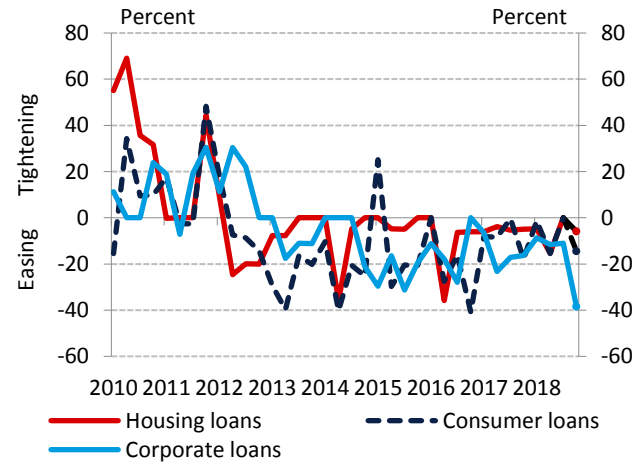
In 2018 Q3, banks continued to ease corporate credit conditions in all size categories of the corporate sector and looking forward they envisage further easing primarily through the reduction of interest rate spreads. Spreads on corporate HUF and EUR loans reached almost identical levels during the quarter as a combined result of banks' raising the latter and lowering the former. In the case of loans fixed for longer periods, spreads on housing loans continued to decline, sinking below the level of variable-rate loans. In response to rising inflation expectations, the one-year forward-looking real interest rate declined somewhat.

Chart 4-6: Smoothed interest rates and spreads on corporate loans by denomination



Note: Interest rates smoothed by the 3-month moving average. The spread is the 3-month moving average of spreads on the 3-month BUBOR and EURIBOR, respectively. Loans with floating interest rates or with up to 1-year initial rate fixation. Since January 2015, money market transactions are excluded.
Source: MNB

Chart 4-7: Changes in credit conditions in the corporate and household sectors



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share. Forecast for Q3 of 2018 and Q1 of 2019.
Source: MNB, based on banks' responses

4.2.1. Corporate credit conditions

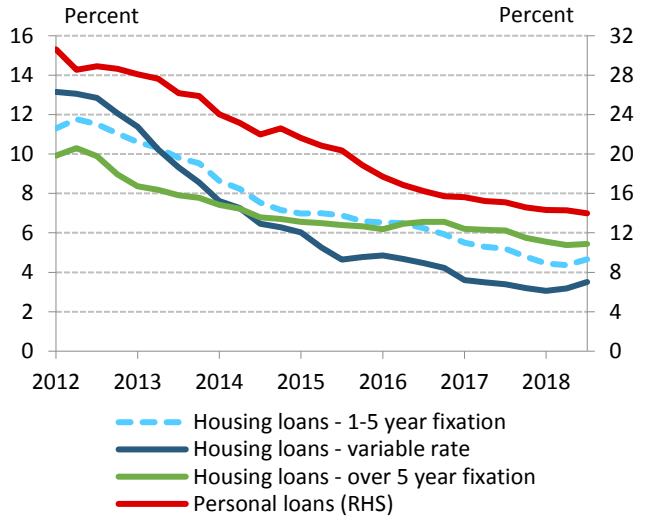
The spread on corporate HUF loans decreased in 2018 Q3. The interest rate on new market-based, small-amount corporate HUF loans – excluding money market transactions – remained unchanged compared to the previous quarter, while in the case of high-amount loans it decreased by 0.2 percentage point. As a result, the average HUF interest rate shrank to 2.3 percent by the end of the quarter. As for EUR loans, the average interest rate on small-amount loans decreased by 0.6 percentage point, while in the case of high-amount loans, there was a 0.6 percentage point increase compared to the previous quarter. Accordingly, the average interest rate on EUR loans rose to 1.7 percent by the end of the period under review (Chart 4-6). The spread on corporate HUF and EUR loans stood at a nearly identical, 2 percentage point level in September as a combined result of a 0.2 percentage point decline in the former and a 0.6 percentage point increase in the latter.

Corporate credit conditions eased further. Based on banks' responses to the questions of the Lending Survey, credit conditions eased further in the case of both micro and small enterprises and medium-sized and large corporations, although fewer banks indicated easing in the latter category (Chart 4-7). Most respondents attributed the easing to the intensification of competition among banks, and the easing was mainly reflected in the decline in interest rate spreads. Looking forward, in net terms 39 percent of the respondents envisage further easing in the next six months which, according to the respondents, may be more widespread than before and may be primarily reflected, in parallel with the launch of the FGS fix, in price conditions for smaller enterprises.

4.2.2. Household credit conditions

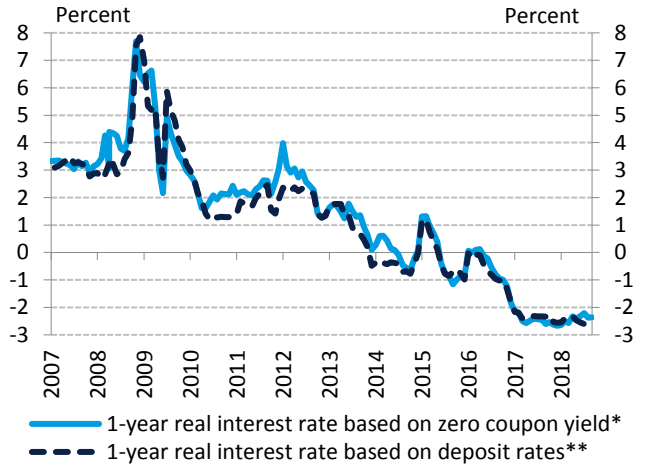
The spread on fixed-rate housing loans sank below the level of variable-rate loans. The APR on new housing loans increased in all interest rate fixation categories over the past quarter. In 2018 Q3, the average annual percentage rate of charge both on variable-rate housing loans and on loans with an interest rate fixation for 1–5 years rose by

Chart 4-8: Annual percentage rate of charge on new household loans



Note: Quarterly average of lending rates on newly disbursed loans.
Source: MNB

Chart 4-9: Forward-looking real interest rates



Note: * Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using the 1-year zero coupon yield and the Reuters poll. **Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using deposit rates with maturity up to 1 year and the Reuters poll.
Source: MNB, Reuters poll

0.3 percentage point, while an increase of 5 basis points was observed for loans with interest rates fixed for over 5 years (Chart 4-8). The spread on housing loans increased only in the case of variable-rate loans by 0.2 percentage point, while the smoothed spread dropped by 0.4 and 0.5 percentage point to 2.6 and 2.5 percentage points, respectively, in the case of loans with 1–5 year interest rate fixation and loans with interest rates fixed for over 5 years, with a parallel increase in the cost of funds. As a result, the spread sank below the 3.3 percentage point level of variable-rate housing loans. After a 0.3 percentage point decline, the average APR level of personal loans dropped to 13.7 percent in the review period, while the spread decreased by 0.9 percent.

Banks did not change their credit conditions for households. Banks participating in the Lending Survey did not adjust the price conditions on housing loans (Chart 4-7), but regarding partial conditions, 69 percent of the banks in net terms reported a decline in spreads. One third of the respondents referred to housing market developments and their own liquidity position as factors supporting easing. While the modification of the payment-to-income ratio as of 1 October 2018 is not expected to affect the volume of new housing loans, it diverts demand toward loans with longer interest rate fixation periods. Banks also maintained their credit conditions on consumer loans. Looking forward, however, they envisage easing in the market of personal loans, which they plan to implement by lowering spreads and increasing the maximum maturity. Responding institutions do not plan to change conditions on housing loans in the next six months.

4.2.3. Changes in real interest rates

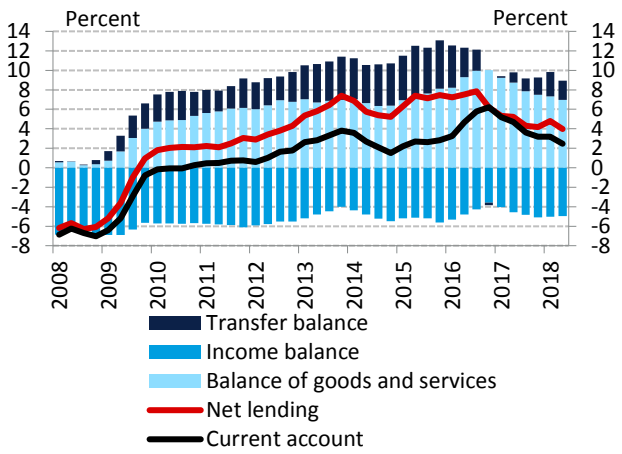
The one-year forward-looking real interest fell during the quarter (Chart 4-9). Estimated from government securities market yields, the real interest rate level reduced by inflation expectations stood at –2.4 percent at the end of the period, which implies a decline of 4 basis points compared to the previous quarter. Inflation expectations rose in the review period, which was offset by an increase in government securities market yields. Following a decline of 24 basis points, the real interest rate calculated on the basis of deposit rates stood at –2.8 percent in September 2018. This can be attributed to rising inflation expectations amid unchanged deposit rates.

5. BALANCE POSITION OF THE ECONOMY

5.1. External balance and financing

In 2018 Q2, Hungary's net lending amounted to 4.0 percent of GDP, while the current account surplus was 2.5 percent of GDP. The declining balance is mainly a result of the trade surplus that is contracting due to investment growth and buoyant household consumption as well as the lower transfer balance resulting from the moderate level of EU transfers. Similar to earlier quarters, the falling trade balance is attributable to the balance of goods, while the balance of services continues to be strong. The income balance deficit remained unchanged during the quarter, as the decrease in wages from abroad was offset by the decline in net interest expenditure paid for foreign loans. Based on the financial accounts, net external debt diminished further, whereas net FDI hovered around zero in contrast to the drop observed in the same period in recent years. At the end of 2018 Q2, as the combined result of transactions and revaluation effects, net external debt declined to 9.4 percent of GDP, while gross external debt was 60.3 percent. Based on preliminary monthly data, both the net lending of the economy and the current account surplus fell in 2018 Q3, however net external debt is expected to have continued shrinking in the meantime.

Chart 5-1: Changes in net lending and its components



Note: Cumulated four-quarter values, as a percentage of GDP.
Source: MNB

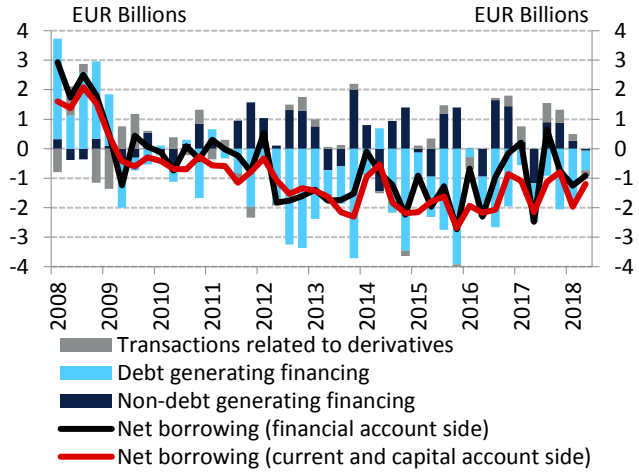
5.1.1. Developments in Hungary's external balance position

In 2018 Q2, net lending amounted to 4.0 percent of GDP, while the current account balance stood at 2.5 percent (Chart 5-1). The declining balance was mainly a result of the trade surplus contracting due to investment growth and buoyant household consumption as well as the lower transfer balance resulting from the moderate level of EU transfers. The shrinking **trade surplus** is attributable to the balance of goods, while the balance of services continues to be stable at around 6 percent of GDP. The **income balance** deficit did not change either as compared to the previous quarter, as the effect of the lower income received by those working abroad for less than a year was offset by the improving interest balance of foreign loans. The drop in the surplus of the **transfer balance** was related to the lacklustre absorption of EU funds. According to preliminary data, which are partly based on estimates, both the current account balance and net lending declined in the third quarter, mostly due to developments in the volume of external trade (see Box 5-1).

5.1.2. Developments in financing

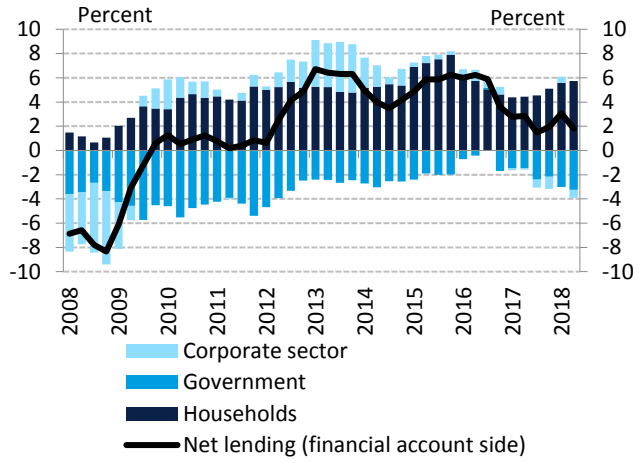
Based on the financial accounts, net external debt continued to fall significantly (Chart 5-2). Net lending based on the financial accounts amounted to EUR 0.9 billion in 2018 Q2. Net fund outflows were recorded as debt-type funds diminished by EUR 0.7 billion, and there were some FDI inflows. Debt outflows were related almost exclusively to the general government, while on a transaction basis external debt rose for both the banking system and companies. According to monthly data, the country's external debt is forecast to keep falling in 2018 Q3, while considerable FDI inflows are expected.

Chart 5-2: Structure of net lending



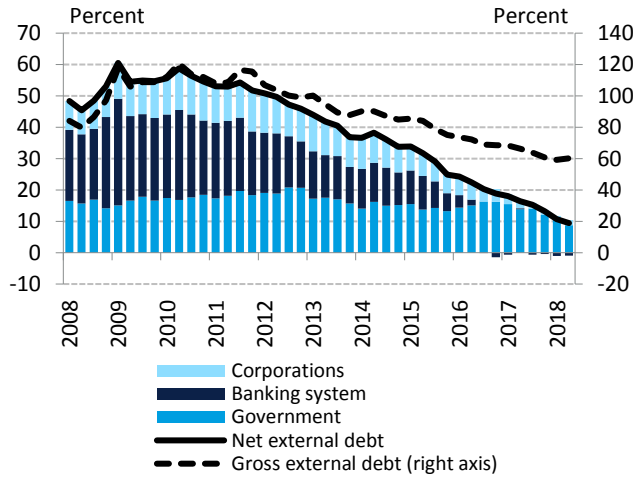
Note: The net lending calculated by a bottom-up method corresponds to the total of the net lending and the BOP balance of statistical errors and omissions. Source: MNB

Chart 5-3: Decomposition of net lending by sectors



Note: Four-quarter cumulation, as a percentage of GDP.
Source: MNB

Chart 5-4: Development of net external debt by sectors



Note: Excluding intercompany loans, as a percentage of GDP.
Source: MNB

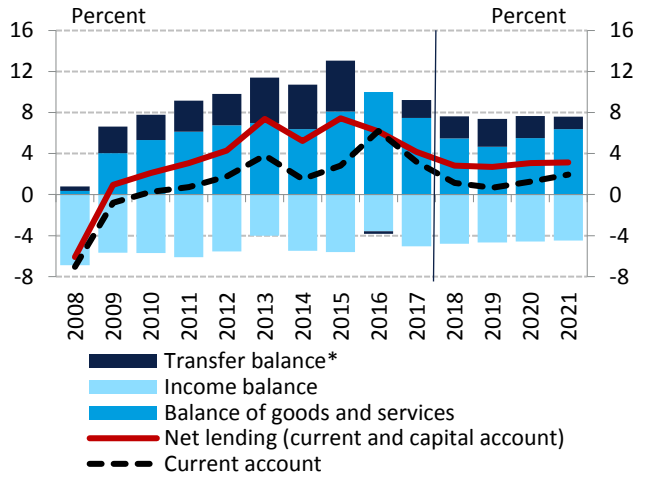
On a sectoral basis, the rise in the net borrowing of the consolidated general government and the corporate sector was only partially offset by the slight expansion in household savings (Chart 5-3). The four-quarter net borrowing of the general government rose above 3 percent of GDP as a result of budgetary authorities' own expenditures, while the increased net borrowing of companies is attributable to the continued expansion in investment. The modest uptick in households' net lending is consistent with the strong wage growth resulting from the tight labour market conditions. Based on preliminary monthly data, households' four-quarter net lending grew in 2018 Q3, and the general government's net borrowing fell somewhat, whereas companies are expected to have a higher net borrowing.

The net external debt of the Hungarian economy decreased to 9.4 percent of GDP at the end of the second quarter (Chart 5-4). Besides the outflow of debt-type funds, the 1.3 percentage point fall in the indicator was caused by the revaluation of stocks. The entire decline in the debt ratio was linked to the consolidated general government, while net external debt increased in the case of companies and remained practically unchanged in the case of the banking system. Gross external debt rose slightly in the second quarter of 2018 related to the private sector and amounted to 60.3 percent of GDP. Preliminary monthly data suggest that the decline in net external debt arising from transactions continued in the third quarter.

5.2. Forecast for Hungary's net lending position

The economy's net lending will be high over the forecast horizon, supported by the current account surplus and the transfer balance. In 2018–2019, the trade balance will continue to decline on account of weaker external demand, the expansion of domestic investments and buoyant household consumption, and this entails a temporary fall in the current account balance. The latter is partly offset by the transfer balance, which improves as the absorption of EU transfers gains traction. From 2020, due to the lower level of investment brought about by the lacklustre absorption of EU funds and production starting at the capacities built earlier, the trade surplus will considerably rise starting from 2020 which results in a higher current account surplus. The income deficit will gradually diminish as interest expenses continue to shrink. Looking ahead, the transfer surplus will be lower but steadily positive, thereby supporting the preservation of the favourable external balance position. Households' net financial savings will rise in 2018 due to the auspicious income developments, then they will sink in 2019 as lending gains momentum, however, their level will remain high. As a result of the substantial expansion in investment, companies' net borrowing will grow, stabilising at close to 2 percent of GDP after 2019, in parallel with an upswing in exports. The budget deficit will steadily fall until 2020, stabilising at 1.4–1.6 percent of GDP. As net lending will remain consistently around 3 percent of GDP, debt ratios will continue to decline, and therefore net external debt is expected to contract to zero in 2020.

Chart 5-5: Evolution of net lending



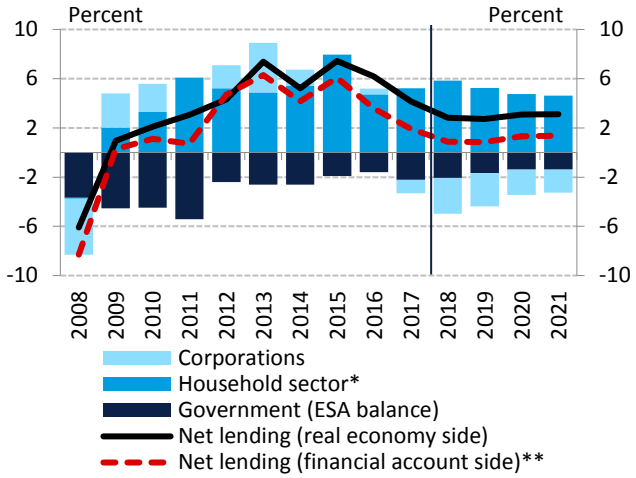
Note: As a percentage of GDP. * The sum of the balance of the current transfers and the capital account balance.

Source: MNB

The net lending of the economy will amount to roughly 3 percent of GDP until 2021 (Chart 5-5). In 2018–2019, the balance of goods and services will continue to decline on account of lower external demand, the expansion of investments and buoyant household consumption, and this entails a temporary fall in the current account balance. The deterioration in the terms of trade attributable to oil price rises also contributes to the decline in the trade surplus. The transfer surplus will increase in 2018 owing to the stronger absorption of EU funds, which continues to play a huge role in maintaining the favourable external balance position. From 2020, due to the lower level of investment brought about by the lacklustre absorption of EU funds and production starting at the capacities built earlier, the trade surplus will rise strongly, resulting in a higher current account surplus. The income deficit will gradually diminish over the forecast horizon as interest expenses continue to fall, but this effect will be partly offset by the rising profits of foreign-owned companies. As a result, the current account surplus will temporarily dip below 1 percent of GDP in 2019, rise again in 2020 and come close to 2 percent of GDP in 2021. Net lending will be consistently around 3 percent of GDP over the forecast horizon, thanks to the expanding trade balance and the stable transfer surplus after 2020.

In 2018, net lending will shrink in the context of higher net borrowing in the corporate sector and the expansion of households' financial savings (Chart 5-6). The significant rise in wages resulting from the historically tight labour market entails an improvement in households' income position, which leads to a rise in the sector's receivables, offsetting the growth in consumption. Accordingly, households' net financial savings will still increase in 2018 and then gradually decline as lending

Chart 5-6: Changes in the savings of sectors



Note: As a percentage of GDP. * Net financial saving of households does not contain the pension savings of those who return to the public pension system. The official net saving is different from the data in the chart. ** We expect that 'Net errors and omissions' (NEO) will return to the historical average.

Source: MNB

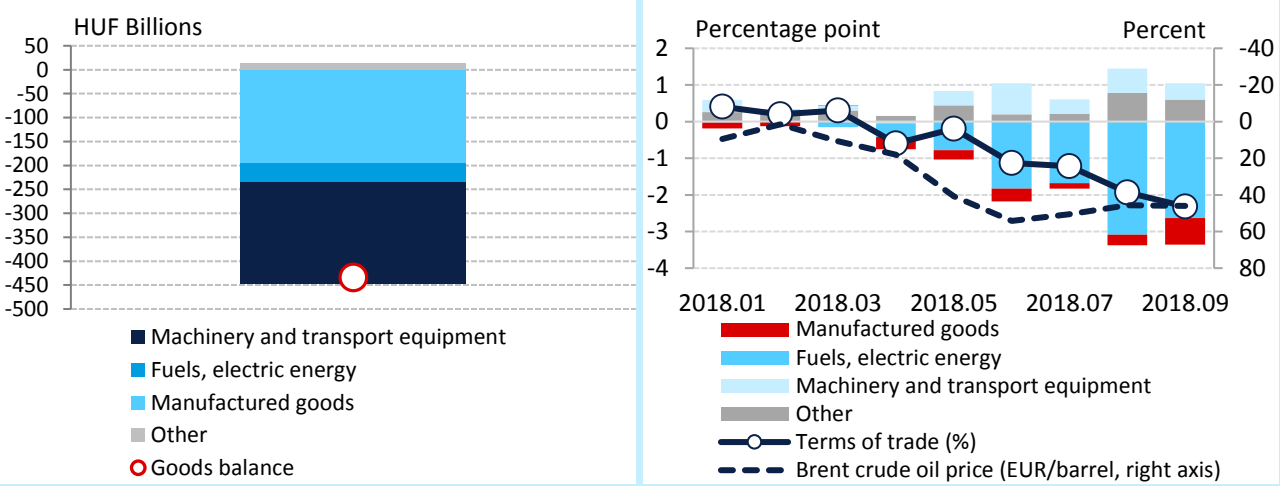
gains traction, coming in at around 4 percent of GDP. In 2018, in line with the considerable upturn in investment, the net borrowing of the corporate sector will increase. In the coming years, this effect is expected to be offset by an upswing in exports as the capacities built earlier increasingly become operational, and thus the net borrowing of the sector will stabilise at around 2 percent of GDP. Due to the high growth rate of consumption tax revenues, the budget deficit may be 2.0–2.1 percent of GDP in 2018, attributable to the better-than-expected development of underlying macroeconomic trends. In 2019 and 2020, the budget deficit may continue to contract, which also means that a budget constricting demand will be implemented. On account of lower gross wage bill growth in 2021 than in previous years, taxes on labour will contribute less to cutting the budget deficit, which, together with a further 2 percentage point reduction in the tax wedge, means that the government deficit will stabilise at 1.4–1.6 percent of GDP.

Going forward, stable net lending supports the preservation of the economy's favourable external balance position. As a result of the persistently positive net lending over the forecast horizon, debt ratios will continue to decline, and thus net external debt is expected to decrease to zero in 2020.

Box 5-1: Temporary factors determining the trade balance

The current account surplus has recently decreased, with this mainly linked to the trade balance. The **balance of goods declined in 2018 Q3** as compared to the previous quarter, mostly caused by the deepening trade deficit in energy and manufactured goods as well as the waning trade surplus in machinery and transport equipment (Chart 5-7, left panel). The gradual deterioration of the balance of goods arising from the persistent growth in domestic demand (consumption and import-intensive investments) is a **partly natural process**. However, **the current deterioration of the trade in goods is mainly caused by temporary factors.**

Chart 5-7: Balance of goods in 2018 Q3 by product groups (left panel) and changes in the terms of the trade in goods (right panel)



Note: The left panel shows the change in the balance of goods relative to the previous quarter. The right panel shows oil prices on a reverse scale.
Source: HCSO, Bloomberg, MNB

Among the **temporary factors** reducing trade in goods, the **muted performance of the Hungarian vehicle industry** should be mentioned. Among other things, as a result of the European Union's emission regulations and the protracted licensing process of diesel vehicles, German vehicle industry production declined markedly in recent months, which was reflected in Hungarian vehicle industry exports. In the coming months, we expect moderate performance from the vehicle industry.

Due to the weather conditions, **the import demand of the economy was also boosted by temporary factors**. **Energy production at the Paks nuclear power plant was restrained** due to the record low levels of the Danube, **which entailed surplus energy imports**. However, the weather conditions only temporarily caused a loss of production in the plant, so the resulting need for imports also temporarily increased the level of energy imports.

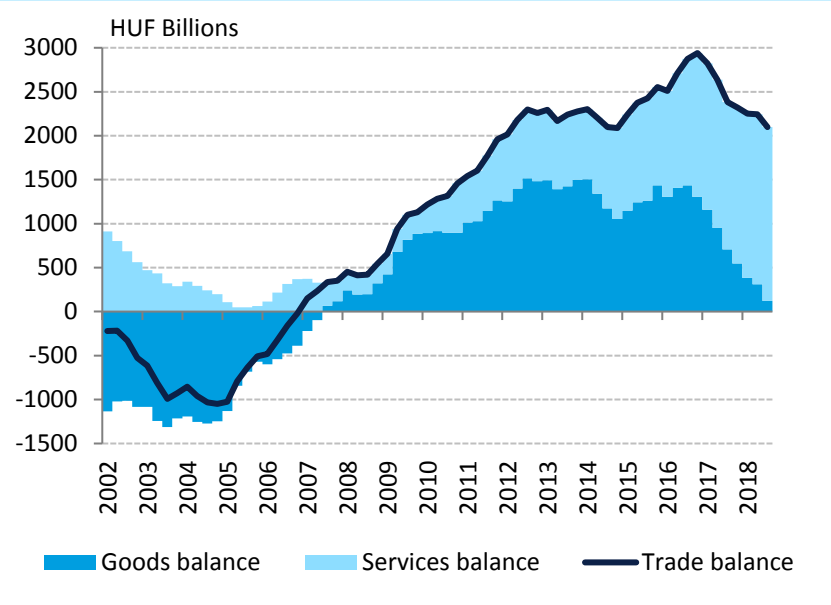
The deteriorating terms of trade also played a role in the declining balance of goods in 2018 Q3. In parallel with the **higher oil prices** in year-on-year terms and the **dollar's USD appreciation against EUR**, the deterioration of the terms of trade was principally **caused by the relative price changes of energy and manufactured goods** (Chart 5-7, right panel). The decline in oil prices in recent weeks may result in a positive correction in the terms of trade, which points towards improvement in the trade balance of goods.

Looking ahead, the fading of temporary factors and the inclusion of new capacities in production in a wide range of industrial subsectors foreshadow a higher trade balance of goods.

At the same time, the trade balance has undergone a major structural change in recent years, and therefore the development of the trade in goods in itself does not provide the whole picture in relation to the trade balance. The **weight of services within the trade surplus has gradually risen to 80 percent**, becoming an increasingly dominant factor in the current account surplus. **The major surplus on trade in services may partially offset the waning of the trade surplus on the goods balance observed in recent quarters** (Chart 5-8). Hungary's services exports continued to increase in 2018 Q3,

related to the exports of finance and other business services in addition to tourism and transportation services. Services exports may continue to grow in the period ahead, as demand for services depends less on business cycles.

Chart 5-8: Evolution of the trade balance



Note: Seasonally adjusted, 4-quarter cumulated values, in 2005 prices.
Source: HCSO

We expect the current account surplus to remain in the coming years, rising from 0.7 percent in 2019 to around 2 percent in 2021. The current account balance is fundamentally influenced by the trade surplus, which weakens slightly in 2018, on the heels of lower external demand and dynamically expanding domestic investment. In 2019, due to the slowdown in consumption growth and the new investments to be built up, the growth contribution of net exports will be nearly neutral and its level will only be reduced as a result of the partial carry-over effects of the terms of trade. From 2020, the trade surplus may rise as production in newly implemented investments increases. However, due to lower export revenues arising from muted external demand, the profits of foreign-owned companies may expand slightly, which also reduces the income deficit, thereby mitigating the negative effect of the trade balance on the current account balance. The transfer surplus will remain steadily positive with the absorption of EU transfers, and therefore **the economy's net lending will exceed the current account balance over the whole horizon, coming in at 3 percent of GDP**.

5.3. Fiscal developments

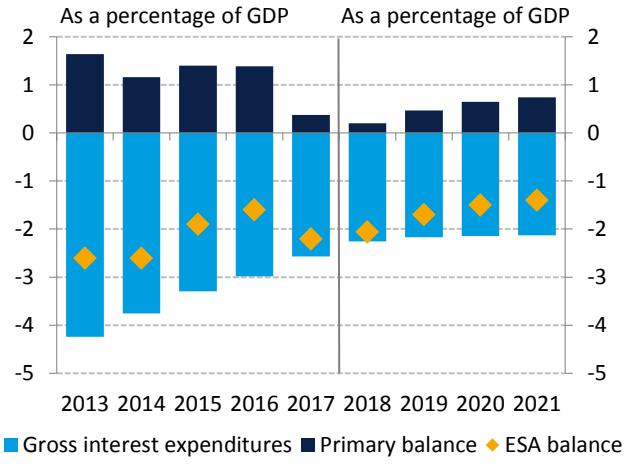
Based on our forecast, the budget deficit may remain low this year and in the coming years, which – coupled with dynamic economic growth – will result in a steady decline in the debt-to-GDP ratio. The accrual-based deficit of the government sector is projected to be below the statutory appropriation in 2018, and this trend will continue in 2019. As a result of the continued tax cuts in 2018, fiscal policy boosts demand, while in the next three years budgetary policy creates a countercyclical capital buffer thanks to the diminishing deficit. The projections show that the Maastricht debt-to-GDP ratio calculated with a constant exchange rate from the end of last year will drop below 72 percent of GDP by the end of 2018 and will then decrease to below 65 percent by the end of the forecast horizon, in the context of a continued decline in the FX debt ratio.

Table 5-1: General government balance indicators

	2018	2019	2020	2021
ESA balance	(-2.0)–(-2.1)	(-1.6)–(-1.7)	(-1.4)–(-1.6)	(-1.4)–(-1.6)
Primary ESA balance	0.2 – 0.3	0.5 – 0.6	0.5 – 0.7	0.5 – 0.7
Fiscal impulse*	0.6 – 0.7	(-0.4)–(-0.5)	(-0.2)–(-0.3)	0.0 – (-0.1)

Note: As a percentage of GDP. The lower value of the forecast band shows the ESA balance if the Country Protection Fund is used while the higher value shows the ESA balance if the Country Protection Fund is not used. *Change in the augmented (SNA) primary balance.
Source: HCSO, MNB

Chart 5-9: Changes in the fiscal balance and interest expenditures



Note: The point estimate in the chart assumes either the cancellation or the utilization of the Country Protection Fund depending on which one is closer to the government deficit target. The figures do not include the imputed interest expenditures from 2012 related to the reform of the pension system.
Source: Eurostat, MNB

5.3.1. Main balance indicators and the fiscal demand effect

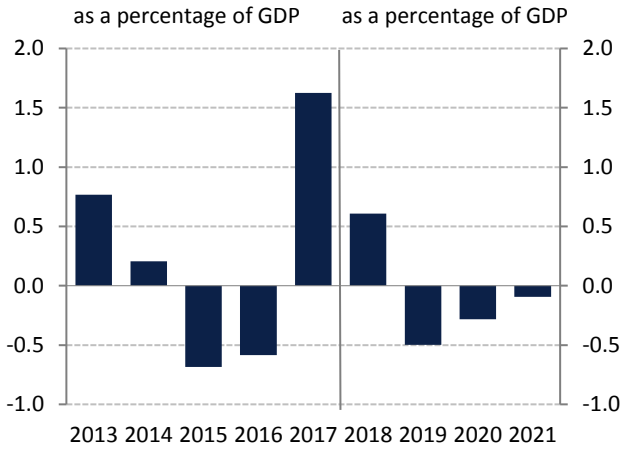
According to our forecast, the government sector deficit will be around 2.0–2.1 percent of GDP in 2018, while the 2019 deficit is expected to be 1.6–1.7 percent, whereas in 2020–2021 the accrual-based deficit may be in the range of 1.4–1.6 percent (Table 5-1). Compared to 2017, the deficit will decrease slightly this year, as the effect of the tax cuts and the one-off revenues in previous years (land sales, tax credit for growth) wears off; this is offset by dynamically rising tax revenues and lower interest expenses and financial transfers in GDP terms. In 2019, in line with the Budget Act, the deficit will continue to decline, supported by rising tax revenues resulting from favourable macroeconomic developments. The primary balance is projected to remain positive over the entire forecast horizon (Chart 5-9).

On account of the continued tax cuts, fiscal policy may continue to boost demand in 2018, while lower aggregate demand is expected for 2019 and 2020 due to the lower deficit path (Chart 5-10). The social contribution tax and the healthcare contribution rates were cut further in 2018, the family tax allowance for those with two children increased, and new product and service groups saw their tax rates fall as well. In 2019 and 2020, the budget will moderately tighten demand, resulting in a countercyclical fiscal policy. The deficit may stop declining by the end of the forecast horizon, which may make the impact of fiscal policy roughly neutral.

5.3.2. Budget balance in 2018

The government sector's deficit is forecast to be 2.0–2.1 percent of GDP in 2018, i.e. 0.2 percentage points lower than in our September forecast. The underlying economic developments were more favourable in the third quarter than in the September forecast, and thus consumption tax revenues increased more in September–November than projected. VAT revenues were perhaps also boosted by the launch of the online invoicing system in early July. Based on monthly data, the revenues related

Chart 5-10: Fiscal impulse



Note: As a percentage of GDP. The fiscal impulse corresponds to the change in the augmented (SNA) primary balance. The fiscal impulse contains the effect of EU funds to the extent of the co-financing. The positive prefix indicates demand expansion, while the negative prefix implies demand restraint.
Source: MNB

Table 5-2: Decomposition of the change in the 2018 ESA balance forecast (compared to the previous Inflation Report)

	Economic developments	Measure and other
I. Central government revenues	0.3	0.1
Value added tax	0.2	
Excise duties	0.1	
State property related items		0.1
II. Central government expenditures	0.0	-0.2
Budgetary organisations' expenditures		-0.2
III. Other expenditure	0.1	-0.1
Interest payable	0.1	
Other		-0.1
Total (I.+II.+III.)	0.4	-0.2

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values due to rounding.
Source: MNB

to state assets are also expected to be higher than forecast. The impact of the higher revenues is partly offset by the fact that the investment and material expenditure of budgetary authorities has continued to rise at a brisk pace. Government securities market yields have fallen in recent months, and thus the drop in interest expenses also played a part in lowering the deficit path for this year (Table 5-2).

The projection for the 2018 deficit is slightly below the 2.4 percent statutory appropriation and somewhat lower than last year's deficit. Revenues from taxes on labour and consumption are forecast to substantially exceed the appropriation, owing to the macroeconomic developments being more favourable than provided for in the Act. On the expenditure side, our projection for budgetary authorities' investment and material expenditure is higher than the appropriation, which is partly offset by the expected savings from the co-financing of EU programmes. Moreover, the number of workers participating in the Start Labour Scheme has fallen further based on the actual data for July and August, and therefore we continue to expect savings in this area relative to the appropriation (Table 5-3).

In the first three quarters of 2018, the general government's accrual-based balance showed a surplus overall, based on the ESA balance data from the national accounts for the first half of the year and the preliminary financial accounts' general government data for Q3. Thus, similarly to earlier years, the deficit is concentrated in the fourth quarter.

5.3.3. Budget balance in 2019

According to our forecast, the budget deficit will be 1.6-1.7 percent of GDP in 2019 and thus somewhat lower than the target included in the 2019 Budget Act. Overall, more revenues are expected than in the appropriation, mainly owing to consumption taxes, while revenues from the taxes on labour are projected to fall short of the appropriation. The surplus in the case of consumption taxes is mainly due to the expected base effect of the 2018 VAT revenues as well as the increase in the excise duty on cigarettes and other tobacco products adopted pursuant to the Budget Act. The difference in the projections for taxes on labour is mainly due to the difference in gross wage bill projections and in the effect of the measures regarding social contribution tax (inclusion of the healthcare contribution, reduction of the tax rate for half a year and comprehensive tightening of the fringe benefits system). The difference in the case of the corporate tax is explained by the fact that the new measure on eliminating

Table 5-3: Differences between our forecast and the appropriations set out in the 2018 Budget Act

	Difference from appropriation
I. Central government revenues	0.7
Consumption taxes	0.4
Taxes on labour and excise duties	0.3
II. Central government expenditures	-0.5
Winter-related utility cost reduction	-0.1
Advance wage raise in healthcare	-0.1
One-off pension supplement	-0.1
START public work scheme	0.1
Budgetary organisations and EU funds co-financing	-0.4
III. Other effects	0.1 - 0.2
Cancellation of Country Protection Fund	0.0 - 0.1
Interest payable	0.1
Methodological changes and other	0.0
Total (I.+II.+III.)	0.3-0.4

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values due to rounding.
Source: MNB

Table 5-4: Differences between our forecast and the appropriations set out in the 2019 Budget Act

	Difference from appropriation
I. Central government revenues	0.2
Consumption taxes	0.4
Taxes on labour	-0.3
Corporate income tax	0.1
II. Central government expenditures	-0.1
EU funds national co-financing	0.4
Budgetary organisations and chapters	-0.5
III. Other effects	0.0 - 0.1
Cancellation of Country Protection Fund	0 - 0.1
Total (I.+II.+III.)	**0.1 - 0.2**

Note: As a percentage of GDP. The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated values due to rounding.
Source: MNB

the cultural subsidy financed from the corporate tax is taken into account (Table 5-4).

Based on this year's experiences, the effective utilisation of EU programmes and the amount of the government's co-financing related to such are estimated to be lower in 2019 than foreseen in the Budget Act. The higher expenditure of budgetary authorities is caused by the 2018 base effect (wages, material expenditure) on the one hand, and the wage increases and additional investments announced after the adoption of the Budget Act on the other hand.

5.3.4. 2020 and 2021 fiscal balances

In the absence of any statutory appropriation, a technical forecast is prepared for 2020 and 2021, which shows a declining deficit path for 2020, in line with the Convergence Programme. In 2021, our technical forecast shows that the contraction in the deficit will come to a halt, as a result of the slowdown in economic growth, the assumed reduction of the social contribution tax in early 2021 and the announced wage increases. The cut in the social contribution tax is expected based on the rule tied to real wage increases stipulated in the tripartite wage agreement concluded at the end of 2016. In 2021, after the repricing of (almost) the entire government debt, the drop in interest expenses is also expected to stop.

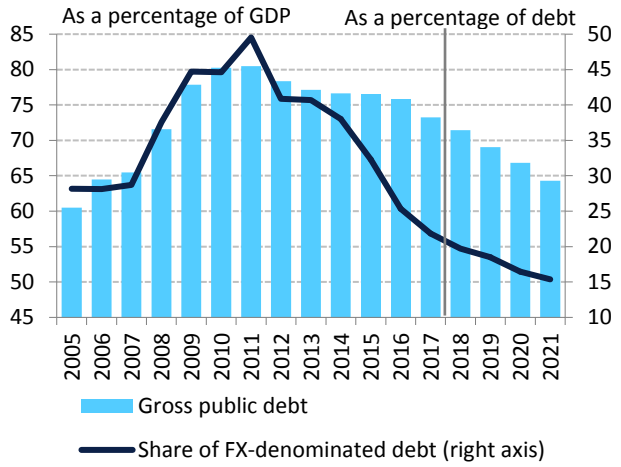
5.3.5. Risks surrounding the baseline scenario

Fiscal developments continue to be significantly affected by the utilisation of European Union funds, the structure of payments and the transfers received from the EU. Until the closing date of our projection, a smaller amount of invoiced payments were realised than foreseen in the statutory appropriation and even our lower forecast, which strengthens the risks pointing towards a lower deficit. By contrast, higher expenditures may be registered if the budgetary investments, and especially local government investments, are implemented faster than expected.

5.3.6. Expected developments in the debt path

According to preliminary data, gross government debt, including the debt of Eximbank, amounted to 72.8 percent of GDP at the end of 2018 Q3, down 0.5 percentage point compared to the end of 2017. The debt ratio dropped by 1.4 percentage points in year-on-year terms. This decline is attributable to the vibrant economic growth, which was partly offset by increased government securities issues.

Chart 5-11: Gross public debt forecast – calculated with unchanged (end-of-2017) exchange rate over the forecast horizon



Source: MNB

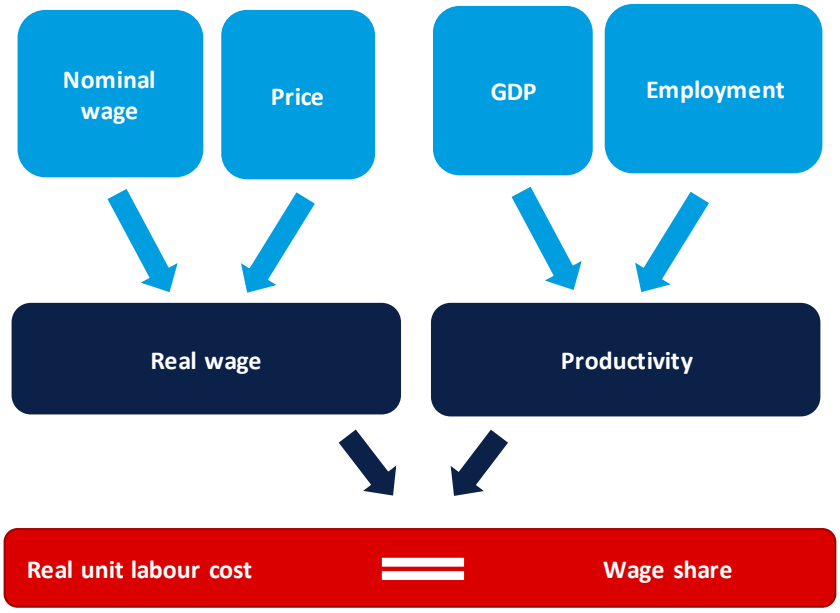
According to our forecast, assuming a constant end-2017 forint exchange rate, the gross debt-to-GDP ratio would decline to 71.5 percent by the end of 2018, i.e. the debt rule of the Fundamental Law is expected to be satisfied this year as well (Chart 5-11). The changing EUR/HUF exchange rate affects the debt ratio even in the context of falling FX debt, and thus a two-unit change in the EUR/HUF exchange rate modifies the debt-to-GDP ratio by 0.1 percentage point. The moderate budget deficit and the dynamic expansion of the economy point towards a marked decline in government debt over the forecast horizon, mitigated by the advances of EU funds and the absence of EU payment revenues in 2018. However, the surplus financing requirement of the advances and the absence of EU revenues was moderated by the fact that, on account of an adopted amendment, the economic actors in the government subsectors had to transfer the unused EU advances of over HUF 50 million disbursed earlier by 30 September 2018 to their accounts held by the Hungarian State Treasury. Taking the above into consideration, government debt may decline by 1.8 percentage points this year and by 2.0–2.5 percentage points each year between 2019 and 2021, coming close to 64 percent by the end of the forecast horizon. Based on our prognosis, the FX ratio of central government debt will decline to 19.7 percent by end-2018 and will then fall below 16 percent by the end of 2021. The foreign currency ratio within the total general government is expected to be 4 percentage points higher than in the central debt, owing to the other items recognised.

6. SPECIAL TOPIC

6.1. The relationship between wages and productivity, and the development of the wage share

In Hungary, wages have increased dynamically in recent years. This growth was characteristic of a wide range of sectors, and it was the most dynamic in the case of low-income workers. The buoyant wage dynamics were influenced by the competition for skilled labour, the substantial hikes in the minimum wage and the guaranteed wage minimum in recent years, as well as the salary adjustments by the government in recent years. **While wage growth may temporarily diverge from productivity developments, over the long run,** in accordance with economic theory, **it develops in line with the rise in productivity**. The relative change of real wages and productivity is shown by the change in real unit labour costs, which, by definition, is the same as the development of the **wage share** (adjusted for mixed income) (Chart 6-1). Our special topic analyses the relationship between wages and productivity based on the wage share, and we also present our estimate for the wage share.

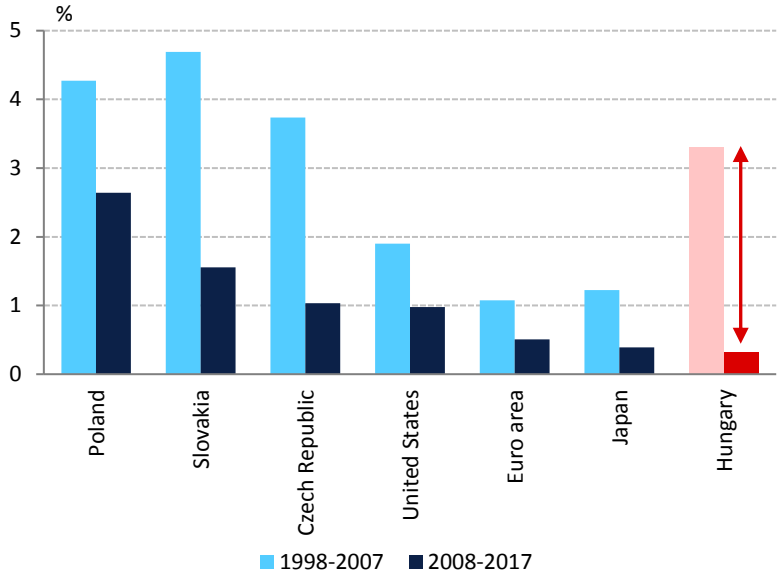
Chart 6-1: Components and indicators of the calculation of wages and productivity



Source: MNB

The concepts of wages and productivity may refer to various indicators: therefore, it is important to make clear the exact meaning of the concepts consistent with the wage share. In theory, productivity expresses the efficiency that helps the factors of production generate value added. The value added generated by one unit of labour as a factor of production is defined as labour productivity (Y/L). **In calculating the wage share, we use** one of the most widespread indicators of productivity, **labour productivity per person employed**, which can be directly derived from the national accounts. **Labour productivity**, calculated as the result of the development of real GDP and employment in the national accounts, **was low around the world after the crisis**. Hungarian productivity growth was moderate in an international comparison, lagging behind the growth registered in the region and in the large, developed economies as well (Chart 6-2).

Chart 6-2: Labour productivity growth



Source: AMECO

In connection with the slower improvement of Hungarian productivity, it should be noted that the structural labour market reforms (tightening retirement conditions, overhauling the unemployment benefit scheme, introducing the Job Protection Action Plan and expanding public employment) which were introduced from 2010 considerably contributed to the flow of the groups that previously had no ties to the labour market or only weaker ones (the inactive and the long-term unemployed) into participation and employment. **Since the productivity of new entrants fell short of the average, the negative composition effect hampered an improvement in productivity.** On account of the inclusion of free labour market capacities, the participation rate and employment increased, and economic growth was characterised by a labour-intensive phase. Due to the tightening of the labour market from 2017, economic growth was also helped by rising labour productivity. As a general rule, productivity rises procyclically in the business cycle's rising phase, as implied by Kaldor–Verdoorn's law or Okun's law. At the same time, when comparing productivity to wages, **the establishment of a robust picture of real wages is rendered difficult by statistical contradictions, and therefore it is necessary to describe the difference between the indicators in detail**.

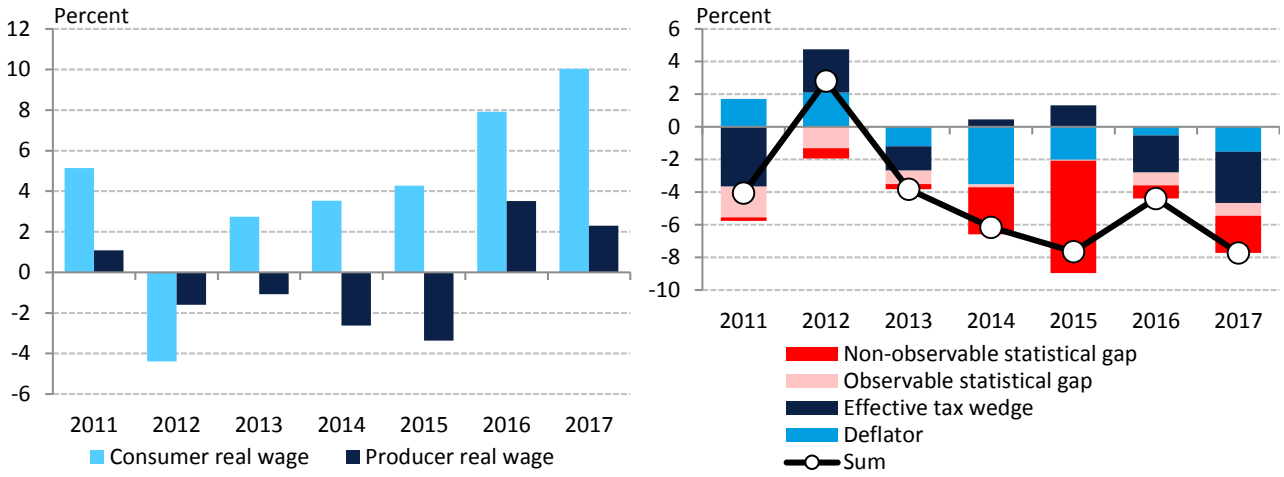
6.1.1. Issues of wage indicators

With respect to wage growth, Hungarian analysts typically look to institutional labour statistics, while international organisations prefer national accounts data. Institutional labour statistics provide the **consumer real wage**, the relevant indicator for households, which shows the actual purchasing power of workers' wages. The **producer real wage** in the national accounts relevant for companies includes all the wage costs borne by employers, deflated with the GDP deflator. **Between 2017 and 2010 the consumer real wage grew by 4 percent on average annually, while the producer real wage remained flat overall** (Chart 6-3, left panel). The difference is the combined result of various factors, all of which pointed towards a lower producer real wage. **The factors with any economic significance** (deflator, effective tax wedge) **explain only roughly one-third of the difference**. The consumer price index rose less than the GDP deflator over the period, and due to the reduction of the taxes on labour, the change in the (effective) tax wedge also contributed to the moderation of costs felt by companies.

Two thirds of the difference between producer and consumer real wage dynamics is caused by statistical factors, which were very dominant in 2015 (Chart 6-3, right panel). In theory, the "statistical bridge" between the two different sources of data is formed by the gross wage indicator, but while gross wage growth calculated from various statistics was more or less similar between 2000 and 2010, the gap steadily widened between the two indicators in recent years. The statistical discrepancy is high not only historically but also in an international comparison. **The smaller portion of the statistical gap can be observed and quantified based on the available data.** First, the gross full-time average earnings registered in institutional labour statistics do not include other labour income or the wages of those not working full-time. The published

institutional labour statistics data provide an opportunity to broaden the concept and coverage of wages. The indicator created this way (gross average labour income per employee) has the same content as wages and salaries in the national accounts. Second, the annual dynamics of the number of employees also differ in the two statistics, the slightly higher rise in the headcount reported in the national accounts also contributes to the difference between the wage indicators.

Chart 6-3: Development of real wages relevant for households and firms (left panel) and the decomposition of the difference (right panel)



Note: Consumer real wage: net earnings deflated by CPI, producer real wage: labour costs deflated by GDP deflator.
Source: HCSO, MNB

The main issue with wage indicators is that a portion of the difference between the real wage indices relevant for households and firms is derived from a directly non-observable statistical gap. The difference can only be calculated as a residual, and according to control statistics, it may have been caused by divergent wage-setting at smaller companies and the reduction of the size of the hidden economy.

Institutional labour statistics contain companies with 5–49 employees only through sampling, and none of those with less than five workers. By contrast, national accounts estimates cover the whole national economy. If the dynamics of the wages paid by medium-sized and large enterprises exceed the amount paid by small enterprises observed partly in the labour statistics, average wage growth also reflecting smaller firms will be lower in the national economy than in the institutional labour statistics. **According to personal income tax returns**, labour income increased even more between 2010 and 2017 than in the labour statistics, and therefore **the lower wages of smaller companies is less likely a reason behind the divergence**.

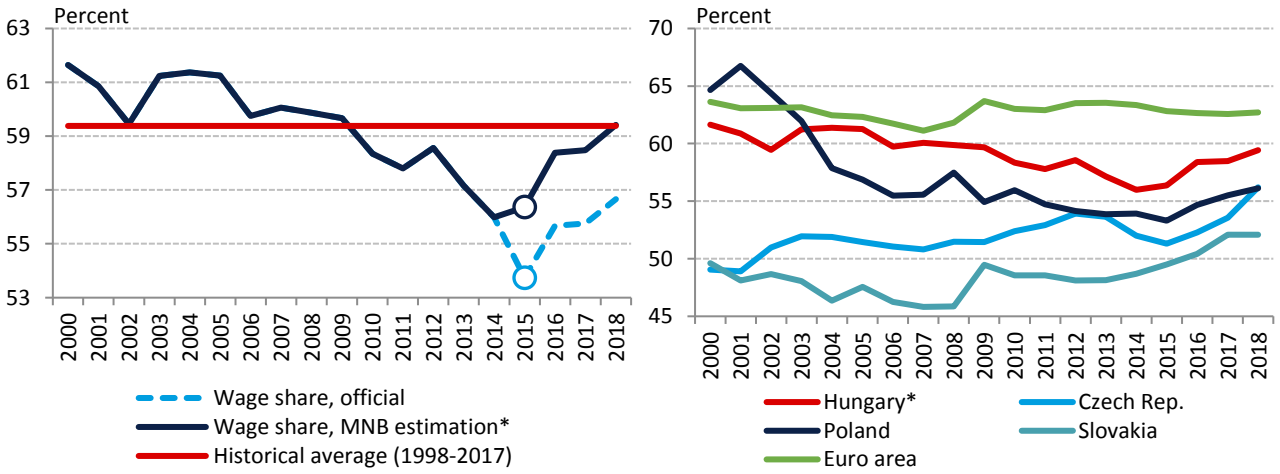
In the course of reducing the shadow economy, actual wage growth may be lower than registered in the institutional survey (and the tax returns). The national accounts also contain an estimate for the hidden economy, and therefore undeclared and partially declared income are also part of total earnings. Since 2010, several government measures have had the effect of reducing the shadow economy (flat-rate personal income tax, larger minimum wage increases, the introduction of online cash registers), which may have influenced the wage growth registered in the national accounts. Indirectly, the reduction of the shadow economy may also be suggested by the fact that the rise in national accounts incomes moved in line with households' spending and savings for a major portion of the period. **The measures aimed at reducing the shadow economy and income indicators imply that the directly non-observable statistical gap may be explained by the contraction of the unobserved economy in most of the past years.**

In 2015, the difference derived from the non-observable statistical gap was exceptionally large, as **according to national accounts data, wages and salaries per employee dropped by 2.7 percent.** This significant nominal fall is supported by neither consumption, nor investments, nor savings data. By contrast, calculating disposable income with the wage growth in labour statistics provides an estimation that is consistent with macroeconomic developments in 2015. **With the exception of 2015, the producer real wage and the wage share calculated from that shows an accurate picture of the relationship between wages and productivity.**

6.1.2. Sustainable wage growth and the development of the wage share

According to our assumption, the 2015 correction of the wage share improves the accuracy of the stance assessment. Due to the above, the labour cost index used the growth measured in the labour statistics for 2015. As the correction affects the annual change in the wage share, the wage share has shifted considerably upwards since 2015. The estimated wage share exhibited a downward trend between 2005 and 2014, in other words producer real wage dynamics fell far short of the change in productivity, sinking to a historical low, at 56 percent. **Taking into account the correction, the wage share started growing in 2015 and it has converged to the historical average in recent years** (Chart 6-4, left panel). In an international comparison, the estimated wage share is higher than in Visegrád countries, but it still falls short of the euro area figure (Chart 6-4, right panel).

Chart 6-4: Adjusted wage share with correction (left panel) and its estimated development in an international comparison (right panel)



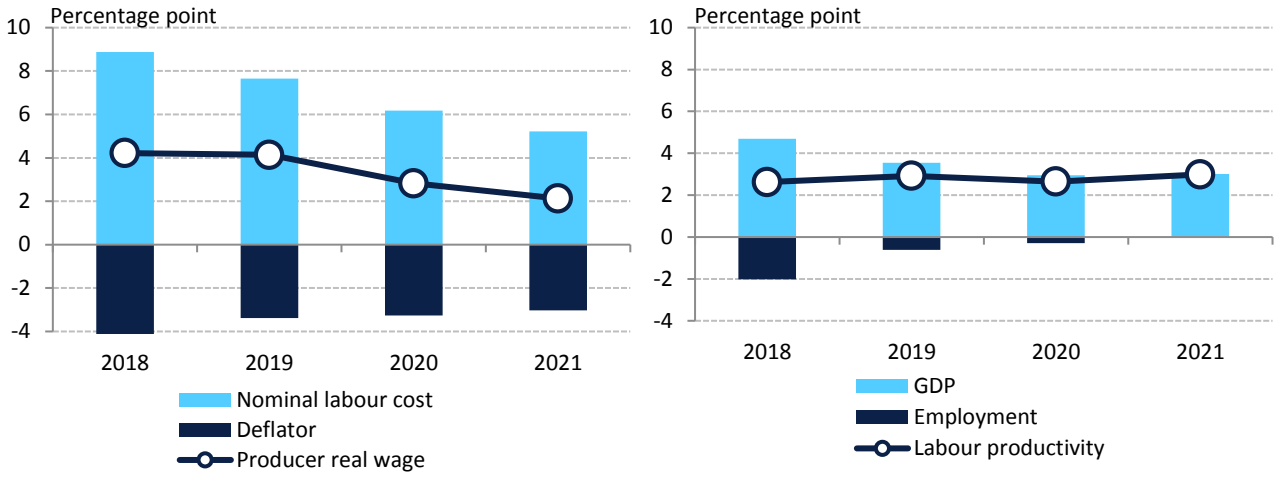
Note: *For 2015, average labour cost growth measured in labour statistics is used instead of the fall registered in the national accounts.

Source: HCSO, MNB, AMECO

The rapid wage growth in recent years was enabled by the low wage share. In recent years, companies' profitability allowed them to finance strong nominal wage growth at the macro level, which was also supported by the cut in the social contribution tax last year and early this year. In the recent period, **wages have caught up with productivity**, and based on the current level of the wage share, there is less room for wage increases going forward.

Looking ahead, we expect to see a gradual stabilisation of the wage share (in other words, a stabilisation of real unit labour costs) and a slowdown in the wage growth registered in recent years in parallel with that. **If our current forecasts are realised, producer real wage growth will gradually become consistent with the improvement of productivity** (Chart 6-5). **Our projection includes underlying wage trends growing sustainably, in the 6–8-percent band**, so as administrative effects fade out and the public wage dynamics slow down, the whole-economy wage dynamics will also be around 6–8 percent in the second half of the forecast horizon. Labour cost growth is also influenced by the reduction of contributions expected over the horizon. The price index relevant from the perspective of the producer real wage will be close to 3 percent. **Overall, wages and productivity are expected to exhibit close covariance in the upcoming period.**

Chart 6-5: Producer real wage (left panel) and productivity growth (right panel) forecast and decomposition



Source: MNB

Wage growth in line with productivity growth is necessary for the sustainable economic catch-up. Economic policy can raise the productivity growth through measures aimed at improving competitiveness.

7. BREAKDOWN OF THE AVERAGE CONSUMER PRICE INDEX FOR 2018 AND 2019

Table 7-1: Decomposition of inflation to carry-over and incoming effects (percentage points and percent respectively)

	Effect on CPI in 2018			Effect on CPI in 2019		
	Carry-over effect	Incoming effect	Yearly index	Carry-over effect	Incoming effect	Yearly index
Administered prices	0.0	0.0	0.0	0.0	0.1	0.1
Market prices	0.7	2.1	2.8	0.6	2.0	2.6
Indirect taxes and government measures	0.2	-0.2	0.0	0.1	0.1	0.2
CPI	**0.9**	**1.9**	**2.8**	**0.7**	**2.2**	**2.9**

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated the inflationary effects of changes in indirect taxes, administered prices and market prices (not administered prices excluding indirect tax effects). The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

Table 7-2: Detailed decomposition of our inflation forecast into carry-over and incoming effects (percentage points and percent respectively)

	2018					2019				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	0.9	0.0	3.5	-0.1	4.3	1.1	0.0	4.0	-0.4	4.7
non-processed	0.3	0.0	6.8	-0.3	6.8	1.5	0.0	7.4	0.0	8.9
processed	1.3	0.0	1.7	0.0	3.0	0.8	0.0	2.5	-0.6	2.7
Tradable goods	0.6	0.0	0.4	0.0	1.0	1.3	0.0	0.6	0.1	2.0
durables	-0.4	0.0	0.1	0.0	-0.3	1.4	0.0	0.2	0.0	1.6
non-durables	1.0	0.0	0.6	0.0	1.6	1.2	0.0	0.8	0.1	2.1
Market services	0.5	0.0	2.4	-0.6	2.3	1.1	0.0	3.2	-0.1	4.2
Market energy	6.8	0.0	3.6	0.0	10.4	4.3	0.0	0.0	0.0	4.3
Alcohol and Tobacco	0.9	1.9	2.4	0.4	5.6	1.7	0.9	1.6	2.3	6.6
Fuel	1.5	-0.5	6.9	0.0	7.9	-4.8	0.0	2.2	0.0	-2.6
Administered prices	-0.3	0.0	0.4	0.0	0.1	0.2	0.0	0.4	0.0	0.6
Inflation	**0.7**	**0.2**	**2.1**	**-0.2**	**2.8**	**0.6**	**0.1**	**2.1**	**0.1**	**2.9**
Core inflation	0.7	0.3	1.6	-0.1	2.5	1.2	0.1	2.0	0.2	3.5

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of so-called carry-over and incoming effects. The carry-over effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects the changes in the recent year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated their inflationary effects. The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

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Mátyás Hunyadi

(23 February 1443 – 6 April 1490)

He ruled from 1458 to 1490 as King of Hungary, and had been Czech king from 1469 and Prince of Austria from 1486. Hungarian tradition regards him as one of the greatest Hungarian kings whose memory is preserved in many folk tales and legends. He is also known as Matthias Corvinus, King Matthias the Just or officially as Matthias I, but commonly he is simply denoted as King Matthias.

His father, János Hunyadi, the regent of Hungary, was one of the most outstanding military leaders and strategists in the country's medieval history who triumphed at the Battle of Nándorfehérvár in 1456. Matthias' mother was Erzsébet Szilágyi, and he had an elder brother, László Hunyadi. The future king was brought up by his mother and nurse until the age of six, and was subsequently placed under the supervision of his tutors. János Hunyadi did not have a chivalrous education in mind for his son: first, it was a Polish humanist, Gergely Szánoki who introduced him to the realm of knowledge, then this task was assigned to János Vitéz. Mátyás was brought up and educated in a humanistic spirit to become a versatile and curious-minded person who had been taught canon and constitutional law, arts and Latin. In addition to Hungarian, he also spoke German and Czech.

After the death of László V, his uncle, Mihály Szilágyi, and the armed forces supporting Hunyadi exercised pressure to have Matthias crowned as King of Hungary on 24 January 1458. Even in the early years of his reign Matthias had troubles both with the magnates of the country and Emperor Frederick III of the Holy Roman Empire. As the king was still a minor, parliament appointed Mihály Szilágyi to act as regent on his behalf. However, Matthias did not tolerate any guardianship and pushed his uncle to the background who devised a plot against the king in response. Returning from battle with the Turks, the king had the rebels captured and he imprisoned his uncle in the castle of Világos.

Upon his ascension to the throne the annual income of the treasury hardly exceeded 110 to 120 thousand forints. During his rule spanning thirty-two years the king managed to multiple revenues from taxes. Considering the average of the taxes levied, less the revenues from the Czech and Austrian provinces, this yearly amount approximated 628,000 forints and may as well reached 900,000 gold forints in the most prosperous years. This was still much less than the annual revenue of the western powers of the age. In order to raise the low income of the treasury, reform-like and comprehensive financial actions were needed. Matthias recognised that a centralised, nationwide financial system was the only solution to the problem, and that the royal revenues had to be directed to a single person, the treasurer. The reforms of Matthias were adopted by parliament and his decrees were promulgated on 25 March 1467.

We can get a glimpse of the cultural life in the royal court, which represented the elite of European civilisation at the time, at the partly reconstructed Royal Palace in Visegrád. The most distinguished pieces of the cultural legacy of Matthias are the Corvinian books, richly illustrated volumes of the former royal library.

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