INFLATION REPORT

2018

MARCH

'... 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 per cent 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 23 March 2018.

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The Monetary Council's key findings related to the Inflation report

In the Council's assessment, in parallel with the pick-up in domestic demand, Hungarian economic output is close to its potential level. Growth of the Hungarian economy will pick up further in 2018, then, according to the current projection, it will slow down gradually from 2019. The inflation target is expected to be achieved in a sustainable manner by the middle of 2019.

Global economic output continued to expand in recent months, while global inflation remained at a moderate level, similar to that of last year. Increases in price levels were below the inflation targets in most countries. In the past quarter, prices of risky assets temporarily decreased, due to rising interest rate expectations.

Growth in the global economy, and particularly in the euro area, continued in the fourth quarter of 2017, and strong global economic activity may persist in the coming years as well. Cyclical factors also play a role in the improving euro area economic growth, although the long-term economic outlook involves high uncertainty due to low productivity growth, persistently high unemployment rates in some regions and non-performing loans in the banking system. GDP growth in the United States is expected to pick up in 2018, while the Chinese economy continues to grow dynamically. Exhibiting high volatility, global oil prices were in the USD 60–70 band, and underlying global inflation developments still show no stable upward trend.

In the first quarter, risk appetite declined on the money and capital markets. Market sentiment was influenced by favourable macroeconomic data, the US tax reform and the resulting rise in inflation and interest rate expectations. As a result of rising interest rate expectations, developed and emerging market yields generally rose, particularly in the longer segment of the yield curve. At the beginning of February, there was a substantial fall in major stock market indices, accompanied by rising volatility in prices. Nevertheless, on the whole US stock price indices were above December levels, while the Japanese and developed European stock price indices closed the period below their initial level. In parallel with the declines on the equity market, risk indicators and the volatility of asset prices also rose, while the emerging bond market EMBI Global index returned to the level observed early in the period. In the foreign exchange market, the euro continued to appreciate against the US dollar on the whole.

In line with the moderate inflation expectations, the accommodating monetary policy environment is likely to remain in the euro area. Starting from January 2018, the European Central Bank is continuing its net asset purchases at a reduced volume until September 2018, or beyond if necessary. Net asset purchases may continue until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim. On the other hand, the March communication no longer contains the statement that if the outlook becomes less favourable, the Governing Council is ready to extend the programme. Market participants expect the first interest rate hike to occur in the second quarter of 2019. In March 2018, the US Fed raised the base rate to the band of 1.5–1.75 percent. The interest rate path priced in after the interest rate hike has not changed significantly.

The Central and Eastern European region continued to be the economic growth centre of the European Union. Inflation typically decreased in the countries of the region in the past months, with rates moving in the lower half of the tolerance bands. The Czech and the Romanian central banks raised their key policy rates, and market participants anticipate further tightening. By contrast, decision-makers at the Polish central bank left monetary conditions unchanged in the past quarter and according to the central bank's communication they may remain unchanged looking ahead.

In line with our December expectation, in a sustainable manner, inflation will reach the 3 percent level consistent with price stability, by the middle of 2019.

In the past period, inflation decreased moderately to reach 1.9 percent in February. The evolution of the Hungarian price index was essentially in line with the projection presented in the December Inflation Report. The decline in core inflation, which has been ongoing since September 2017, continued bringing this indicator to 2.4 percent in February. The decline in the prices of this product group in the past period was primarily attributable to the fall in the price index of industrial goods.

According to the current projection, inflation will once again remain in the lower half of the tolerance band in the coming months. Over the forecast horizon, we expect core inflation to rise gradually, while the underlying inflation trends will develop moderately as expected earlier. Over the medium term, buoyant domestic demand and rising wage growth point to an increase in domestic core inflation. On the other hand, the cost effect of the dynamic wage increase is mitigated by several factors collectively. The reduction of the social contribution tax realised as part of the multi-year wage agreement, the corporate income tax cut in 2017 and the gradual reduction of the shadow economy all moderate the impact of wage increases on inflation. In addition, inflation prospects in the euro area are persistently moderate, and households' inflation expectations have also stabilised at historically low level, which on the whole also slows the rate of domestic price increases. Looking ahead, the price dynamics of non-core inflation items correspond to our December forecast. As a result of the appreciation of the euro against the US dollar, EUR-denominated oil prices, which fundamentally influence domestic fuel prices, remained essentially unchanged compared to our December assumption, and looking ahead, the market pricing anticipates a gradually declining path. Based on the projection in the March Inflation report, in line with our earlier expectation, inflation will sustainably reach the 3-percent level consistent with price stability by the middle of 2019.

The Magyar Nemzeti Bank has revised up its 2018 growth forecast. According to the current projection, this year we expect economic growth to be more dynamic than last year, but the pace of expansion will gradually decelerate from 2019. Productivity and competitiveness will play an increasingly important role in terms of growth.

Based on the data received since the December Inflation Report, we expect more favourable consumption and investment processes and slightly stronger growth in exports, as a result of which, we anticipate higher growth in the short run compared to the forecast in the December Inflation Report.

In 2018, we expect economic growth to be even faster than in 2017, which – according to the current projection – will be followed by a gradual deceleration. Looking ahead, growth is still supported by the expansion in domestic demand. The growth in consumption is fostered by the dynamic increase in real wages, the high net financial assets and the second-round effects of the upturn on the housing market. The rise in household consumption is also supported by strengthening consumer confidence. In the first half of the forecast horizon, investments are expected to continue expanding dynamically, supported by stronger underlying corporate investment trends, the pick-up on the housing market, the low interest environment, the major rise in loans to SMEs resulting from the central bank programmes, and the rise in the absorption of EU funds. In the second half of the forecast horizon, investment at the level of the national economy may decline due to the large-scale corporate investments being incorporated into the base, the phase-out of the EU transfers and the weakening of the housing market cycle resulting from the resetting of the VAT rate on new housing transactions, in accordance with the effective tax regulations. As a result of the favourable outlook for global economic activity, we expect stronger growth in external demand compared to our December assumptions, which will also be supported by economic policy measures in the United States and the rising intensity of external trade. In addition, growth in Hungary's export market share is also supported by the development of new industrial capacities.

In the Council's assessment, GDP growth will reach 4.2 percent in 2018, and then, according to the current projection, growth will gradually decelerate from 2019. In parallel with economic growth, the unemployment rate will also continue to decrease moderately. As a result of the pick-up in domestic demand, output is close to its potential level, and therefore, in terms of economic growth, productivity and competitiveness will become increasingly important in the longer term.

Both corporate and household lending rise dynamically over the forecast horizon.

Outstanding corporate and household loans will increase dynamically in the coming years. With buoyant economic growth and a persistently negative real interest rate environment, a continued rise in lending is expected to take place. The Hungarian economy is still in the early, ascending phase of the new lending cycle, and lending is unlikely to reach its equilibrium level even at the forecast horizon. Annual growth in overall corporate lending is currently close to the upper edge of the band of 5–10 percent, which is deemed sustainable by the MNB. The outstanding borrowing of SMEs is rising at an even higher rate, also supported by banks' commitments related to the Market-based Lending Scheme. The sound structure of the pick-up in household loans is guaranteed by the debt cap regulation. Within new housing loans, there was a rise in the ratio of loans with interest fixed for longer than one year, which contributes to the improvement in financial stability. In the fourth quarter of 2017, the share of Certified Consumer-Friendly Housing Loan products also grew continuously. The cyclical impact of lending by the banking sector on economic growth is neutral, i.e. no procyclical or countercyclical impact can be observed.

In 2018, as a result of vigorous domestic absorption, the current account surplus will continue to decrease. However, the rise in the absorption of EU transfers offsets the decrease in the external trade surplus, and thus net lending will remain at a relatively high level. From 2019, in parallel with the slower expansion of domestic demand, the decrease in the current account surplus will stop. Owing to the substantial net lending, Hungary's external vulnerability will continue to decrease over the forecast horizon.

In 2018, the falling trade surplus resulting from the buoyant growth in domestic demand will entail a decline in the current account balance. However, net lending will remain largely unchanged, as this is offset by the rising absorption of EU transfers. In the second half of the forecast horizon, in addition to the slower rise in domestic absorption, due to the ongoing fast growth in exports resulting from the major FDI inflow, the decline in the current account balance will come to an end. In the coming years, the absorption of EU transfers may make a substantial contribution to net lending, which will amount to around 4 percent of GDP. In line with the high net lending, the decline in Hungary's net external debt may continue, supporting a further decrease in external vulnerability.

Based on preliminary financial account data, the budget deficit in 2017 amounted to 1.9 percent of GDP, which was in line with the MNB's expectations and fell short of the statutory target of 2.4 percent of GDP. According to our deficit forecast for 2018, the deficit may correspond to the 2.4-percent target set for this year, followed by a gradually declining deficit path to roughly 2 percent in 2019 and 2020. The government debt ratio in 2017 decreased by more than 2 percentage points. The favourable debt ratio trends are supported by the strong economic growth and the decline in the general government's interest expenses. The decrease in the government debt ratio will continue over the entire forecast horizon, thereby complying with both EU and Hungarian fiscal rules.

Money market trends in the Central and Eastern European region were mostly determined by the measures taken by the region’s central banks and events in the developed markets. In line with the yield increase observed in the developed markets, long-term interbank and government securities market yields in the region also rose. Hungarian long-term interbank and government securities market yields declined substantially until mid-January as a result of the central bank's communication and the new MNB instruments, which was later adjusted partially by the upward pressure on global yields and the reduction of speculative positions on the forint interest rate swap market.

In the Hungarian interbank market, short-term BUBOR fixings have not changed substantially since mid-December, but the 5-year section of the interbank forward yield curve shifted upwards by roughly 30 basis points in line with the increase in international yields. A similar increase was also observed in the government securities market during the quarter. Auctions during the past period were characterised by strong demand. Hungarian long-term spreads rose in parallel with the increase in international yields observed at the beginning of the year. Taking a longer horizon, however, spreads compared with the euro area and regional yields declined. During the period, the exchange rate of the forint against the euro appreciated slightly. Euro area monetary conditions – as the key determinants of domestic monetary policy – are expected to remain accommodative according to market forecasts.

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

In addition to the baseline projection in the March Inflation Report, the Monetary Council also considered two alternative scenarios. The alternative scenario that assumes more moderate global inflation features a deceleration of the global economy, resulting in a slower rise in external inflation, and therefore in a domestic inflation path below the baseline scenario, while it slightly curbs GDP growth. As a result of the scenario assuming faster wage growth, economic growth will be stronger and inflation will be higher than the forecast in the baseline scenario. In addition to the key scenarios, in terms of other possible risks, the Monetary Council also discussed scenarios which assume a faster rise in developed market yields, weaker-than-expected investment activity and faster-than-expected growth in Hungary's export market share.

The inflation target is expected to be achieved in a sustainable manner by the middle of 2019. In the Council’s assessment, maintaining the base rate and the loose monetary conditions at both the short and long ends for an extended period is necessary to achieve the inflation target in a sustainable manner.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy)

	2017	2018	2019	2020
	Actual		Projection	
Inflation (annual average)				
Core inflation	2.3	2.4	2.9	2.9
Core inflation excluding indirect tax effects	2.2	2.4	2.9	2.9
Inflation	2.4	2.5	2.9	3.0
Economic growth				
Household consumption expenditure	4.7	4.4	3.0	3.0
Government final consumption expenditure	0.8	0.6	0.6	0.7
Gross fixed capital formation	16.8	14.9	6.4	-2.0
Domestic absorption	5.9	5.9	3.3	1.2
Exports	7.1	7.9	7.4	6.6
Imports	9.7	10.0	7.7	5.4
GDP	4.0	4.2	3.3	2.7
Labour productivity[5]	1.9	3.0	2.9	2.5
External balance[1]				
Current account balance	2.9	1.5	1.6	2.7
External financing capacity	4.1	4.2	4.3	4.8
Government balance[1,4]				
ESA balance	-1.9	(-2.2) – (-2.4)	(-1.8) – (-2.0)	(-1.6) – (-2.0)
Labour market				
Whole-economy gross average earnings[2]	12.9	10.2	6.5	6.4
Whole-economy employment	1.6	0.9	0.3	0.2
Private sector gross average earnings[2]	11.6	10.3	6.9	7.1
Private sector employment	2.2	1.6	0.6	0.3
Unemployment rate	4.2	3.7	3.6	3.5
Private sector nominal unit labour costs	5.6	5.0	3.4	3.0
Household real income[3]	5.6	5.0	2.5	2.3

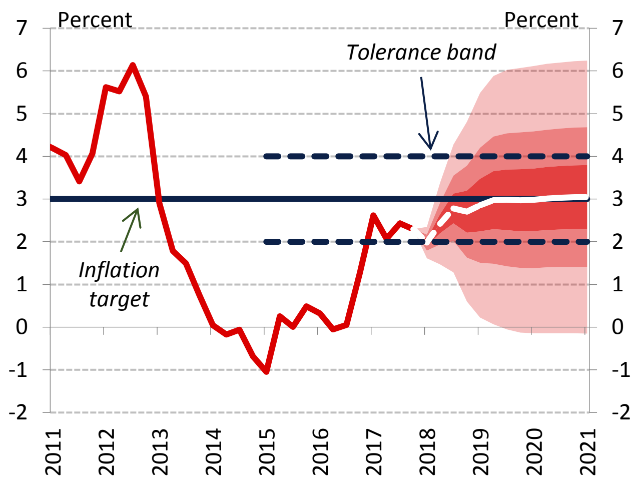
[1] As a percentage of GDP.
[2] According to the original HCSO data for full-time employees.
[3] MNB estimate.
[4] The lower value of the forecast band shows the ESA balance if the Country Protection Fund will be used while the higher value shows the ESA balance if the Country Protection Fund is not used. The final data for the 2017 ESA balance will be published in the April EDP Report. Therefore, until then the net financing need of the government sector according to the preliminary financial account, which is a good approximation, is used.
[5] Whole economy, based on national accounts data.

1. Inflation and real economy outlook

1.1. Inflation forecast

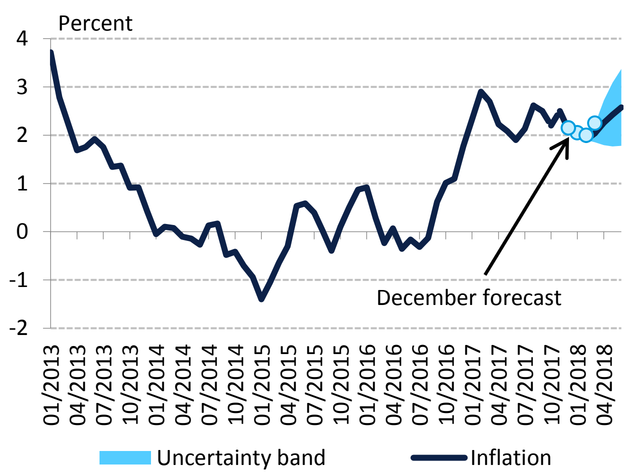
Supposing unchanged assumptions in our current forecast inflation will reach the 3 percent level consistent with price stability – in line with our December expectations – in the middle of 2019 in a sustainable manner. Inflation will rise in the coming months, owing mainly to base effects related to fuels, but will remain in the lower half of the tolerance band. Looking ahead, the inflation forecast is consistent with the December projection. Over the forecast horizon, due to robust domestic demand and rising wages, core inflation excluding indirect taxes is expected to gradually increase. Nevertheless, the rate of price increases remained subdued in the euro area, the stabilisation of households' inflation expectations at a historical low level and the gradual reduction of the employer's contribution.

Chart 1-1: Fan chart of the inflation forecast



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

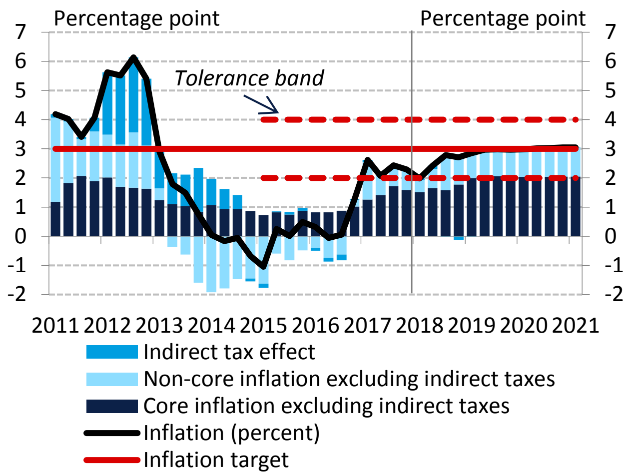
Looking ahead, inflation is expected to be in line with the previous projection, and this is confirmed by incoming data as well. Supposing unchanged assumptions in our current forecast inflation should reach the **central bank's inflation target of 3 percent in the middle of 2019 in a sustainable manner** (Chart 1-1).

According to our current forecast, **inflation will rise starting from the spring months**, mainly driven by the base effects linked to fuels, but it will remain **in the lower half of the tolerance band** (Chart 1-2).

Inflation in the euro area will continue to fall short of the ECB's inflation target in the coming years. According to the latest ECB forecast, expectations for 2019 have declined somewhat since the extent of euro appreciation versus the US dollar is expected to exceed the magnitude of oil price increases expressed in USD. Looking ahead, underlying inflation in the euro area remained subdued.

Supposing unchanged assumptions in our current forecast core inflation excluding indirect taxes is expected to rise gradually (Chart 1-3). The expansion of household consumption boosts the pricing power of firms, but its inflationary effect is more moderate compared to pre-crisis experiences. According to our expectations, the increase in consumption is primarily linked to durable consumer goods. In this latter case the growth of consumption exceeds the overall consumption growth. Owing to the high import content of durable consumer goods and the still subdued imported inflation, the impact on price developments may be moderate. Wages in the private sector will continue to rise strongly in the coming years. **Nevertheless, the inflationary impact from the labour market may remain moderate**. This is explained by the further reduction of the social contribution tax paid by companies, the weakened correlation between labour costs and prices and the whitening of earned income. **The moderate impact of wages on inflation is supported by the fact that in early**

Chart 1-3: Decomposition of the inflation forecast



Source: HCSO, MNB

Table 1-1: Details of the inflation forecast

		2018	2019	2020
Core inflation		2.4	2.9	2.9
Contribution to inflation		*1.7*	*2.0*	*2.0*
Non-core inflation	Unprocessed food	3.6	4.0	5.4
	Fuel and market energy	4.4	4.3	3.3
	Regulated prices	0.9	1.6	2.3
	Total	2.5	2.9	3.2
Contribution to inflation		0.8	0.9	1.0
Inflation		**2.5**	**2.9**	**3.0**

Note: Due to rounding, the sum of contributions may differ from the aggregated value.
Source: MNB

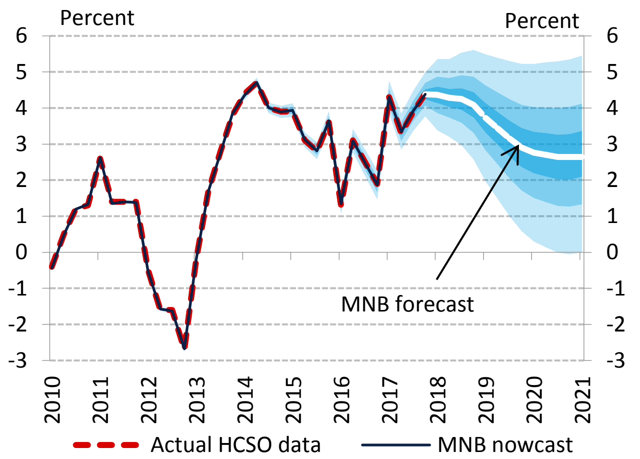
2018 the price index of labour-intensive services remained basically unchanged.

Looking ahead, inflation in non-core items shows subdued dynamics and is basically in line with our December forecast (Table 1-1). Fuel prices in Hungary are fundamentally influenced by oil prices in EUR. These prices remained essentially unchanged versus the December assumption due to the appreciation of euro against the US dollar. Looking ahead, futures prices point to a gradually declining path. In accordance with the long-term trend, prices of unprocessed food will gradually rise over the forecast horizon. Based on our assumptions, regulated energy prices will not change until the end of the forecast horizon, and only minor price changes are expected in the case of non-energy regulated prices.

1.2. Real economy forecast

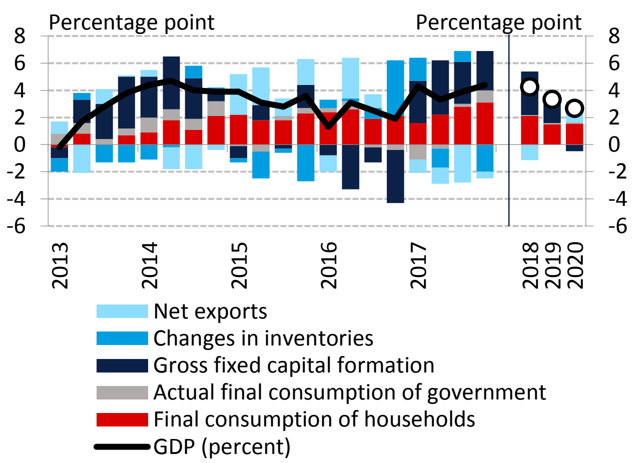
Supposing unchanged assumptions in our current forecast in 2018, we expect economic growth to be even faster than in 2017, which will be followed by a gradual deceleration. Subsequently, based on the current assumptions, we anticipate that growth will gradually decelerate from 2019. Over the short term, stronger domestic demand driven by the rise in investments and household consumption will continue to play a major role in Hungary's economic growth. Investments are expected to expand substantially until 2019 supported by the individual large-scale investments, stronger underlying corporate investment developments, a pick-up in the housing market and the utilisation of EU funds. Consumption growth is fostered by the dynamic increase in real wages, high levels of net financial assets and the second-round effects of housing market upturn. The rise in household consumption is also supported by the historically elevated level of consumer confidence. Due to the high import demand of domestic absorption items, net exports will contribute negatively to economic growth in the short run. In the second half of the forecast horizon, in parallel with weakening cyclical factors, economic growth is expected to gradually decelerate. This year, the fiscal demand will stimulate economic growth, but based on our technical assumptions by the second half of the forecast horizon, the effects of government measures supporting growth will fade, and at the same time the demand-tightening effect of fiscal policy will be dominant. With respect to Hungary's industrial sector, as the new capacities built in recent years start production, the expansion of industrial exports is expected to accelerate this year. As a result of the positive global growth outlook, external demand is expected to pick up, supporting the expansion of Hungarian exports. In parallel with stronger domestic demand, output was close to its potential level at the end of 2017. In terms of economic growth, productivity and competitiveness will become increasingly important in the longer term.

Chart 1-4: Fan chart of the GDP forecast



Source: HCSO, MNB

Chart 1-5: Contributions to annual changes in GDP



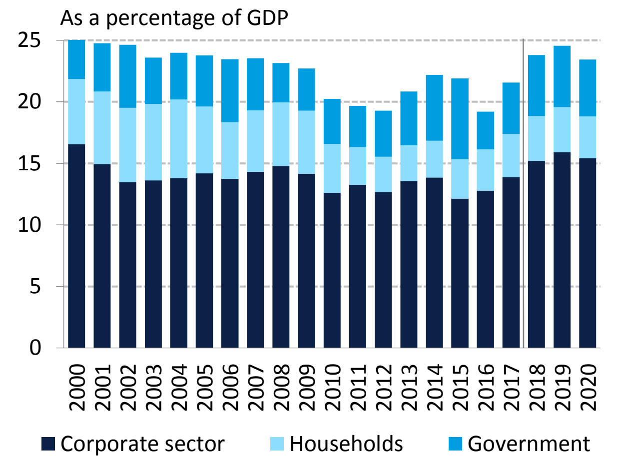
Source: HCSO, MNB

Supposing unchanged assumptions in our current forecast in 2018, we expect economic growth to be even faster than in 2017, which will be followed by a gradual deceleration. GDP is projected to expand at rates of 4.2 percent, 3.3 percent and 2.7 percent in 2018, 2019 and 2020, respectively (Chart 1-4). Over the short run, **rising domestic demand will continue to play a major role** in Hungarian growth, with investment and household consumption growth as the key factors (Chart 1-5).

Total investments will expand substantially until 2019, as a result of the simultaneous pick-up in investment activity by all three sectors. Looking ahead, the investment rate may remain steadily above 20 percent. **However, as cyclical factors weaken, investment activity is expected to decline at the end of the forecast horizon** (Chart 1-5).

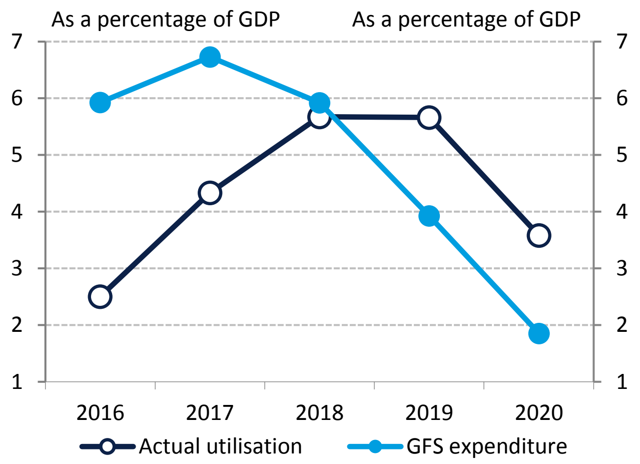
Supposing unchanged assumptions in our current forecast business investment is projected to continue rising over the short run. **Underlying investment developments in the corporate sector are strengthening considerably**, in line with the changes in domestic demand and the low interest rate environment (Chart 1-6). According to our forecast, the increase in outstanding SME loans will be within the sustainable 5–10 percent range (Chart 1-8). Looking ahead, EU funds will also support business investment, the majority of which focuses on economic development. Large-scale investment projects and capacity expansions may also boost investment in the corporate sector. The large-scale investment projects will support the expansion of Hungarian GDP not only directly, but also through second-round effects. **As the large-scale investment**

Chart 1-6: Evolution of investment rate by sectors



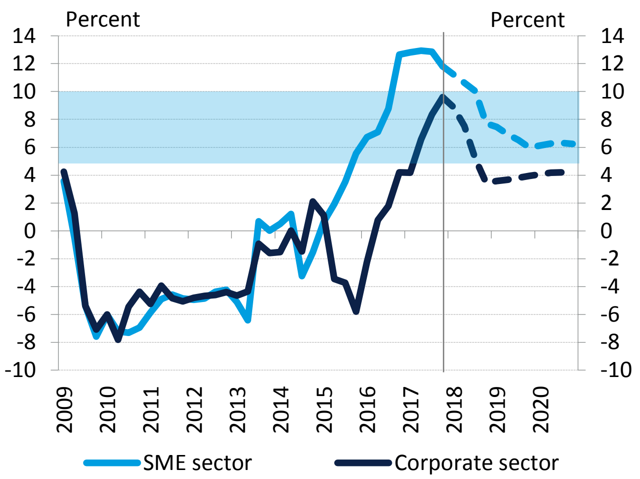
Source: HCSO, MNB

Chart 1-7: Actual utilisation of EU funds



Source: MNB

Chart 1-8: Annual changes in lending to non-financial corporations and SMEs



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

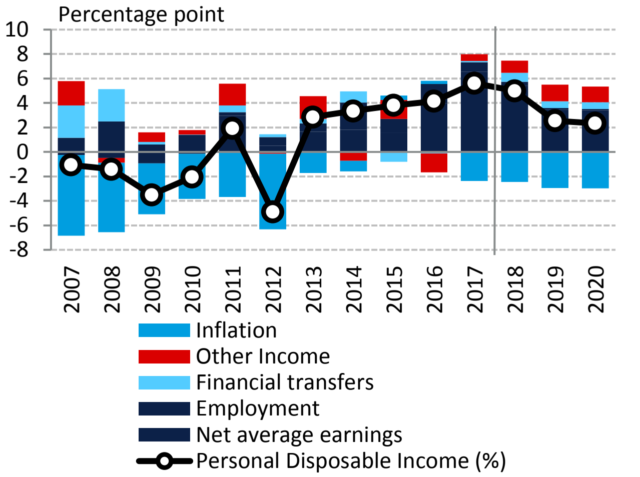
projects are incorporated into the base, and the EU funds available to companies taper off, a correction in business investment is expected in 2020.

We expect public investment from EU funds to expand at the beginning of the forecast horizon, supported by the upswing in actual absorption. In 2017, a major portion of pay-outs was related to advance payments, and therefore last year the rise in investment financed by EU funds was slower than expected. Accordingly, effective absorption is projected to be faster this year. It is not anticipated that advance payments and their absorption, to be realised later, will have an impact on the total fiscal and real economy effect of the funds available in the EU's programming period between 2014 and 2020. They only influence their distribution across the years. If our assumptions prove correct, the start of the large-scale investment in Paks is not expected to raise the GDP-proportionate level of the public investment path until 2020. From 2020 onwards, however, a downturn in the effective absorption of EU funds is projected, which will result in more subdued public investment (Chart 1-7).

Supposing unchanged assumptions in our current forecast in line with the upturn on the housing market, household investment is expected to increase until the end of 2019, supported by government programmes. The high number of home building permits and the substantial increase in the construction of new homes also indicates acceleration in household investment activity. According to the prevailing tax laws, the VAT on the purchase of homes will return to its original level after 2019. Consequently, the upturn on the housing market is expected to come to a halt. **With the slowdown in the housing market in 2020, household investment will decline.**

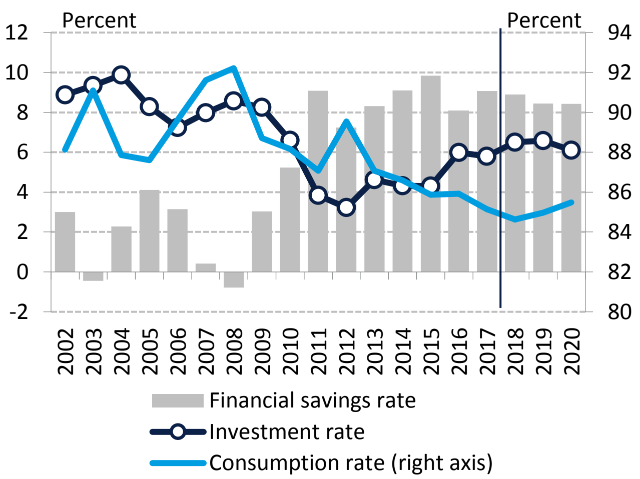
We expect household consumption to continue expanding over the forecast horizon, and consequently consumption will remain a key factor behind economic growth. The increase in households' consumption expenditure is strongly supported by rising income that is due to administrative measures at the beginning of this year and improving underlying trends. In part, **the winter-related utility cost reduction** announced for this year **raises households' disposable income (as it means additional savings for households), and the previously announced pension premiums also contribute to consumption growth**. The previously accumulated high levels of net financial assets also support the expansion of consumption (the development of households' net financial assets is discussed in Chapter 3). Consumption is also driven by the historically high level of **consumer confidence** and the

Chart 1-9: Annual change in the level and components of personal disposable income



Note: Annual change.
Source: MNB

Chart 1-10: Evolution of households' consumption, investment and financial savings rates as a percentage of disposable income



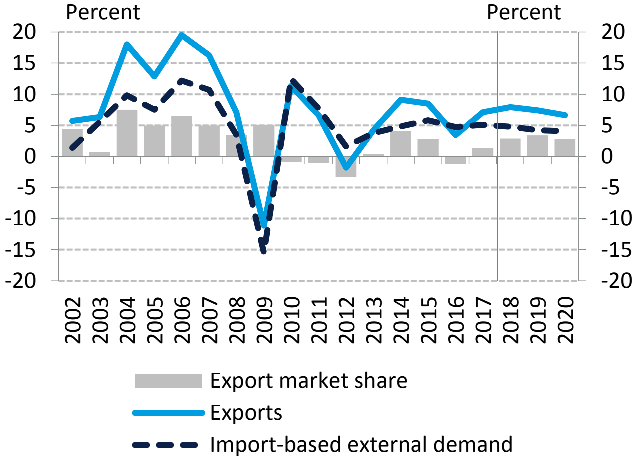
Source: HCSO, MNB

second-round effects of the housing market boom. An expansion in consumption is also supported by the fact that households' consumption spending continues to fall short of the levels warranted by the underlying income trends. Due to postponed consumption demand, the household sector still has a substantial **recovery potential**, which is mainly reflected in higher consumption of import-intensive durable goods. At the end of the forecast horizon, the expansion in household consumption is projected to decelerate, as a result of more moderate income growth (Chart 1-9).

Looking ahead, we expect that **households will increase their consumption-to-income ratio, while real income developments will decelerate**. According to the latest financial accounts data, households have accumulated more savings than previously forecasted (Chart 1-10), therefore supporting future home purchases. According to our current projections, the savings rate will develop around the 2017 level. However, in line with an increase in the propensity to consume, the savings rate will decline from its currently high level from 2019 and then stabilise in 2020, in parallel with lower household investment.

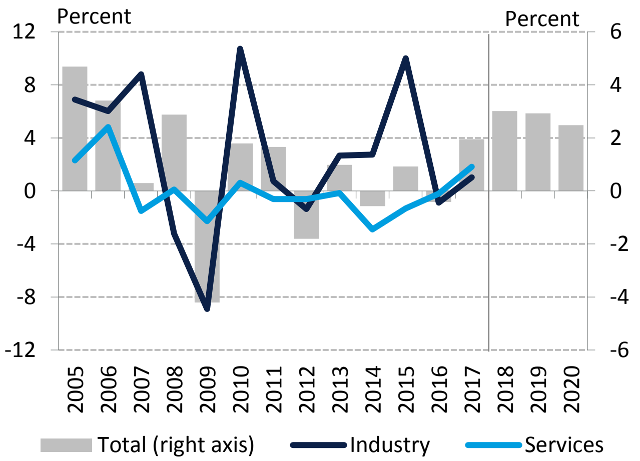
On the whole, the short and medium-term expectations for growth in Hungary's main trading partners have been revised upwards, and **stronger growth is expected on external markets in the coming years**. As a result of the favourable prospects for economic growth, **we expect a more rapid expansion in external demand**. The more favourable global growth expectations are mainly attributable to spillover effects from the infrastructure investment programme and the corporate tax reduction announced by the Trump Administration and the recent increase in external trade intensity. However, there are also downside risks to global growth (asset overvaluation on the capital market, the outcome of Brexit negotiations which influence European prospects and a rising tide of protectionist measures). In parallel with the improvement in international economic activity and the more favourable external demand conditions, **Hungary's industrial value added and exports should continue to grow**. In recent years and this year, substantial new capacities have been built in Hungary's industrial sector, and when these start production, the expansion of industrial exports is expected to gain a new momentum. Supposing unchanged assumptions in our current forecast, with the development of new export capacities, the growth rate of exports will consistently exceed the rate of increase in Hungary's external demand, and thus **Hungary's export market share will improve further** (Chart 1-11). The strengthening

Chart 1-11: Changes in export market share



Note: Annual change.
Source: HCSO, MNB

Chart 1-12: Annual change in labour productivity



Note: Employment for production of GDP, national accounts data.
Source: HCSO, MNB

domestic demand factors (consumption, investment) significantly boost import dynamics, and therefore we expect **net exports to contribute negatively to economic growth this year and the next. In the second half of the forecast horizon, net exports will contribute positively to economic growth** due to the favourable economic activity on external markets, the upswing in industrial production and the lower import requirement stemming from slower domestic absorption.

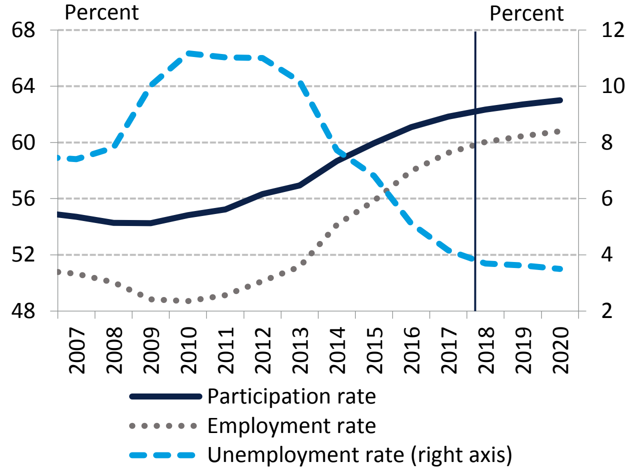
In 2017, agricultural performance contributed negatively to GDP growth. **Assuming an average performance by the sector, agriculture may slightly raise growth this year.**

Potential growth will stand at about 3 percent, primarily due to the expansion of private sector investment and the improving labour market activity. At the same time, demographic developments increasingly represent an effective constraint to employment growth, and thus at the end of the forecast horizon, the participation rate no longer contributes to potential growth**. Our forecast points to an improvement in labour productivity** (Chart 1-12). The favourable interest rate environment, improving lending and the reduction in the relative price of capital (as compared to labour) are all factors which will stimulate investment activity. Recovering private investments boost productivity not only through the installation of sophisticated equipment and the construction of modern industrial facilities, but also through the adoption of the knowledge necessary for the production of higher value added. The announced large-scale investments and the capacity expansion of the supplier network generate positive feedback in the services sector of higher value added (information and communication, finance, logistics, marketing). In the rising phase of the business cycle, economic growth and increasing labour productivity typically reinforce each other, and therefore looking ahead we expect productivity to improve even more (Kaldor–Verdoorn Law).

1.3. Labour market forecast

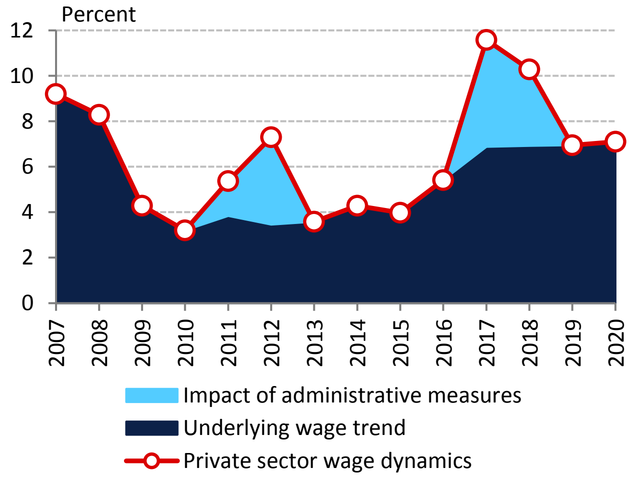
Over the forecast horizon, employment in both the private sector and the whole economy will continue to rise at a slower pace. Therefore, unemployment rate, which is already at historical lows, will continue to decline at a moderate pace. Supposing unchanged assumptions in our current forecast, the underlying wage trend will remain strong in parallel with the decline in free labour capacities. Consequently, we expect private sector wage growth of more than 10 percent this year again, as in the previous year. The inflationary effect from the cost side may remain moderate.

Chart 1-13: Employment, participation and unemployment rate in the whole economy



Source: HCSO, MNB

Chart 1-14: Impact of substantial increases of minimum wage and guaranteed wage minimum on private sector wage growth



Source: HCSO, MNB estimation

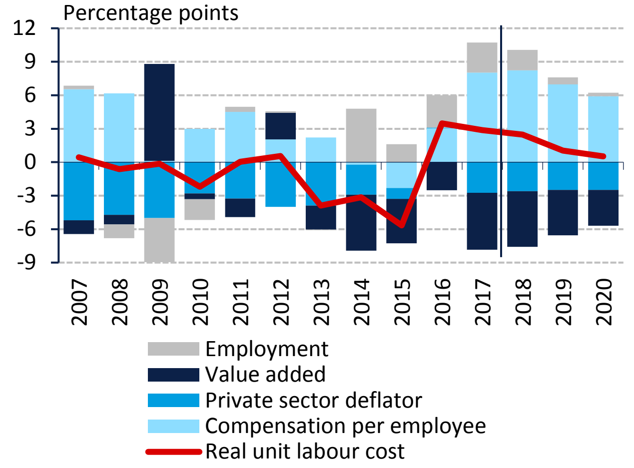
According to our expectations, as negative demographic developments (change in the size of the working-age population and its composition by age and gender) have an increasing impact. Therefore, **the participation rate will rise at a gradually slower pace**, and **in 2020 the expansion of labour supply will stop**. Demographic developments represent increasingly effective constraints to the expansion in employment (Chart 1-13).

As a result of the reduction of the budgetary limit, **the number of workers in the public works schemes will drop by over 20,000** by the end of the forecast period. At the same time, **a portion of those dropping out of public works schemes may return to the primary labour market due to the tight labour market.** Employment in the public sector excluding public works will remain practically unchanged.

In parallel with economic growth, the steadily high labour demand of the private sector will contribute to the expansion in employment. However, the mismatch problems of the decreasing labour reserves (inadequate skills of the labour force and lack of job mobility) make companies' efforts to hire further workforce especially difficult. On the whole, **the number of workers employed in the private sector will continue to rise at a slower rate compared to the robust increase observed in recent years**. With the continued increase in employment, **the decline in the unemployment rate, which is currently at a historical low level, will continue at a moderate pace**.

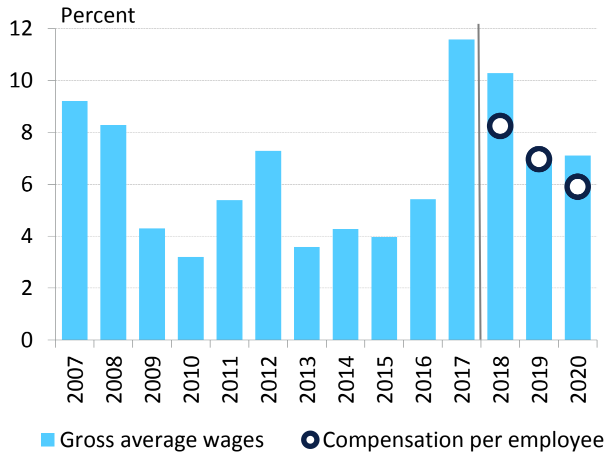
In the current historically tight labour market, companies compete to retain workers and fill vacancies. Therefore, workers' wage bargaining position continuously improves, which leads to robust wage growth. **As a consequence of the declining free labour capacities, underlying wage developments will remain strong. Supposing unchanged assumptions in our current forecast we expect private sector wage growth of more than 10 percent this year, as in the previous year.** The reason for slightly lower growth in wages compared to 2017 is the smaller increase in minimum wage and the guaranteed wage minimum (Chart 1-14). Our current analysis is confirmed by the incoming wage data for January, which point to a dynamic increase compared to previous year, mainly due to administrative wage increases, but more detailed

Chart 1-15: Decomposition of real unit labour cost growth in the private sector



Source: HCSO, MNB

Chart 1-16: Annual changes in gross average wages and labour cost in the private sector



Source: HCSO, MNB

information on underlying wage developments will be included in the wage data for March. According to our forecast, taking into account direct and spillover effects, the measures included in the wage agreement boost underlying wage developments by 3-4 percentage points. **Over the rest of the forecast horizon, the expansion of real labour costs will be in line with the rise in productivity** (Chart 1-15).

The effect of wage dynamics on labour costs is reduced by the fact that the social contribution tax on firms will be cut by a further 2.5 percentage points this year, and therefore **the inflationary effect from the cost side may remain moderate.** In line with the wage agreement, after 2018 the social contribution tax will decline in four more steps by 2 percentage points in each step, depending on the rise in real wages. According to our forecast, in 2019 Q4, real wages in the private sector will increase by more than 6 percent compared to 2018 Q1. Consequently, the **next reduction in contributions may take place in 2020 Q2** (Chart 1-16).

Box 1-1: 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 related assumptions. The purpose of this brief presentation of the changes in the external assumptions is to make our forecasts more transparent (Table 1-2).

Table 1-2: Main external assumptions of our forecast

Technical assumptions	2018		2019		2020		Change		
	December	Actual	December	Actual	December	Actual	2018	2019	2020
EUR/USD	1.19	1.23	1.19	1.23	1.19	1.23	3.4%	3.4%	3.4%
Oil (USD/barrel)	61.7	65.1	59.0	61.4	57.4	58.6	5.5%	4.1%	2.1%
Oil (EUR/barrel)	52.0	52.9	49.8	49.9	48.4	47.7	1.7%	0.2%	-1.4%
Food prices									
Wheat (USD/bushel)	4.63	4.80	5.24	5.40	5.55	5.61	3.7%	3.1%	1.1%
Maize (USD/bushel)	3.69	3.79	4.03	4.07	4.17	4.20	2.7%	1.0%	0.7%
Euro area inflation (%)	1.4	1.4	1.5	1.4	1.7	1.7	0.0 pp.	-0.1 pp.	0.0 pp.
GDP growth of Hungary's main trading partners*(%)	2.6	2.9	2.5	2.6	2.4	2.5	0.3 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.
Source: CBT, Bloomberg, OECD, Consensus Economics, MNB, ECB

Exhibiting high volatility, global oil prices were in the USD 60–70 band. Brent crude oil prices started rising gradually at the end of last year, was around USD 70 in January. After that, in February the price declined to USD 65 on average accompanied by significant volatility, which also continued in March. The mutually opposing effects of geopolitical tensions in the Middle East, furthermore the record high US production and the stronger-than-expected rise in crude stocks are behind the volatile development of oil prices. **The implementation rate of the end-November 2017 OPEC agreement is now at a historic high**, but more than half of the production cut is offset by the expansion in US production, which rose to a 50-year high at the end of last year, reaching 10 million barrels per day, where it still stands. According to the February report by the International Energy Agency (IEA), the oil market may be balanced this year, but this may be influenced by such important factors like the increase in US shale oil production, driven by further decreasing marginal costs accompanied by rising oil prices and increasing efficiency, as well as the development of the economic situation in Venezuela. The evolution of Hungarian fuel prices depends on oil prices expressed in EUR. **Based on futures prices, oil prices expressed in EUR essentially remained unchanged compared to our assumption in December, due to the weakening of the US dollar against the euro, and looking ahead a gradually declining path is projected.** With respect to the EUR/USD cross rate, a stronger euro is expected over the forecast horizon as compared to our December assumption.

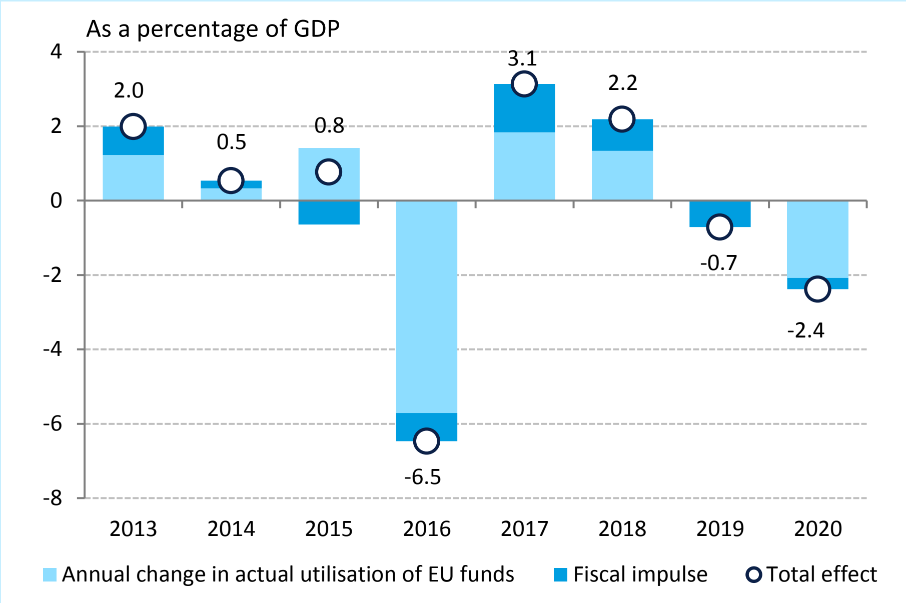
In its latest forecast, the European Central Bank continues to project that price dynamics will fall short of its inflation target over the entire forecast horizon. The primary reason behind the persistently low inflation is that energy prices are undermining underlying inflation trends. The ECB has revised its inflation forecast for 2019 slightly downwards due to the inflationary impact of EUR appreciation, which is expected to exceed the rise in oil prices. Over the forecast horizon, euro area inflation will rise from the average 1.4 percent projected for 2018–2019 to 1.7 percent in 2020, mainly due to rising demand and cost-side effects from the tightening labour market (stronger nominal wage growth), as well as labour shortages in some parts of the euro area. The effects of non-core inflation items will basically offset each other from the second half of the forecast horizon: while the oil futures slope downward, energy taxes and the price changes of unprocessed food will lead to an increase in inflation.

As a result of favourable international prospects for economic activity, we expect a stronger expansion of external demand than in our December assumptions. On the whole, the short and medium-term forecasts for global economic output have been revised upwards, suggesting more robust international economic activity. However, there are also downside risks to global growth outlook (asset overvaluation on the capital market, the outcome of Brexit negotiations which influence European prospects and a rising tide of protectionist measures), thus European growth is surrounded by high uncertainty. All in all, as a result of favourable prospects for economic activity, we expect more buoyant expansion in external demand than in our December assumptions.

Based on futures prices, in the case of wheat and maize slightly higher price increases are expected compared to the assumptions in the December Inflation Report.

Incoming data and new measures suggest, that our forecast for the budget deficit remains practically unchanged. The new information pertaining to the 2018 budget includes the early wage increase in healthcare sectors (paramedics, nurses), the one-off pension supplement for the retired in the form of Erzsébet vouchers, and the winter-related utility cost reduction that can be deducted from gas and district heating bills and which increases the amount of the firewood provided on a social basis (which is accounted for by the HCSO as financial transfer with no expected price effect). These are extra expenditure items for the budget, which are, however, offset by the higher revenues from stronger economic growth. The 0.1 percentage point decline in the deficit for 2019 and 2020 compared to our December forecast is justified by the more favourable macroeconomic prospects in the 2018 base year. This year's one-off measures only increase the expenditures in 2018, without having an impact on the subsequent years.

Chart 1-17: Fiscal demand effect and actual utilisation of EU funds



Source: MNB

Table 1-3: Changes in projections compared to the previous Inflation Report

	2017	2018		2019		2020	
	Actual	Projection					
		December	Current	December	Current	December	Current
Inflation (annual average)							
Core inflation	2.3	2.5	2.4	2.8	2.9	2.9	2.9
Core inflation excluding indirect tax effects	2.2	2.5	2.4	2.8	2.9	2.9	2.9
Inflation	2.4	2.5	2.5	2.9	2.9	3.0	3.0
Economic growth							
Household consumer expenditure	4.7	3.8	4.4	3.0	3.0	3.0	3.0
Government final consumption expenditure	0.8	0.7	0.6	0.8	0.6	0.7	0.7
Gross fixed capital formation	16.8	12.0	14.9	4.1	6.4	-2.0	-2.0
Domestic absorption	5.9	4.7	5.9	2.8	3.3	1.2	1.2
Exports	7.1	7.8	7.9	7.3	7.4	6.6	6.6
Imports	9.7	8.9	10.0	7.2	7.7	5.4	5.4
GDP	4.0	3.9	4.2	3.2	3.3	2.7	2.7
Labour productivity[5]	1.9	3.2	3.0	2.9	2.9	2.5	2.5
External balance[1]							
Current account balance	2.9	1.4	1.5	1.8	1.6	2.8	2.7
External financing capacity	4.1	3.9	4.2	4.6	4.3	4.9	4.8
Government balance[1,4]							
ESA balance	-1.9	(-2.2)-(-2.4)	(-2.2)-(-2.4)	(-1.9)-(-2.1)	(-1.8)-(-2.0)	(-1.7)-(-2.1)	(-1.6)-(-2.0)
Labour market							
Whole-economy gross average earnings[2]	12.9	9.6	10.2	6.5	6.5	6.4	6.4
Whole-economy employment	1.6	0.6	0.9	0.3	0.3	0.2	0.2
Private sector gross average earnings[2]	11.6	8.7	10.3	6.9	6.9	7.1	7.1
Private sector employment	2.2	1.6	1.6	0.6	0.6	0.3	0.3
Unemployment rate	4.2	4.0	3.7	3.9	3.6	3.7	3.5
Private sector nominal unit labour cost	5.6	3.4	5.0	3.5	3.4	3.0	3.0
Household real income[3]	5.6	4.1	5.0	2.5	2.5	2.3	2.3

[1] As a percentage of GDP.
[2] According to the HCSO data for full-time employees.
[3] MNB estimate.
[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. The final data for the 2017 ESA balance will be published in the April EDP Report. Therefore, until then the net financing need of the government sector according to the preliminary financial account, which is a good approximation, is used.
[5] Whole economy, based on national accounts data, nominal index.

Table 1-4: MNB baseline forecast compared to other forecasts

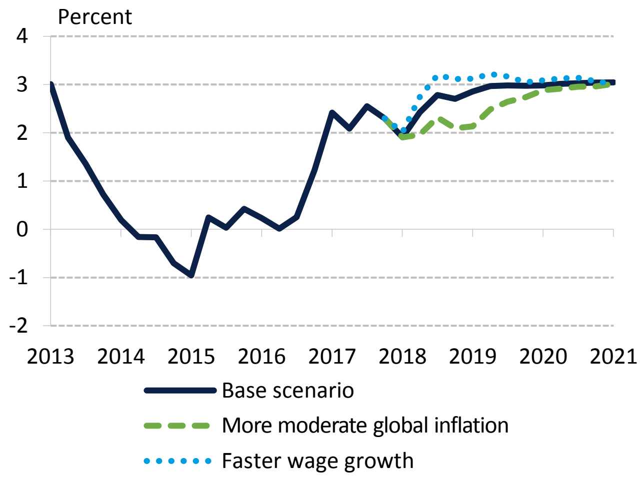
	2018	2019	2020
Consumer Price Index (annual average growth rate, %)			
MNB (March 2018)	2.5	2.9	3.0
Consensus Economics (March 2018)[1]	1.7 – 2.6 – 3.5	2.5 – 3.0 – 3.9	
European Commission (February 2018)	2.8	2.9	
IMF (October 2017)	3.2	3.0	3.0
OECD (November 2017)	2.7	3.4	
Reuters survey (March 2018)[1]	2.3 – 2.5 – 2.7	2.5 – 2.9 – 3.5	3.0 – 3.1 – 3.2
GDP (annual growth rate, %)			
MNB (March 2018)[5]	4.2	3.3	2.7
Consensus Economics (March 2018)[1]	2.7 – 3.7 – 4.5	2.0 – 2.9 – 3.6	
European Commission (February 2018)	3.7	3.1	
IMF (October 2017)	3.4	2.8	2.6
OECD (November 2017)	3.6	2.8	
Reuters survey (March 2018)[1]	3.5 – 3.9 – 4.5	2.8 – 3.3 – 3.6	
Current account balance[3]			
MNB (March 2018)	1.5	1.6	2.7
European Commission (November 2017)	3.3	3.2	
IMF (October 2017)	4.2	3.2	2.3
OECD (November 2017)	2.5	0.8	
Reuters survey (March 2018)	2.3 – 4.3 – 5.5	2.1 – 4.0 – 5.6	
Budget balance (ESA 2010 method)[3,4]			
MNB (March 2018)	(-2.2) – (-2.4)	(-1.8) – (-2.0)	(-1.6) – (-2.0)
Consensus Economics (March 2018)[1]	(-1.6) – (-2.4) – (-3.0)	(-1.6) – (-2.3) – (-3.0)	
European Commission (November 2017)	-2.6	-2.3	
IMF (October 2017)	-2.9	-2.7	-2.7
OECD (November 2017)	-2.7	-2.4	
Reuters survey (March 2018)[1]	(-2.3) – (-2.4) – (-2.8)	(-1.6) – (-2.2) – (-2.8)	
Forecasts on the size of Hungary's export markets (annual growth rate, %)			
MNB (March 2018)	4.8	4.2	4.1
European Commission (November 2017)[2]	5.2	4.8	
IMF (October 2017)[2]	4.9	4.6	4.4
OECD (November 2017)[2]	4.8	4.5	
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (March 2018)	2.6	2.5	2.4
Consensus Economics (March 2018)[2]	2.7	2.3	
European Commission (February 2018)[2]	2.7	2.5	
IMF (January 2018)[2]	2.6	2.3	2.1
OECD (March 2018)[2]	2.6	2.4	

[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. The final data for the 2017 ESA balance will be published in the April EDP Report. Therefore, until then the net financing need of the government sector according to the preliminary financial account, which is a good approximation, is used.
Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

2. Effects of alternative scenarios on our forecast

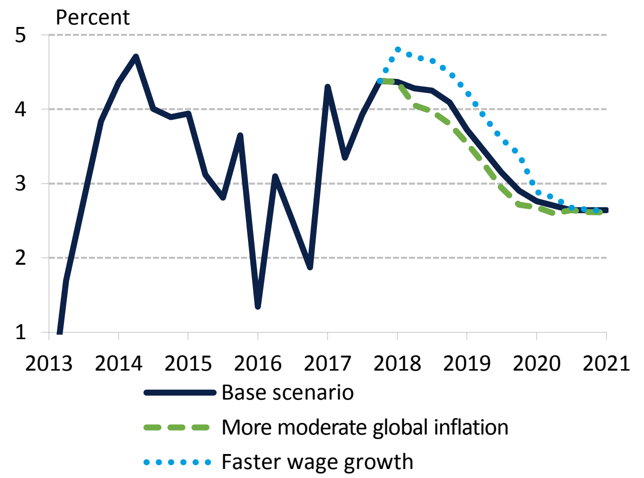
In addition to the baseline projection in the March Inflation Report, the Monetary Council highlighted two alternative scenarios. The alternative scenario that assumes lower global inflation represents lower inflation and growth paths than in the baseline scenario. According to the scenario assuming faster wage growth, domestic economic growth will be more robust and inflation will be higher than the forecast in the baseline scenario. Along with the highlighted scenarios, the Monetary Council discussed other risks, including scenarios featuring a faster rise in yields on advanced markets, lower-than-expected investment activity, and a stronger-than-anticipated expansion in Hungary's export market share.

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



Source: MNB

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



Source: MNB

More moderate global inflation

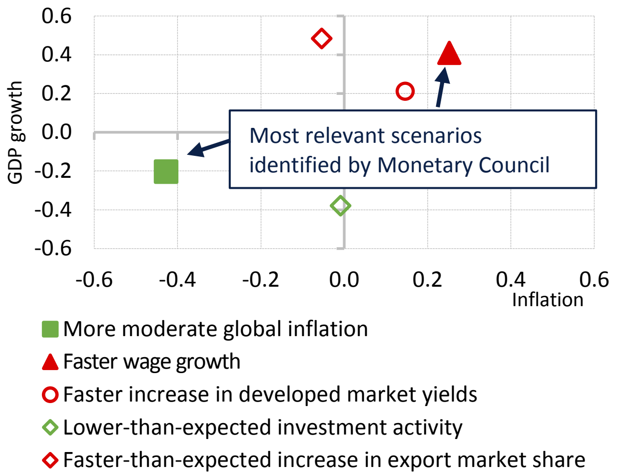
Among the major global central banks, the Fed and the ECB have started to gradually reverse their loose monetary policy stance or the preliminary communication on this. At the same time, **the price-depressing effect of globalisation and technological progress and the impact of the subdued rise in real wages in advanced economies suggests continued, persistently loose international price developments**.

According to the assumptions in the alternative scenario, if subdued real wage growth in the advanced economies and less favourable-than-anticipated European growth developments materialise, **the major central banks will need more time than previously indicated to sustainably reach their inflation target**. As a result of weaker-than-expected global economic growth, lower external inflation **curbs the rise in domestic inflation more** than in the baseline scenario, and the subdued growth in Hungary's export markets **restrains domestic growth** (Charts 2-1, 2-2 and 2-3). **In such a situation, achievement of the inflation target is ensured by maintaining loose monetary conditions for a longer period.**

Faster wage growth

In the baseline scenario, against the backdrop of declining free labour capacity, the underlying wage trend remains strong this year. Consequently, on the whole we anticipate more than 10 percent wage growth in 2018, similar to last year. The slightly lower wage growth compared to 2017 can be attributed to the lower minimum wage and guaranteed minimum wage increases than last year. In January, gross average earnings in the national economy rose by 13.8 percent (12.7 percent without public works employment), and by 13.2 percent in the private sector year-on-year. Nevertheless, according to our assumptions, the double-digit wage increase over the course of this year may continue to rise even further going

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 than the baseline forecast.
Source: MNB

forward. The March wage data will provide important new information in this regard.

In our alternative scenario, in the tight labour market environment, corporations increase wages more than expected. In 2017 Q4, slightly over 450,000 workers could be identified as labour slack in the economy. At the same time, demographic developments increasingly represent an effective constraint to the expansion in employment. Looking ahead, the size of the economically active population will increase at a gradually diminishing pace in the coming years, and then by 2020 the expansion is expected to stop. In our alternative scenario, the dynamic pay increases may have a substantial inflationary impact. In addition, intense wage growth may be incorporated into expectations, and therefore the process may persist longer than expected. **In the case of faster wage growth than in the baseline scenario, higher disposable income boosts households' consumption and investments, exerting a positive impact on economic growth.** Corporate costs will rise more than in the baseline scenario, which, **in parallel with the increasing domestic demand, will result in higher prices** (Charts 2-1, 2-2 and 2-3). **Achievement of the inflation target is ensured by a monetary policy that is tighter than in the baseline scenario.**

Other risks

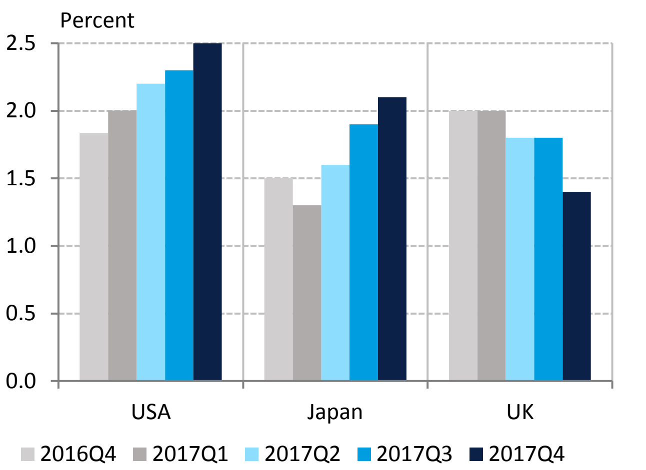
Along with the scenarios highlighted above, the Monetary Council also considered three additional alternative scenarios. The risk scenario assuming a faster rise in yields on the advanced markets points towards higher inflation and stronger domestic and external economic growth. In the case of lower-than-expected investment activity, growth is forecast to be lower than in the baseline scenario, without any significant inflationary impact. Since Hungary's export market share expands faster than expected, domestic economic growth is more robust than assumed in the baseline scenario, without exerting a major impact on inflation.

3. Macroeconomic overview

3.1. Evaluation of international macroeconomic developments

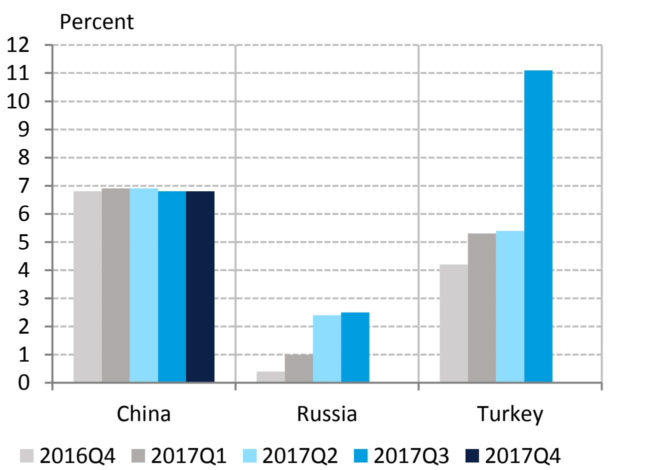
The global economy and in particular the euro area continued to grow in 2017 Q4, with the Central and Eastern European region remaining the European Union's growth centre. Although global inflation accelerated somewhat last year, it remained moderate. Based on data from early 2018, the price index in the euro area decreased once again. In addition to the Fed's gradual interest rate increases, the Bank of England may start tightening monetary conditions somewhat earlier and to a somewhat larger extent, while monetary conditions in the euro area may remain loose for a longer time. The monetary policy divergence of central banks in the CEE region continued. The Czech and the Romanian central banks raised their policy rates, while the decision-makers in the Polish central bank left monetary conditions unchanged in the past quarter.

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



Note: Seasonally adjusted series excluding Turkey.
Source: OECD, Trading Economics

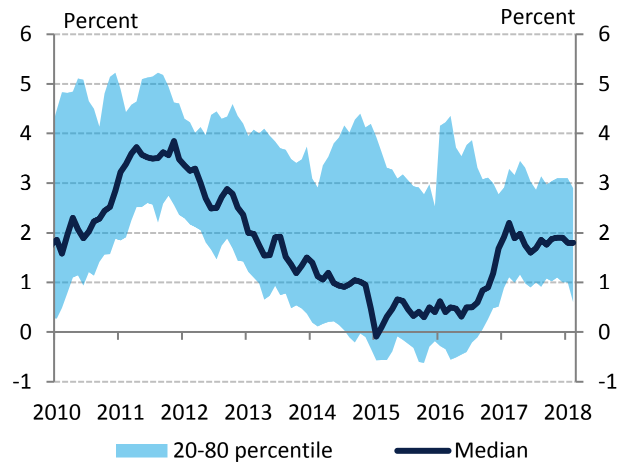
3.1.1. Developments in globally important economies

In line with expectations, the US economy expanded in 2017 Q4 (Chart 3-1), but at a slower pace compared to the previous quarter. Economic growth was primarily supported by personal consumption expenditures, residential and non-residential fixed investments and government spending, while private inventory investment contributed negatively to GDP growth. As a result of expanding domestic absorption items, import growth exceeded export growth, and therefore net exports dampened economic growth on the whole. On account of the corporate tax cuts in the US, the economic growth outlook brightened considerably, and according to the IMF this may increase GDP by as much as 1.2 percent by 2020. The announced steel and aluminium import tariffs may have a significant impact on the global economy, due to the dominance of the US within global imports. Looking ahead, the uncertainties surrounding import tariffs pose a considerable risk to growth in the US and to global economic activity.

In the fourth quarter, growth in the United Kingdom fell short of expectations. The economic expansion was supported by the gross fixed capital formation by the government and households, while household consumption and net exports contributed negatively to growth. Brexit and the unclear circumstances of the process have an unfavourable impact on medium-term growth prospects and corporate investments. **In Japan, year-on-year growth amounted to 2.1 percent and quarter-on-quarter growth was 0.6 percent in Q4** (Chart 3-1). The expansion was fuelled mainly by an increase in household consumption and investments, while changes in inventories curbed growth to some extent.

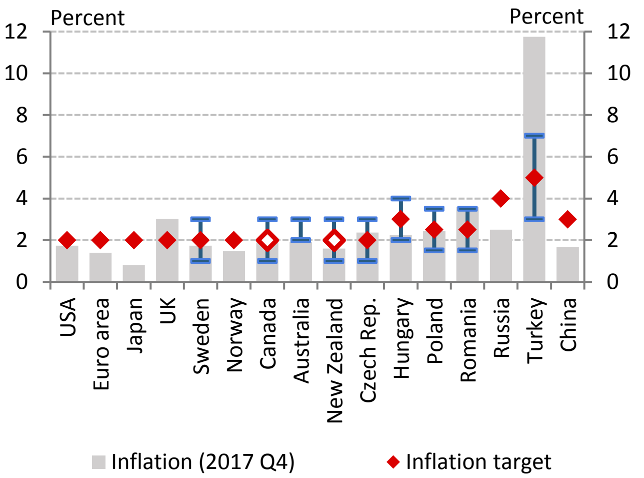
Among the major emerging countries, the Chinese economy expanded by 6.8 percent in 2017 Q4 (Chart 3-2), as expected. In 2018, Chinese GDP growth may be

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 and actual 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.
Source: OECD, FRED, National Institute of Statistics Romania

somewhat lower according to analysts' expectations. Economic growth slowed down in Russia in the fourth quarter, but in 2017 the annual GDP figures were higher than the weak results posted in earlier years.

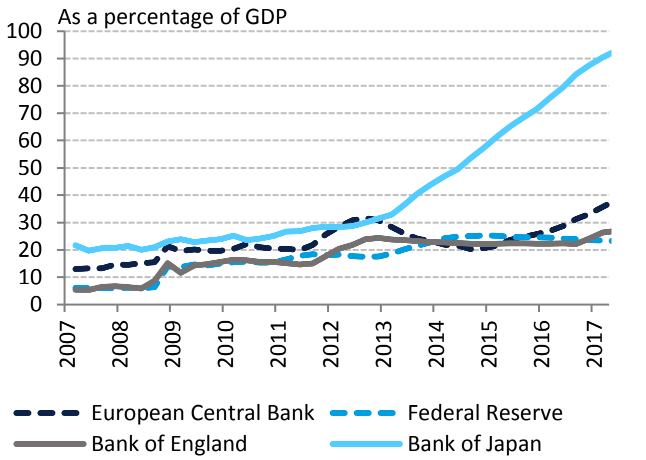
Although global inflation accelerated marginally last year, it remained moderate (Chart 3-3). In line with that, inflation was below the central bank targets in most developed countries (Chart 3-4). Against the backdrop of relatively high volatility, oil prices were in the USD 60–70 band.

At the Fed's January meeting, the FOMC left the policy rate unchanged, before raising it by 25 basis points to the band of 1.50–1.75 percent in March, in line with expectations. Jerome H. Powell was sworn in in February, and analysts expect him to continue the earlier monetary policy practices. Based on the Summary of Economic Projections published concurrently with the decision in March, FOMC members are divided as to whether two or three more 25-basis point increases are appropriate for this year. In addition to the interest rate increases, the balance sheet normalisation programme continues (Chart 3-5). According to expectations based on market pricing, the Fed may increase interest rates two more times this year (Chart 3-6).

In the past quarter, the Bank of Japan did not change monetary conditions, continuing to align its Quantitative and Qualitative Easing Programme with the 0-percent long-term yields. The central bank maintained its annual purchase rate target amounting to a total of JPY 80 trillion necessary to reach the yield target, and continues to pay minus 0.1 percent interest on commercial banks' excess reserves. The commitment to overshoot the inflation target has remained part of the central bank communication.

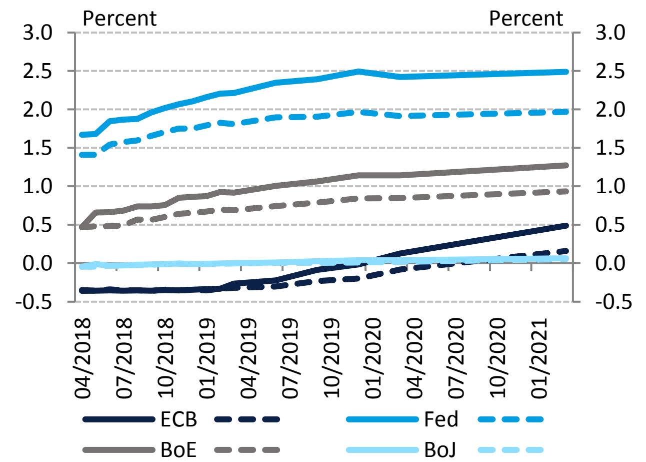
The decision-makers of the Bank of England left the monetary conditions unchanged in the past quarter. Inflation is expected to remain around 3 percent in the short term on account of the higher oil prices expressed in GBP. Inflation gradually moderates along the forecast path, but remains slightly over the 2-percent target, which is attributable to rising import prices due to the earlier depreciation of the sterling. If economic developments are broadly in line with the February projections, a somewhat earlier and somewhat greater tightening may be necessary compared to what was expected in November, in order to sustainably achieve the target. The outlook is uncertain due to Brexit; therefore, the central bank will react to

Chart 3-5: Central bank balance sheet totals in developed countries



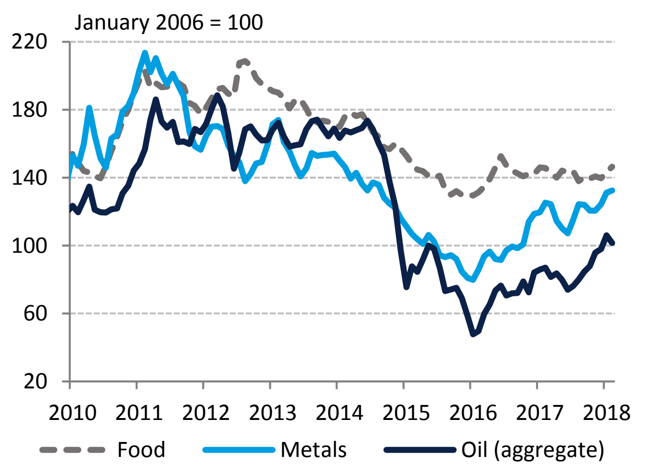
Source: Databases of central banks, Eurostat, FRED

Chart 3-6: Market-implied policy rate changes of the developed market central banks



Note: The continuous lines represent the actual market-implied policy rates, while the dashed lines represent the market-implied policy rates in the middle of December. Source: Bloomberg

Chart 3-7: Major commodity price indices



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

developments depending on how they affect the behaviour of economic agents and the inflation outlook.

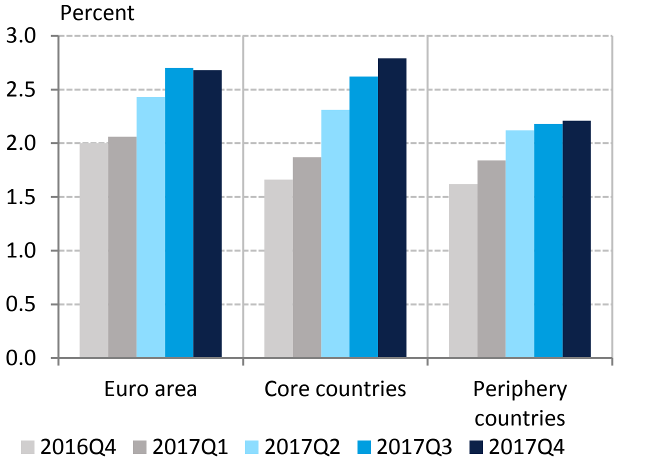
The Norwegian government lowered the central bank's inflation target to 2 percent. This was explained by the fact that the earlier, 2.5-percent inflation target was introduced when high oil revenues generated excess inflation in the economy. The current target is consistent with Norway's trading partners and the targets in advanced European countries.

Among the central banks in the emerging countries, following a 50-basis point interest rate cut in December, **the Russian central bank reduced its policy rate by further 25-25 basis points in February and March to 7.25 percent overall**.

Risk appetite declined in the past quarter. Market developments were influenced by favourable macroeconomic data and the US tax reform as well as the resulting rise in inflation and interest rate expectations. At the end of January, major stock market indices rose sharply, once again advancing to historical peaks, and then in early February equity markets fell significantly. After a significant, 10-percent stock market correction, US stock price indices started climbing again, and were slightly above the December levels thus for the period as a whole, while the Japanese stock price index and those in advanced European countries closed the period below their initial level. In parallel with the declines in stock market indices, risk indicators rose, with the VIX Index – which measures stock market volatility – rising by 8 percentage points during the first quarter. The period as a whole was characterised by increased volatility. In the US, the euro area and the United Kingdom, long-term yields increased at a similar pace, rising by approximately 50 basis points in the period December to mid-February, which is mainly attributable to the rising interest rate expectations, but European developed market long-term yields adjusted by 20 basis points by the end of the period. At the same time, long-term yields are still near zero in Japan, in line with the Japanese central bank's goal.

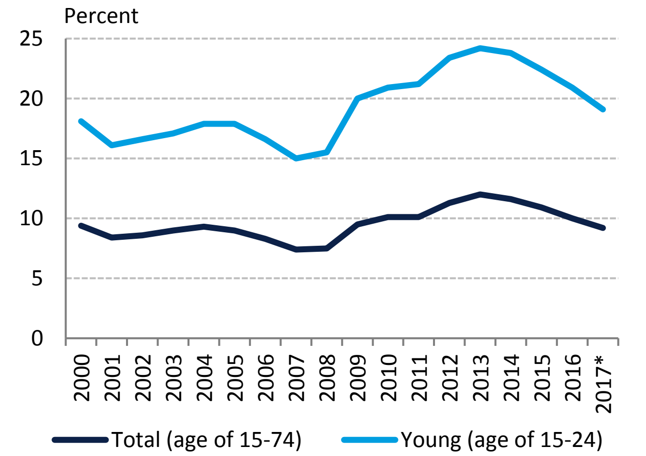
Exhibiting relatively high volatility, global oil prices were around the band of USD 60-70. Up to the middle of the period, the continuous, ten-week decline in US stocks contributed substantially to the surge in oil prices, and then after a turnaround in stocks and another record high in US production oil prices conceded most of the previous gain (Chart 3-7). **However, overall the recent weakening of USD dampened commodity prices around the world.**

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

Chart 3-9: Unemployment rate of the eurozone



Note: *Average of the first three quarters.
Source: Eurostat

3.1.2. Developments in the euro area

In 2017 Q4, economic growth in the euro area continued (Chart 3-8). The economy of Germany, Hungary's most important trading partner, expanded by 2.9 percent year-on-year. Government investments, exports and stable household consumption were the main contributors to growth. Growth in the euro area's **core countries** exceeded that of the periphery, primarily supported by the continued substantially expansion of the Dutch and Austrian economies, in addition to Germany's economic performance. The Austrian economy expanded at a rate of 3.6 percent, while the Dutch economy posted growth of 3.1 percent in year-on-year terms. **Peripheral economies** expanded slightly less in the fourth quarter. Greece recorded its highest rate since the crisis, with year-on-year growth of 1.9 percent. The buoyant expansion continued in Spain and Portugal as well, which was primarily supported by the steadily brisk consumption.

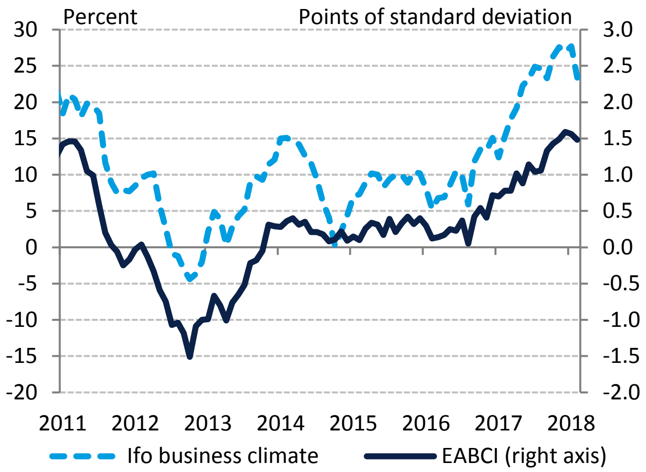
Forward-looking economic indicators were favourable in the past period (Chart 3-11). The business confidence index capturing the euro area outlook (EABCI) declined slightly, while expectations regarding the German economy (Ifo) weakened in February. The companies surveyed are less optimistic about the business outlook. By historical standards, however, both indicators are at high levels. **Cyclical factors also play a role in the robust economic growth of the euro area**, although the long-term economic outlook involves high uncertainty due to low productivity growth, persistently high unemployment rates (Chart 3-9) and non-performing loans in the banking system.

Euro area inflation declined in early 2018 and stood at 1.1 percent in February. It remains below the central bank target in most Member States. Overall, core inflation did not change considerably and was at 1.2 percent in February, continuing to point to a moderate level. 5-year inflation expectations 5 years ahead remained moderate in the euro area and still fall short of the ECB's inflation target.

At its March meeting, the European Central Bank left the key interest rates unchanged. The central bank reduced the monthly asset purchases to EUR 30 billion in January, which will continue until the end of September 2018, or beyond that if necessary (Chart 3-5). After its March decision, the Governing Council still expects that the ECB's policy rates will remain at the current levels for an extended period of time, and well past the horizon of the net asset purchases.

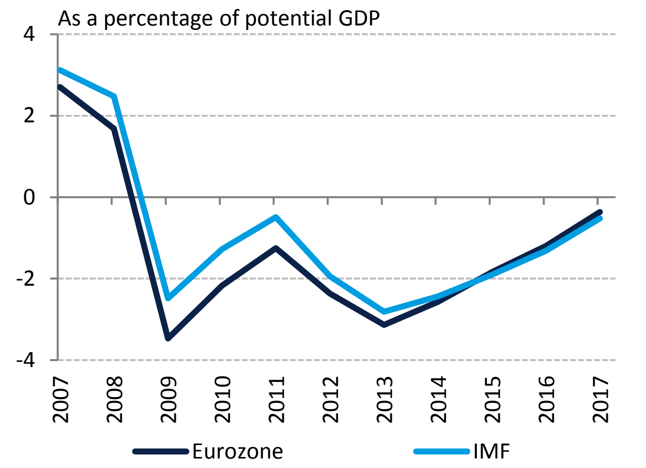
Market participants are now focused on the date of the ECB's first interest rate hike and the end of the asset

Chart 3-10: Business climate indices for Germany and the euro area



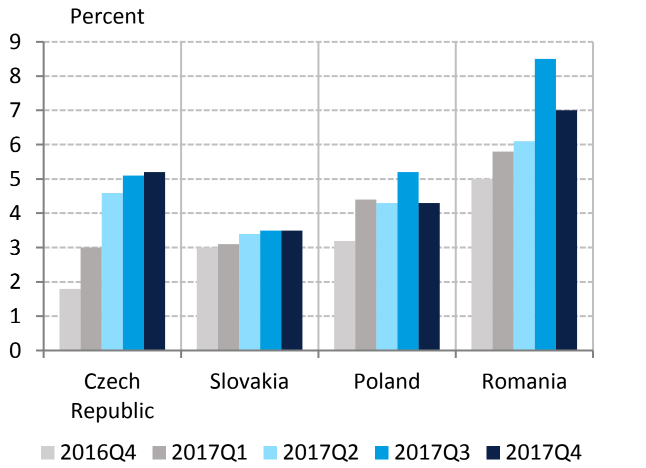
Source: European Commission, Ifo

Chart 3-11: Evolution of the output gap in the euro area



Source: European Commission

Chart 3-12: Annual changes in GDP in CEE countries



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

purchases. Market expectations regarding the first interest rate hike have shifted to the first half of 2019 (Chart 3-6). Overall, EUR appreciation versus USD has continued on the currency markets, and only the US labour market data boosted the US dollar somewhat at the middle of the period. At the end of the period, the EUR/USD exchange rate stood at 1.25, representing a 5-percent depreciation of USD against EUR over the past quarter. Regional currencies showed varying movements against the euro: while the forint and the Czech koruna strengthened moderately, the Polish zloty and the Romanian leu weakened slightly.

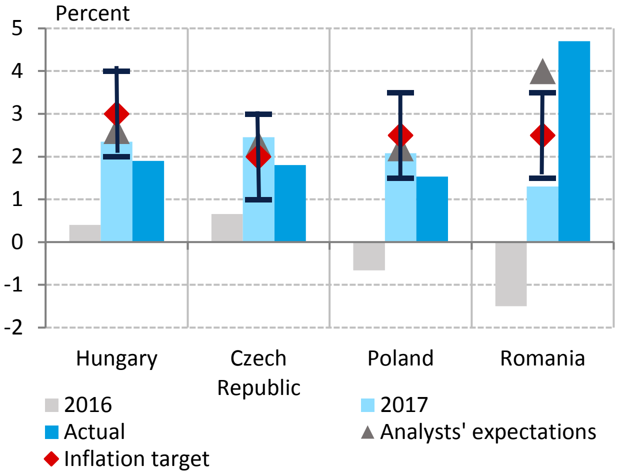
3.1.3. Developments in the CEE region

Similar to past quarters, the CEE region proved to be the centre of the European Union's growth at the end of 2017 (Chart 3-12). The Czech economy expanded at a rate of 5.2 percent, which was slightly higher than in Q3. In 2017 Q4, GDP in Slovakia grew by 3.5 percent year-on-year, while growth of 4.3 percent was registered in Poland. Looking at the region as a whole, growth was mainly supported by domestic demand. The Romanian economy continued its outstanding expansion. In the last quarter of 2017 the Romanian economy expanded by 7 percent year-on-year, but looking ahead, the economy may return to a more sustainable growth path, and thus the growth rate may decelerate further.

With the exception of Romania, inflation typically decreased in the countries of the region during the past months, declining to the lower parts of the tolerance bands around the various inflation targets (Chart 3-13). In the Czech Republic, last year's above-target inflation fell to 1.8 percent. In Romania, inflation breached the upper bound of the tolerance band to reach 4.7 percent. In accordance with this, the Romanian central bank expects steeply rising inflation going forward. By contrast, in Poland inflation was at 1.5 percent in February, which is below the inflation target. Core inflation in the Czech Republic did not change substantially, while it rose in parallel with the increase in inflation in Romania, and continued to be moderate in Poland.

Of the central banks in CEE countries, the decision-makers of the Czech central bank made a unanimous decision at their February meeting to raise the policy rate by 25 basis points to 0.75 percent. The overnight lending rate was increased by 50 basis points to 1.5 percent, while the overnight deposit rate remained unchanged at 0.05 percent. According to the central bank's projections, at least one more interest rate increase can be expected during the year, most likely in the second half. The Czech central bank revised its inflation projections slightly

Chart 3-13: Inflation targets of central banks, inflation, and economic agents' expectations



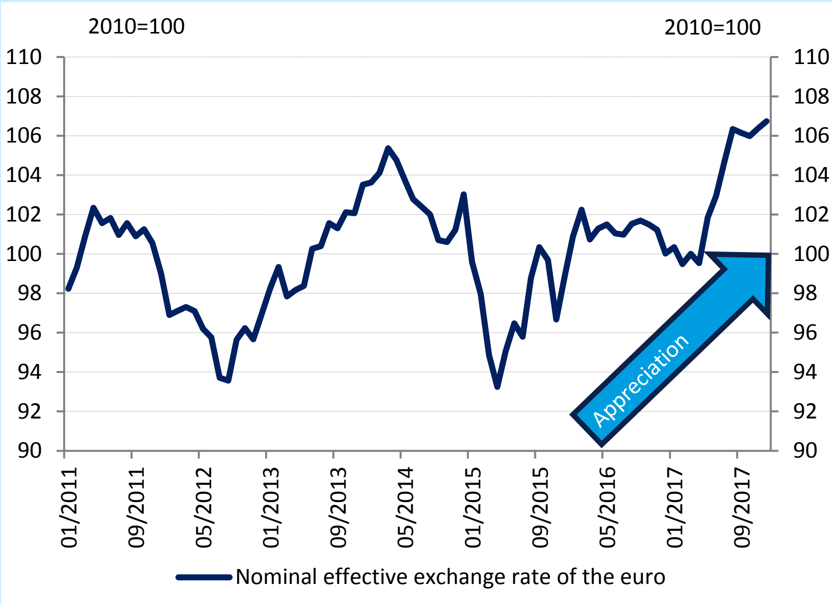
Note: Analyst's expectations relate to annual average in 2018.
Source: OECD, National Institute of Statistics Romania, Consensus Economics

downwards and its growth forecast slightly upwards. Based on the projections, inflation may be above target this year and will then gradually decrease and stabilise around the target over the monetary policy horizon. **During the past quarter, the Polish central bank's decision-makers did not change monetary conditions.** The president of the Polish central bank underlined that the base rate may remain unchanged until 2020. Similar to November, the inflation path was revised downwards in the March projection, while growth may be higher than projected in the earlier forecast. According to the decision-makers, inflation may be consistent with the target over the monetary policy horizon, as projected. As a result, the current level of the base rate contributes to sustainable growth and the macroeconomic balance. **The decision-makers of the Romanian central bank decided to raise the interest rate by 25 basis points in both January and February.** Overall, in response to the higher-than-expected inflation, the policy rate was raised to 2.25 percent. According to the central bank's forecast, inflation may continue to grow in the months ahead and then decelerate once again for the remainder of 2018. Compared to the previous forecast, the inflation path rose considerably over the short run, and it is still higher than the central bank's target over the forecast horizon.

Box 3-1: Factors behind EUR appreciation

Between January 2017 and March 2018, the EUR exchange rate against the US dollar appreciated by approximately 18 percent, moving from 1.04 to 1.23. In addition, the euro's nominal effective exchange rate index (weighted against the trading partners) appreciated by around 6 percent in 2017 (Chart 3-14). To a large extent, this appreciation of the euro can be attributed to the substantially improved economic prospects of the euro area. In his assessment, ECB president Mario Draghi mentioned the increased sensitivity of market participants to the ECB's communication alongside the economic developments in the euro area as the basis for the euro's strengthening.

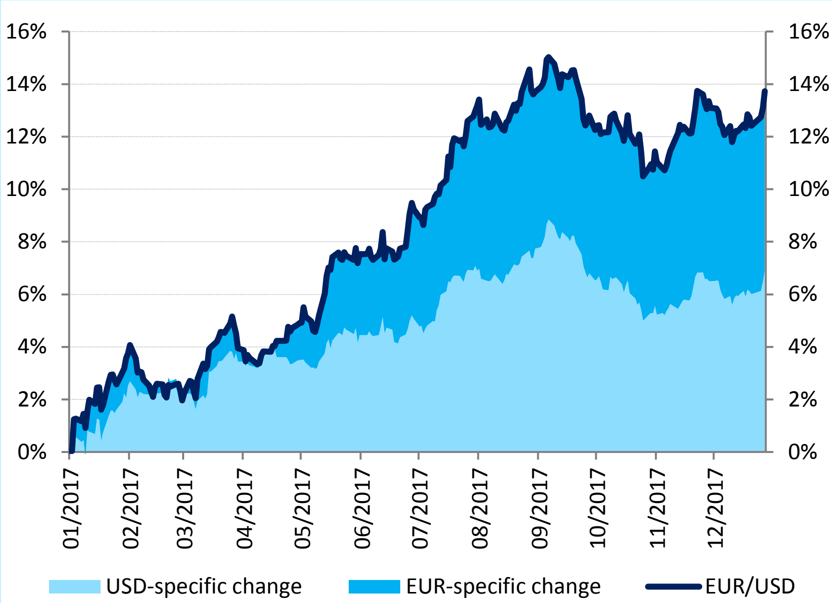
Chart 3-14: Changes in the euro's nominal effective exchange rate



Note: The nominal effective exchange rate is an exchange rate index generated using export weights. The drop in the indicator shows the relative weakening of the euro, while its increase reflects the currency's relative appreciation.
Source: Eurostat

Since mid-2017, the explanatory power of EUR-specific factors with respect to the EUR/USD exchange rate has considerably increased (Chart 3-15). The euro's nominal effective exchange rate exhibited substantial strengthening in 2017.

Chart 3-15: Decomposition of the changes in the EUR/USD exchange rate into EUR and USD-specific components



Note: A rise means an appreciation of the euro against the US dollar. The decomposition was prepared on the basis of the nominal effective exchange rates of the euro and the US dollar (weighted average of export partners' foreign exchange rates). Accordingly, USD-specific euro strengthening was considered to constitute the changes that did not take place against other currencies (i.e. the US dollar weakened against all other currencies). In the case of EUR-specific euro strengthening, the euro appreciated against all other currencies (i.e. the exchange rate of the US dollar against other currencies remained unchanged).
Source: Bloomberg

The factors supporting EUR strengthening can be mainly attributed to the positive outlook for European economic growth, decreasing uncertainties and rising investor confidence. In response to the substantial economic outlook, the strengthening of the EUR exchange rate may also reflect expectations regarding the faster normalisation of the ECB's monetary policy. The market anticipates the ECB's first interest rate increase sooner than the previously expected mid-2019, sometime in the second quarter of 2019. Based on decision-makers' earlier communication, the ECB may achieve its inflation target in 2020. The positive climate in the euro area is supported by the pricing-out of uncertainties after formation of the German government. Furthermore, the mitigation of fears surrounding Brexit and the high level of the Purchasing Managers' Index and other sentiment indicators also point towards appreciation of the euro. **Nonetheless, the rising uncertainties in the wake of the Italian elections and the potential strengthening of protectionism in US economic policy may dampen market sentiment.**

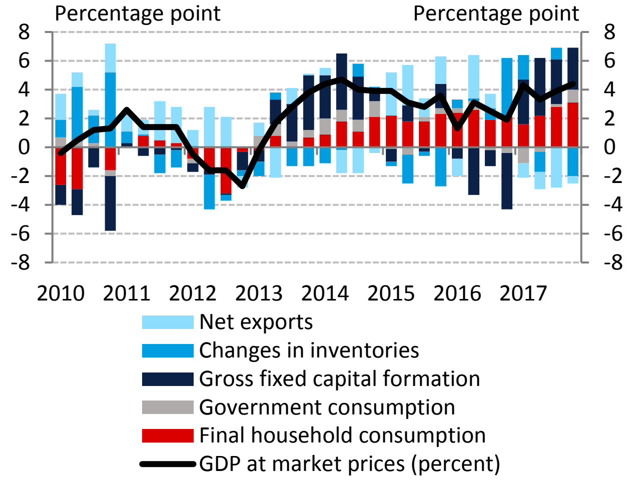
The euro's appreciation against the US dollar is also **supported by several interrelated developments, including the record-high levels of speculative positions for the euro.** According to market analysts, another factor pointing towards EUR appreciation is that **the proportion of euro assets in the central banks' foreign reserves is underweighted around the world as compared to the pre-crisis levels, while US dollar assets are relatively overweighted**. Many analysts deem it likely that the allocation may be restructured to achieve the appropriate diversification effect. This could have supported strengthening of the euro in 2017 and may continue to do so.

The European Commission and analysts' expectations with respect to the future development of the exchange rate seem to be in harmony. The European Commission anticipates a rate of 1.23, i.e. a figure close to the current one, for this year and next year on average, while the median of analysts' expectations for end-2018 is 1.22–1.23, with a substantial dispersion of the expected values.

3.2. Analysis of the production and expenditure side of GDP

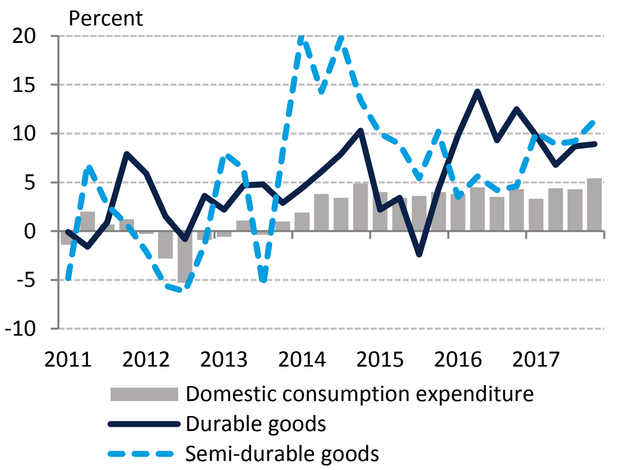
According to the HCSO, in 2017 Q4 the gross domestic product increased by 4.4 percent year-on-year and rose 1.3 percent compared to the previous quarter. The expansion of the economy was still supported by growing domestic demand, mainly underpinned by investment and consumption. On the production side, GDP growth is attributable to the performance in services, construction and industry. On the expenditure side, the main factor contributing to economic growth was consumption.

Chart 3-16: Contribution to annual changes in GDP



Source: HCSO

Chart 3-17: Development of consumption components, annual changes



Source: HCSO

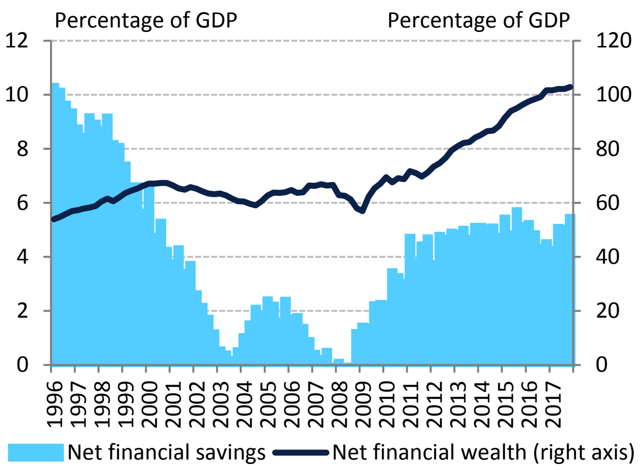
According to the HCSO, **in 2017 Q4, the gross domestic product increased by 4.4 percent year-on-year** and rose by 1.3 percent compared to the previous quarter. As before, economic growth was supported by domestic demand through continued expansion in investment and consumption. In parallel with the higher import requirement stemming from rising domestic demand, the contribution of net exports to growth was negative (Chart 3-16).

In 2017 Q4, household consumption continued to expand, as in previous years. At the end of last year, the volume of household consumption increased by 5.6 percent in annual terms and thus accelerated compared to the previous quarter. **The rise in spending on durable and semi-durable goods**, which have a high recovery potential, **continued to exceed the aggregate expansion in consumption**. Consumption of durable goods rose 8.9 percent, while expenditure on semi-durable goods expanded by 11.3 percent in Q4 (Chart 3-17). The rise in households' consumption expenditure was supported by the strong improvement in underlying income trends as well as by historically high household confidence and net financial wealth. The January data on retail sales volume also reflect an increasingly dynamic rise in consumption, as they indicate growth of 7.8 percent.

The financial assets and net financial savings of households at current prices also continued to accumulate in Q4. The increase in households' willingness to build or purchase homes resulted in higher savings. Accordingly, the net financial savings rate rose compared to the beginning of the year. In the fourth quarter, households' net savings expanded to 5.3 percent of GDP, marking an increase of 1 percentage point compared to the end of last year (Chart 3-18). Households' **net financial assets** were higher than nominal GDP at the end of last year and are well above the regional average.

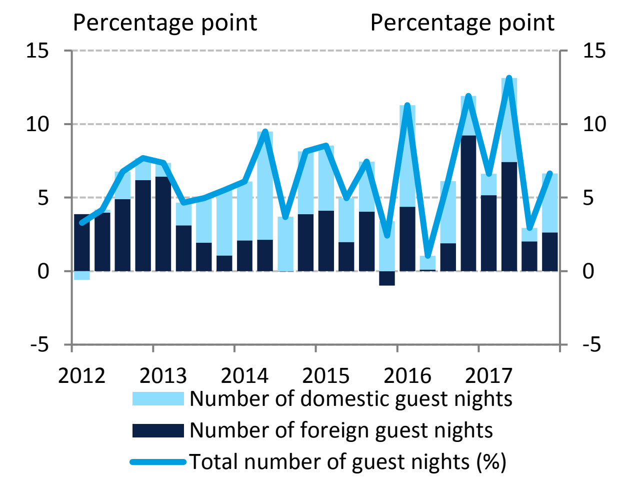
Although households' outstanding loans decreased by HUF 14 billion in Q4 as a result of credit transactions, their volume increased by 2.7 percent year-on-year. The rise is attributable to the large-scale principal repayments on loans taken out earlier and the substantial expansion in new credit. The volume of household loan contracts increased

Chart 3-18: Net financial savings of households



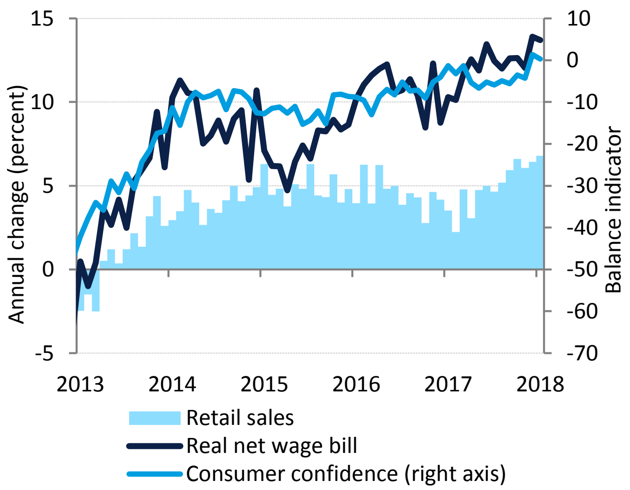
Note: Seasonally adjusted series
Source: HCSO

Chart 3-19: Decomposition of the growth in tourism nights at accommodation establishments



Source: HCSO

Chart 3-20: Developments in retail sales, income and the consumer confidence index



Source: HCSO

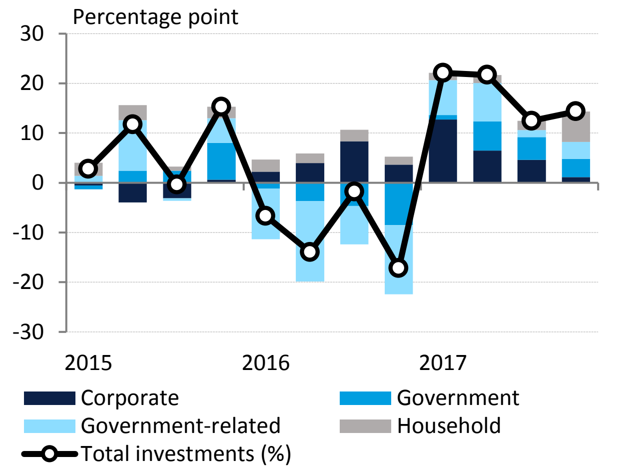
by 41 percent on average in annual terms, and within that new housing loans rose by 39 percent, despite unchanged supply conditions, while personal loans expanded by 47 percent in 2017. In parallel with the cyclical upswing on the housing market, the robust demand continues to be supported by the **family home creation allowance (CSOK), which is linked to 16 percent of new housing loans**. Banks have relaxed lending standards in the consumer credit segment, suggesting continued expansion in consumer credit in the context of a rise in real wages and retail sales volume.

In line with a rise in domestic demand, market services contributed significantly to economic growth in Q4. Value added increased in each of the market services sectors, while public services declined in year-on-year terms. Administrative services made the strongest growth contribution, along with trade, accommodation services and hospitality, but the contributions from the ICT, transportation and storage and real estate transactions sectors were also significant. **The number of overnight stays rose by 6.6 percent year-on-year in Q4** (Chart 3-19) this expansion was mainly attributable to a rise in the number of nights spent by resident guests, but non-resident tourism demand also increased.

In contrast to the developments seen in H1, both public consumption and in-kind social benefits received from the government rose considerably in Q4.

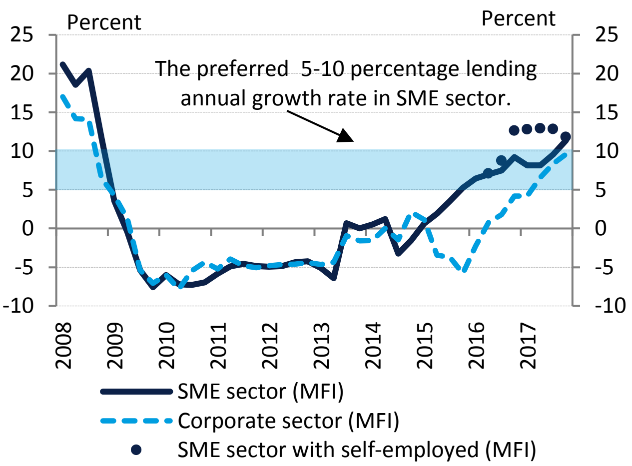
In 2017 Q4, investment at the level of the national economy expanded by 14.4 percent, borne by growth in a wide range of sectors (Chart 3-21). In the case of companies producing goods and providing services for the domestic market, the expansion was primarily supported by rising investment in the hospitality and financial sectors. The large manufacturing sector was the main contributor to the growth in investments of companies producing for external markets. **In parallel with capacity-expanding investments in the automotive industry, the subsector's investment activity continued to increase at the end of last year.** Investment activity in this sector was more subdued than before, which was mainly due to developments in other subsectors (manufacture of rubber and plastic products, manufacture of wood and wood products, metalworking). Investment in the public sector (healthcare, administration, education) and sectors closely related to the public sector (energy, transportation) also expanded considerably, with contributions from the boom in projects implemented from the 2014–2020 EU programming period, investment from own funds as well as the low base value.

Chart 3-21: Annual change of investments



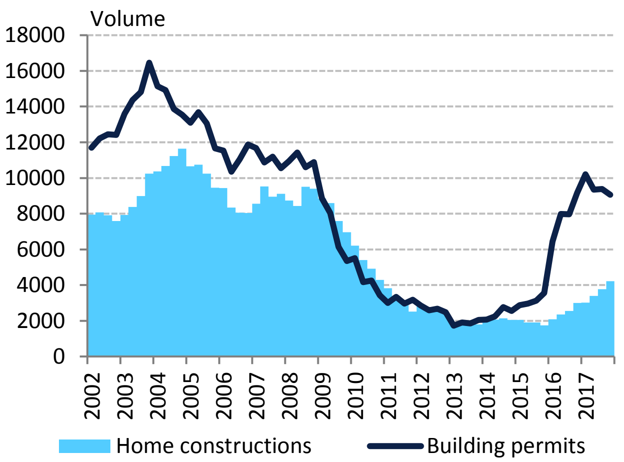
Source: HCSO

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

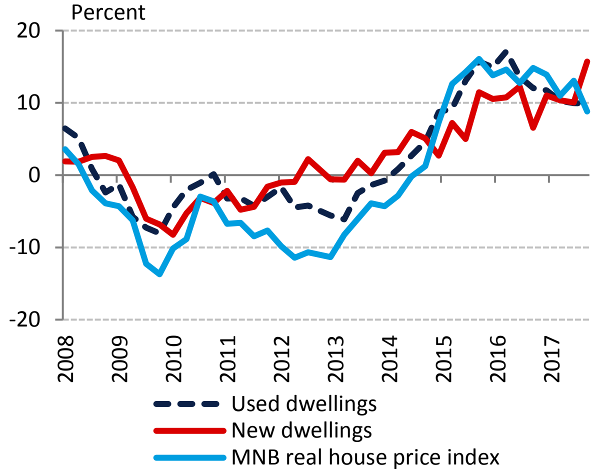
In line with the buoyant investment activity, the strong increase in construction output continued in Q4.

The substantial expansion in investments is also reflected in corporate lending flows. Lending to non-financial corporations rose by 10 percent in 2017 Q4. Lending to the SME sector in the narrow sense grew by 11.4 percent, while lending to the SME sector including the self-employed rose by 11.8 percent at the end of last year (Chart 3-22). Banks further eased corporate credit terms, citing the improved economic outlook and stronger price competition among banks. Based on banks responses, in addition to the Market-based Lending Scheme's commitments maintained for 2018, the favourable dynamics in corporate lending are also supported by the increased demand for mainly long-term loans. The financing requirement may also rise among construction firms as a result of more and more investments in office and home projects.

Households' investment activity increased further in Q4, and the substantial expansion in home-building continued in parallel with the favourable demand conditions. In line with the building permits issued earlier, the number of completions increased sharply, with a year-on-year expansion of over 35 percent. Thus, **a total of 14,389 new homes were completed last year, representing a 44 percent rise compared to 2016.** Despite the slowdown in the number of building permits issued at the end of the year, around 38,000 home building permits were issued over the course of last year, marking a 20.4-percent increase over 2016 (Chart 3-23). **On account of the strong demand, house prices continued to rise** in the period under review, driven by price changes for both used and new homes (Chart 3-24). However, taking into account the composition effect, a slowdown was observed in price dynamics for used homes in recent quarters, due to the fact that the share of homes outside of Budapest, which are typically sold at a lower price, rose in the number of transactions.

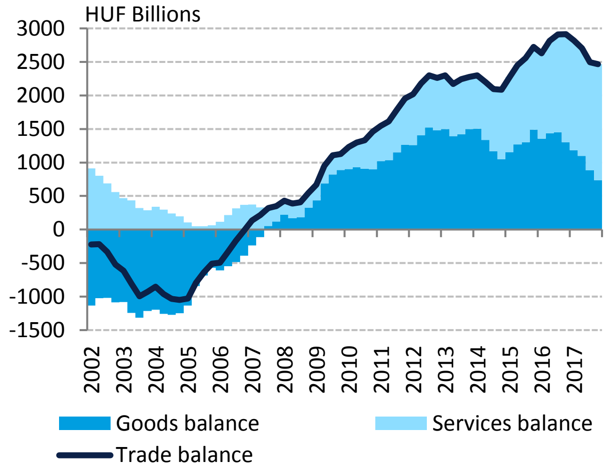
Net exports curbed growth in the Hungarian economy at the end of the year. Despite the end-of-year slowdown in industrial production, the expansion in the export of goods exhibited a substantial increase in Q4, in parallel with a drop in the sector's own inventories (Chart 3-25). Growth in Hungary's exports was also supported by the buoyant upswing in the external demand. In parallel with the dynamic surge in domestic demand items (household consumption, investments), the import of goods exhibited growth of over 10 percent in Q4. Services exports' massive expansion continued in the last quarter of the year. The major increase in Hungary's services exports in recent

Chart 3-24: Annual change of house prices



Note: Seasonally adjusted annual change.
Source: HCSO, MNB

Chart 3-25: Evolution of the trade balance



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

quarters was linked to insurance and other business services exports, along with tourism and transportation services. At the end of last year, services imports exhibited subdued growth, and therefore the **balance of services increased considerably.** In parallel with the increase in the import requirement stemming from the expanding domestic demand, **the annual growth in total exports was exceeded by the rise in imports, and therefore net exports restrained economic growth in Q4**. At the end of last year, relative foreign trade prices, i.e. the terms of trade, did not change significantly.

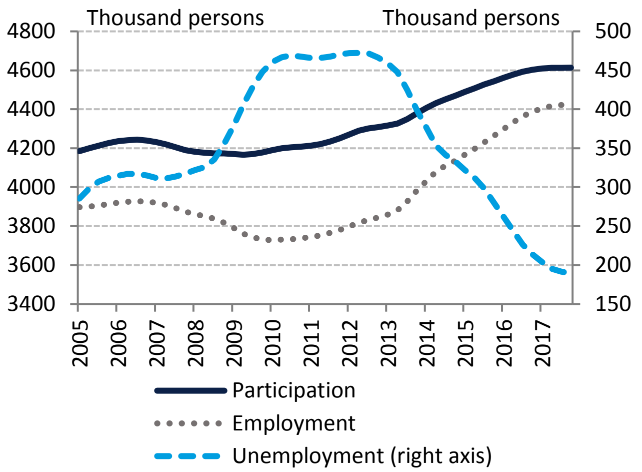
Agricultural performance fell short of the historically favourable level in 2016, curbing last year's economic growth by 0.3 percentage points. Based on the available data, output from the production of plants and animals was below the 2016 levels. Among the major cereals, maize and barley yields fell substantially year-on-year, while wheat yields fell moderately.

As a result of the lower agricultural performance compared to last year and the high base from the previous year, **the change in inventories considerably lowered economic growth in the fourth quarter**.

3.3. Labour market

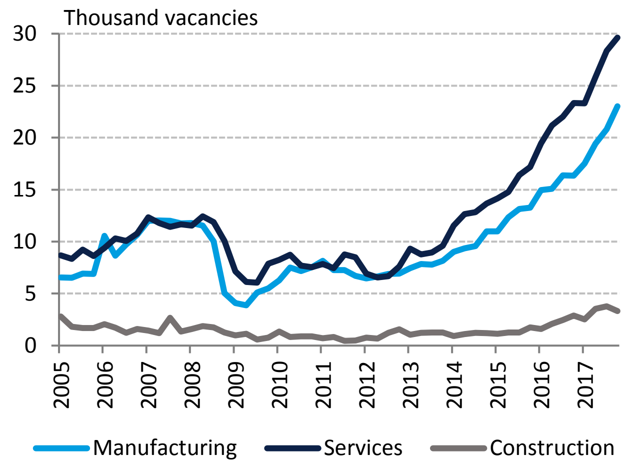
Employment in the private sector continued to increase in 2017 Q4, with the largest contributions coming from employment growth in manufacturing and construction. In line with that, the unemployment rate declined to 3.9 percent.

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



Note: Seasonal moving averages.
Source: HCSO

Chart 3-27: Development of vacancies in certain sectors of the private sector



Note: Seasonally adjusted data.
Source: HCSO

In 2017 Q4, the participation rate of the 15–74 age group stood at 62.1 percent, while in the population aged 15–64 years the proportion of the economically active persons amounted to 71.6 percent. **Based on seasonally adjusted data, the number of economically active persons stagnated** (Chart 3-26).

Employment in the national economy expanded, driven by the continued growth in private sector employment. Within the public sector, the further decline in the number of public workers was offset by the increase in employment outside the sphere of public works.

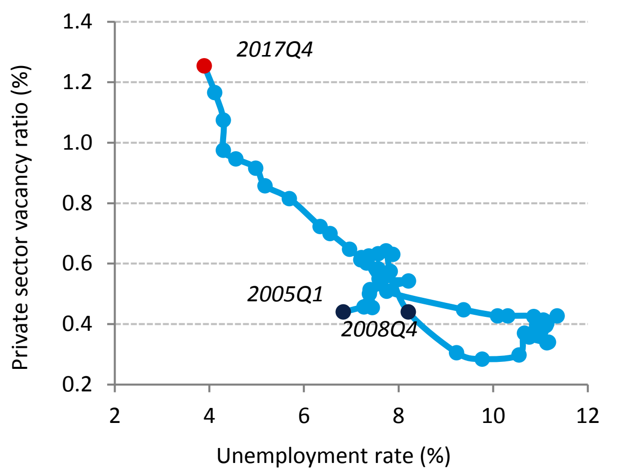
The increased employment in the private sector was supported by employment growth in manufacturing and construction, while employment in the market services sector declined. The number of workers employed abroad declined, standing at 103,000 in Q4. The full-time equivalent number of employees adjusted for the number of hours worked increased at a faster pace than the number of workers, reflecting further intensive side adjustment by firms.

In parallel with the expansion in employment, **unemployment declined further, with the unemployment rate dropping to 3.9 percent.** Based on the number of vacancies, corporate labour demand grew both in manufacturing and the market services sector (Chart 3-27). The Beveridge curve continues to show a historically tight labour market environment (Chart 3-28).

3.4. The cyclical position of the economy

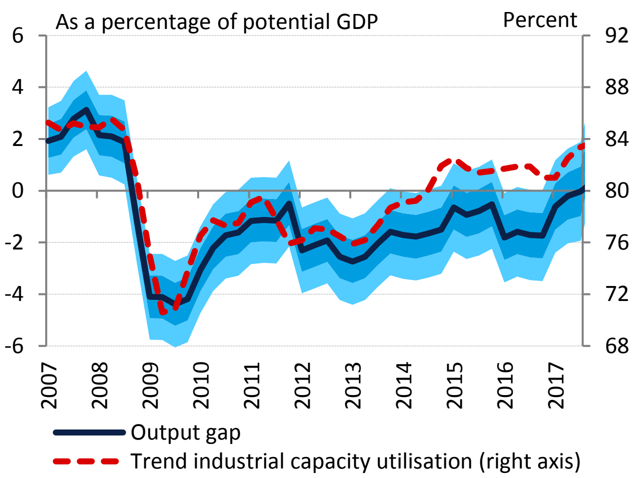
According to our estimates, Hungarian output was around its potential level in 2017 Q4. The closing of the Hungarian output gap is suggested by the buoyant domestic demand and the rising capacity utilisation of domestic production units, but Hungary's growth was still curbed slightly by the cyclical position of the country's external markets.

Chart 3-28: Development of the Beveridge-curve



Note: The private sector vacancy ratio indicates the ratio of private sector vacancies to active workers. Seasonally adjusted data.
Source: MNB calculation based on HCSO data

Chart 3-29: Uncertainty band of the output gap



Note: The edge of the uncertainty band shows one standard deviation.
Source: MNB

According to our estimates, Hungarian output was close to its potential level in 2017 Q4 (Chart 3-29). The gradual closure of the output gap observed last year was strongly influenced by the robust domestic demand. The level and development of the domestic output gap was also influenced by the cyclical position of Hungary's key trading partners. Estimates show that **at the end of last year, the euro-area output gap was slightly open, and it is expected to close during 2018** (Chart 3-11).

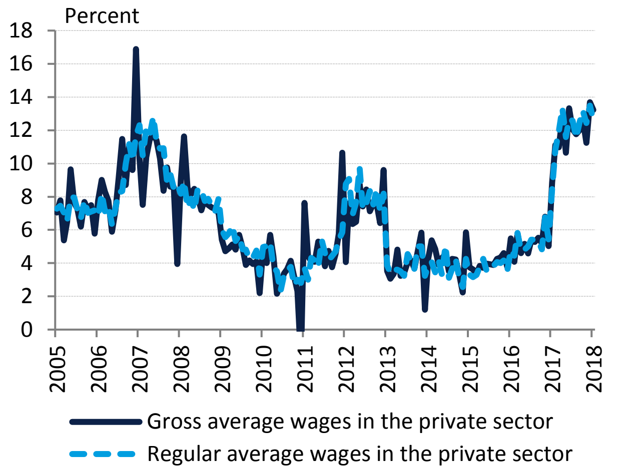
The closing of the Hungarian output gap is indicated by the fact that the **majority of surveys capturing corporate business sentiment** and capacity utilisation **increased further, as seen in the recent past**. Similar to previous quarters, **based on companies' responses, labour supply was a bottleneck**. In the case of the industrial sector, the ratio of companies saying that the workforce was a limiting factor of production was near historically high levels in 2017 Q4.

The historically low unemployment rate also implies that **the utilisation of the labour factor increased considerably in the past period and it is also high in a historical comparison**. The significant expansion in employment and, in parallel with that, the decline in the unemployment rate contributed to better capacity utilisation in the past years (Chart 3-28).

3.5. Costs and inflation

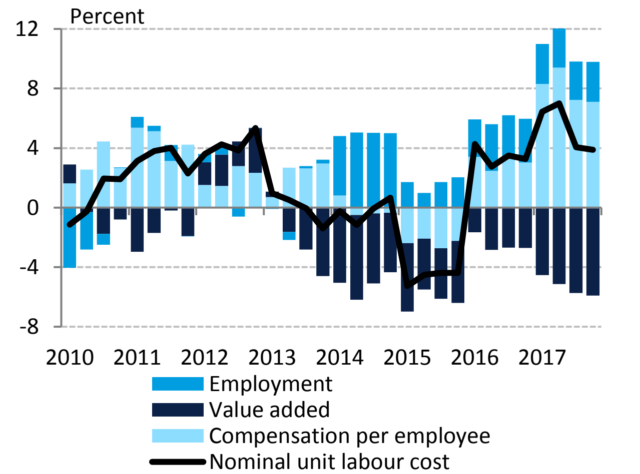
In recent months, inflation was around the lower boundary of the tolerance band, dropping to 1.9 percent in February. Core inflation continued its fall since September 2017, reaching 2.4 percent in February. According to HCSO data, the value of the index for 2017 as a whole was 2.4 percent. Underlying inflation indicators, which capture longer-term trends in inflation, still fall short of core inflation and are at around 2 percent. As a result of the historically tight labour market environment and the direct and spillover effects of the measures in the wage agreement, gross average earnings in the private sector increased by 12.3 percent year-on-year in Q4.

Chart 3-30: Annual change in gross average wages in the private sector



Note: Seasonally adjusted data.
Source: HCSO

Chart 3-31: Decomposition of the annual change in nominal unit labour cost in the private sector



Note: Seasonally adjusted data.
Source: MNB calculation based on HCSO data

3.5.1. Wages

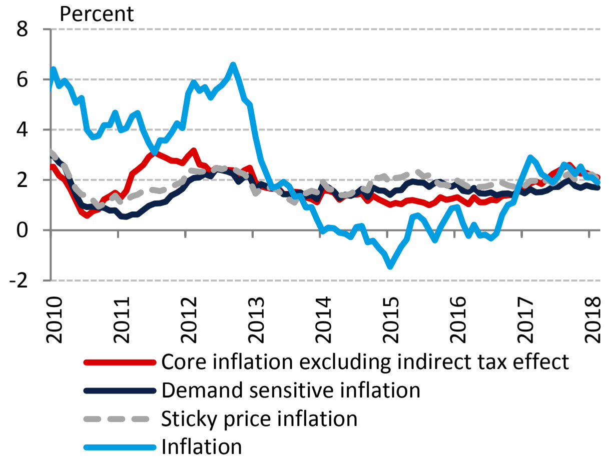
In 2017 Q4, gross average earnings in the private sector rose by 12.3 percent year-on-year (Chart 3-30). In addition to the historically tight labour market environment, the strong wage dynamics were supported by the direct and spillover effects of the measures in the wage agreement at the beginning of the year. In the sectors with above-average earnings, wage dynamics of 10 percent were observed, while in the sectors with below-average earnings, wage dynamics of 15 percent were recorded. **In January 2017, gross average earnings in the private sector rose by 13.2 percent** year-on-year. **Regular average earnings rose similar to January of last year and increased significantly on a monthly basis which could be explained by the impact of administrative wage increases at the beginning of the year.** The wage dynamics in sectors with below-average earnings were still significantly higher than in sectors with above-average earnings. **The impact of the strong wage dynamics on labour costs was mitigated by the cut in the social contribution tax rate.** In 2017 Q4, **the annual growth rate of unit labour costs was similar to that in the previous quarter**, thanks to the stable dynamics of the average labour cost and productivity (Chart 3-31).

3.5.2. Producer prices

Agricultural producer prices rose year-on-year in recent months. This was mainly attributable to the roughly 30 percent average rise in the producer price of eggs at the end of last year – and to a lesser degree to the end-2017 increase in the producer prices of milk –, due to the general drop in supply on the international market as a result of insecticide contamination. Prices of seasonal products exhibited a moderate overall decline, as the drop in the prices of potatoes and vegetables was partly offset by an increase in the price of fruits. The producer price of cereals rose, mainly due to quality problems concerning last year's harvest, which was lower than in 2016.

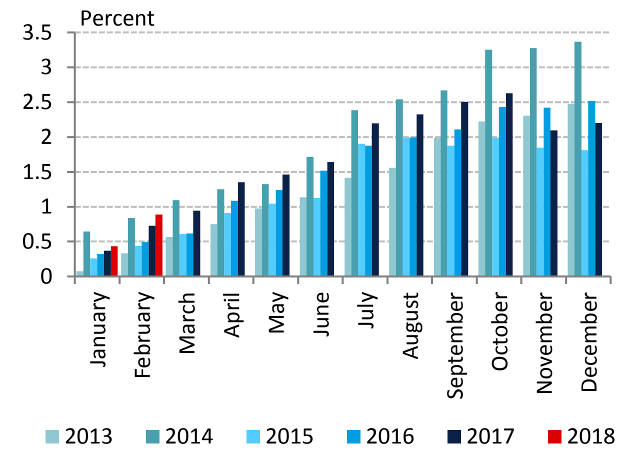
Domestic industrial sales prices and the prices of consumer goods increased year-on-year.

Chart 3-32: Inflation and underlying inflation indicators



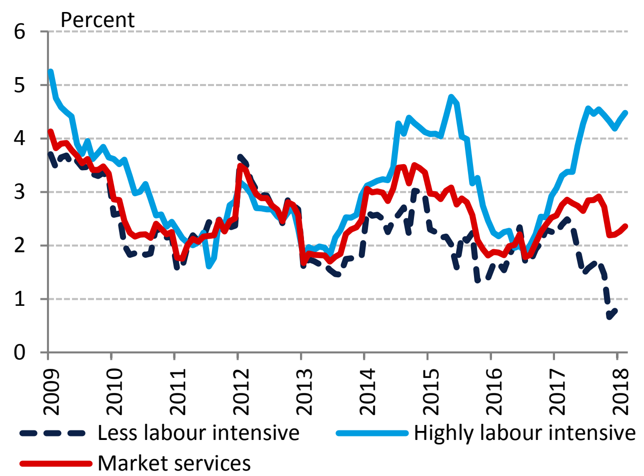
Source: MNB calculation based on HCSO data

Chart 3-33: Services inflation



Note: Adjusted for indirect tax effects. Percentage change compared to last December.
Source: MNB calculation based on HCSO data

Chart 3-34: Inflation of market services



Note: Highly labour-intensive market services include accommodation, catering, education, healthcare and personal care services. Source: MNB calculation based on HCSO data

3.5.3. Consumer prices

In recent months, inflation was around the lower boundary of the tolerance band, dropping to 1.9 percent in February, which was mainly caused by a drop in fuel prices due to base effects (Chart 3-32). Core inflation continued its fall since September 2017 to reach 2.4 percent in February. **Based on HCSO data, the index value for 2017 as a whole was 2.4 percent.**

Indicators capturing longer-term inflation trends (the inflation of demand-sensitive and sticky-price products) **remained unchanged overall** in the past months. The indicators remained around 2 percent and still fall short of core inflation.

Price increases of industrial goods were restrained in the past months. Within this product group, the seasonally adjusted prices of durables declined, primarily owing to the price developments of used cars, while the prices of non-durable industrial goods remained practically unchanged. Prices of industrial goods continue to be influenced by the mutually opposing effects of moderate import prices and the steady pick-up in domestic demand.

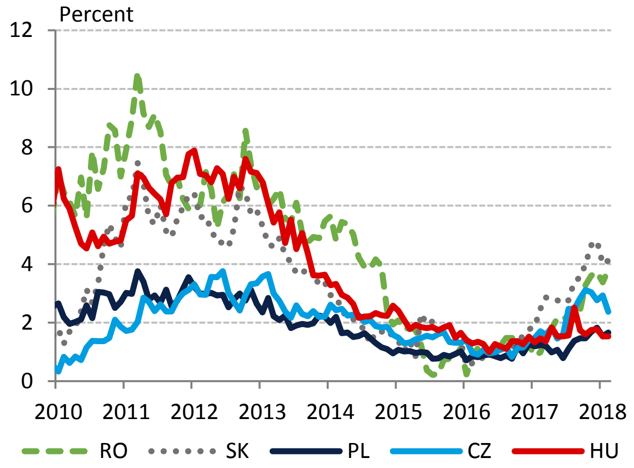
Inflation in market services declined in recent months, standing at 1.8 percent in February, influenced by the cuts to the VAT rate in January. Disregarding the effects of the January tax changes, the prices of market services observed in recent months increased by 0.9 percent overall in February compared to December 2017, which slightly exceeds the price increases in the past year (Box 3-2 and Chart 3-33).

Despite the robust wage growth experienced last year, the rise in consumer prices in this sector still did not accelerate significantly. Higher price increases compared to previous years were only observed in the case of some highly labour-intensive services, such as accommodation and restaurant services. The price dynamics of these services did not change significantly in the past months (Chart 3-34).

Seasonally and tax-adjusted **consumer prices of food increased in recent months.** The rise was principally caused by the approximately 20-percent increase in egg prices in December, which was corrected at the beginning of the year as supply grew. In January 2018, **the VAT rate for unprocessed food, namely fish and pork offal, was cut.**

In line with the unchanged oil prices expressed in forints, **fuel prices were basically steady in the winter months. The annual inflation of this product group dropped in the past period overall**, in line with the base effects stemming from price increases in December 2016 and the beginning of last

Chart 3-35: Inflation expectations in the region



Source: MNB calculations based on European Commission data

year. **There were no major price changes in the case of regulated prices in the past months.**

In recent months, both inflation and core inflation were practically in line with our December forecast.

3.5.4. Inflation expectations

Hungarian households' inflation expectations are still at moderate levels, indicating the anchoring of expectations. Expectations in Hungary were in line with the expectations observed in the countries of the region, which were characterised by steadily low inflation in the past as well (Chart 3-35). During the period under review, inflation expectations in the countries of the region remained at low levels.

The price expectations of the retail sector did not show any major change in the past period, in line with the inflation developments.

Box 3-2: Inflation trends at the beginning of the year remain moderate

No acceleration in inflation developments was observed at the beginning of this year, similarly overall to what was seen at the beginning of last year. Early in the year, inflation was shaped by the VAT cuts implemented in January, the repricing characteristic of market services and base effects mainly related to fuels. The indicator most often used to analyse underlying inflation trends is **core inflation**, the **development of which was broadly subdued at the beginning of the year.** Among core inflation items, **in the case of market services corporate repricing is important because of the intense wage growth seen last year, while price developments in industrial goods are influenced by the robust domestic demand and the low imported inflation, which offset each other**. This box analyses how these effects shaped inflation developments at the start of the year.

Among the products affected by the VAT cut, similar to last year, no price decrease was observed in January in the case of restaurant services, which in our opinion is attributable to the emerging effects of the strong wage growth (Table 3-1). This may have been influenced by the tourism development contribution imposed on restaurant service providers, also effective from January. In the case of the Internet, the price change may have been in line with the VAT rate reduction, while in the case of fish and pork offal, the price decrease was practically identical to the formerly observed pass-through.

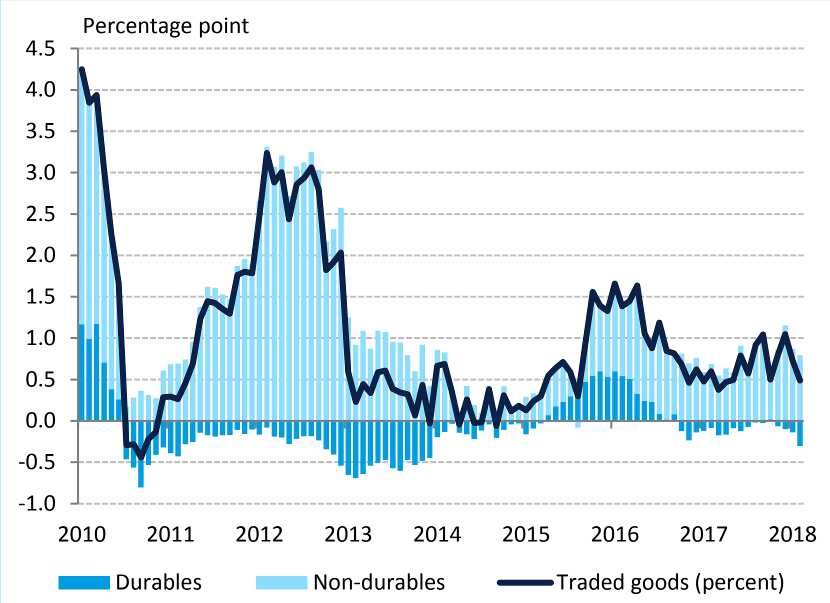
Table 3-1: Pass-through rates of the VAT cuts

	Product group	Former VAT rate (percent)	New VAT rate (percent)	Pass-through of VAT decrease (percent)
2016	Pork	27	5	**100**
2017	Food (poultry, eggs, milk)	27 and 18	5	**52**
	Internet	27	18	**100**
	Catering services	27	18	**0**
2018	Food (fish, pork offal)	27	5	**51**
	Internet	18	5	**100**
	Catering services	18	5	**0**

Source: MNB calculation

Core inflation was influenced by the opposing monthly, tax-adjusted price dynamics of industrial goods and market services in recent months. The **industrial goods price index fell**, due to **base effects** and **subdued imported inflation** (Chart 3-36).

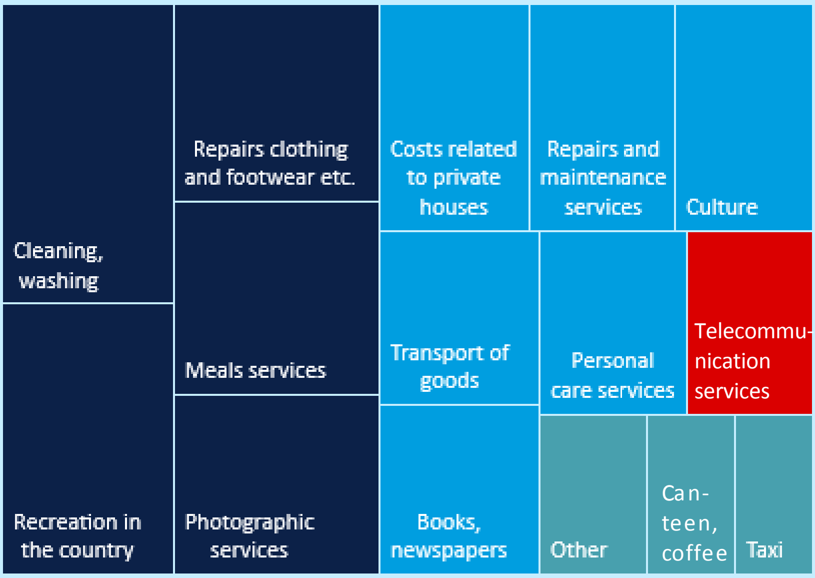
Chart 3-36: Decomposition of the inflation of industrial goods



Note: Tax-adjusted annual changes.
Source: MNB calculation based on HCSO data

Based on the pricing practices of enterprises, developments at the beginning of the year dominate movements in **market services inflation. Disregarding the impact of the VAT cuts, prices in this product group were marginally higher than last year overall**, which was influenced by the price increases for several products, such as healthcare, restaurant services and vehicle repairs (Chart 3-37). Within market services, the sector's consumer prices do not show a substantial increase, despite last year's significant wage growth. This is supported by the development of the price index of labour-intensive services, such as accommodation and restaurant services. Although price increases were larger in the case of this group than in previous years, no major changes were observed at the beginning of this year, just like in the recent period. **The inflation of highly and less labour-intensive services developed in line with the change in the market services price index.**

Chart 3-37: Inflation composition of market services in the beginning of 2018



Note: Annual inflation data in the beginning of the year. Red tiles indicate the negative, greenish-blue tiles the 0.0–2.5 percent, light blue tiles the 2.5–5.0 percent, dark blue tiles the more than 5 percent inflation among the subgroups of the market services.
Source: MNB calculation based on HCSO data

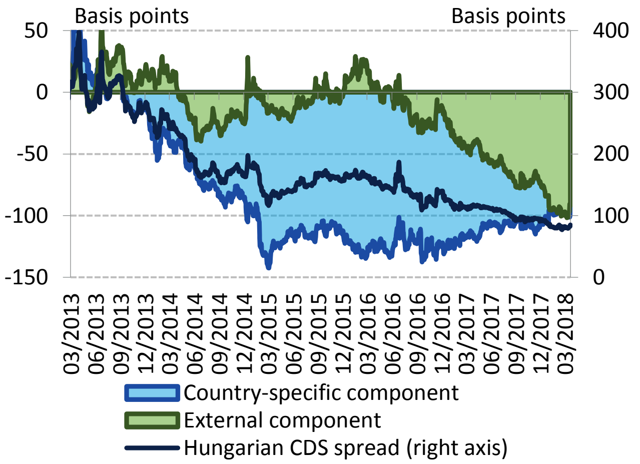
4. Financial markets and interest rates

4.1. Domestic financial market developments

International investor sentiment temporarily underwent a significant deterioration in the past quarter. In spite of the correction, the VIX index, which measures stock market volatility, closed 8 percentage points higher than the average value from the previous months. At the same time, the emerging bond market EMBI Global Index returned to its level observed at the beginning of the period. The appreciation of the euro against the US dollar continued, with only US labour market data providing temporary support for USD.

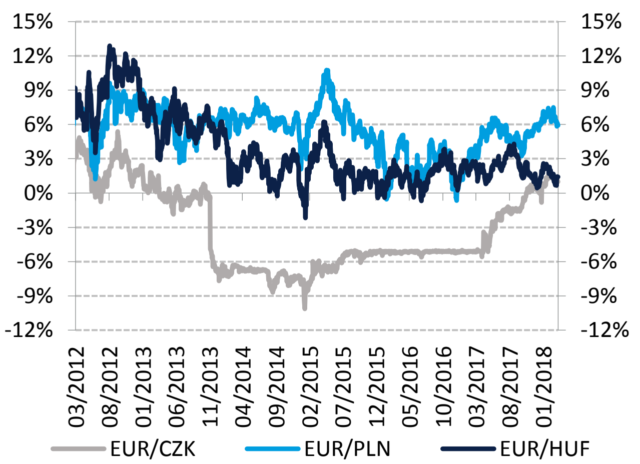
During the period, domestic money market developments were mainly determined by the rise in long-term yields in the developed markets. In line with that, long-term yields in the region – including Hungarian yields as well – increased. At the same time, as a result of the central bank communication and the new monetary policy tools, compared to long-term euro yields, an overall decline in Hungarian spreads took place in the past half year. Developments in exchange rates varied across the region: the forint and the Czech koruna appreciated somewhat, while the Polish zloty and the Romanian leu depreciated modestly against the euro.

Chart 4-1: Components of 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 the beginning of 2012. Positive values mean an appreciation of the currency. Source: Bloomberg

4.1.1. Hungary's risk perception

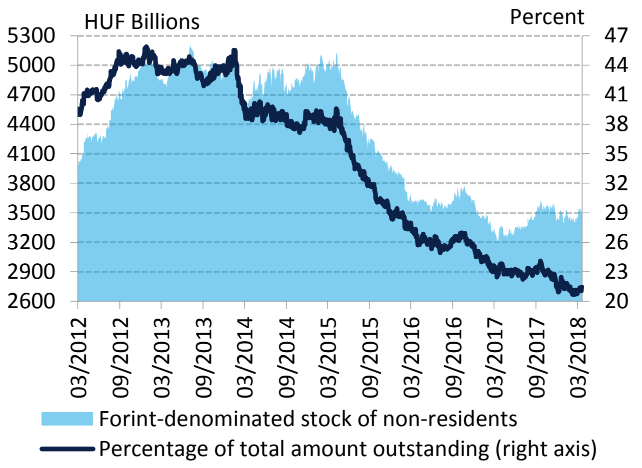
There were favourable changes in Hungary's risk indicators compared to mid-December (Chart 4-1). International factors contributed to the decline in the Hungarian credit risk spread. In a historical comparison, the Hungarian 5-year sovereign CDS spread remained at a low level during the period as a whole, finally closing at 85 basis points. As a result of global effects, spreads declined in the countries of the region, similarly to the developments observed in Hungary.

The global increase in yields was also reflected in the Hungarian long-term yields. Nevertheless, as a result of the new monetary policy instruments, during the past half year an overall decline took place in the spreads on forint interbank and government bond yields compared to ten-year euro yields.

4.1.2. FX market developments

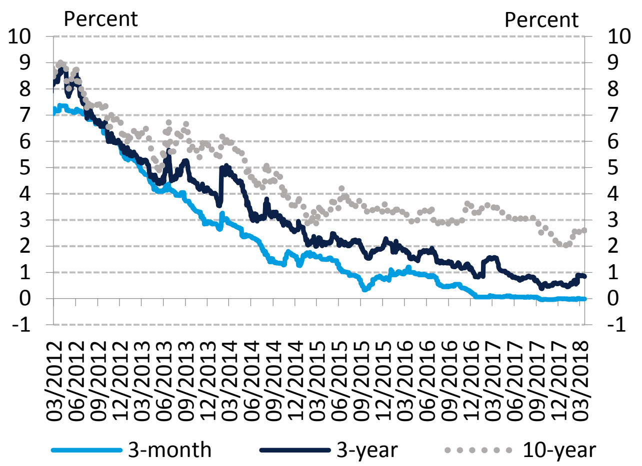
On the whole, the exchange rate of the forint against the euro showed a slight appreciation of around 0.7 percent, and the Czech koruna also strengthened modestly, while the Polish zloty and the Romanian leu depreciated to some extent (Chart 4-2). As of mid-December, the exchange rate of the forint moved between the levels of EUR/HUF 308 and 315. In the first half of the period under review, the forint appreciated, and then weakened close to its level observed at the beginning of the period, but started to strengthen again from early March. Favourable macro fundamentals contributed to the appreciation of the forint. The slight weakening of the Polish zloty was attributable to the expectations concerning the deceleration in inflation.

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



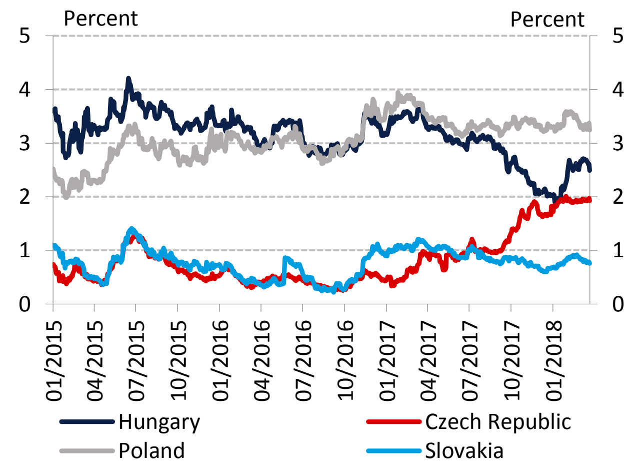
Note: The chart shows the stock of T-bills and T-bonds and the amount of government securities held by non-residents; retail securities are not included. Source: MNB

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

4.1.3. Government securities market and changes in yields

Non-residents' HUF-denominated government securities holdings increased in the past quarter (Chart 4-3). Following a practically continuous decline since 2015, non-residents' HUF-denominated government securities holdings first stabilised and then remained steady at around HUF 3,500 billion in 2017 H2. The holdings have increased by roughly HUF 80 billion since mid-December, while the ownership ratio of non-residents ownership has remained close to 21.5 percent.

Demand in the primary market of government securities was strong. In the case of longer-term securities, ÁKK often accepted higher amounts than what had been announced. Short-term treasury bill yields remained practically unchanged, while long-term auction yields tracked the international rise in yields and increased significantly, by 40–65 basis points.

The government securities secondary market yield curve became steeper as a result of a rise in long-term yields. In line with auction yields, short-term secondary market yields remained practically unchanged, while the longer section of the yield curve shifted upwards by 20–35 basis points. In line with the introduction of the new central bank instruments and the central bank's communication, Hungarian long-term yields declined considerably from September until mid-January, which was partly offset by the impact of the global increase in yields and the decline in speculative positions in the HUF interest rate swap market. The 10-year yield stood at 2.49 percent at the end of the period.

During the past quarter, Hungarian short-term interbank yields continued to decline somewhat, while in the middle and longer segments, similarly to the government securities market yields, there were major increases, and thus the interbank yield curve also became steeper.

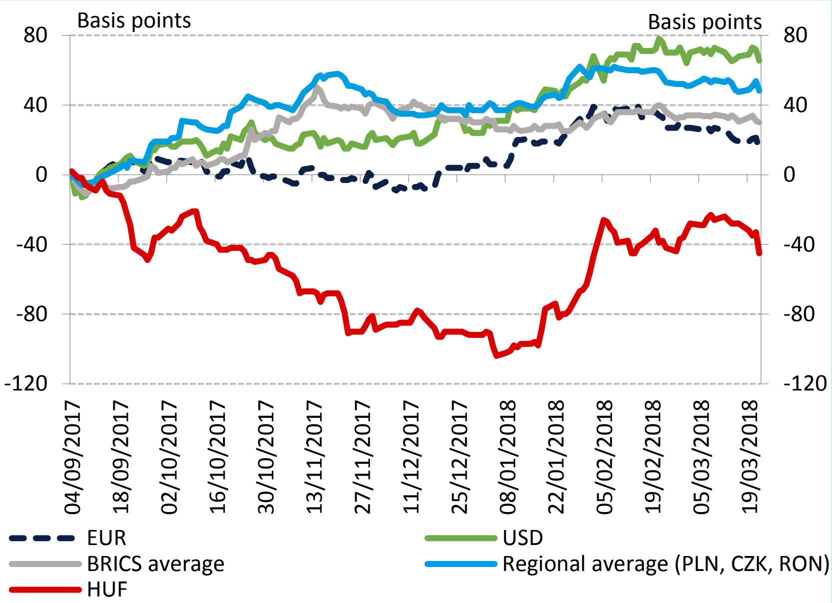
Increases in long-term benchmark yields varied across the region (Chart 4-5)**.** While the ten-year forint yield rose by 35 basis points compared to the mid-December level, ten-year benchmark yields in the region increased to a lesser extent in the past quarter. Compared to their levels at the beginning of the period, Czech and Slovak long-term yields were 25 basis points and 15 basis points higher, respectively. On the whole, the Polish ten-year benchmark yield remained practically unchanged, although in the middle of the period it was still 25 basis points higher, similarly to the Czech yields. At the end of the period the Polish yields were moderated by declining inflation expectations.

Box 4-1: Impact of the global rise in yields and the new central bank programme on Hungarian yields

Long-term yields on the developed markets increased considerably in the past half year. The US ten-year interbank yield rose by roughly 75 basis points, while the government securities yield increased by 65 basis points. Long-term yields in the euro area also climbed, although to a lesser extent, rising by around 15 basis points (Chart 4-6).

The gradual increase in yields on major developed markets is partly attributable to rising inflation expectations. Against the backdrop of favourable macroeconomic data, US and euro area 5-year forward 5-year inflation expectations also rose compared to September 2017. The increase in US expectations was also influenced by the further tightening of the labour market, and the latest US inflation figures also pointed towards that direction. This caused a visible increase in major central banks' future interest rate paths: market expectations regarding the Fed's three-year interest rate target surged by almost 100 basis points, while those for the ECB's rose by 45 basis points in half a year. The rise in interest rate expectations led to higher long-term yields.

Chart 4-6: Development of 10-year government benchmark yields

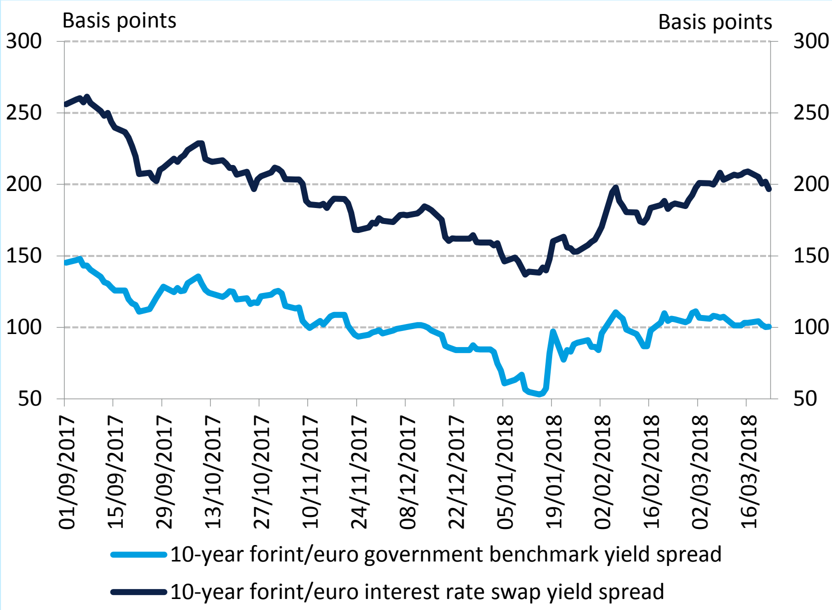


Source: Bloomberg

Yield increases in developed markets around the world caused a more muted and differentiated rise in emerging market yields. In the 10-year segment, since early September 2017, long-term interbank yields in the region and the BRICS countries (Brazil, Russia, India, China and South Africa) climbed by approximately 15–30 basis points, i.e. the change amounted to less than half of the yield increase in the USA. Ten-year government bond yields in the BRICS countries rose by 30 basis points, while government bond yields in the region rose by around 50 basis points, which also fell short of the roughly 65-basis point increase in US yields. In the case of the BRICS countries, yields climbed sharply in late October and early November 2017, and then stagnated and adjusted slightly. The further yield increases in the US did not impact these major emerging markets. Although regional yields increased slightly more dynamically than those in BRICS countries, their rise was still lower than in the USA.

The development of Hungarian yields has gradually diverged from regional and euro area developments since the autumn of 2017. While yields started to increase in the other markets of the region and the euro area in September, Hungarian long-term interbank and government bond yields contracted significantly until mid-January, which was fundamentally attributable to the MNB's monetary policy communication and its new instruments. However, after this, from mid-January, an adjustment was observed due to the global rise in yields and the elimination of speculative positions on the forint interest rate swap market. Yet in contrast to the rise in regional and euro area yields, Hungarian ten-year yields are still below the September levels, by 30 basis points in the case of interbank yields and 45 basis points in the case of government bond yields. In line with the aim of the new monetary policy instruments, Hungarian long-term yields have declined as compared to international yields, and therefore, even taking into account the adjustment in the last two months, **the yield spread of the forint interbank and government securities transactions diminished substantially, by 50-60 basis points, since September 2017, as compared to ten-year euro yields** (Chart 4-7).

Chart 4-7: Development of the 10-year forint/euro interest rate swap and government benchmark yield spreads

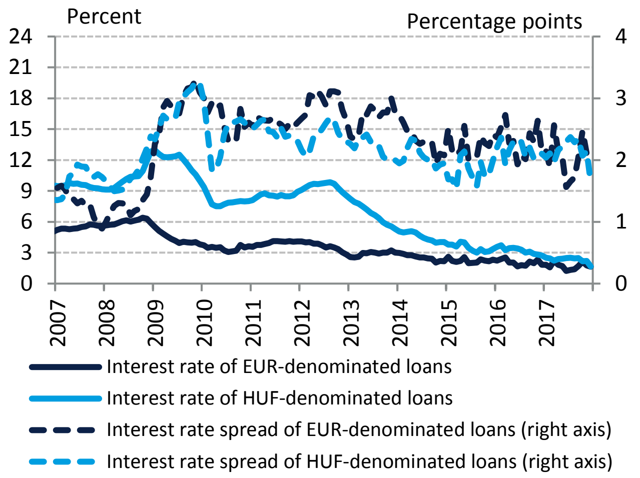


Source: Bloomberg

4.2. Credit conditions of the financial intermediary system

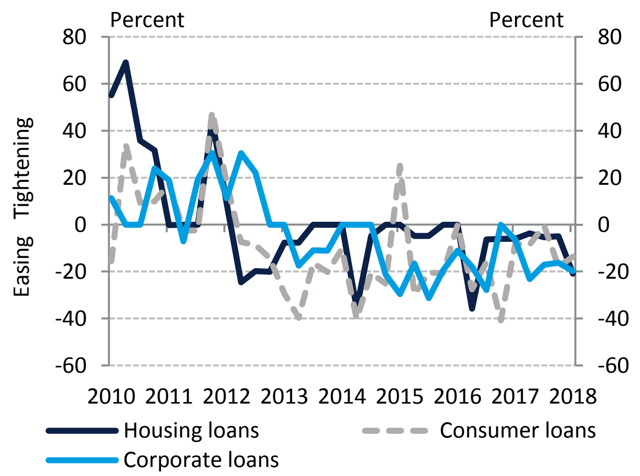
In 2017 Q4, corporate credit conditions eased in all company size categories, while in the case of household loans it was mainly the conditions of consumer loans which were eased by banks. The interest rate level of corporate loans declined in all product categories according to both currency and the amount of loan. The APR level of unsecured consumer loans increased slightly, while the annual percentage rate of charge on housing loans declined during the quarter. A further decline in the one-year forward-looking real interest rate was observed in the period under review.

Chart 4-8: 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 4-9: 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 2017 H2.
Source: MNB based on banks' responses

4.2.1. Corporate credit conditions

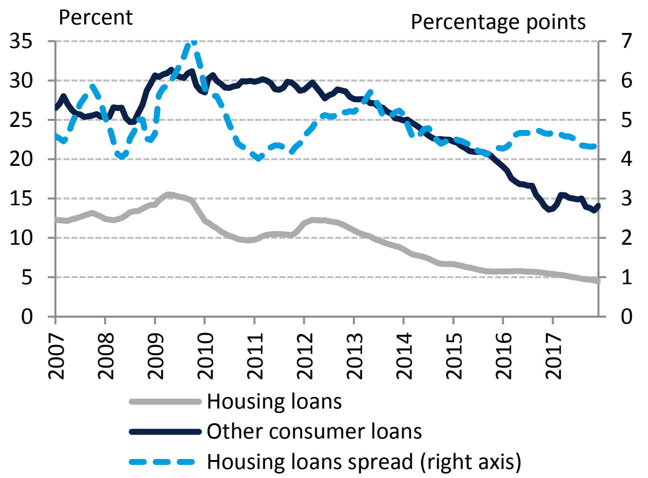
The average interest rate level of both corporate forint and FX loans declined in 2017 Q4. The interest rate on new, market-based corporate forint loan contracts – excluding money market transactions – decreased by 0.3 percentage point in the case of small-amount loans and by 0.9 percentage point in the case of large-amount loans in the period under review. The average interest rates on low and high-amount EUR-denominated loans fell by 0.2 and 0.1 percentage point, respectively (Chart 4-8). The decrease in the latter interest rate is attributable to a decline in spreads. A decline of 0.2 percentage point was observed in spreads on small-amount forint loans, while a larger drop of 0.8 percentage point was seen in spreads on high-amount forint loans.

Credit conditions eased in each company size category. Based on responses to the Lending Survey, in net terms, 16 percent of banks eased their conditions in the micro and small enterprises segment, while 8 percent indicated easing for medium-sized and large companies (Chart 4-9). Banks justified the easing with a further increase in market competition. The easing was mostly reflected in the fees charged and in the spreads. Looking ahead, in net terms, 20 percent of the banks envisaged further easing for the next half year, which may continue to be justified by the changes in competition. For 2018 H1, banks plan to reduce fees in the case of loans to large and medium-sized enterprises, while for small and micro enterprises they envisage increasing the maximum amount of credit limits.

4.2.2. Household credit conditions

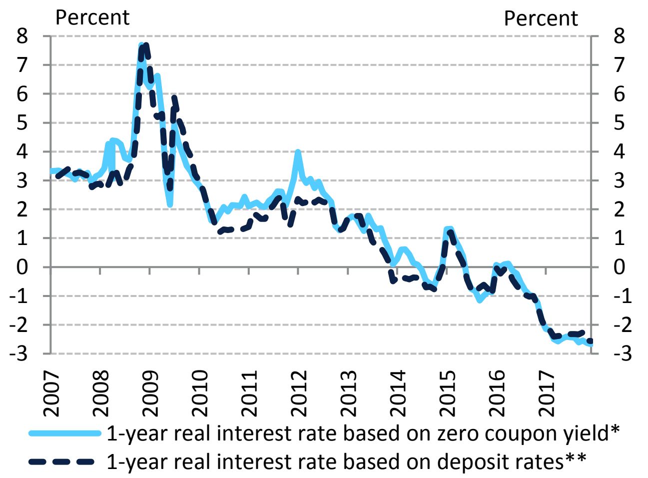
The spread on housing loans continued to decline during the quarter. The APR on newly granted housing loans declined by 0.3 percentage point to 4.5 percent in the period under review (Chart 4-10). In terms of interest conditions, the APR level of both variable-rate loans and loans with interest rates fixed for more than one year decreased. Regarding the interest rate spreads on housing loans, it was only in the case of loans fixed for a period of 1–5 years where a 20 basis points fall was observed, and thus the average level of the interest rate spread declined to 4.2 percentage points by the end of the year. Within consumer loans, the average annual percentage rate of

Chart 4-10: Smoothed annual percentage rate of charge (APRC) and spreads of housing and consumer loans



Note: For housing loans with floating or up to 1-year interest rate fixation the reference rate is the 3-month interbank rate, for over a year fixation the 3-year IRS.
Source: MNB

Chart 4-11: 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

charge on general purpose mortgage loans declined by 0.4 percentage points to 5.75 percent, while the APR level of unsecured consumer loans rose by 15 basis points to 14.1 percent in Q4.

Banks eased the conditions on consumer loans. In Q4, in net terms, 5 percent of the banks participating in the Lending Survey eased conditions on housing loans (Chart 4-9). However, looking at the specific conditions, many institutions indicated easing: in net terms, 59 percent of the respondent banks reduced the spread between the lending rate and the costs of funds in the case of less risky loans. Respondent banks primarily mentioned housing market developments and the favourable liquidity situation of the bank as factors supporting the easing. In net terms, 18 percent of the banks eased conditions on consumer loans, which was reflected in the reduction of spreads and the increase in the maximum payment-to-income ratio. In 2018 H1, 20 percent and 14 percent of banks plan to ease the conditions of housing loans and consumer loans, respectively. In 2017 Q4, a strong uptrend in Certified Consumer-Friendly Housing Loans product was observed: their share within new housing loans already reached 40 percent in December, and by the end of the year the value of certified housing loans granted by banks amounted to a total HUF 25 billion.

4.2.3. Changes in real interest rates

The one-year forward-looking real interest rate reached a new historical low by the end of the year (Chart 4-11). In 2017 Q4, on the basis of the yield estimated from government securities market yields, the real interest rate level reduced by inflation expectations declined by 6 basis points compared to the previous quarter, thus standing at –2.7 percent at the end of the period. The real interest rate calculated on the basis of deposit rates decreased to a greater extent, standing at –2.6 percent in December 2017.

5. Balance position of the economy

5.1. External balance and financing

The net lending of the Hungarian economy fell to 4.1 percent of GDP in 2017, while the current account balance declined to 2.9 percent of GDP. The decrease is mainly attributable to the decline in the trade surplus, which is primarily linked to the expansion of domestic demand items. Nevertheless, the decline in the country's net lending was partly offset by the rising level of EU funds utilisation, which was reflected in the improving transfer balance. The income balance deficit continued to increase as foreign companies' profits surged. On the financing side, debt outflows continued, while net FDI increased. The reduction of the country's net external debt was principally due to the drop in the government's net external debt, but to a lesser extent companies' net external debt also shrank. Thus, by the end of 2017, net external debt declined to 13.1 percent of GDP and gross external debt dropped to 60.1 percent of GDP, which was attributable to GDP growth as well as transactions.

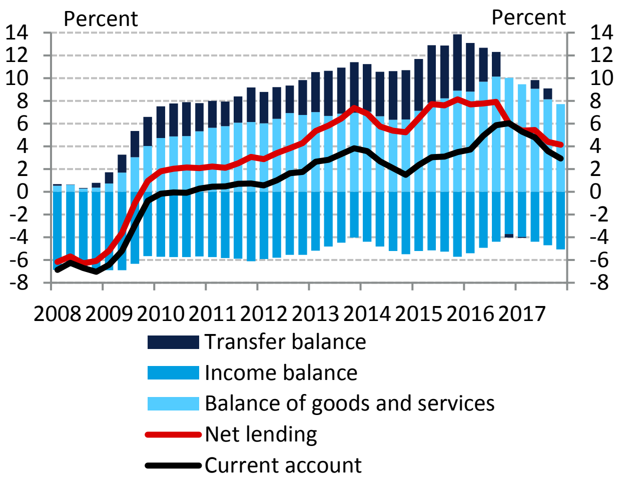
5.1.1. Developments in Hungary's external balance position

In 2017, Hungary's net lending decreased to 4.1 percent of GDP, while the current account surplus dropped to 2.9 percent (Chart 5-1). As a result of expanding domestic demand, external balance indicators fell, but the accelerating utilisation of EU funds restrained the reduction in net lending. The **trade surplus** diminished significantly on account of the expanding imports related to stronger domestic absorption, and temporarily subdued exports due to the factory shutdowns in the summer. Along with the balance of goods and services, the **income balance** also fostered a drop in the current account balance, which was mostly attributable to the expansion of the profits of foreign-owned companies, while interest paid to non-residents continued to fall. The rising **transfer balance** was linked to the increasing utilisation of funds from the EU's new programming period, albeit the level is still lower than two years ago.

5.1.2. Developments in financing

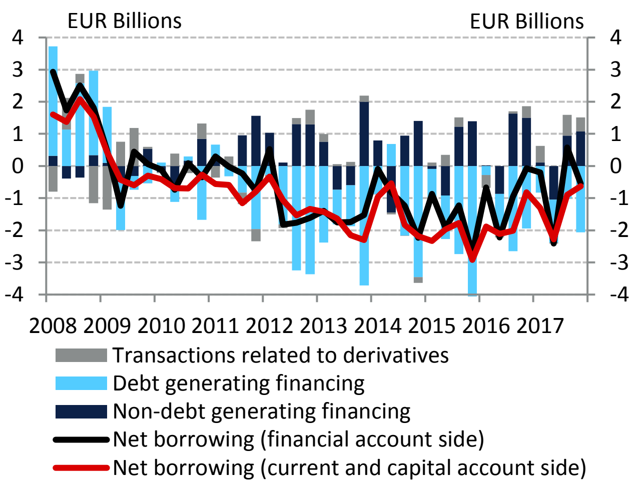
Based on developments on the financing side, Hungary's net external debt continued to decrease, while its net FDI increased (Chart 5-2). Net lending calculated from the financial account was subdued in Q4: debt-type funds decreased by EUR 2.1 billion, while FDI rose by EUR 1.3 billion. However, net FDI inflows were surpassed by capital-in-transit flows on the inflow and outflow sides. The pace of the reduction in net external debt in Q4 exceeded what was observed in the previous quarter. The net external debt of the general government consolidated with the MNB was considerably reduced due to the increasing utilisation of EU funds, and the increasing FX liquidity placed by the banks at the MNB.

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



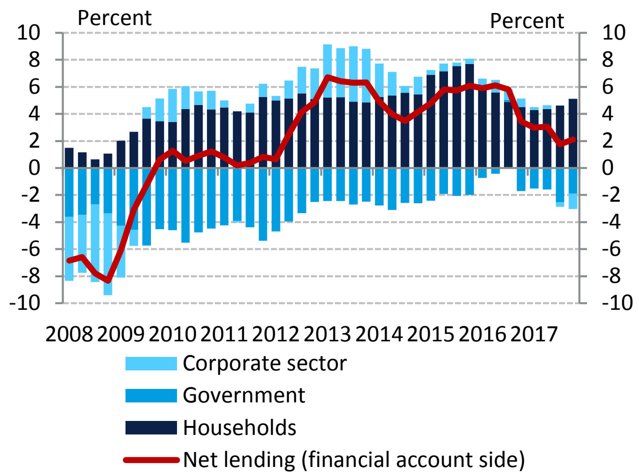
Note: Cumulated four-quarter values, as a percentage of GDP.
Source: MNB

Chart 5-2: Structure of net lending



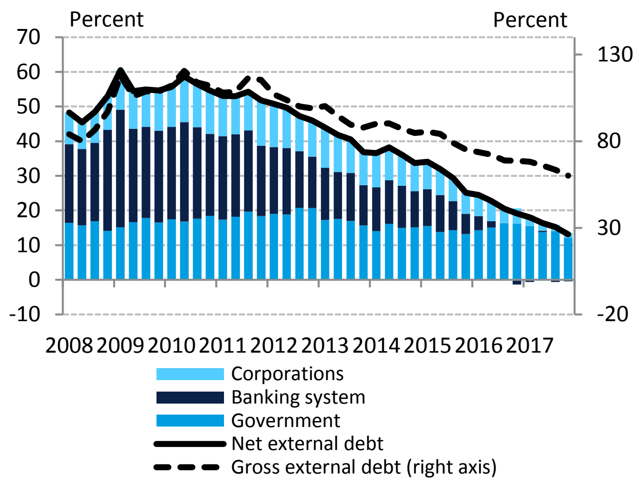
Note: The financing requirement calculated by a bottom-up method corresponds to the total of the external financing requirement and the BOP balance of statistical errors and residuals.
Source: MNB

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

The sectors' savings approach shows that the net borrowing of the corporations' increased, while the government's borrowing decreased. The four-quarter net borrowing of the general government relative to GDP decreased slightly, and thus remained low, which is supported mainly by the tax revenues collected on account of the rise in consumption and employment. The increasing borrowing of companies is mainly related to rising investments. Households' net savings continued to increase in the context of rapid wage growth, amounting to 5.2 percent of GDP.

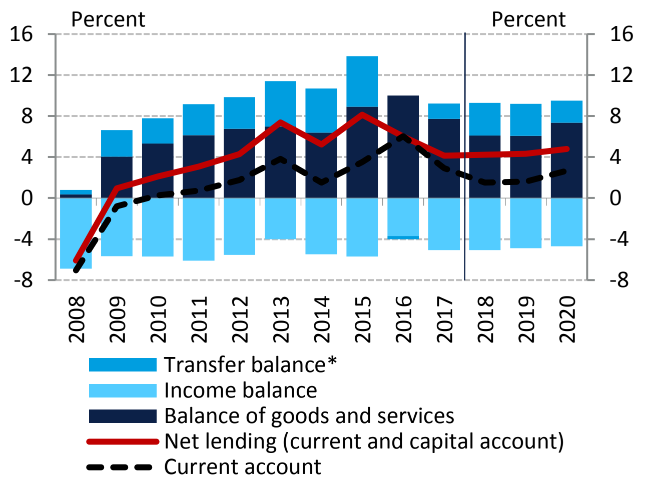
By the end of 2017, Hungary's net external debt had declined to 13.1 percent of GDP (Chart 5-4). As the combined result of the substantial outflows of debt liabilities and GDP growth, Hungary's net external debt fell by another 2.1 percentage points. The reduction in the debt ratio was mostly influenced by the decline in the net external debt of the government. In addition to this, the net external debt of the corporate sector relative to GDP also fell slightly. In addition to net debt, gross external debt contracted significantly, falling by 3.5 percentage points and amounting to 60.1 percent in GDP terms at the end of 2017. Therefore, Hungary's external vulnerability continued to decrease in 2017.

5.2. Forecast for Hungary's net lending position

Looking ahead, the net lending of the economy will remain relatively high. While compared to 2017 the current account surplus will fall to one half in 2018, the net lending position will stabilise, in line with the higher absorption of EU funds. The decrease in the current account is primarily related to the significant decline in the trade balance, which is mainly attributable to an increase in import-intensive investment and a pick-up in household consumption. From 2019, as a result of a slowdown in import growth and the commissioning of newly built capacities, the deterioration in the current account will come to an end. Over the forecast horizon, the deficit of the income balance will be around 5 percent of GDP. Looking at the savings of sectors, in line with the expansion in lending and consumption, households' net financial savings will slightly and gradually decline, but will remain significant. The net borrowing of the general government will temporarily increase in 2018, which is partly explained by tax cuts. In relation to an increase in corporate investment, the net savings of the sector will remain at a low level in 2018, followed by gradual improvement in 2019 and 2020, in conjunction with an upturn in exports and the still strong consumption. As a result of the considerable external position, external debt indicators are expected to decline, contributing to Hungary's lower external vulnerability.

The net lending of the economy will remain relatively high over the forecast horizon (Chart 5-5). At the beginning of the forecast horizon, in line with an expansion in import-intensive investments and an increase in household consumption, the balance of goods and services will decline considerably. In 2018, in parallel with an increase in domestic absorption items, and contrary to previous periods, the developments in the terms of trade will also reduce the trade surplus. In 2019 the deterioration in the current account balance will stop. At the same time, the deterioration in net lending will be offset by a rise in the inflow of funds belonging to the 2014–2020 EU budget cycle, as a result of which the transfer balance surplus will increase to 3 percent of GDP. The trade balance will gradually improve in 2020, in which the start of production of previously built new capacities may play an important role, resulting in an expected pick-up in exports and an increase in Hungary's share in the global market. In addition, slower growth in domestic absorption also leads to an improvement in net exports. Overall, net lending will be relatively high over the forecast period. As a result of contrasting effects of various factors, the deficit on the income balance will be around 5 percent of GDP during the entire forecast horizon. A rise in the deficit on the income balance is suggested by the increase in the profits of foreign-owned companies as a result of the favourable economic environment, and by the decline in the wage incomes of those working temporarily abroad. This is partly offset by an improvement in the interest balance in line with the decline in external debt.

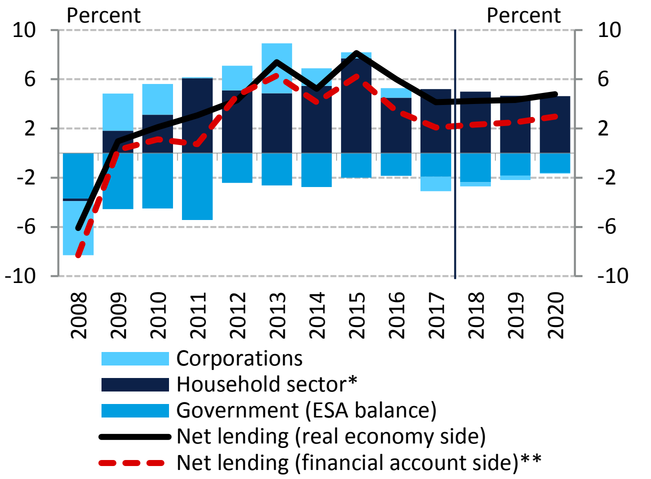
Chart 5-5: Evolution of net lending



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

The net borrowing of the general government will rise temporarily in 2018, while the financing capacity of the private sector will remain at a high level (Chart 5-6). As a result of favourable labour market conditions and significant pay rises, households' income position will improve, in parallel with an increase in consumption over

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

the forecast horizon. Consequently, households' net financial savings will decline slightly, but remain significant. In accordance with the expansion of investment, net corporate savings will remain at low levels in 2018–2019. Subsequently, the net borrowing of the sector is expected to decrease as a result of continued strong consumption, absorption of EU transfers and acceleration in export dynamics. The net borrowing of the general government will temporarily exceed 2 percent of GDP in 2018, which is partly attributable to tax cuts (social contribution tax, targeted VAT cuts) and partly to the loss of revenues from the tax credit for growth and land sales. The borrowing requirement of the general government will gradually improve in the second half of the forecast period as a result of a rise in tax revenues due to economic growth and a further decline in interest expenditures.

The still considerable net lending position will contribute to a decline in external debt indicators. Net lending will decline at the beginning of the forecast period, but will continue to contribute to the decrease of the external debt indicators of the economy and thus to lowering external vulnerability.

5.3. Fiscal developments

Based on preliminary financial account data, the budget deficit amounted to 1.9 percent of GDP in 2017. The deficit will remain moderate until the end of the forecast period and will be further reduced by the effect of macroeconomic prospects, which are more favourable than in the December forecast. However, the additional revenues from higher economic growth will be offset by new measures in 2018. The impact of these measures will not be carried over to the coming years, and thus – compared to our previous forecast – we expect a slight decline in the deficit starting from 2019. Similarly to 2017, through tax cuts and additional discretionary expenditures, fiscal policy will significantly increase aggregate demand in 2018 as well, but the fiscal demand effect is expected to be negative from 2019. At end-2017, the debt ratio amounted to 71.7 percent of GDP, which is 2.2 percentage points lower than the 73.9 percent recorded in 2016. According to our forecast, the debt ratio will continue to decline, and by end-2018 the ratio may be close to 70 percent of GDP, falling to around 66 percent by 2020.

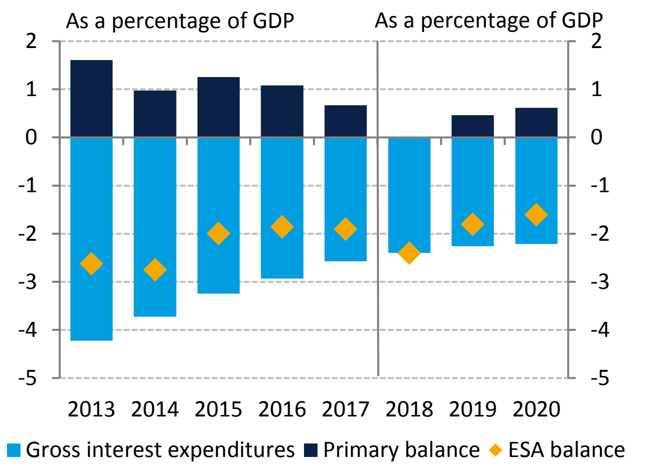
Table 5-1: General government balance indicators

	2017	2018	2019	2020
ESA balance	-1.9	(-2.2)–(-2.4)	(-1.8)–(-2.0)	(-1.6)–(-2.0)
Primary ESA-balance	0.6	0.0–0.2	0.3-0.5	0.2–0.6
Fiscal impulse*	1.2–1.3	0.8–1.0	(-0.6)–(-0.8)	(-0.1)–(-0.5)

As a percentage of GDP. 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. *Change in the augmented (SNA) primary balance.

Source: HCSO, MNB

Chart 5-7: Changes in the fiscal balance and interest expenditures



Note: The point estimate in the chart assumes either the cancellation or the utilisation 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

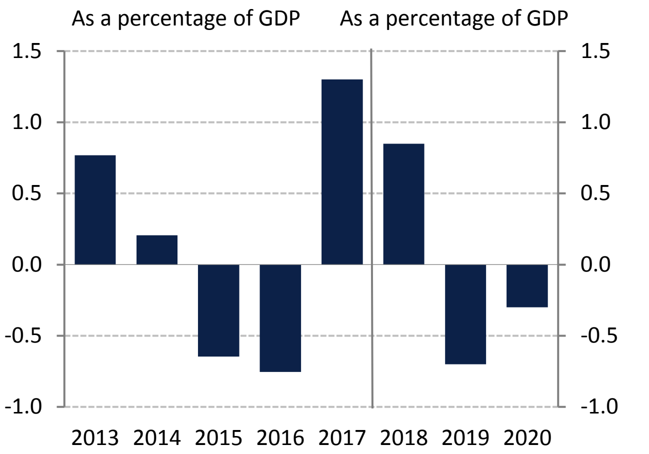
According to our projection, the ESA deficit may amount to 2.2–2.4 percent of GDP in 2018, while based on our technical forecast it may be 1.8–2.0 percent in 2019, and 1.6–2.0 percent in 2020 (Table 5-1). Based on preliminary financial account data, the budget deficit was 1.9 percent of GDP in 2017, and was thus lower than the appropriation of 2.4 percent. As a result of tax cuts and the exhaustion of one-off revenues from the previous years (land sales, tax credit for growth), the deficit of the general government will increase temporarily in 2018. Dynamically growing tax revenues from favourable macroeconomic developments and declining interest expenditures will contribute to the reduction in the deficit-to-GDP ratio following 2018 (Chart 5-7). Due to the structure of government debt, the decrease in government security yields observed in recent years will only gradually exert an effect.

As a result of continuous tax cuts, a fiscal demand expansion similar to that seen in 2017 is expected in 2018 (Chart 5-8). In 2018, VAT on additional products and services was reduced and the rates of the social contribution tax and the health contribution were also further cut, while the tax allowance for families with two children increased. In line with a gradual decline in the deficit, this year's fiscal stimulus will be followed by a moderate decrease in aggregate fiscal demand in the coming years.

5.3.2. Budget balance in 2017

Based on preliminary financial account data that approximates accrual-based fiscal developments of the general government, the budget deficit in 2017 amounted to 1.9 percent of GDP and was thus 0.5 percentage points lower than the Budget Act appropriation. The moderate accrual-based deficit was

Chart 5-8: The fiscal demand effect



Note: As a percentage of GDP. The fiscal demand effect 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	0.0
Payment by economic units	0.1	
Taxes on consumption	0.2	
Taxes on labour	0.1	
II. Central government expenditures	0.0	-0.4
Net own expenditures of budgetary organisations		-0.2
Advance wage raise in healthcare		-0.1
Winter-related utility cost reduction		-0.1
One-off pension vouchers		-0.1
III. Other effects	0.0	0.1
Other		0.1
Total (I.+II.+III.)	0.3	-0.3

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 because of the rounding.
Source: MNB

realised in conjunction with a 5.5 percent cash-based deficit of the central sub-system. The difference between the accrual-based and cash-based deficits was primarily caused by the advance payments of EU funds, a substantial surplus of local governments and some other accrual-based adjustments.

5.3.3. Budget balance in 2018

According to our forecast, the ESA deficit in 2018 will be 2.2–2.4 percent of GDP which is in line with our December projection (Table 5-2). Measures announced since the December Inflation Report include advance wage raises in healthcare (emergency medical staff, nurses) brought forward from November, one-off pension supplements granted in the form of Erzsébet vouchers as well as winter-related utility cost reduction deductible from the gas and district heating bills and an increase of the social firewood allocation. The total impact of these newly announced additional expenditures is estimated to amount to some 0.3 percent of GDP, which, however, is offset by the rise in tax revenues resulting from favourable macroeconomic prospects.

Our projection for the 2018 deficit is in line with the 2.4 percent appropriation (Table 5-3). Regarding consumption taxes (primarily VAT revenues), our forecast is below this year's appropriation, which might mainly be attributable to the differences in the estimates concerning the whitening of the economy. At the same time this is compensated by the lower net expenditure level of central budgetary organisations, because the high ratio of advance payments within the disbursements of EU funds indicates that the actual utilisation of funds to be taken into account in accrual accounting will fall short of the appropriation. This year the rate of social contribution tax and the upper rate of the health contribution decline by another 2.5 percentage points; these revenues are expected to be in line with the appropriation.

5.3.4. 2019 and 2020 fiscal balances

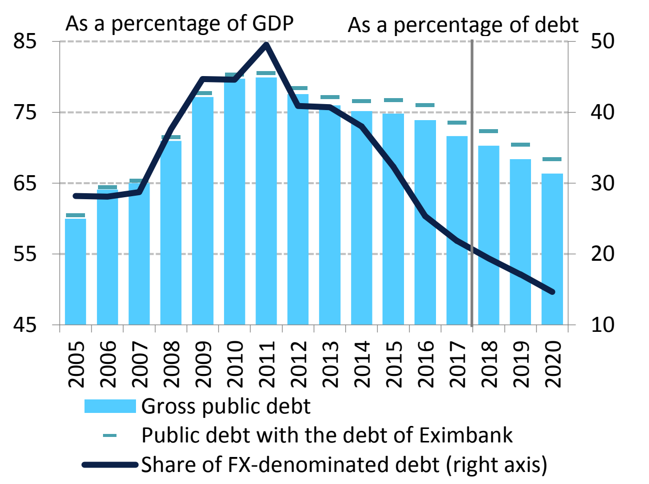
Due to the lack of budget acts available, for 2019 and 2020 we prepare technical forecasts, which show a gradually declining deficit. The budget deficit may decline to 1.8–2.0 percent of GDP in 2019 and to 1.6–2.0 percent in 2020. The rise in tax revenues stemming from high economic growth is the primary factor contributing to the decline in the general government deficit. According to our forecast, in line with the wage agreement, the social contribution tax rate will be reduced by a further

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

	Difference from appropriation
I. Central government revenues	-0.3
Taxes on consumption	-0.3
II. Central government expenditures	0.2
Utilization of EU transfers	0.2
Pension expenditures	0.1
Advance wage raise in healthcare	-0.1
One-off pension vouchers	-0.1
III. Other effects	0.1 – 0.3
Cancellation of Country Protection Fund	0.0 – 0.2
Methodological changes	0.1
Total (I.+II.+III.)	0.0 – 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 because of the rounding.
Source: MNB

Chart 5-9: Gross public debt forecast – calculated with unchanged (end-of-2017) exchange rate over the forecast horizon



Source: MNB

2 percentage points in 2020. The 0.1 percentage point decline in the deficit for both years compared to our December forecast is justified by the more favourable macroeconomic prospects of the 2018 base year. This year's one-off measures only increase the expenditures in 2018, without having an impact on the subsequent years.

5.3.5. Risks surrounding the baseline scenario

Our forecast is continuously and significantly affected by the uncertainty related to the disbursement and utilisation of EU funds. We anticipate substantial advance payments for 2017 and this year, which are expected to gradually decline until 2020. The real economic impact of the payments, i.e. the actual utilisation of EU funds may be the highest in 2018 and 2019. This effect will stimulate the economy considerably, but through the increase in co-financing it will add to the budget deficit.

5.3.6. Expected developments in public debt

According to preliminary data, at end-2017 the gross government debt ratio was at 71.7 percent of GDP (Chart 5-9). There was a sharp, 2.2 percentage point decline in the debt ratio compared to the 73.9 percent observed at end-2016. Substantial economic growth, falling interest expenditures and a positive primary balance all supported the decline in government debt. In addition to favourable macroeconomic fundamentals, one-off factors also influenced the value of debt during last year. The weakening of the US dollar against the euro contributed to the reduction of debt, while at the same time the advance payments of EU funds increased the value of the cash-based deficit and thus, the gross government debt. As a result of negative net FX issuance, the FX ratio of the central government debt declined from 25.3 percent at end-2016 to 21.8 percent. The MNB's press release on the preliminary financial accounts also provided information on the value of government debt including Eximbank's liabilities, which amounted to a total 73.6 percent of GDP at end-2017. Even taking account of Eximbank, the debt rate showed a 2.4-percentage point decrease in 2017.

According to our forecast, assuming a constant end-2017 forint exchange rate, the gross government debt ratio may decline to 70.3 percent of GDP in 2018, i.e. the debt rule of the Fundamental Law is expected to be complied with this year as well. Over the forecast horizon, underlying developments point to a significant decline in government debt, which is corroborated by the incoming revenues of previously advanced EU funds in 2019 and 2020. As a result of growth and moderate deficit, the debt ratio may decline by 1.4 percentage points this year and 2 percentage points annually in 2019 and 2020, coming close to 66 percent by the end of the forecast period. Due to lower FX maturities, FX debt may decline somewhat slower than in the previous years, but still contribute to the further reduction of Hungary's external financial vulnerability. By end-2018, the FX ratio of the central government debt may decline to around 19 percent.

6. Special topics

6.1. Effect of digital technological progress on inflation developments

The relationship between the unemployment rate and inflation, i.e. the so-called Phillips curve, has been a cornerstone of economic thinking that developed in recent decades. Recently, the flattening of the Phillips curve was observed, as a result of which the inflationary impact of the domestic business cycle decreased considerably. This is confirmed by the fact that during the crisis the weak demand environment did not result in deflation, despite the projections of the theoretical models, and the post-crisis upswing also did not cause a substantial acceleration in price dynamics. In addition, **even though the speed of recovery from the crisis varied widely across the economies, no divergence can be observed in inflation despite the different labour market cycles** (Chart 6-1).

Chart 6-1: Standard deviations of unemployment rates and inflation rates in the EU

Source: Eurostat, MNB

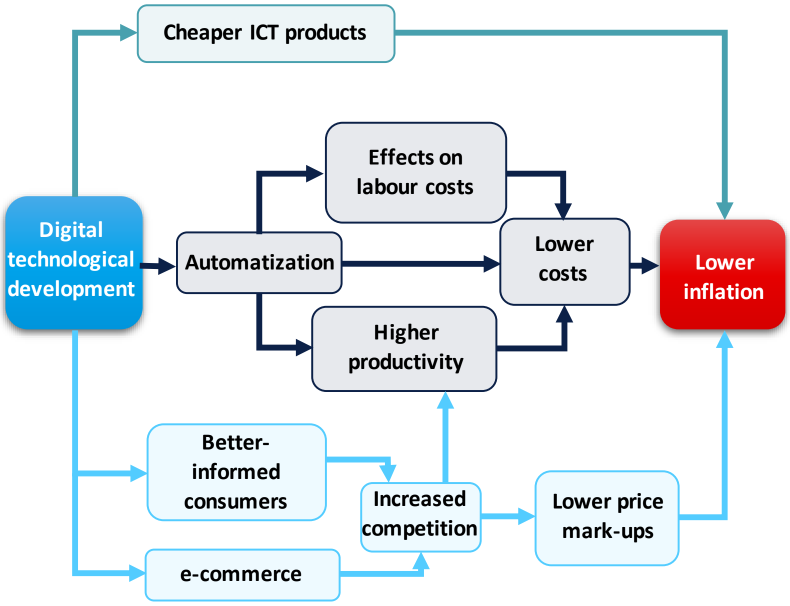
As cyclical factors become marginal, researchers and analysts increasingly focus on evaluating the inflationary effects of structural changes (e.g. globalisation, demographic developments, etc.). One of the structural changes that may affect inflation is **digitalisation, or technological progress**. Digitalisation presents new opportunities and poses new challenges at the same time. Consumer behaviour towards products and services as well as people's attitude towards innovation are being transformed. **From the perspective of central banks, one of the most crucial issues is to what extent digitalisation is able to explain the current, globally subdued inflation developments, and what should be expected looking ahead.**

From the perspective of companies, today's digitalisation technologies, such as mobile technology, big data analysis, cloud storage, sensors, digital platforms and automation, **may bring about a huge transformation in the traditional operation of companies, and the way firms cooperate with their suppliers and serve consumers**. The question is what pricing strategy businesses will follow in this environment characterised by rapidly evolving technologies, and how the digital transformation will affect the related supply chains. Although quantitative results are still uncertain and it is difficult to study them independent from other factors (e.g. globalisation), **according to the companies surveyed on this topic, the disinflationary impact of digitalisation may stem from falling costs and downward price competition**.[1]

[1] For more on the Canadian corporate survey on this topic, see Dong et al. (2017): "Digital Transformation in the Service Sector: Insights from Consultations with Firms in Wholesale, Retail and Logistics", Bank of Canada Staff Analytical Note, 2017–19.

There are four basic channels through which the Internet and digitalisation exert an inflationary impact (Chart 6-2).[2] These are e-commerce, the more conscious and better-informed consumers, automation and IT development (ICT devices).

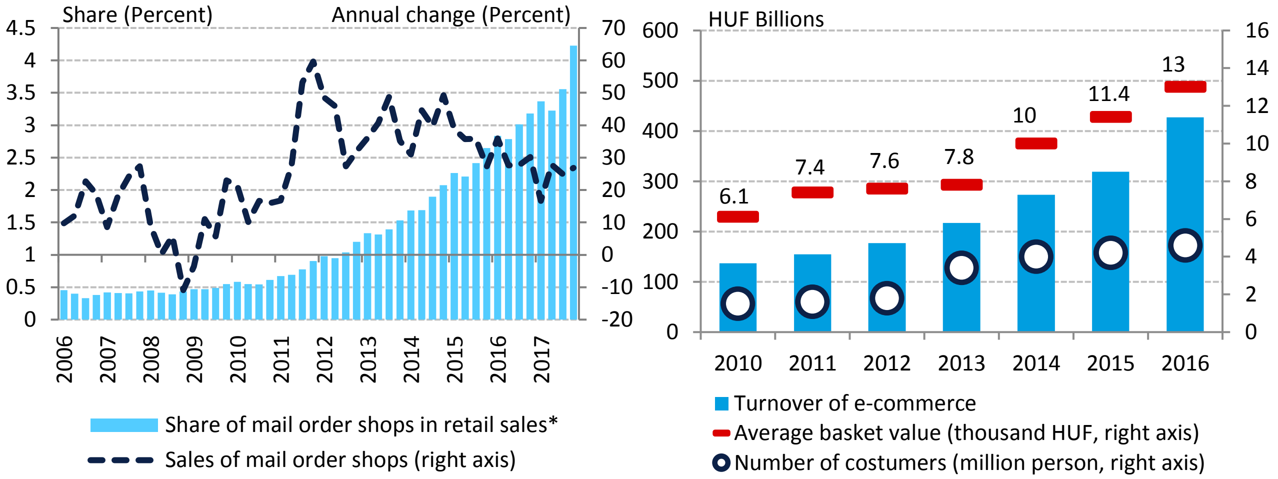
Chart 6-2: Most important inflationary channels of the Internet and digitalisation



Source: Riksbank (2015)

E-commerce, which is difficult to set apart from globalisation, **reduces prices mostly by increasing competition among firms and changing the traditional business model**. Due to e-commerce, online sales can considerably reduce the costs of retail and wholesale trade (wage and rental costs), and therefore the low marginal costs contribute to the reduction of the prices of products and services, and thus also to lower inflation. **Conclusions concerning developments in Hungarian e-commerce within retail sales may primarily be drawn on the basis of mail order and online activities.** The share of mail order trade **was around 0.3 percent in the first half of the 2000s and then started to expand substantially in 2010**, and it currently accounts for more than 3 percent of retail trade, with a 20-percent annual growth rate (Chart 6-3). Based on current developments, it is reasonable to **assume that Hungarian e-commerce turnover may increase further both intensively and extensively**.

Chart 6-3: Sales and share of mail order shops (left panel) and e-commerce in 2017 (right panel) in Hungary



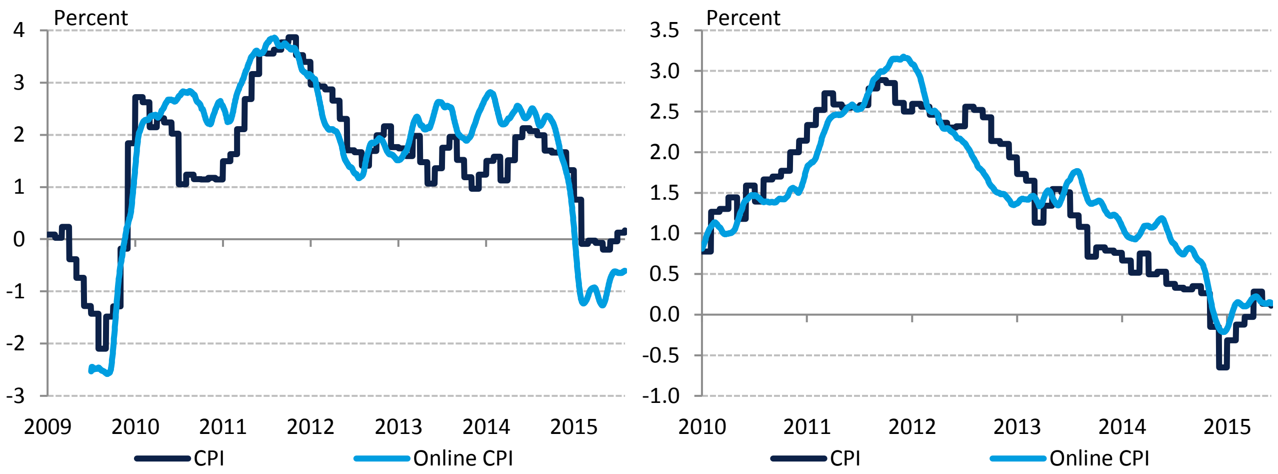
Note: *3-quarter moving average.
Source: HCSO, MNB calculation, E-commerce Outlook 2017, eNET Internet Research and Consulting Ltd.

[2] Riksbank (2015): "Digitisation and inflation", Monetary Policy Report, Riksbank, February 2015

As a result of digital technological development and more and more widespread Internet use, **consumers are increasingly aware of and well-informed about price developments, which generates downward price competition among companies**. In the European Union, the share of the economically active population who obtain information about certain products and services has increased to two-thirds.

The relationship between online and offline prices relates to consumers becoming more conscious through **price transparency**. Most studies in the early 2000s used manually compiled data, and no observations could be made for the entire consumer basket. Nowadays, the biggest project related to the relationship between online and offline prices is the **Billion Prices Project (BPP) based on big data analysis and launched by MIT in 2008,** in which currently around 15 million products from 900 retailers are observed to calculate daily inflation for 20 countries. According to the study by Cavallo (2017),[3] **online and offline prices were the same in roughly 72 percent of the cases**. By sectors, the lowest similarity between online and offline prices can be seen in the case of pharmacies and office-supply retailers (38 and 25 percent, respectively), while **the highest proportion characterises electronics and clothing (83 and 92 percent)**. **Nevertheless, since 2015 online prices have been much lower than offline prices** (Chart 6-4).

Chart 6-4: Evolution of online and offline prices in the USA (left panel) and in the euro area (right panel)



Source: Cavallo–Rigobon (2016)[4]

Automation and robotisation increase efficiency and the productivity of the labour force on the supply side. As the production process becomes more efficient, companies can reduce the marginal costs of production, a part of which can be reflected in consumer prices besides increasing profits. **On the demand side, automation leads to the polarisation of incomes.** However, consumption does not expand substantially in parallel with the rise in the share of high earners, since these households add this surplus income to their savings, and therefore the inflationary impact is less straightforward on the demand side.

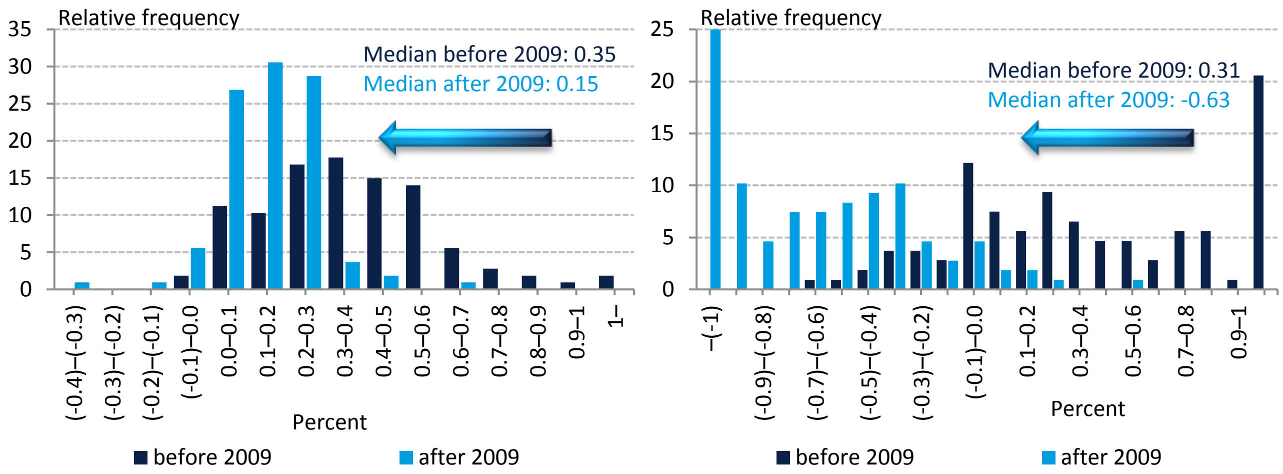
The price drops of the products and services linked to information and communication technologies (ICT) in the recent decade(s) directly decrease inflation, and second-round effects may also emerge, such as the incorporation of products with increasingly high digital content into production processes (Industry 4.0), thereby increasing efficiency and cutting costs (Chart 6-5). **The products most affected by digitalisation include IT devices,** audiovisual, photographic and information-processing equipment. However, the largest reduction was observed in the prices of IT devices over the past two decades.

[3] Cavallo, A. (2017): "Are Online and Offline Prices Similar? Evidence from Large Multi-Channel Retailers", American Economic Review, Vol. 107(1), pp. 283–303.

[4] Cavallo, A. and Rigobon, R. (2016): "The Billion Prices Project: Using Online Prices for Measurement and Research", Journal of Economic Perspectives, Vol. 30 (2), Spring 2016, pp. 151–178.

The role of external factors has increased in Hungarian inflation developments. Along with global factors, **digitalisation may also play a role in the subdued nature of Hungarian inflation,** which falls short of the central bank's target, however, quantifying these effects is fairly difficult and uncertain.

Chart 6-5: Distribution of the monthly changes of the core inflation excluding indirect tax effects and audio, video equipment (2000–2017)



Note: The chart shows the distribution of the monthly changes of the core inflation excluding indirect tax effects and audio, video equipment between February 2000 and December 2017 before and after 2009. For example the 0.0–0.1 percent monthly change has to be interpreted in a way that while between 2000–2009 11 percent of the monthly core inflation changes were in the range of 0.0–0.1 percent, this ratio rose to 27 percent after 2009. In the case of audio, video equipment the 0.0–0.1 percent monthly change means that while between 2000–2009 7.5 percent of the monthly changes of the product group were in the range of 0.0–0.1 percent, this ratio declined to 1.9 percent after 2009.
Source: HCSO, MNB

As a result of the rise in the proportion of households with broadband Internet access, **consumers started to become more conscious after 2009**, and there are more opportunities for online price comparison. The inflationary impact of digitalisation was examined using core inflation excluding indirect taxes and the tax-adjusted monthly changes to some products most exposed to technological progress. The analysis of core inflation excluding indirect taxes is reasonable because of the fact that there are many volatile factors in overall inflation that are typically influenced by cost-side effects and the decisions of authorities. Filtering out the direct inflationary impact of these items enables the analysis of the underlying trends in Hungary. **Digitalisation**, in parallel with the global economic crisis and the moderation of the inflationary environment, **may partly affect the distribution of the monthly changes in core inflation excluding indirect taxes**, **which shifted towards left, i.e. more moderate price changes, or sometimes even price decreases, after 2009. At the product level**, the monthly price changes of the product groups included in the analysis show that **partly due to digitalisation and higher technological content, the large monthly price changes seen before 2009 have disappeared or become subdued** (Table 6-1).

Table 6-1: Standard deviations of the monthly prices changes of those product groups, which are mainly affected by digitalisation

Standard deviation of monthly price change (percentage points)	Television	Audio, video equipment	Computer, camera, telephone	Recording media	Mobile phone and Internet
before 2009	0.5	0.8	1.5	0.5	1.4
after 2009	0.5	0.5	0.4	0.4	0.6

Source: HCSO, MNB

Just like globalisation, the process of digitalisation is one of today's structural changes that may substantially influence certain countries' price dynamics. According to recent studies, **today's low inflation environment falling short of the central banks' targets is partly due to technological progress, which may pose a new challenge to monetary policy. Based on the examination of Hungarian data, the distribution of inflation shifted to the left after 2009 overall**, and an important difference as compared to core inflation excluding indirect taxes is that in the case of these product groups, **the proportion**

of negative price changes, i.e. monthly price decreases, has increased. In the past roughly one decade, **price reductions have become more common in the case of the analysed technical and technological devices and services**.

6.2. Evaluation of the central bank's forecasts for 2017

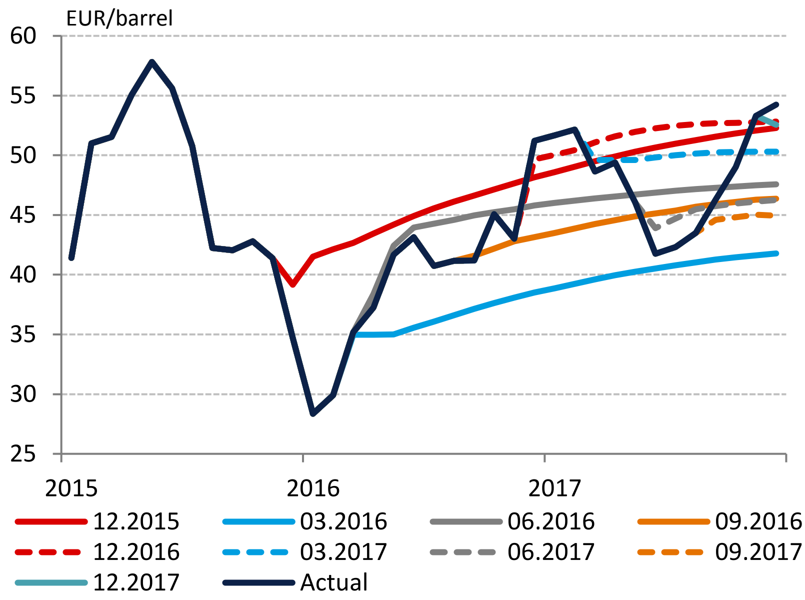
The purpose of this analysis is to present the accuracy of the fulfilment of our forecasts for the values of the key macroeconomic variables in the previous calendar year. In addition, we also examine how the central bank's forecasting performance relates to that of market analysts. The first forecast for the variables examined for 2017 was prepared in December 2015. Overall, the 2017 inflation was more or less in line with the forecast, while economic growth, and the wage and employment dynamics were higher.

6.2.1. Inflation

Our forecasts projected inflation of around 2.5 percent for 2017 over the whole period. Core inflation excluding indirect taxes was expected to gradually increase, which was supported by rising demand due to the favourable income developments and the easing precautionary motives. However, on account of the weakened relationship between labour costs and prices (flattened Phillips curve) after the crisis, **a moderate inflationary impact of wage outflows was expected**. **It was projected that the inflationary impact from the labour market may remain moderate even in the context of higher wage dynamics due to administrative measures**, since the upward pressure on costs exerted by the measures would be mitigated by the reduction of the social contribution tax and the corporate tax as well as the whitening effect. Over the whole period, a **subdued external inflation environment was expected**.

The minor changes in the projections for 2017 **were mainly caused by the developments of the assumptions regarding oil prices** (Chart 6-6). After the announcement of excise duty increases (tobacco, gas oil, petrol) and VAT cuts (Internet, eggs, fresh milk, poultry, restaurant services), it was estimated that the inflationary effects of the measures would offset each other overall, which was confirmed by nowcasting.

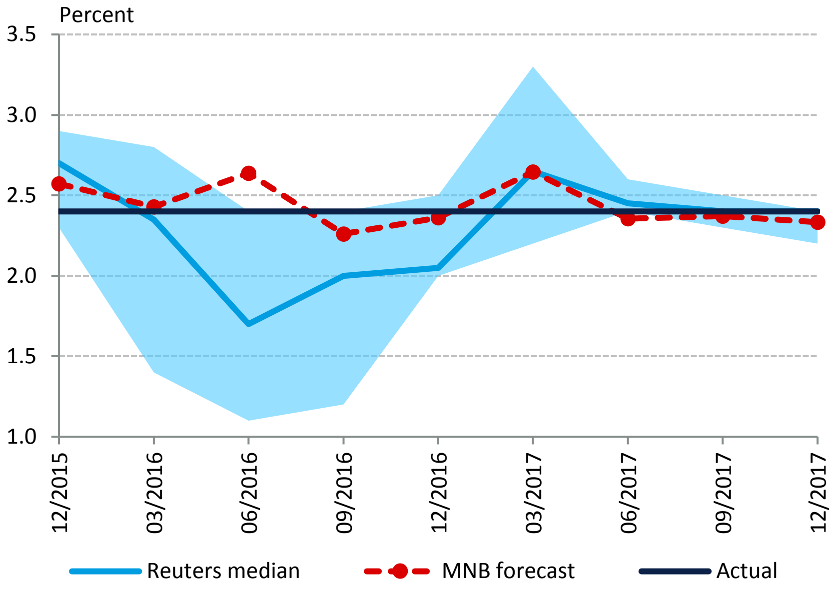
Chart 6-6: Development of oil price assumptions



Source: Bloomberg

All in all, our inflation forecasts for 2017 were more accurate than market analysts' forecasts over the whole period. Our projections were higher than the median of the market analysts participating in the Reuters survey, and stable at around 2.5 percent (Chart 6-7).

Chart 6-7: 2017 inflation forecasts by the MNB and the market

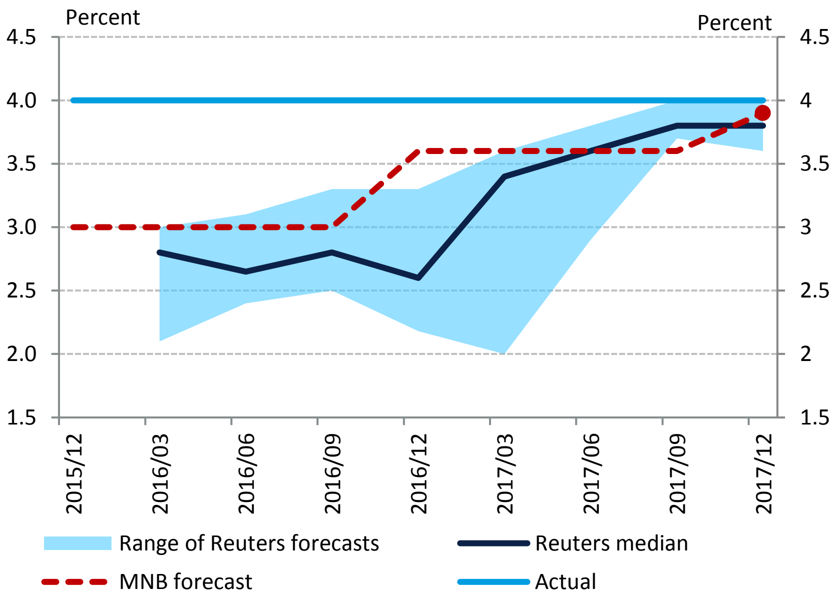


Note: The band shows the range of the forecasts by the economists involved in the Reuters survey.
Source: Reuters, HCSO, MNB

6.2.2. Economic growth

Economic growth in 2017 was higher than forecast by the central bank, but market projections also typically underestimated the extent of growth. The fact that growth was higher than forecast by the central bank was linked to the impact of raising the minimum wage and the guaranteed minimum wage in 2017 on wage outflows and thus household consumption. **The MNB's average forecast error for the entire horizon was smaller than the forecast error in the market analysts' median.**

Chart 6-8: 2017 growth forecasts by the MNB and the market



Note: The band shows the range of the forecasts by the economists involved in the Reuters survey.
Source: Reuters, HCSO, MNB

In 2016, we expected balanced growth in the Hungarian economy for 2017. Our expectations showed that growth would be significantly influenced by strengthening domestic demand, in which the expansion in consumption and private investments would play a key role. This year's steady increase in household consumption was linked to the positive income trends, the expansion of retail lending and the significant rise in net financial assets. The increasing investments in the national economy were also influenced by greenfield FDI and government investments rising in parallel with the inflow of European Union funds. Stemming from the import-intensive nature of the growth in domestic demand items, net exports were expected to contribute negatively to growth.

At the end of 2016, our growth forecast was revised significantly upwards (Chart 6-8). This was warranted by several factors:

- in our revised forecast, due to the impact of raising of the minimum wage and the guaranteed minimum wage on earned income, household consumption was expected to expand more dynamically than previously anticipated;
- the 2017 measures increased the fiscal demand effect, which supported economic growth;
- lending, which expanded as a result of the Growth Supporting Programme and the reduction of the bank levy, and the capacity-expanding investments of the sectors closely linked to the automotive industry both supported the more dynamic growth in investments.

The detailed figure published at the beginning of 2018 by HCSO with regard to the 2017 economic growth was slightly higher than our forecast, due to the following factors:

- in parallel with the favourable international economic activity, the dynamics and thus also the growth contribution of Hungarian exports increased at the end of the year more than expected, despite not being warranted by industrial developments;
- as a result of revising down agricultural performance in 2016, last year's agricultural performance hampered growth less than previously expected.

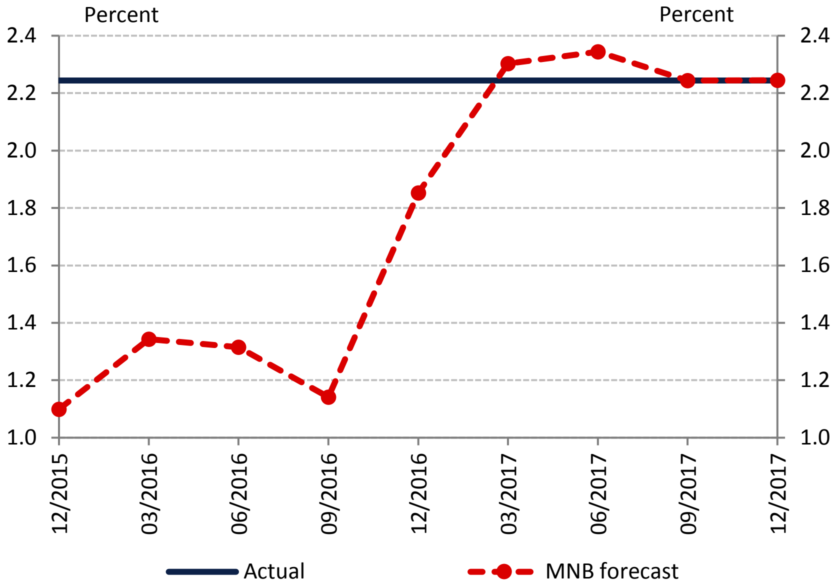
All in all, the central bank's real economy projections were usually higher than the median of market expectations, and closer to the future actual data.

6.2.3. Labour market

In our forecast, it was expected that the **labour demand of the private sector would rise in parallel with economic growth**, but companies' efforts to increase their headcount are heavily influenced by the fact that the **available labour reserves are increasingly limited not only from a quantitative perspective but also a qualitative perspective.** Therefore, our projections for 2017 estimated that **the rise in the number of employees in the private sector will decelerate.**

Until the end of 2016, our projections for the employment growth in the private sector in 2017 **substantially underestimated the actual data, however, since early 2017 they have been near the actual data** (Chart 6-9). On account of the stronger-than-expected employment data in 2016, our forecast for 2017 was significantly modified.

Chart 6-9: MNB projections for the private sector's headcount index in 2017



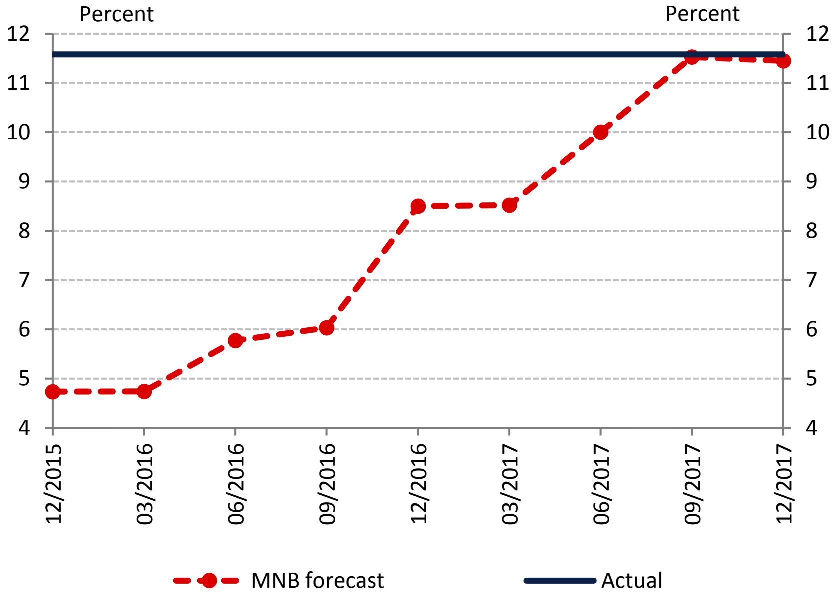
Source: HCSO, MNB

Our forecasts estimated that **due to the tight labour market environment**, increasing wage competition would evolve both among companies and sectors in order to fill open positions and to keep the current workforce, therefore **gradually strengthening wage growth was forecast for 2017**.

At the beginning of the period, as a result of productivity dynamics, which were more subdued than prior to the crisis, and the low inflation expectations, only moderately strengthening **nominal wage dynamics of around 5 percent were expected for 2017**. The **reported March 2016 wage data** (companies typically raise regular wages in March) **pointed towards stronger nominal wage dynamics than expected**, which was reflected in our June 2016 forecast. **After the wage agreement was announced in November 2016, it was estimated that the administrative measures may boost the private sector's nominal wage dynamics by 2.5 percentage points more than our earlier forecast**, also taking into account direct and spillover effects. The **March 2017 wage data** showed that the **spillover effect** of the substantial increase of the minimum wage and the guaranteed minimum wage (on the wages of those not earning the minimum wage or the guaranteed minimum wage, to avoid wage compression) **was larger than expected**, which was confirmed by the wage data later in the year. **According to our nowcasting**, taking into account direct and spillover effects, **the administrative measures** ultimately **supported underlying wage trends by nearly 5 percentage points** in 2017.

Overall, **our projections** for private sector wage dynamics in 2017 **substantially underestimated the actual data over the whole period, but they came closer and closer to it** (Chart 6-10).

Chart 6-10: MNB projections for the private sector's wage index in 2017



Source: HCSO, MNB

7. Breakdown of the average consumer price index for 2018

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

	Effect on CPI in 2018		
	Carry-over effect	Incoming effect	Yearly index
Administered prices	0.0	0.1	0.1
Market prices	0.7	1.7	2.4
Indirect taxes and government measures	0.2	-0.2	0.0
CPI	**0.9**	**1.6**	**2.5**

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 the inflationary effects of changes in the 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				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	0.9	0.0	2.6	-0.1	3.4
non-processed	0.3	0.0	3.6	-0.3	3.6
processed	1.3	0.0	2.0	0.0	3.3
Traded goods	0.6	0.0	0.4	0.0	1.0
durables	-0.4	0.0	0.2	0.0	-0.2
non-durables	1.0	0.0	0.5	0.0	1.5
Market services	0.5	0.0	2.6	-0.6	2.5
Market energy	6.8	0.0	1.2	0.0	8.0
Alcohol and Tobacco	0.9	1.9	1.8	0.0	4.6
Fuel	1.5	-0.5	3.1	0.0	4.1
Administered prices	-0.3	0.0	1.2	0.0	0.9
Inflation	**0.7**	**0.2**	**1.8**	**-0.2**	**2.5**
Core inflation	0.7	0.3	1.6	-0.2	2.4

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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