INFLATION REPORT

MARCH

2017

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

Miklós Zrínyi: The Life of Matthias Corvinus

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

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

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

The analyses in this Report were prepared under the direction of Barnabás Virág, Executive Director of the Directorate Monetary Policy and Lending Incentives. 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 22 March 2017.

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

In the Council's assessment, Hungarian economic growth picks up over the forecast horizon. Some degree of unused capacity has remained in the economy following the temporary slowdown last year, but this is likely to be gradually absorbed as the economy grows. Inflation reaches the target sustainably from the first half of 2018. The strong external financing capacity and the decline in the Government's FX debt will further reduce the vulnerability of the country in the years ahead.

Global economic growth continued in the past months, with inflation rising sharply both in the developed and emerging regions. At the same time, measures of underlying inflation continue to indicate a moderate inflation environment. In most of the period under review, international financial markets were characterised by improving, sometimes cautious investor sentiment.

Global economic growth continued in the final quarter of 2016. While growth picked up in the majority of developed economies, growth prospects varied in the emerging regions. In the past months, there was a global rise in inflation, with significant increases in consumer prices both in the developed and emerging regions, mainly due to higher commodity prices and base effects. At the same time, core inflation indicators remained stable. The Fed continued its cycle of interest rate hikes started in December 2015. At the same time, as a result of fragile economic activity and moderate underlying inflation developments, most of the world's leading central banks may continue to pursue loose monetary policy to support economic growth. Growth in the Central European region continued to exceed that of the developed regions. In line with the global inflation environment, the countries in the region are also characterised by rising inflation rates, which are close to central bank targets. Central banks in the region maintained their loose monetary policy stance.

International financial market sentiment was volatile in the past quarter. Market developments were mostly influenced by the measures of the new US administration as well as expectations related to the March decisions of the Fed and the ECB. Major risk indicators for equity and bond markets also reflected improving investor sentiment. Stock exchange price indices rose further in the benign atmosphere, with US indices advancing to new peaks. In the past quarter, the US dollar depreciated against most currencies, and thus its earlier strengthening was partly adjusted. At the end of the period, the price of oil dropped suddenly, and international financial market sentiment became slightly less favourable due to political uncertainty in Europe, resulting in some slackening in the above positive market effects.

Inflation reaches the 3 percent level consistent with price stability in a sustainable manner from the first half of 2018.

The rise in inflation expected by the MNB took place in Hungary as well in the past months. Although price increases exceeded expectations to some extent mainly due to rising commodity prices, underlying inflation developments remained stable, in line with the December Inflation Report. According to our forecast, inflation will continue to temporarily increase over the short run, but with the fading base effects the consumer price index will decline again starting from the spring months. The expansion in employment and the tightening labour market lead to widespread, dynamic wage increases. Over the forecast horizon, the cost-increasing effect of the increase in the minimum wage and the guaranteed wage minimum is partly offset by the reduction of the employer's social contribution and the corporate income tax rate. On the whole, the dynamic wage increases will result in significant expansion in household consumption. In the Monetary Council's assessment, the historically low inflation expectations will slow the rise in the domestic price level, but core inflation is increasing gradually as a result of the growth in domestic consumption.

Driven by the continued expansion in household consumption and the pick-up in investment activity, domestic demand will play an increasing role in economic growth. Together with the favourable external balance, stable growth opens up opportunities for the implementation of measures to improve competitiveness.

In our forecast, we expect a considerable pick-up in economic growth. In addition to household consumption, investment growth will also contribute to the dynamic expansion of the Hungarian economy. As a result of the rise in employment, the unemployment rate will decline to historically low levels. In addition to the historically high levels of household wealth, the favourable income developments and the increase in lending to households, the rebound potential resulting from making up for consumption postponed from previous years also supports the prolonged expansion in household consumption. Looking ahead, domestic growth will also be supported by the budget and the stimulating effects on investment of EU funding.

The Funding for Growth Scheme, which was launched in June 2013, will close at the end of March 2017. The programme achieved its goal, and by facilitating financing for nearly 40,000 companies, it contributed greatly to the dynamic growth in SME borrowing which amounted to 12 percent last year. The transition to lending under market conditions is assisted by the Bank's Market-Based Lending Scheme. Under this programme, credit institutions have committed to expanding their lending by HUF 170 billion this year. As a result, growth of between 5–10 percent in lending to SMEs is expected to be maintained.

According to our forecast, the dynamic rise in wages is prompting companies to implement efficiency increasing investment projects, and from 2017 vehicle industry developments will also contribute to the expansion in corporate investment. The continued increase in lending to households is consistent with the turnaround in the real estate market and the continued pick-up in economic activity. Demand in Hungary's export markets is expected to decline. However, starting from 2018, export dynamics are expected to improve gradually again with the development of new capacities in the vehicle industry, and Hungary's export market share will increase further. As a result of the MNB's and the Government's growth stimulating programmes, the Monetary Council expects stable annual economic growth of between 3–4 percent over the coming years. Steps taken to improve competitiveness also contribute to the economy's dynamic expansion.

Looking ahead, with an increase in the absorption of EU transfers, the external financing capacity of the economy will remain considerable, contributing to a further decline in Hungary's external debt and vulnerability.

In 2016, the external financing capacity of the economy amounted to some 6 percent of GDP and may stabilise around this level in the coming years as well. The decline in external financing capacity last year was explained by the subdued absorption of transfers, the impact of which was mitigated by the goods and services surplus as well as the lower deficit on the income balance. Looking ahead, domestic demand will play an increasingly important role in economic growth. With a dynamic expansion in household consumption and a gradual pick-up in private investment, the trade surplus – and, in parallel with that, the current account balance – is expected to decline. The ensuing impact on external financing capacity will be offset by the gradual increase in the absorption of EU transfers in the years to come. On the whole, the savings position of the Hungarian economy is still significant over the forecast horizon, entailing a further decline in external debt and vulnerability. According to preliminary data, the budget deficit in 2016 came in lower than the deficit target, which is attributable to an increase in tax revenues and lower-than-planned expenditures in certain areas. Developments in early 2017 suggest that the deficit may be lower than planned this year as well. We continue to project an annual debt path that declines over the forecast horizon as set forth in the Fundamental Law and in line with EU rules, supported by economic growth as well as the moderate general government deficit.

Developments on the domestic financial market were primarily shaped by central bank actions, along with international bond market sentiment. The limitation on the quantity of the three-month deposit reduced short-end money market yields to a historical low.

As a result of changing the MNB's set of instruments and the increasing crowding-out of liquidity, money market yields continued to decline. BUBOR yields fell to a historical low, and the implied swap market yield curve shifted significantly downwards, while short-term government securities yields declined slightly. Long-term yields rose somewhat, in line with global trends. Demand was adequate in the auctions, developments in yields were similar to secondary market trends, and issues exceeding the planned level took place in the case of longer-term securities. On the whole, by the end of the period, the exchange rate of the forint against the euro remained unchanged. Euro-area monetary conditions, which are the most determinant in terms of domestic monetary policy, are expected to remain steadily supportive.

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. Occurrence of the alternative scenario assuming weaker demand in external markets would mean lower growth and inflation paths than in the baseline scenario. The alternative scenario assuming faster wage growth and more dynamic expansion in consumption implies stronger domestic economic growth and higher inflation than in the baseline forecast. In addition to the key risk scenarios, among possible further risks the Monetary Council also discussed alternative scenarios that envisage a faster rise in global inflation, a slower investment path resulting from developments in and the structural composition of EU transfers, as well as financial market turbulences evolving as a result of heightened geopolitical risks.

In the Council's assessment, some degree of unused capacity has remained in the economy following the temporary slowdown last year, but this is likely to be absorbed gradually as the economy grows. Over the forecast period, inflation reaches the target sustainably from the first half of 2018. If the assumptions underlying the Bank's projections hold, maintaining the current level of the base rate and loose monetary conditions achieved through the change in monetary policy instruments for an extended period is consistent with the medium-term achievement of the inflation target and a corresponding degree of support to the economy.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy, percent)

	2016	2017	2018	2019
	Actual		Projection	
Inflation (annual average)				
Core inflation	1.4	2.5	3.1	2.9
Core inflation without indirect tax effects	1.3	2.3	2.9	2.9
Inflation	0.4	2.6	3.0	3.0
Economic growth				
Household consumption expenditure	4.9	5.1	4.0	3.0
Government final consumption expenditure	0.6	1.0	1.0	0.9
Gross fixed capital formation[5]	-12.6 *(-15.5)*	13.2	8.7	4.3
Domestic absorption[5]	1.8 *(1.5)*	5.4	4.3	2.8
Exports	5.8	5.1	6.2	6.2
Imports[5]	5.8 *(5.7)*	7.2	7.0	6.1
GDP[5]	2.2 *(2.0)*	3.6	3.7	3.2
External balance[1]				
Current account balance	4.9	3.3	2.4	2.9
External financing capacity	5.4	5.4	4.9	5.6
Government balance[1,4]				
ESA balance	-1.3	(-1.6) – (-2.0)	(-2.0) – (-2.2)	(-1.8) – (-2.0)
Labour market				
Whole-economy gross average earnings[2]	6.2	9.1	7.0	6.6
Whole-economy employment	3.4	1.9	1.1	0.4
Private sector gross average earnings[2]	5.4	8.5	6.9	6.8
Private sector employment	3.4	2.3	1.4	0.7
Unemployment rate	5.1	4.3	3.8	3.8
Unit labour costs in the private sector	5.3	5.0	3.0	3.5
Household real income[3]	4.2	4.5	3.8	2.5

[1] As a percentage of GDP.

[2] According to the original HCSO data for full-time employees.

[3] MNB estimate.

[4] The final data for the 2016 ESA balance will be published in the March EDP Report. Therefore, until then the net financing requirement according to the preliminary financial account, which is a good approximation, is used. In 2017-2019 the values of the balance indicators can be situated in the given range due to the extent of utilization of the Country Protection Fund and the share of down payment of EU grants.

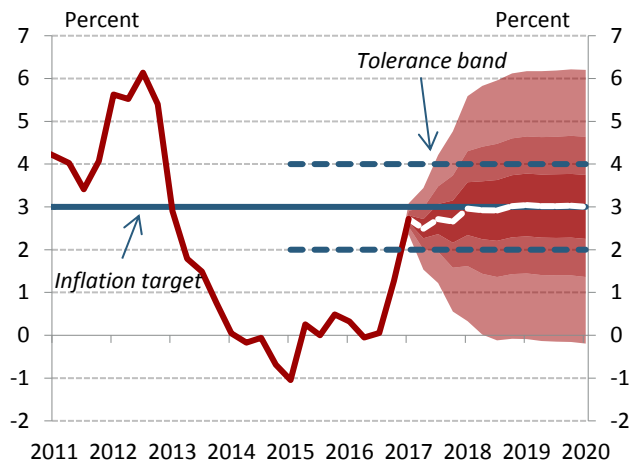
[5] Actual figures related to the year 2016 take into account the expected routinish (excluding the effect of methodological changes) revision. The values in parentheses shows official data published on March 2017 by HCSO.

1. INFLATION AND REAL ECONOMY OUTLOOK

1.1. Inflation forecast

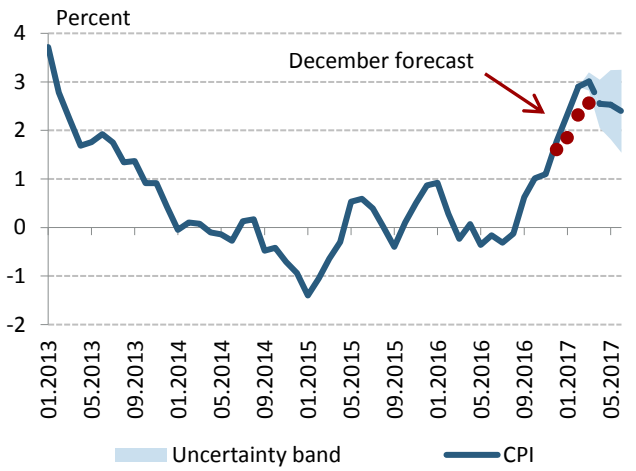
The March 2017 forecast of the Magyar Nemzeti Bank was prepared for a three-year horizon (to 2020 Q1) instead of the two-year period used previously. According to our current forecast, inflation will continue to rise in March, but will then subsequently decline to below the target level in the spring and summer months, mainly due to base effects. The core inflation rate is rising gradually, which is primarily attributable to the dynamic expansion in household consumption resulting from an increase in incomes. In parallel with slowly rising costs, we expect an increase in imported inflation, which also tends to push core inflation higher. At the same time, the historically low level of expectations restrains the rise in the price index. Starting from the first half of 2018, the rate of price increases will sustainably reach the 3 percent inflation target.

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: MNB

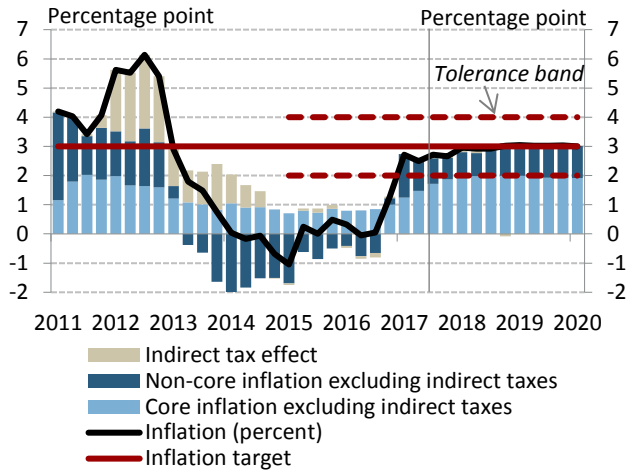
Based on our short-term forecast, the price index is set to temporarily increase further in March (Chart 1-2), which is attributable mainly to the rise in the price index of processed food. In the spring and the summer months, however, inflation will decrease, mostly as a result of base effects. Starting from the first half of 2018, the rate of price increases will sustainably reach the central bank's 3 percent inflation target (Chart 1-1).

For the inflation in the euro area, which is Hungary's most important trading partner, we expect a higher inflation path, which is attributable to the increase in commodity prices at the beginning of this year. Looking ahead, the oil prices will not change significantly. According to the latest European Central Bank forecast, despite of the rise at the beginning of this year, euro area inflation will be lower than the medium-term target in both 2017 and 2018 (at 1.7 and 1.6 percent, respectively).

Core inflation excluding indirect taxes is expected to increase further over the forecast horizon (Chart 1-3 and Table 1-1). This is mainly driven by the dynamic expansion in household consumption supported by increasing incomes, which widens firms' pricing opportunities. In our forecast, we project a slow rise in costs, which will also tend to increase core inflation through second-round effects. In view of the tight labour market conditions, wage growth in the private sector will be stronger than in previous years. However, based on domestic and international experience since the crisis, the inflationary effect of accelerating wage outflows will remain moderate, which is supported by the flattened Phillips curve as well. The restrained effect of wage increases on inflation is also confirmed by the low wage share and historically low inflation expectations.

Over the short term, a temporary rise is expected in the price index of non-core items excluding indirect taxes due to base effects (Chart 1-3 and Table 1-1). The price dynamics of this range of products is essentially determined by crude oil prices, which should not change significantly

Chart 1-3: Decomposition of the inflation forecast



Source: MNB

Table 1-1: Details of the inflation forecast

		2017	2018	2019
Core inflation		2.5	3.1	2.9
Contribution to inflation		*1.8*	*2.1*	*2.0*
Non-core inflation	Unprocessed food	1.3	5.4	6.9
	Fuel and market energy	8.1	2.1	3.2
	Regulated prices	0.5	1.8	2.2
	Total	2.7	2.7	3.4
Contribution to inflation		*0.8*	*0.9*	*1.0*
Inflation		**2.6**	**3.0**	**3.0**

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

Source: MNB

according to future prices. Future changes in unprocessed food prices are affected by the price reducing effect of last year's favourable harvest results and risks pointing to higher price dynamics (unfavourable weather at the beginning of the year and agricultural performance this year, which is expected to be more subdued than last year). In our forecast, regulated energy prices are not expected to change over the entire forecast horizon (to 2020 Q1). In the group of regulated non-energy prices, subdued price dynamics are expected (Table 1-1).

On the whole, changes in indirect taxes have a moderate effect on inflation. The approximately 0.2 percentage point impact of the excise tax changes (in January and July 2017) concerning tobacco products and implemented as a result of harmonisation with EU legislation is offset by the VAT cut that entered into force at the beginning of this year and will be operative as of January 2018, as well as by the decline in the excise tax on fuel to last September's level as of April.

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 these assumptions. The purpose of this brief presentation of the changes in the external assumptions is to make our forecasts more transparent.

Table 1-2: Main external assumptions of our forecast

Technical Assumptions	2017		2018		2019	Change	
	December	March	December	March	March	2017	2018
EUR/USD	1.06	1.06	1.06	1.06	1.06	0.0%	0.0%
Oil (USD/barrel)	55.3	53.4	56.6	53.2	52.7	-3.4%	-6.0%
Food prices							
Wheat (USD/bushel)	4.47	4.61	5.10	5.18	5.52	3.1%	1.6%
Maize (USD/bushel)	3.66	3.81	3.97	4.05	4.13	4.1%	2.0%
Euro area inflation (%)	1.3	1.7	1.5	1.6	1.7	0.4 pp.	0.1 pp.
GDP growth of our main trading partners* (%)	1.5	1.6	1.7	1.8	2.0	0.1 pp.	0.1 pp.

Note: Annual average in the case of oil prices. * Growth rate of Hungary's 21 most important export partners, weighted by share in exports.

Sources: CBT, Bloomberg, OECD, Consensus Economics, MNB calculations

During the past period, the price per barrel of Brent crude expressed in USD showed significant volatility and fluctuated around USD 55, before falling to USD 50 in early March. The increase in prices early in the year was mainly attributable to the limitations on production adopted by the OPEC member countries last November, which entered into force in January of this year. The participating countries fulfilled 90 percent of the related quotas. As a result, **the amount of oversupply in the oil market declined considerably** at the beginning of 2017. The price decrease observed in recent weeks is primarily explained by the rise in US crude oil inventories to record high levels, despite the declining supply. **Based on futures prices, oil prices expressed in USD are slightly lower than our December assumption in the short run, while looking ahead only a moderate price increase is expected.**

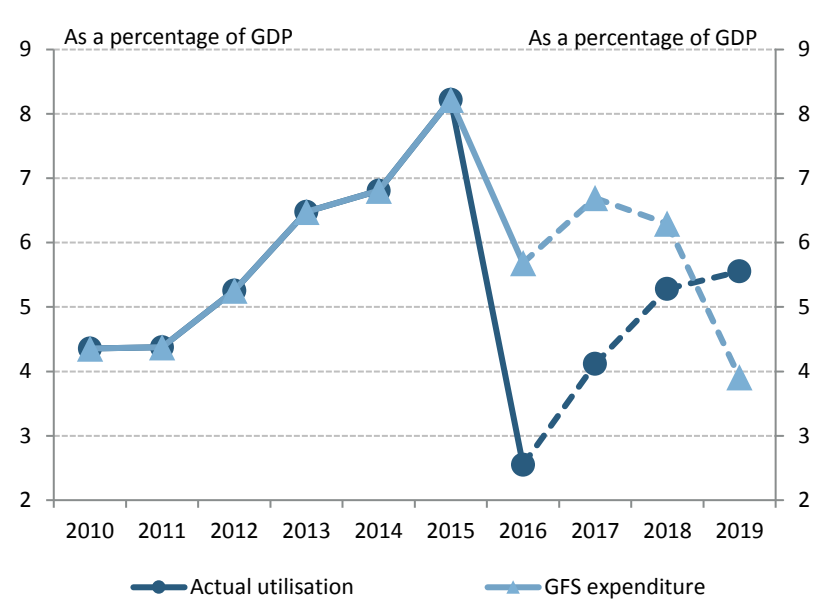
According to our current assumption, regarding the USD/EUR cross rate, due to the difference between the monetary policy stances of the European Central Bank and the Fed we expect a persistently weak path similar to our December assumption.

As in our assumptions applied in the December Inflation Report, looking ahead, gradual price increases are expected for both wheat and corn on the basis of futures prices. As a result of base effects and the gradually rising oil price, global inflation accelerated significantly in the past months. A further increase in external inflation is expected, in line with gradually rising domestic demand. Overall, compared to our December assumptions, our expectations concerning the price index of the euro area have risen for 2017 and slightly for 2018.

Compared to the December forecast, external demand is slightly higher for 2017 and 2018 as well; overall, the picture for Q4 global GDP data was more favourable than expected. Looking ahead, developments in Hungary's external demand are primarily determined by the slowdown in the intensity of global trade (change in the structure of the German economy and the decline in export demand as a result of the slowdown in the Chinese economy). Significant uncertainty surrounds the prospects.

The amount of EU funds used in the economy declined considerably in 2016. The main reasons for the decline were the end of the 2007–2013 budget cycle and the slow unfolding of recourse to new funds. Although in 2016 the amount of EU funding paid to successful applicants remained high, its actual utilisation was much lower. More than half of the disbursements were advances; therefore, real economy performance related to them is expected to be seen only in the coming years. As a result, the paths of cash-flow expenditure and actual utilisation are expected to deviate from one another (Chart 1-4). Actual utilisation is expected to increase considerably as of 2017, significantly contributing to the pick-up in economic growth. On the whole, advance payments and their utilisation, which is realised later, are not expected to substantially influence the overall fiscal and real economy impact of the funds from the seven-year budget cycle of the EU.

Chart 1-4: Actual utilisation regarding EU sources

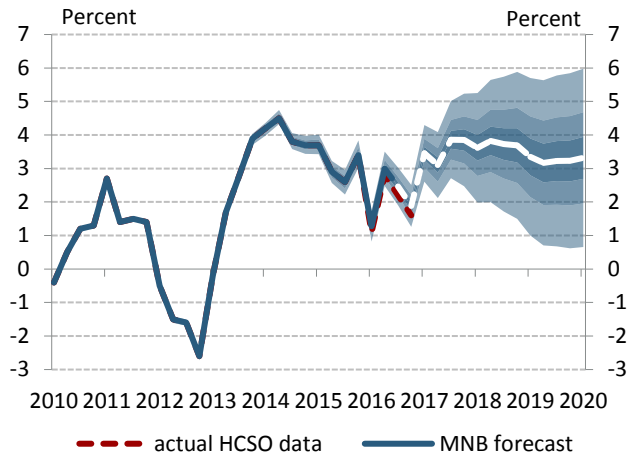


Sources: MNB and Ministry of National Economy

1.2. Real economy forecast

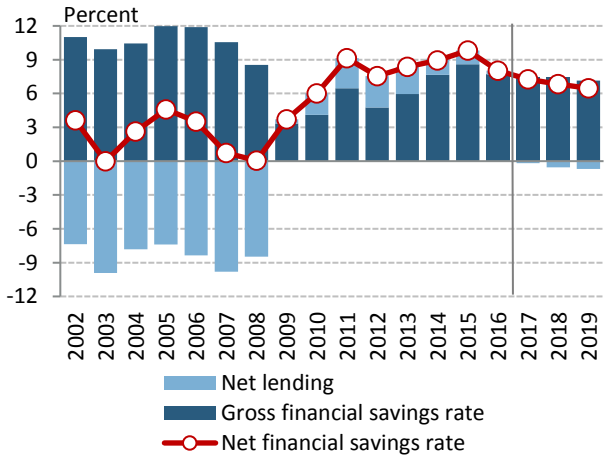
Looking ahead GDP is expected to grow significantly. According to our forecast the strengthening of domestic demand is expected to play an increasing role in economic growth. This is determined by continued expansion in household consumption and the gradual upturn in private investment. The increase in household consumption can be linked to the positive income trends, the expansion of household lending and the significant rise in net financial wealth in the previous periods. In addition, the fiscal impulse and the investment stimulating effect of EU fund inflows will also foster domestic growth. In the first half of our forecast horizon, adjustment is expected following last year's favourable agricultural performance, and thus the contribution of agriculture to economic growth may be negative in 2017. The export performance is expected to decelerate temporarily this year, but export dynamics should pick up again gradually from 2018 onwards as new vehicle industry capacities are built. The rise in factors of domestic demand will significantly boost import dynamics, as a result of which net exports will contribute negatively to economic growth this year and next year. According to our forecast, the strong expansion in Hungarian economic performance will continue in 2019, with contributions from growing domestic demand as well as an increase in net exports (Chart 1-5).

Chart 1-5: Fan chart of the GDP forecast



Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.
Source: HCSO, MNB

Chart 1-6: Evolution of households financial savings rates as a percentage of disposable income



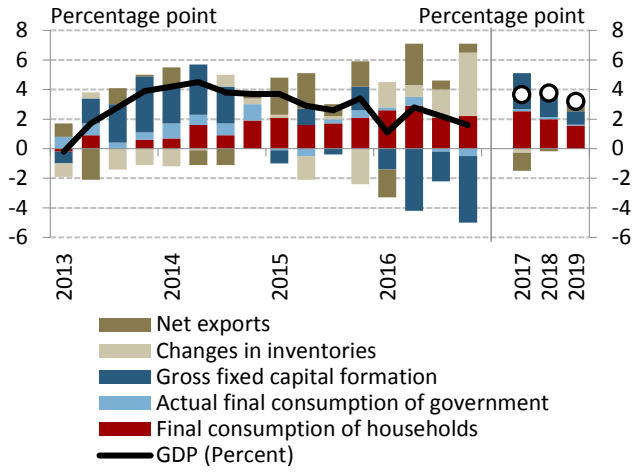
Source: HCSO, MNB calculation

Further dynamic upswing in household consumption is expected over the forecast horizon, supported by an increase in the propensity to consume, in addition to the favourable income developments related to strong wage outflows and a continued expansion in employment (Charts 1-6 and 1-8). The accumulated, historically high net financial wealth also supports the expansion in consumption. In the past quarters, there was an upswing in the previously subdued household loan demand, and as a result, gross household lending increased significantly last year. The pick-up in lending to households and the rising consumption rate reduce propensity to save, which is expected to decline gradually. Looking ahead, we expect a strong pick-up in household lending activity realised in a healthy structure. The risk of lending too much is limited by the central bank's debt cap rules: the payment-to-income ratio and the loan-to-value ratio keep the risks of lending for housing on a sustainable path (Chart 1-9).

Household consumption, which has been postponed since the crisis, represents a substantial restoration potential. The sustained moderate consumption rate and the historically low level of durable goods purchases both suggest postponed consumption since the crisis. Accordingly, the financial savings rate is expected to decrease from its current elevated level in the upcoming years, while households' consumption and investment rates will increase gradually. Owing to rising employment, the unemployment rate is decreasing further from its already low current level. The sustained growth in household consumption is also supported by the second-round effects of the housing market subsidy scheme. In terms of production, further growth is expected in sectors closely related to consumption demand, such as commerce, tourism and hospitality services.

According to our expectations, following last year's decline, whole-economy investment will expand

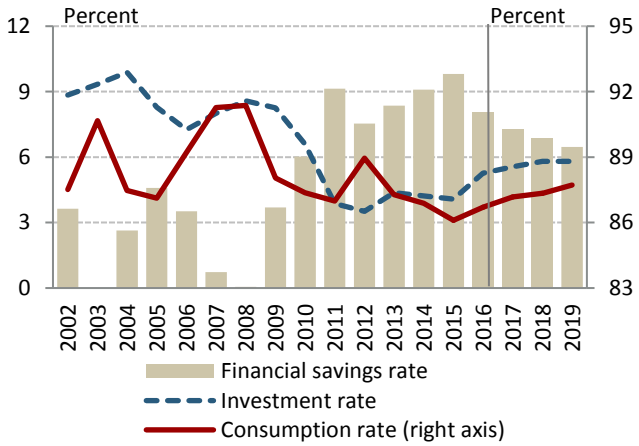
Chart 1-7: Annual changes in GDP



Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.

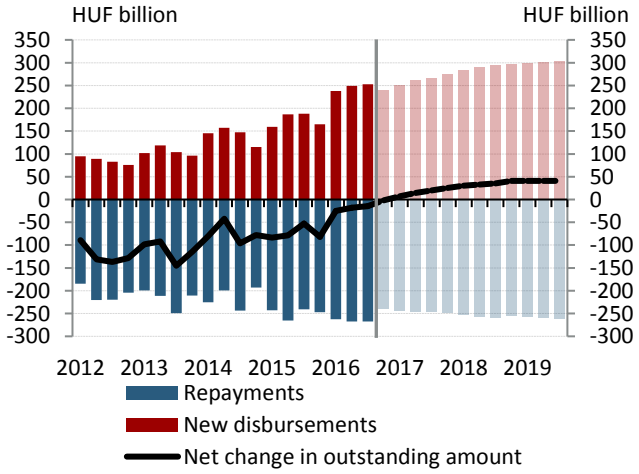
Source: HCSO, MNB

Chart 1-8: Evolution of households consumption, investment and financial savings rates as a percentage of disposable income



Source: HCSO, MNB calculation

Chart 1-9: Household lending forecast



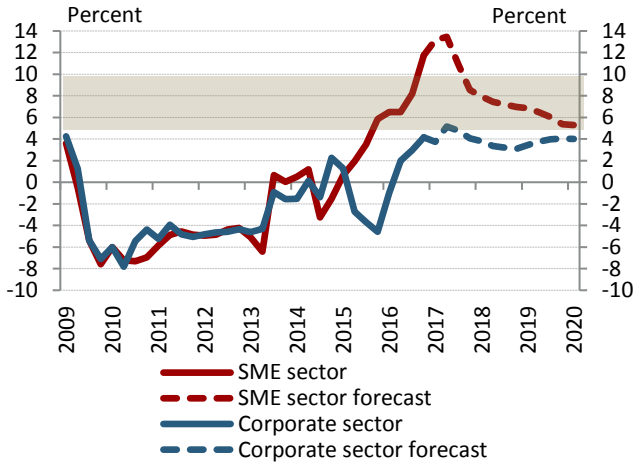
Source: MNB

significantly this year and next year as well, supported by both the public and the private sectors (Chart 1-7, Chart 1-11). In parallel with the drawdown of EU funds, government investment declined significantly last year compared to the record-setting year of 2015, but looking ahead an upswing in public investment is expected in line with the Government's commitment. However, projects backed by European Union funding will primarily be completed in the years ahead, which is supported by the rapid increase in contracts and the Government's commitment to rapid drawdowns at the beginning of the cycle. When examining investment backed by European Union funds, it is also essential to take into account qualitative characteristics in addition to quantitative ones. In the 2014–2020 EU budget cycle, direct economic development has a significantly greater weight.

The rise in households' investment activity is fostered by stable labour market prospects and improving income trends, along with the demand stimulating effect of the home creation programme. The housing market cycle is reaching an increasingly mature phase, where the adjustment of supply to the elevated housing market demand is already taking place. The significant growth reserves in the Hungarian housing market support the expected continuation of the upswing on this market. The rise in housing construction – and in line with that the increase in residential investment – exceeds the pace of income growth over our forecast horizon, and consequently a steady rise in the residential investment rate is also expected in parallel with the rising consumption rate. In accordance with the strong increase in the number of building permits observed in the past period and the continued pick-up in lending to households for housing as well as in parallel with a higher utilisation of the family home creation allowance, we expect an upswing in household investment.

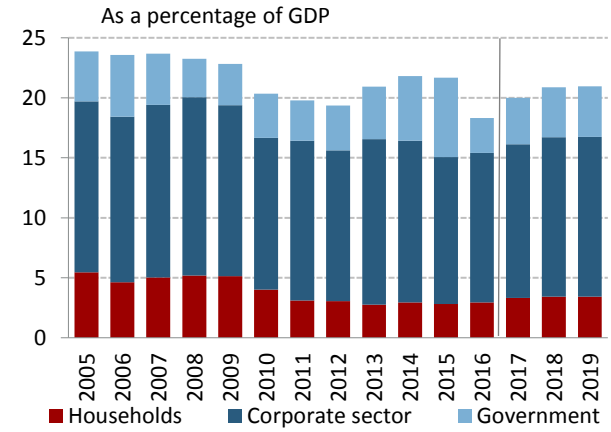
The dynamic growth in wages and demand will also trigger positive feedback loop in corporate investment. In addition, the low interest rate environment will considerably stimulate investment activity. Moreover, the central bank steps to stimulate market-based lending and the gradual phase-out of the bank levy will also foster an expansion in lending. Consequently, corporate investment is expected to pick up, in parallel with improving demand prospects. **According to our forecast, the increase in SME loans outstanding will be within the sustainable 5–10 percent range.** The development projects already announced in the vehicle industry will contribute

Chart 1-10: Annual changes in lending to non-financial corporates and SMEs



Source: MNB

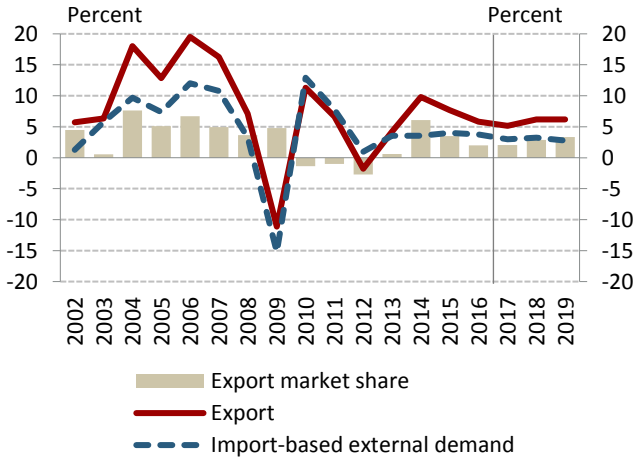
Chart 1-11: Evolution of investment rate by sectors



Note: Values for 2016 takes into consideration the effect of the routinish (excluding the effect of methodological changes) revision.

Source: HCSO, MNB

Chart 1-12: Changes in export market share



Note: Annual change.

Source: MNB

significantly to the increase in corporate investment (Chart 1-10).

In parallel with slackening global trade and thus lower intensity of foreign trade related to external demand, more moderate expansion in exports is expected for this year. However, with the rise in production capacities stemming from investment in the vehicle industry, export growth is expected to gradually improve again from 2018 (Chart 1-12)**.** Looking forward, developments in Hungary's external demand will mainly be shaped by the changing structure of the German economy, along with waning export demand due to slower Chinese economic growth and thus weaker global trade. In line with subdued industrial production, we project deceleration in goods trade dynamics for the remainder of this year. However, we expect services trade – which is less reliant on business cycles and external funding – to offset the temporary slowdown in goods exports. The strong expansion in domestic demand factors (consumption, investment) will strongly boost import dynamics, as a result of which net exports will contribute negatively to economic growth this year and next year.

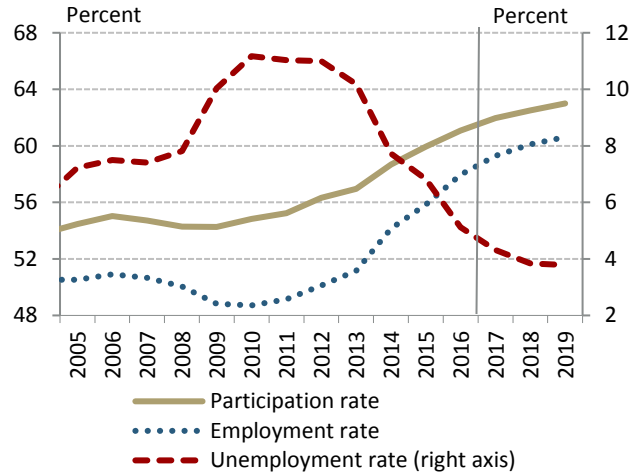
As a result of last year's outstanding agricultural performance, the contribution of value added by this sector to GDP growth may be negative this year. With high volatility, the annual harvest quantities of the most important crops are tending to approach their long-term averages, and thus the years with outstanding performances are often followed by a downturn. In addition, the frost experienced early in the year may also significantly impact agricultural production **(for more details, see Box 3.1)**.

Potential growth will pick up over the forecast horizon, primarily due to an expansion in private sector investment and a rising trend in labour market activity. The increase in capital stock and the dynamic growth in corporate investment to expand capacities are fostered by the Growth Supporting Programme, the decreasing bank levy and the EU funding available to enterprises. The upturn in lending contributes to the improvement in productivity as well. Activity will increase slightly at the beginning of our forecast horizon before levelling out at a historically high level.

1.3. Labour market forecast

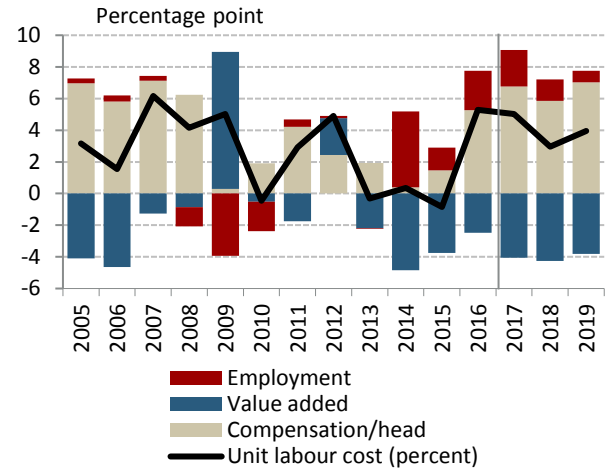
Over the forecast horizon, total employment will increase at a higher rate than labour participation, due to the continued increase in private sector employment. As a result, unemployment – which is already at a historically low level – will continue to decrease. The continued strong labour demand of the private sector and the tight labour market will result in strengthening wage dynamics, and the significant increases in the minimum wage and guaranteed wage minimum will also support this process. On the whole, over our forecast horizon nominal private sector wage growth will be stronger compared to past years.

Chart 1-13: Employment, participation and unemployment rate of the national economy



Source: MNB calculations based on HCSO data

Chart 1-14: Decomposition of unit labour cost growth in the private sector



Source: MNB calculations based on HCSO data

We expect participation to continue growing in the years to come, albeit at a lower rate compared to the past years. The rise in activity is mainly driven by the entry into the labour market of inactive persons more closely tied to the labour market, fostered by the labour supply stimulating effect of the higher minimum wage and the guaranteed wage minimum (Chart 1-13). Approaching the end of the forecast horizon, the development of the participation rate is increasingly affected negatively by worsening demographics. According to our expectations, as a result of the strong wage growth, the emigration of the skilled workforce may slow down. Furthermore, the increasing difference between the wages in the public employment schemes and the ones achievable in the private sector may better encourage public workers to appear in market-based employment.

Over the forecast horizon, labour demand in the private sector will continue increasing, in parallel with economic growth. Companies' efforts to increase their workforce levels are strongly hindered by the decline in unutilised labour capacities, which are increasingly limited not only in terms of quantity but also in terms of quality and mobility (**for more details, see Box 3-3**). Due to bottlenecks, the number of persons employed in the private sector will rise at a slower rate compared to the robust increase observed in recent years. Owing to the gradual restructuring of public employment programmes, our projection is based on a moderate decline in the number of public workers. On aggregate, **whole-economy employment will continue to rise at a slowing rate**.

As employment continues to rise, **unemployment – which is already at a historical low – will continue to decrease**. Due to declining free labour capacities, increasing wage competition is emerging both between companies and sectors in order to fill open positions and retain the current workforce, which will lead to a gradual increase in nominal private sector wage dynamics. In addition to the rise in the underlying trends of wages, the raising of the minimum wage and the guaranteed wage minimum also contributes significantly to the wage increases in the private sector. **Nominal private sector wage dynamics will be stronger compared to the past years.** The wage of minimum wage

and guaranteed wage minimum earners may show double-digit increases, while the wage of earners around the average wage can increase by 5-6 percent in 2017 in line with the tight labor market conditions. Unit labor costs will increase at a moderate level compared to nominal wages due to the combined effect of the dynamic economic growth and the social contribution tax reduction. (Chart 1-14).

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

	2016	2017		2018		2019
	Actual	Projection				
		December	Current	December	Current	Current
Inflation (annual average)						
Core inflation	1.4	2.4	2.5	3.0	3.1	2.9
Core inflation without indirect tax effects	1.3	2.3	2.3	2.9	2.9	2.9
Inflation	0.4	2.4	2.6	3.0	3.0	3.0
Economic growth						
External demand (GDP-based)	2.4	1.5	1.6	1.7	1.8	2.0
Household consumer expenditure	4.9	5.0	5.1	4.0	4.0	3.0
Government final consumption expenditure	0.6	0.7	1.0	1.0	1.0	0.9
Gross fixed capital formation[5]	-12.6 *(-15.5)*	11.2	13.2	7.4	8.7	4.3
Domestic absorption[5]	1.8 *(1.5)*	5.1	5.4	4.0	4.3	2.8
Exports	5.8	5.0	5.1	6.0	6.2	6.2
Imports[5]	5.8 *(5.7)*	6.7	7.2	6.6	7.0	6.1
GDP[5]	2.2 *(2.0)*	3.6	3.6	3.7	3.7	3.2
External balance[1]						
Current account balance	4.9	3.7	3.3	3.0	2.4	2.9
External financing capacity	5.4	6.5	5.4	6.4	4.9	5.6
Government balance[1,4]						
ESA balance	-1.3	(-1.8) – (-2.2)	(-1.6) – (-2.0)	(-2.0) – (-2.2)	(-2.0) – (-2.2)	(-1.8) – (-2.0)
Labour market						
Whole-economy gross average earnings[2]	6.2	9.0	9.1	7.0	7.0	6.6
Whole-economy employment	3.4	1.2	1.9	1.0	1.1	0.4
Private sector gross average earnings[2]	5.4	8.5	8.5	6.9	6.9	6.8
Private sector employment	3.4	1.9	2.3	1.3	1.4	0.7
Unemployment rate	5.1	4.7	4.3	4.4	3.8	3.8
Private sector unit labour cost	5.3	4.7	5.0	3.3	3.0	3.5
Household real income[3]	4.2	4.4	4.5	3.7	3.8	2.5

[1] As a percentage of GDP.
[2] According to the HCSO data for full-time employees.
[3] MNB estimate.
[4] The final data for the 2016 ESA balance will be published in the March EDP Report. Therefore, until then the net financing requirement according to the preliminary financial account, which is a good approximation, is used. In 2017-2019 the values of the balance indicators can be situated in the given range due to the extent of utilization of the Country Protection Fund and the share of down payment of EU grants.
[5] Actual figures related to the year 2016 take into account the expected routinish (excluding the effect of methodological changes) revision. The values in parentheses shows official data published on March 2017 by HCSO.

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

	2017	2018	2019
Consumer Price Index (annual average growth rate, %)			
MNB (March 2017)	2.6	3.0	3.0
Consensus Economics (February 2017)[1]	2.0 – 2.4 – 2.9	2.1 – 2.7 – 3.5	–
European Commission (February 2017)	2.2	3.1	–
IMF (October 2016)	1.9	2.6	3.0
OECD (November 2016)	1.4	2.5	–
Reuters survey (February 2017)[1]	2.0 – 2.4 – 3.3	2.3 – 2.7 – 3.5	2.6 – 2.9 – 3.5
GDP (annual growth rate, %)			
MNB (March 2017)	3.6	3.7	3.2
Consensus Economics (February 2017)[1]	1.6 – 3.0 – 3.9	2.0 – 2.9 – 4.0	–
European Commission (February 2017)	3.5	3.2	–
IMF (October 2016)	2.5	2.4	2.2
OECD (November 2016)	2.5	2.2	–
Reuters survey (February 2017)[1]	2.0 – 3.2 – 3.6	2.2 – 3.1 – 4.0	–
Current account balance[3]			
MNB (March 2017)	3.3	2.4	2.9
European Commission (February 2017)	3.7	3.2	–
IMF (October 2016)	4.6	4.0	3.1
OECD (November 2016)	6.7	5.7	–
Budget balance (ESA 2010 method)[3,4]			
MNB (March 2017)	(-1.6) – (-2.0)	(-2.0) – (-2.2)	(-1.8) – (-2.0)
Consensus Economics (February 2017)[1]	(-3.0) – (-2.3) – (-0.2)	(-3.0) – (-2.3) – (-0.1)	–
European Commission (February 2017)	-2.4	-2.5	–
IMF (October 2016)	-2.5	-2.5	-2.2
OECD (November 2016)	-2.0	-2.0	–
Reuters survey (February 2017)[1]	(-2.7) – (-2.3) – (-1.7)	(-2.5) – (-2.1) – (-1.3)	–
Forecasts on the size of Hungary's export markets (annual growth rate, %)			
MNB (March 2017)	3.0	3.2	2.8
European Commission (February 2017)[2]	4.4	4.6	–
IMF (October 2016)[2]	4.4	4.9	–
OECD (November 2016)[2]	3.7	3.9	–
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (March 2017)	1.6	1.8	2.0
Consensus Economics (November 2016)[2]	2.0	2.1	–
European Commission (February 2017)[2]	2.1	2.2	–
IMF (October 2016)[2]	2.0	2.0	–
OECD (November 2016)[2]	2.0	2.0	–

[1] For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the median value), 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 final data for the 2016 ESA balance will be published in the March EDP Report. Therefore, until then the net financing requirement according to the preliminary financial account, which is a good approximation, is used. In 2017-2019 the values of the balance indicators can be situated in the given range due to the extent of utilization of the Country Protection Fund and the share of down payment of EU grants.

Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

Box 1-2: Extension of the forecast horizon by one year

The March 2017 forecast of the Magyar Nemzeti Bank was prepared for a three-year horizon, instead of the previously used two-year forecast period. In line with this change, the forecast for the macroeconomic path now extends to 2020 Q1 in this Report. This also means that the MNB issues forecasts for annual figures up to 2019. The amendment does not affect the elaboration of the assumptions used in the forecast or any other element of the Bank's forecasting practice; nor is there any change to the horizon taken into account by monetary policy.

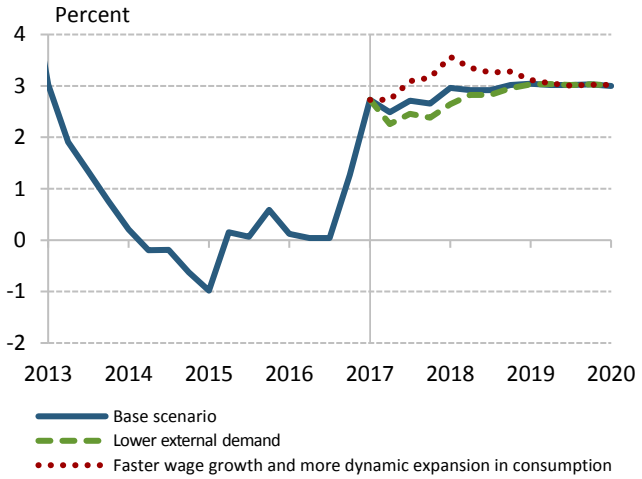
The main purpose of the change is to allow economic agents to form as precise a picture of the main economic developments as possible over a longer term than before, which may facilitate a better plannability of longer-term decisions (e.g. concerning savings or investment). Inflation targeting central banks strive for transparency in the functioning of monetary policy, and their macroeconomic forecasts constitute an important channel for this. As a result of the decision, greater transparency may be achieved in the forecasting practice in Hungary. With this three-year forecast, the Bank is able to give an indication of its picture of macroeconomic prospects for a longer period of time, and thus shares more information with economic agents in an uncertain economic environment. Therefore, in terms of transparency, the forecast prepared for a longer period of time is clearly advantageous. At the same time, the longer forecast entails a rise in uncertainty over time, which affects the further end of the horizon in particular. The MNB will continue to depict the uncertainty surrounding the forecast in the usual form, i.e. using fan charts and alternative scenarios.

The longer horizon is in line with international central bank practice. Even before the global financial and economic crisis, the observed trend was that central banks strived for greater transparency. The role of central bank communication appreciated increasingly during the crisis. One of the related signs was the spread of forward guidance in central banks' practice, which allowed for the presentation of messages for longer periods than before. Central bank forecasts also play an important role in forward-looking communication. Looking at central banks that apply an inflation targeting framework reveals that they typically provide inflation forecasts for two or three years. For example, the former group includes the Australian and Czech central banks, while the latter comprises the Bank of England and the Swedish central bank, which have a long tradition of inflation targeting. Starting from 2015, the central bank of Poland serves as an example in our region as well for publishing a three-year horizon. The European Central Bank, i.e. the central bank of the euro area, which is of key importance for Hungary, also belongs to the latter group. With this longer forecast horizon the MNB is coming closer to the ECB's practice, and at the same time it aids the assessment of domestic economic developments. With the three-year horizon, greater transparency is achieved in domestic central bank forecasts.

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. In the alternative scenario which assumes moderate external demand, the growth and inflation path will fall short of the path indicated in the baseline projection. The alternative scenario assuming accelerated wage growth and more dynamic expansion in consumption implies stronger domestic economic growth and higher inflation than the baseline projection. In addition to the key scenarios, among the other possible risks the Monetary Council also discussed alternative scenarios that envisage a faster rise in global inflation, a slower investment path resulting from developments in and the structural composition of EU transfers, as well as financial market turbulences.

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



Source: MNB

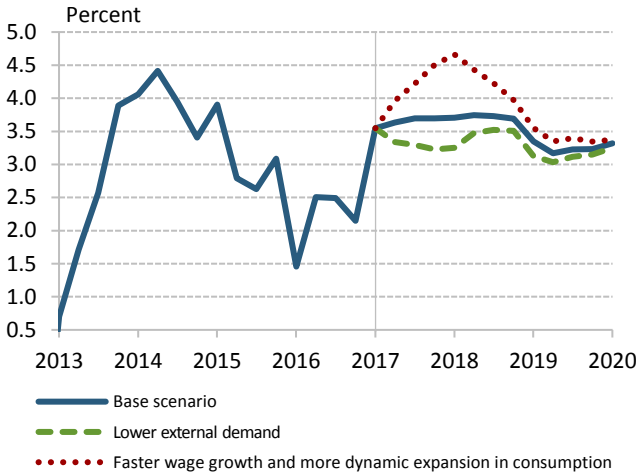
Moderate external demand

Looking ahead, the path of Hungary's external demand is mainly determined by the waning intensity of global trade (restructuring of the German economy and export demand arising from the slowdown in the Chinese economy). At the same time, there is still a high degree of uncertainty about the outlook, as the geopolitical risks that have increased globally in recent months raise doubts about the continuation of global growth. Weaker export dynamics in Hungary's key external markets may indirectly restrain export growth for the Hungarian economy as well, and over the forecast horizon it may slow down the expansion of exports.

There is significant uncertainty about economic performance in Hungary's export markets. The restructuring of the German economy and slower growth in China are expected to moderate growth in external demand, regardless of any protectionist measures taken by the USA. Furthermore, the protectionist measures that the United States may implement could reduce the import demand of the USA, which could also lead to slower growth in the exports of China and the euro area. Additionally, the tensions registered in the euro area, and the general political and economic uncertainty compounded by Brexit may lead to a deterioration of business confidence in the member states and to a less favourable growth rate. The fact that external demand is more moderate than earlier poses a risk in a negative direction concerning the performance of industry and the export sector and thereby economic growth, even considering the recovering export performance of the services sector.

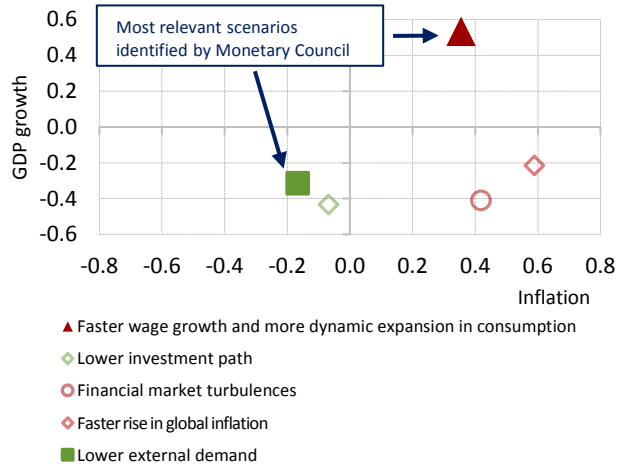
According to the **assumption of the alternative scenario**, the moderation in external demand is expected to have a negative impact on industrial output and on the performance of the export sector, resulting in slower economic growth as compared to the baseline projection. **Achievement of the inflation target is ensured by looser monetary policy.**

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



Note: The baseline forecast is based on backcast and nowcast adjusted by anticipated revisions.
Source: MNB

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 forecast horizon. The red marker means tighter and the green markers mean looser monetary policy than the baseline forecast.
Source: MNB

Faster wage growth and more dynamic expansion in consumption

In parallel with an upturn in economic activity, **the demand for labour has increased steadily** in recent years, **but supply has failed to adjust to this rapid expansion both in terms of volume (increase in activity) and in terms of quality or geographical distribution. The unemployment rate dropped below 5 percent, and the number of jobseekers per job vacancy sank below pre-crisis levels. As a result, competition for suitable labour has increased** which – in the context of a slower adjustment in supply – leads to an increase in wages over the short term. According to the **baseline projection**, as a result of rising wage growth, household consumption is expected to grow dynamically over the forecast horizon, but the inflationary pressure from the labour market will remain moderate.

Compared to earlier years, the tighter labour market environment may force companies in the competitive sector to raise the wages more strongly, and they may partly incorporate the increasing wage costs in their prices; therefore, a tighter labour market may be coupled with higher inflation. At the same time, the higher nominal wages paid by companies may boost the household sector's consumption expenditures – mainly in the case of those with lower income, due to the higher marginal propensity to consume. In addition, since incomes will increase as a result of the raise of the minimum wage, household consumption may rise dynamically. At the same time, this boost may even be higher, which is supported by each of the following factors: the long-term income expectations, the continued tangible improvement in household confidence, and the substantial increase in net financial assets that occurred in earlier periods. Additionally, the realisation of domestic household consumption deferred earlier may also significantly increase the consumption rate.

Based on the **assumption of the alternative scenario**, frictions in the labour market will place significant constraints on companies' intentions to expand their labour force. Stronger wage competition, the more intense impact of the raise in the minimum wage on prices and robust domestic demand may result in a higher price dynamics. **Rising domestic demand entails faster closing of the consumption gap and a more moderate disinflationary impact.** Overall, **achievement of the inflation target is ensured by tighter monetary policy than projected in the baseline scenario.**

Other risks

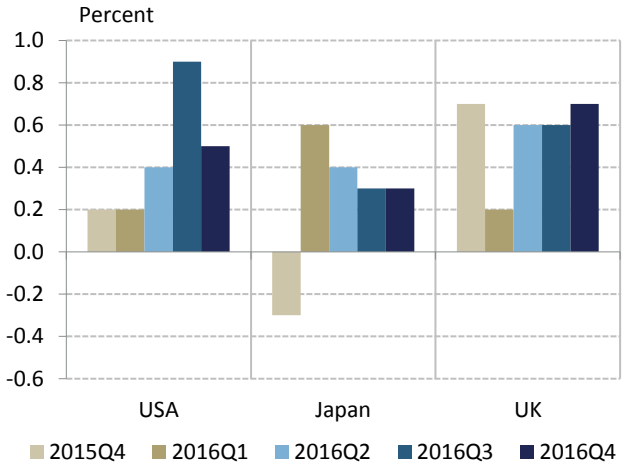
Along with the key risk scenarios, the Monetary Council also considered three additional risks. If global inflation rises faster, then inflation will be higher than predicted in the baseline projection, while domestic economic growth will be more moderate than assumed in the baseline projection. The lower investment path resulting from developments in and the structural distribution of EU transfers points to more subdued growth, while the impact on inflation will be moderate. In the case of money market turbulences higher inflation and lower growth will occur.

3. MACROECONOMIC OVERVIEW

3.1. Evaluation of international macroeconomic developments

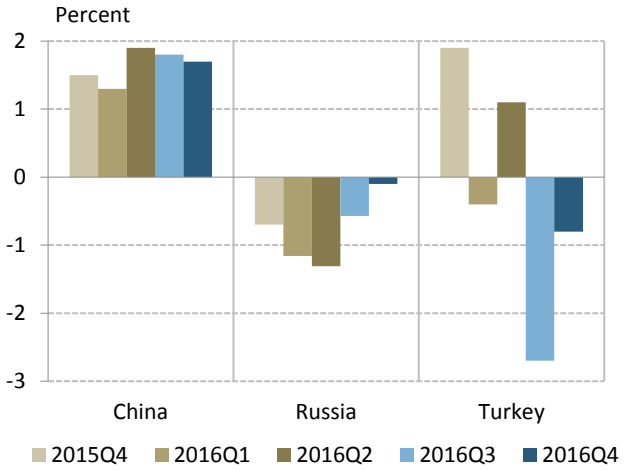
Global economic growth continued in the last quarter of 2016, although it still remains fragile. Considerable growth disparities exist across regions, with the Central and East European Region continuing to show dynamic growth. Global inflation accelerated in recent months as a result of base effects and rising oil prices, and thus the consumer price index increased to levels close to the central bank targets in a number of countries. The monetary policy of the world's leading central banks may increasingly diverge during the year. Due to the weak underlying developments, tolerance vis-à-vis rising inflation grew in the case of a number of central banks, and in line with this several central banks may maintain the loose monetary conditions for an extended period of time.

Chart 3-1: Quarterly changes in GDP in certain globally important economies



Note: Seasonally adjusted series.
Source: OECD

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



Note: Seasonally adjusted series. In the case of Russia and Turkey they are economic agents' expectations.
Source: OECD, Rosstat, Turkish Statistical Institute, Bloomberg

3.1.1. Developments in globally important economies

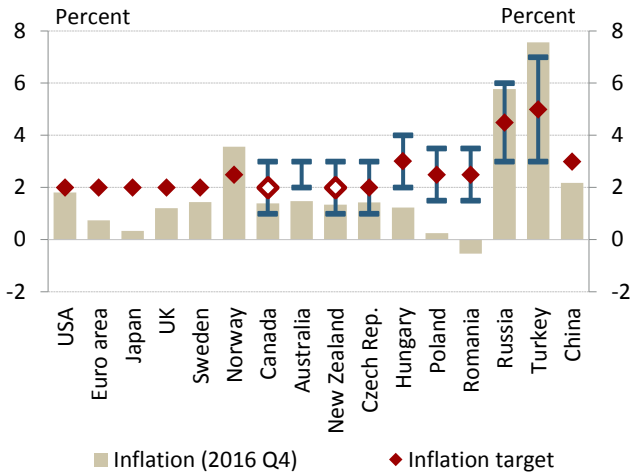
Compared to the previous quarter, the rate of growth declined slightly in the United States in 2016 Q4. Household consumption and investment increased, offsetting the decline in government expenditures. The slowdown in growth compared to the previous quarter is primarily attributable to more restrained export performance and accelerating imports due to expansion in domestic demand factors. **Quarterly growth in the United Kingdom was explained by a rise in exports and consumption.** Brexit and its unclear circumstances continue to significantly impair short-term and medium-term growth prospects. **The Japanese economy expanded at the same rate as in the previous quarter.** The contribution of exports and government expenditures to growth was positive, while household consumption stagnated (Chart 3-1).

Of the major emerging countries, the Chinese economy recorded year-on-year growth of 6.8 percent in the final quarter of 2016 (Chart 3-2). The growth was supported by household consumption, significant public expenditures and robust developments in lending. According to analysts' expectations, the Russian economy probably continued to shrink in the last quarter of 2016, while growth may have been in positive territory in Turkey following a fall in the previous quarter.

Annual inflation rose markedly both in the developed and emerging regions, which is mainly attributable to a base effect related to energy items. In the past months, inflation reached values close to central bank targets in several countries (Chart 3-3). At the same time, the majority of developed countries are still characterised by negative output gaps and moderate underlying inflation developments.

At their March meeting, taking the actual and expected labour market developments and inflation trends into account, the decision-makers of the Fed decided to raise the policy rate to the band between 0.75–1.00 percent.

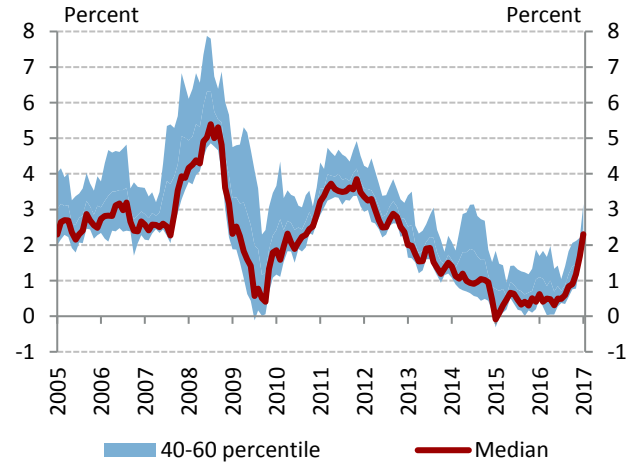
Chart 3-3: Inflation targets in central banks and actual inflation



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: Databases of central banks, OECD

Chart 3-4: Global inflation processes



Note: Percentage change on the same period of the previous year, based on 50 developed and emerging countries' data.

Source: OECD

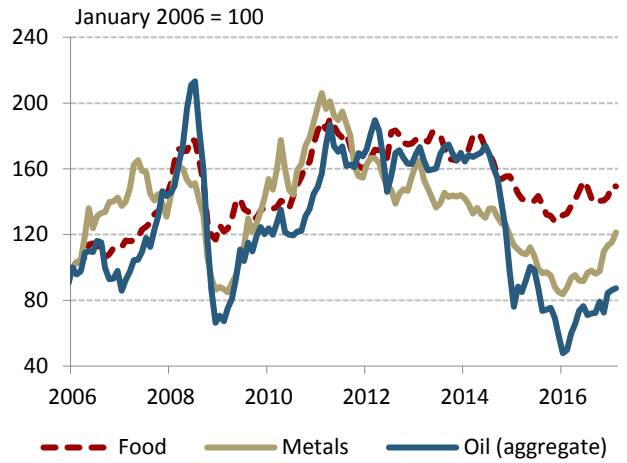
The decision was in line with analysts' expectations. Most members of the FOMC consider two additional 25-basis point interest rate hikes probable in 2017. In view of the continued extremely supportive monetary policy of the ECB and the Fed's interest rate hike, the divergence in the interest rate paths of these two central banks is expected to increase. Developments in inflation and the unemployment rate are also in line with the Fed's dual mandate, as they are close to the target. Overseas yields increased, while stock exchange price indices are close to historically high levels.

In the past quarter, the Bank of Japan did not change the monetary conditions, still adjusting its Quantitative and Qualitative Easing Programme to the 0 percent long-term yields. The Bank maintained the annual purchasing level of JPY 80,000 billion, and extended its loan support programme by one year. The commitment to overshoot the inflation target continues to be part of the central bank communication. As a result of the asset purchases, the balance sheet total of the Bank of Japan is continuing to increase, and may already exceed 95 percent of the Japanese GDP in 2017.

The decision-makers of the Bank of England left the monetary conditions unchanged in the past quarter. At their March meeting, they decided to leave the interest rate unchanged and to continue the comprehensive easing programme announced in August in an unchanged form. Decision-makers believe that monetary policy cannot prevent either the adjustment of the British economy following the Brexit, or the subdued growth of real income in the next few years. An interest rate hike due to the effect of exchange rate depreciation would result in slower growth and a higher unemployment rate, and therefore reaching the inflation over a longer-than-usual horizon is still considered adequate. According to Bank of England's forecast, following a peak in 2018 H1, inflation will start to decline and approach the target from above.

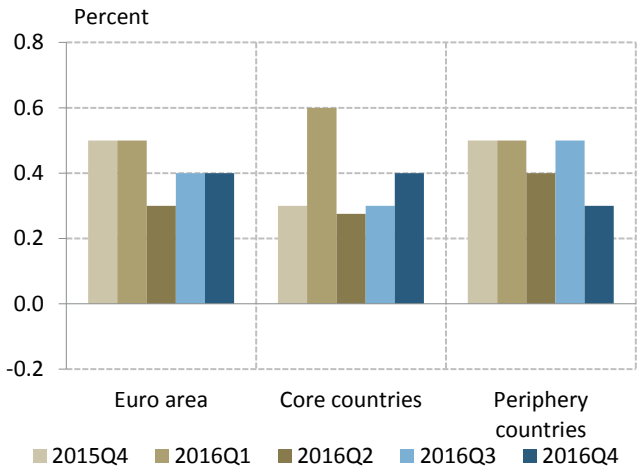
Overall, global commodity prices increased in the past period (Chart 3-5). With significant volatility early in the year, the average world market prices per barrel of Brent and WTI crude oils were around USD 55, before declining to nearly USD 50 in early March. The price increases at the end of last year were mainly attributable to the limitation of production accepted by OPEC member countries and applicable as of January of this year, while the decrease in prices observed in the past weeks is primarily explained by the increase in US crude oil reserves to a record level in spite of a decline in supply. Food and metal prices also increased in the past period. The significant rise in the latter

Chart 3-5: Major commodity price indices



Note: Calculated from prices in USD.
Source: IMF

Chart 3-6: Quarterly changes in euro-area GDP



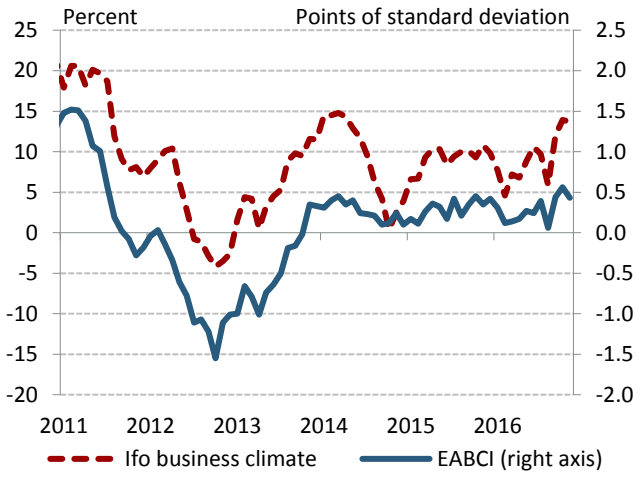
Note: Seasonally adjusted series, weighted mean by GDP. Periphery countries (Portugal, Italy, Greece, Spain), Core countries (Belgium, Germany, France, Netherlands, Austria).

was caused by China's supply reducing measures and the expectations regarding faster expansion in demand related to the investment in infrastructure announced by the new US administration.

Global money and capital markets were basically characterised by favourable sentiment during the past 3 months. In addition to Donald Trump's inauguration as president in January and his first announced measures, market indicators were mainly affected by the news concerning Brexit, the communication of the Fed's policy-makers and developments related to upcoming elections in Europe (France, Germany, Netherlands). Markets reacted favourably to the new US administration's communication related to tax reforms and deregulation, but at the same time the protectionist trade policy measures and policies related to limitations on immigration had an unfavourable impact on the markets. With regard to Brexit, there were statements by UK leaders that Great Britain would definitely and completely leave the Single Market and probably the Customs Union as well, but in spite of that they intend to maintain the existing good relationships with European partners. After the approval of the Parliament, the possibility of announcing Brexit to the EU is opened. The interest rate path of the Fed shifted up, and contrary to previous surveys, the market priced the interest rate hike in the middle of March with a high degree of certainty. Following the increase in the policy rate, interest rate hike expectations moderated at the same time. In several market analysts' opinion, a reversal in the global inflation trend may be evolving, which is also confirmed by a rise in inflation surprises taking place mainly due to base effects. The expectations of the interest rate paths of the key central banks shifted upwards as well, which partially reflects the pricing in of monetary policy reactions of inflation developments. Nevertheless, underlying trends remain at restrained levels, and thus medium-term developments in global inflation are still uncertain.

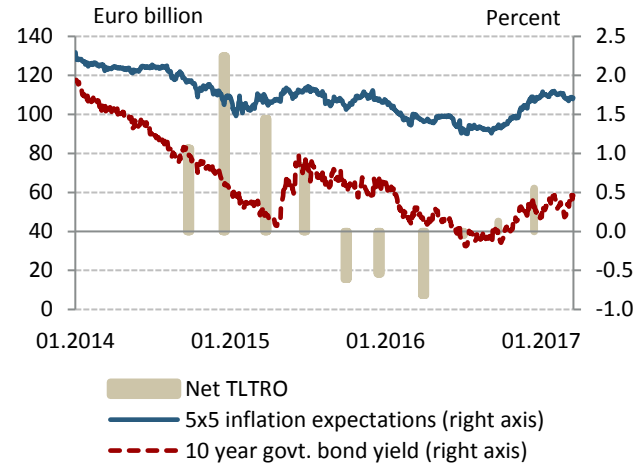
The main risk indicators declined, as the VIX index fell by 1.4 percentage points, and bond market risk indicators (MOVE Index, EMBI Global spread) also decreased. Stock exchange price indices rose further amidst favourable market sentiment, and US indices reached new peaks. The rise in long-term yields was more typical in the bond market. The US dollar weakened in the past quarter, which can partly be interpreted as a correction of the previous strengthening. Currencies of the region appreciated against the euro as well; in terms of emerging market currencies, the country-specific weakening of the Turkish lira can be highlighted.

Chart 3-7: Business climate indices for Germany and the euro area



Source: European Commission, Ifo

Chart 3-8: Inflation expectations and long term yields in euro area



Source: Bloomberg

3.1.2. Developments in the euro area

In 2016 Q4, growth in the euro area continued at a rate similar to that of the previous quarter (Chart 3-6). It was typically domestic demand items – household and government consumption, and investment – that contributed to the expansion the most. Growth accelerated in Q4 both in the German economy, which is Hungary's most important trading partner, and in the French economy. Euro-area growth continues to be surrounded by significant downside risks, which are related to, inter alia, the effects of the British referendum and the stability of the banking sector as well as the uncertainties related to the upcoming elections.

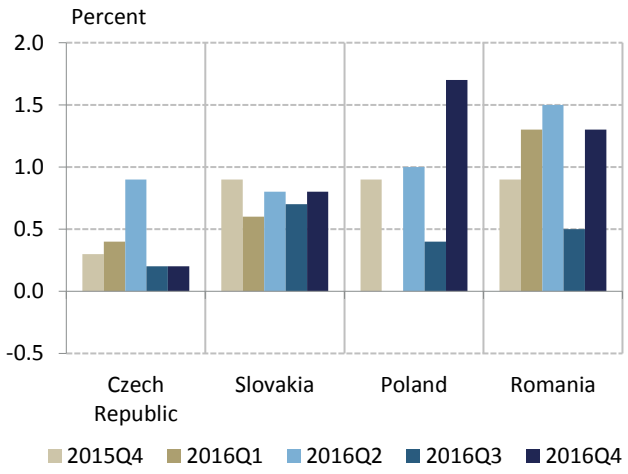
The growth rate of periphery countries declined compared to the previous quarter. The expansion in the output of the periphery countries was also determined by domestic demand factors in the past period. The Greek economy shrank on a quarterly basis, with this downturn attributable to a decline in government expenditures and external demand.

Forward-looking indicators of economic activity showed slight increases in the past period (Chart 3-7). The business confidence index capturing the prospects of the euro area (EABCI) improved, while expectations for the German economy (Ifo) remained practically unchanged. In historical comparison, both indicators are at high levels.

Similarly to global trends, inflation also increased in the euro area in the past quarter, which was mainly attributable to oil price changes and base effects. Consumer price increases are already in positive territory in Italy as well, and exceeded the 2-percent target value in Germany. In the euro area, 5-year inflation expectations starting in 5 years increased temporarily in January, but declined slightly by March. Inflation expectations remain below the ECB's inflation target (Chart 3-8).

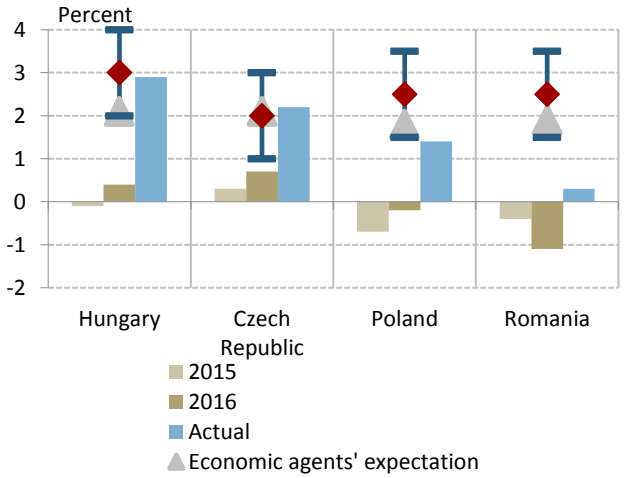
At its March meeting, the Governing Council of the ECB decided to leave interest rates unchanged. The Governing Council still expects that the ECB's policy rates will remain at the current or lower levels permanently and much longer than the horizon of net asset purchases. Within the framework of the asset purchase programme, starting from April the ECB will purchase securities with a value of EUR 60 billion, instead of the current EUR 80 billion. At the press conference following the decision, Mario Draghi said that although inflation had accelerated perceptibly in the previous months, underlying developments continued to be weak, and therefore supportive monetary policy was still

Chart 3-9: Quarterly changes in GDP in CEE countries



Note: Seasonally adjusted series.
Source: Eurostat, OECD

Chart 3-10: Inflation targets of central banks, inflation, and economic agents' expectations



Note: Analyst's expectations relate to the end of 2017.
Source: Bloomberg, HCSO

needed until they are convinced of reaching the inflation target in the medium term.

3.1.3. Developments in the CEE region

The Central and East European Region continued its unchanged dynamic expansion, and growth accelerated compared to the previous period (Chart 3-9). In Poland and Romania, a pick-up in domestic consumption contributed to the dynamic expansion. The growth rate remained unchanged in the Czech Republic, while it accelerated slightly in Slovakia, which is mainly attributable to the growth in industry.

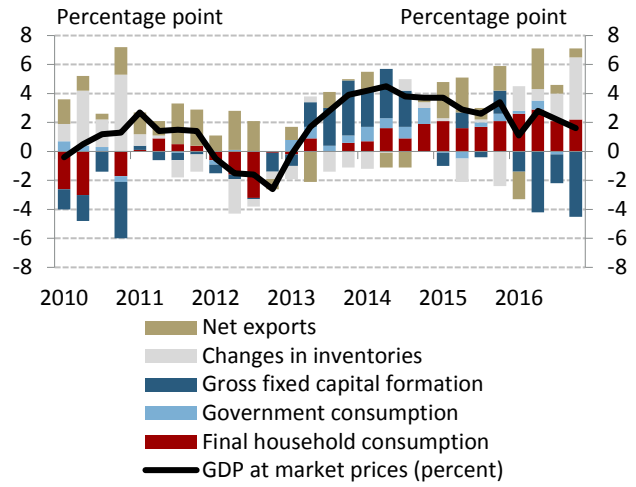
As a result of base effects and rising oil prices, inflation also increased considerably in the region (Chart 3-10). **At the same time, measures of underlying inflation continue to indicate a moderate inflation environment.**

Central banks in the Central and Eastern European countries maintained loose monetary conditions, in line with the macroeconomic developments. In the opinion of the decision-makers of the Polish central bank, the price increase will become stable in the next quarters following the rise in inflation at the beginning of the year. Taking account of the expectedly temporary effects and the subdued domestic demand pressure, the decision-makers agreed that the risk that inflation would rise permanently above target was low in the medium term. The Czech central bank plans to exit the exchange rate limit in the middle of 2017, but the exact date of phasing-out may change in line with achieving the inflation target. Looking ahead, the central bank expects inflation to increase further into the upper part of the tolerance band, nearly reaching the 2-percent target at the end of the monetary policy horizon. According to the latest inflation report of the Romanian central bank, inflation will rise towards the target more slowly than in the previous forecast as a result of new supply side disinflationary effects (price reductions of certain insurance premiums and other fees).

3.2. Analysis of the production and expenditure side of GDP

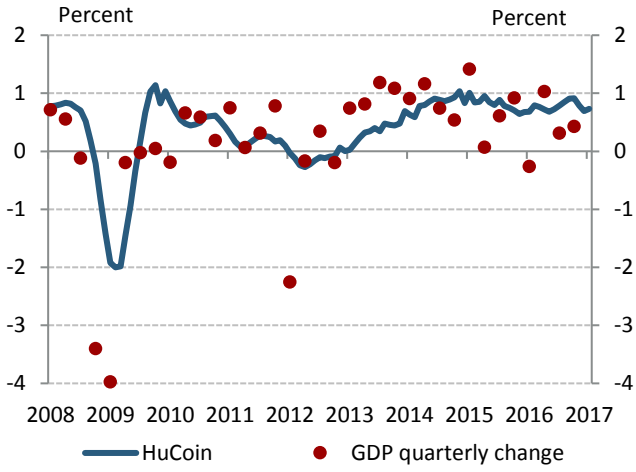
Based on the data release by of the HCSO, Hungary's gross domestic product increased by 1.6 percent year on year and rose 0.4 percent compared to the previous quarter the volume of GDP. At the end of last year, domestic economic growth was more subdued than in the previous years, which is primarily explained by temporary effects. The slowdown in growth was attributable to the weaker-than-expected fiscal impulse, the downturn in investment implemented from EU funds and the subdued performance of industrial production. Growth was still mainly supported by the significant expansion in household consumption. According to the HCSO, Hungarian GDP grew 2 percent in 2016 as a whole, with agriculture and services being the main drivers on the production side and consumption on the expenditure side.

Chart 3-11: Contribution to annual changes in GDP



Source: HCSO

Chart 3-12: Evolution of the HuCoin indicator



Note: Due to the revision of the GDP, the past values of the HuCoin indicator have also changed.

Source: HCSO, MNB calculations

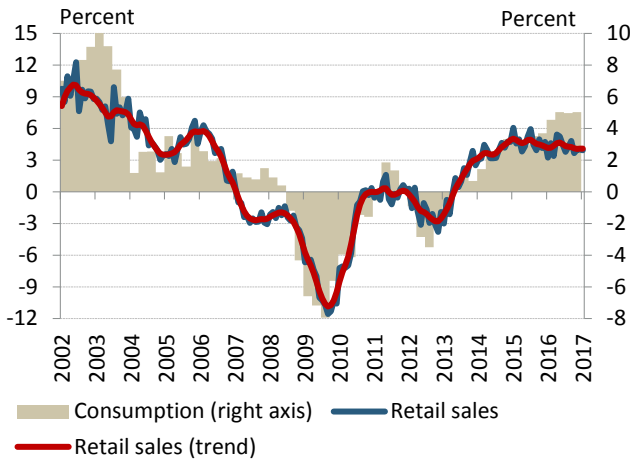
In 2016 Q4, according to the HCSO, gross domestic product increased by 1.6 percent year on year and rose by 0.4 percent compared to the previous quarter. The moderate growth is mainly attributable to the absence of investment implemented from EU funds, the weaker-than-expected fiscal impulse and the subdued performance of industry (Chart 3-11). Based on the changes in the HuCoin indicator, which reflects the medium-term prospects of the domestic economy, the underlying trends of economic activity improved slightly in the past months (Chart 3-12).

In 2016 Q4, growth continued to be mainly related to the major increase in household consumption. The rise in households' consumption expenditure was supported by an improvement in underlying real income trends as well as an increase in the propensity to consume. **The increase in consumption is also corroborated by the steady expansion in retail sales experienced during 2016 as a whole.** In Q4, the volume of retail sales was 3.3 percent higher compared to the same period of the previous year, and **a pick-up in sales was observed in a wide range of products** (Chart 3-13). **Consumer confidence indicators, which reach high levels in historical comparison as well, also point to a dynamic rise in the level of consumption.** The improvement in the assessment of the household sector's economic situation was reflected, inter alia, in the pick-up in the purchasing of durables with high recovery potential.

Credit demand, which had been moderate before, also showed a pick-up in the past quarter, and thus **by end-2016 the several-year decline in lending to households stopped**, and households' net financial savings decreased. The total amount of credit institutions' household loan transactions was HUF 67 billion in Q4, resulting in a positive net credit flow compared to the previous quarter.

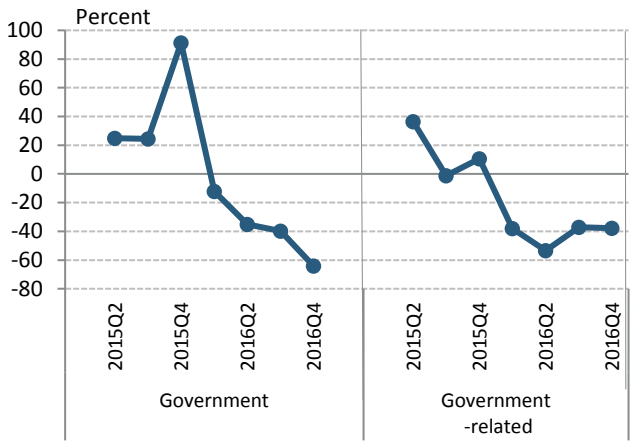
In addition to an improvement in the balance of households' borrowing and repayment, the temporary and significant expansion in loans borrowed by entrepreneurs also played an important part in the positive transactions. The annual average increase in the volume of new loans was 50 percent. Within that, the disbursement of new housing loans and personal loans rose 42 percent and 61

Chart 3-13: Developments in retail sales and consumption



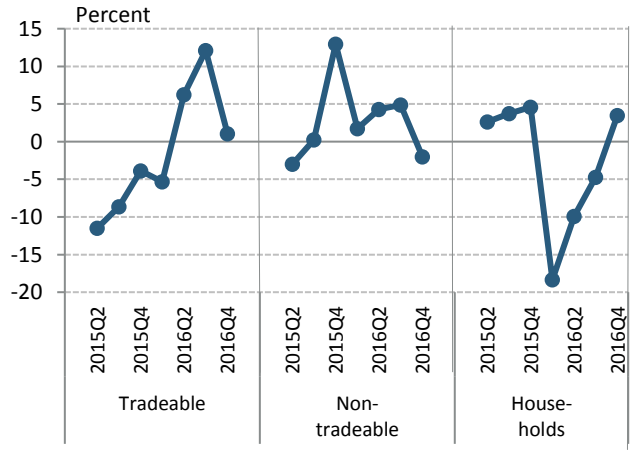
Note: Seasonally adjusted data, annual change.
Source: HCSO, MNB calculations

Chart 3-14: Government related investments



Note: Annual change.
Source: HCSO

Chart 3-15: Non-government related investments



Note: Annual change.
Source: HCSO

percent, respectively. Expansion in household loan demand was observed in the case of both housing and consumer loans; regarding the latter, a pick-up in demand for consumer durables, primarily motor vehicles, may also have been a key factor. In addition to the low inflation environment and the increase in real wages, the pick-up in the underlying developments of household lending is also supported by the family home creation allowance.

Similarly to the past period, in line with a rise in domestic demand, market services contributed significantly to economic growth in Q4 as well. The growth in the trade–motor vehicle repair–catering sector was explained by the expansion in a wide range of subsectors. The performance of the catering and tourism subsectors improved significantly in Q4. A remarkable, nearly 12 percent year-on-year increase was observed in the number of guest nights in Q4. The pick-up in demand in domestic tourism is supported by households' improving income position, but the contribution of foreign guests to the number of guest nights was also essential. Among market services, only the performance of the finance and insurance sector decreased slightly in year-on-year terms.

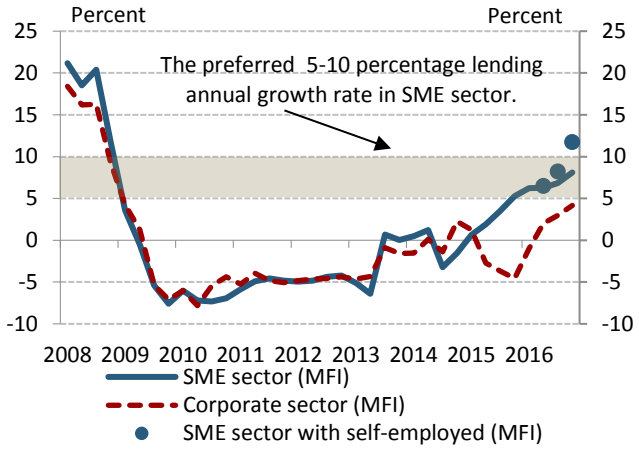
The significant pick-up in household consumption was slightly offset by the simultaneous decline in public consumption and in-kind benefits received from the government, resulting overall in a slowdown in the growth rate of final consumption. In spite of this deceleration, final consumption continued to support domestic economic growth significantly.

In 2016 Q4, whole-economy investment declined by 24.1 percent, primarily as a result of the lower volume of funds from the European Union compared to previous year. The performance of individual sectors continued to vary. The significant downturn in investment in the public sector (health, administration, education) and in sectors closely related to the public sector (energy, water supply, transportation) continued, in line with the absence of investment implemented from EU funds (Chart 3-14). In parallel with the subdued investment activity, and even in spite of its steady improvement, construction output did not reach the level recorded in the same period of the previous year. In Q4, corporate investment activity increased slightly in the case of companies producing for external markets, which was supported by significant expansion in manufacturing investment. The investment activity of companies producing and providing services for the domestic market declined, which was mainly attributable to the decrease in investment in the

construction, catering and infocommunication sectors (Chart 3-15).

In 2016 as a whole, total corporate loans outstanding grew by more than 4 percent, a rate unseen since the crisis. In 2016 Q4, corporate loans outstanding increased by nearly HUF 120 billion as the balance of disbursements and repayments, resulting in a 4.1 percent rise in loans to non-financial corporations on a transaction basis year on year. It was mainly the increase in the volume of forint loans that contributed to the annual growth, and in addition to the forint lending under the Funding for Growth Scheme, the pick-up in market-based forint lending also continued. The expansion in lending to the SME segment, which is more dependent on domestic demand, amounted to 8 percent year on year. One quarter of banks eased the credit supply constraints of small and micro enterprises, and banks expect an upturn in credit demand (for long-term loans in particular) in the next half year (Chart 3-16).

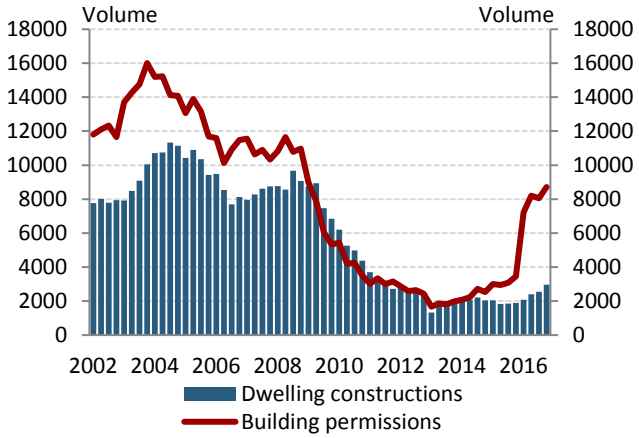
Chart 3-16: Annual changes in lending to non-financial corporates and SMEs



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

Households' investment activity continued to improve in Q4. The number of home completions increased sharply, and the number of building permits issued continued to rise considerably (Chart 3-17). The number of home completions rose nearly 60 percent year on year, in line with the substantial rise in the number of building permits already issued earlier. For the whole year, the number of building permits, which continued to increase, was close to its pre-crisis level, and nearly ten thousand new homes were built last year. However, according to aggregate housing market data, due to the previous year's high base, the number of transactions was below that of the previous year. Based on the MNB's housing price index, **housing prices, which were increasing as a result of the buoyant demand, exceeded their pre-crisis level**. The rate of price increase is unbroken in the market of pre-owned homes, but it decelerated in the case of new homes, in line with the start of supply side adjustment.

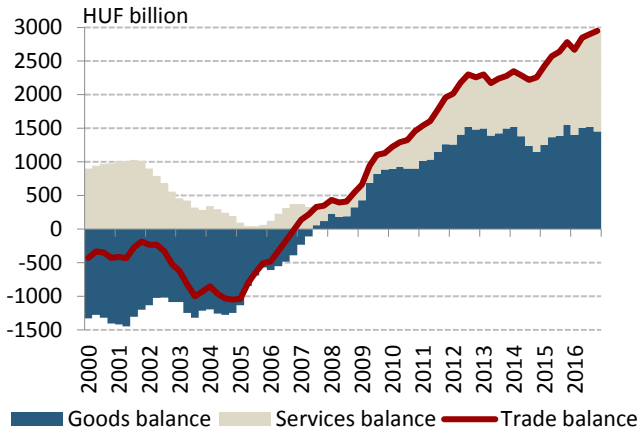
Chart 3-17: Evolution of dwelling constructions and building permissions



Source: HCSO

The contribution of net exports to domestic GDP growth was positive in Q4. The performance of goods exports slowed down considerably in year-on-year terms, in line with the subdued industrial production stemming from the moderate output of the machine and vehicle manufacturing subsectors. In addition to the volume of production, sales in these sectors were also below those of the previous year. Simultaneously with the deceleration in goods exports, the import of goods also declined year on year, which is mainly attributable to weaker investment activity. The slowdown in goods imports was moderated by a pick-up in imports of consumer goods.

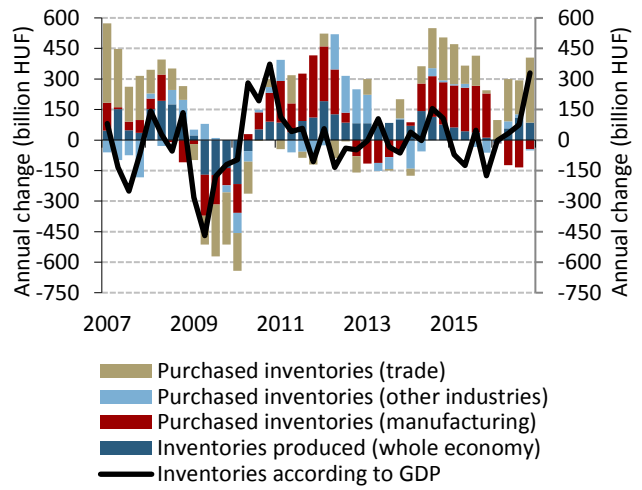
Chart 3-18: Evolution of the trade balance



Note: Seasonally adjusted, 4 quarterly cumulated values, in 2005 prices.

Source: HCSO

Chart 3-19: Changes in inventory



Source: HCSO, MNB

Simultaneously with the slowdown in trade in goods, **the export of services increased further, while the import of services declined in Q4**. Overall, **both the services balance and the trade surplus supported Hungarian GDP growth in the last quarter of 2016**. Based on data for last year, the weight of the domestic foreign trade sector is increasing gradually within the global trade in services. Mainly as a result of the gradual increase in commodity prices, the terms of trade deteriorated in 2016 Q3 year on year. Both the deterioration in the terms of trade and the simultaneous deceleration in the net trade volume contributed to the decline in the trade surplus observed in 2016 Q4 (Chart 3-18).

In year-on-year terms, the considerable expansion in agricultural output supported GDP growth in Q4, in line with the average yields that were well above the average of previous years.

Last year, inventory accumulation contributed significantly to economic growth in Hungary, which was primarily attributable to the stockpiling observed in trade and among industrial producers as well as to the favourable agricultural performance. Based on the subdued industrial export sales and the high machine import volume, at the end of last year the industrial sector produced partly for inventory accumulation, which contributed to the significant rise in stock levels (Chart 3-19).

Box 3-1: Expected developments in agricultural production

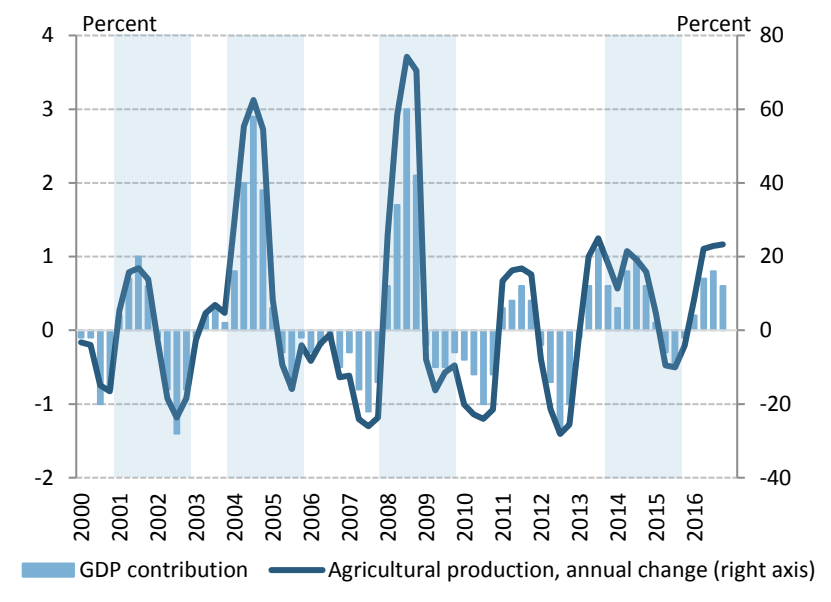
In 2016, agricultural output recorded an outstanding performance in a historical comparison as well, and thus contributed significantly to Hungary's economic growth. In the case of cultivation, which represents the highest weight (61.7 percent) in agricultural output, the harvest of several important plants was close to or exceeded its maximum measured in the past twenty years. These crops (corn, wheat, sunflower, barley, rape) account for nearly half of the total agricultural output; therefore, their fluctuations also affect the value added of agriculture as a whole.

In 2016, the harvest increased in the case of all crops that account for a significant part of agricultural production; the highest annual rises were recorded for corn (32.8 percent), sunflower (21.6 percent), rape (49.5 percent) and barley (14.1 percent). In the case of the last three plants, the 2016 harvest was the highest in the past twenty years.

Based on currently available information, value added in agriculture **in 2017 may be below that of last year, and thus the contribution of the sector to economic growth may be negative.** Of the most important crops, it can be established that their annual harvest is approaching their average of the previous four years with high volatility, and thus, following the **years of outstanding performances, including 2016, a considerable downturn often takes place** (Chart 3-20). Since 1996, after six years when performance was outstanding (the contribution of agriculture to growth was 0.5 percentage point or more), there were five occasions when a downturn amounting to an average 70 percent of the contribution to growth of the outstanding year was observed. Based on our estimations carried out on historical data, the grain harvest in a given

year can be best approximated by the average of the previous four years. As a result of mean reversion, **in the case of a crop quantity that is close to the average of the previous four years, this year's harvest of the main cereals may be much lower than last year's high level**. The corn harvest, which has the highest weight, would fall by 22 percent, while that of wheat would be more than 12 percent lower compared to last year.

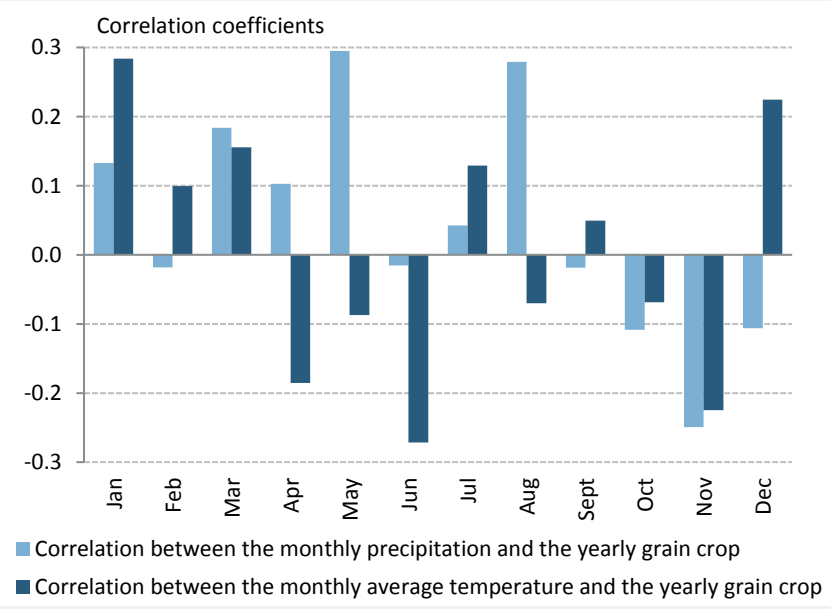
Chart 3-20: Contribution of agriculture to GDP growth and changes in agricultural production



Source: HCSO

In addition to the reversion to average yield, the frost experienced early in the year may also significantly affect agricultural production. One of the lowest monthly mean temperatures of the past decades was recorded in January 2017. Based on historical data, **lower mean temperature in January typically results in lower grain harvest** (Chart 3-21).

Chart 3-21: Correlation between monthly mean temperature and annual grain harvest



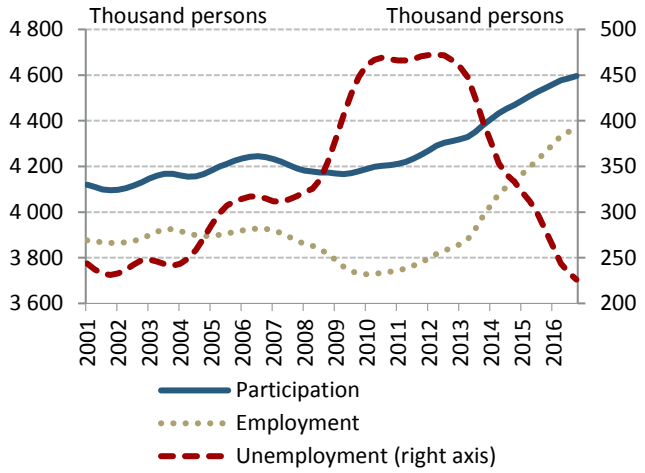
Source: MNB calculations

Overall, as a result of the reversion to average yield (technical effect) and the frost in January, agricultural production in 2017 is expected to decelerate economic growth.

3.3. Labour market

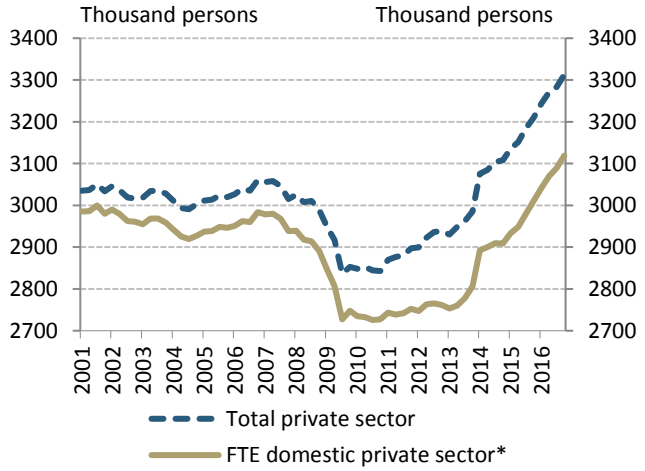
The strong growth in employment continued in 2016 Q4. The growth amounted to 3.4 percent in the year as a whole. Manufacturing and market services sector contributed significantly to the dynamic increase. With the continuous tightening of the labour market, the seasonally adjusted unemployment rate declined to 4.5 percent in Q4.

Chart 3-22: Participation, employment and unemployment in the total economy



Note: Seasonal moving averages.
Source: HCSO

Chart 3-23: Evolution of employment in the private sector



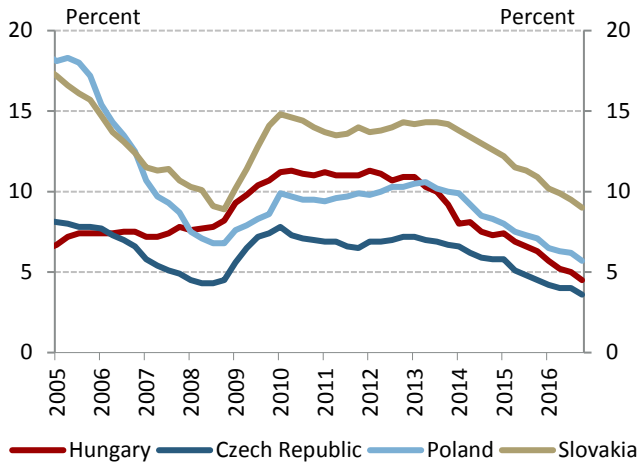
Note: * Total hours worked, divided by average weekly hours of full time employees, without employees abroad.
Source: HCSO, MNB

Activity increased further in the last quarter of 2016 (Chart 3-22), and the participation rate for the 15–74 age group reached 61.5 percent. The ratio of the active amounted to 70.7 percent among those aged between 15–64 years.

The strong growth in whole-economy employment continued, with a growing number of employees both in the private and public sectors. Within the general government, the expansion in employment other than public work programmes was a key factor.

Within the private sector, a major expansion was observed in both manufacturing and market services sector. The number of those working abroad remained practically unchanged. Both the number of hours worked and the number of over-time hours increased, indicating that companies adjusted to the tight labour market environment on the intensive side as well. Thus, on the whole, **the full-time equivalent number of employees increased faster than private sector employment** (Chart 3-23).

Chart 3-24: Development of unemployment rates in V4 countries



Note: Seasonally adjusted data.
Source: Eurostat

Similarly to regional countries, the historically low unemployment continued to decline in Q4, with the seasonally adjusted unemployment rate decreasing to 4.5 percent (Chart 3-24). Both the number of non-subsidised vacancies and the number of non-subsidised new jobs declined slightly compared to the previous quarter. In the private sector, the number of vacancies remained practically unchanged; within that, the number of vacancies grew in the services sector and slightly declined in manufacturing. According to tightness indicators calculated from various statistics, labour market tightness is at a historical high.

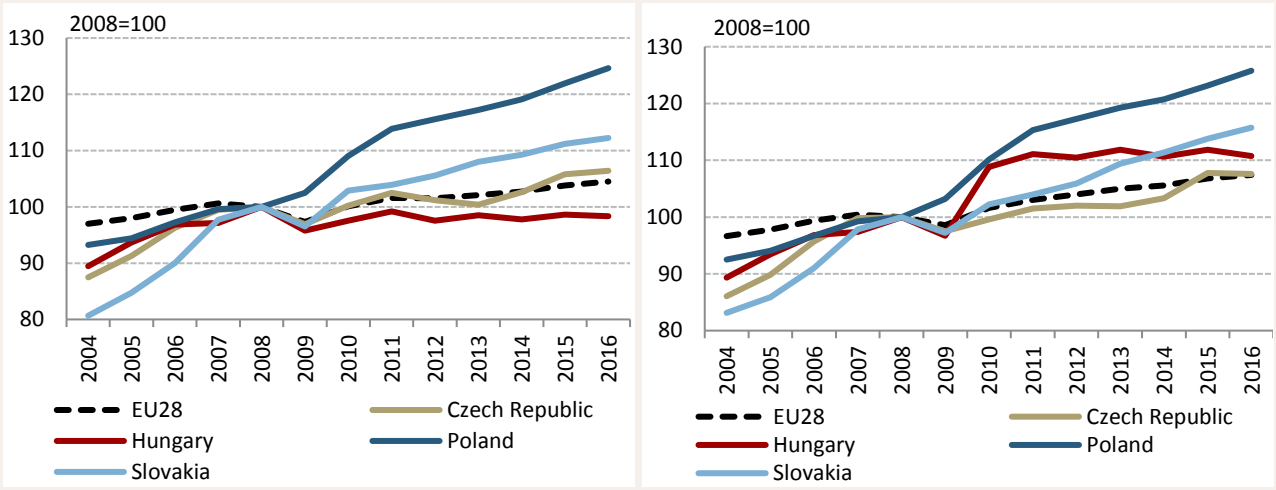
Box 3-2: Development in productivity in regional comparison

Productivity expresses the efficiency that helps the factors of production generate output. The most commonly used measure is **labour productivity,** which measures output per employee (or per working hour). Another indicator, serving a more comprehensive measuring of productivity, is the **total factor productivity** (TFP), which also considers capital, in addition to labour, when assessing the production process. In this box, we examine the developments in the productivity of the Hungarian economy observed in recent years, comparing it with the processes seen in the Visegrád countries (the Czech Republic, Poland, Slovakia).

After the crisis, there was a major decline in labour productivity, calculated as the resultant of the changes in real GDP and employment (Chart 3-25, left side). **Labour productivity per capita** started to rise in 2010-2011 again, but there has been no significant growth in this indicator since then and **at present it is still below the pre-crisis level**. By contrast, in the other Visegrád countries, productivity per capita embarked on a sustained rise in recent years and at present it is well over its pre-crisis level.

It is also worth examining the number of actual hours worked by the employees generating the value added. After the post-crisis decline, the productivity per working hour in Hungary significantly exceeded the pre-crisis level in 2010-2011 (after the crisis, enterprises' labour demand may have shifted toward part-time employment) however, in the years after that it did not increase further (Chart 3-25, right side). In the other Visegrád countries, the productivity per working hour exceeded the pre-crisis level by gradually improving in recent years.

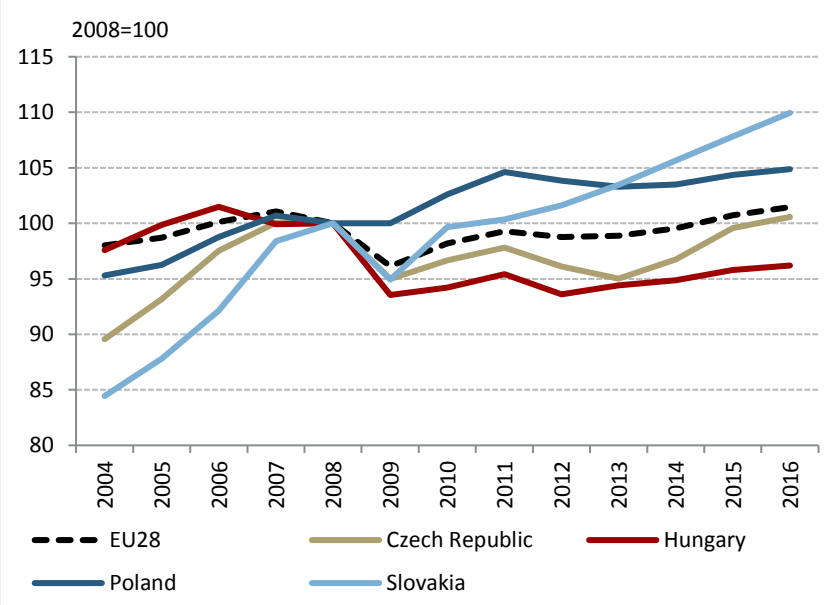
Chart 3-25: Development in real labour productivity in the Visegrád countries: per employee (left-side chart) and per working hour (right-side chart)



Source: Eurostat

Similarly to labour productivity, total factor productivity was also impacted negatively by the crisis, and modest growth only started in recent years. Thus, **TFP remains well below the pre-crisis level** (Chart 3-26). Total factor productivity reached the pre-crisis level in the Czech Republic and substantially exceeded it in Slovakia and Poland.

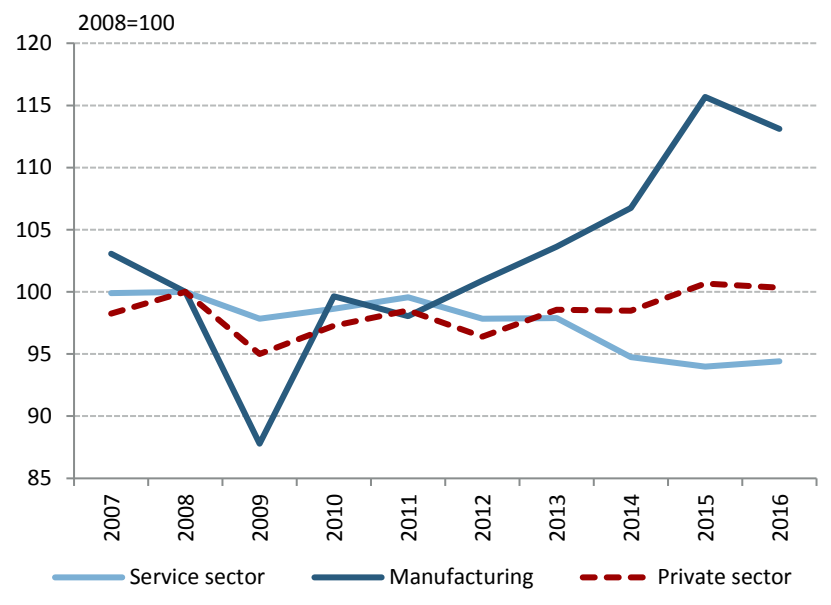
Chart 3-26: Development of total factor productivity (TFP) growth in the Visegrád countries



Source: AMECO

It is worth calculating Hungarian productivity for the private sector as well. In examining real labour productivity per employee narrowing it to the private sector branches, it can be stated that in recent years **private sector productivity has already been at the pre-crisis level** (Chart 3-27). However, within the private sector, the developments in the productivity of the two main sectors show a contrasting picture. **Manufacturing productivity** substantially declined after the crisis, but then improved significantly and has been showing an increasing trend since then, and **at present it is well above its pre-crisis level**. By contrast, the **market service sector's productivity** has been continuously deteriorating in recent years and **at present it is well below the pre-crisis level.**

Chart 3-27: Development in real labour productivity per employee in the private sector



Note: Based on national accounts.

Source: HCSO

The potential causes of the slow recovery seen in Hungary after the crisis may include the decline in capital investment, the expansion of human capital not in the required quality, the low innovation activity rate and the slowdown of the reallocation processes (for more details see: Chapter 3.2 of the 2015 Growth Report). In addition, it is worth emphasising in relation to the lower Hungarian productivity indicators that the post-crisis structural labour market reforms (tightening of the conditions of old-age and invalidity pension, reducing the amount and duration of the transfers related to absence from employment, introduction of the Job Protection Action Plan, expansion of public employment, easing the conditions of applying flexible forms of work) resulted in a high flow to employment of groups that earlier were not attached to the labour market or were attached only to a lesser degree. Since the productivity of these – formerly inactive or unemployed for a long time – employees lags behind the average, the composition effect also points to a slower improvement in productivity in the case of Hungary.

On the whole, productivity has not improved materially in recent years in Hungary, which may signal risks both in the short and in the longer run. In the short term, the slowly improving productivity may cause an increase in unit labour costs and thereby strengthen inflationary pressure, while in the longer run the developments in productivity, as one of the most important factors of potential growth, also influence the economy's longer-term convergence path.

Box 3-3: Unutilised labour capacities from the point of view of market-based employment

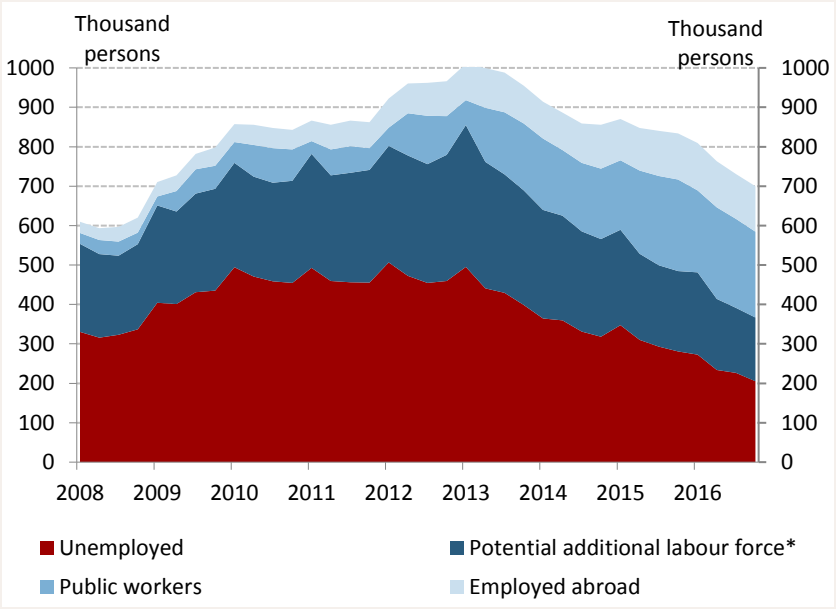
In the historically tight labour market environment, it is particularly important to review the size and quality of labour force capacity that may be involved in market-based employment. Market-based employment means the domestic private sector without public employment programmes, as due to the statistical special features of the Labour Force Survey, some public workers appear in the private sector. **As a result of the dynamic growth in market employment seen in recent years, the available labour reserves materially decreased, and in parallel with this, an increasing number of companies mention labour shortage as factor limiting production.**

The primary group of unutilised labour capacity is that of the unemployed. According to the internationally acknowledged definition, this group includes the individuals with no work, who actively look for work and would be able to take up work within two weeks. Since 2010 the number of unemployed persons has dropped by more than one half, falling to close to 200,000 by the end of 2016. In addition to the vigorous growth in market-based employment, the pick-up in the public employment programmes also contributed to this.

However, unemployment alone is not able to capture the degree of unutilised labour capacity. **Generally, inactive persons linked more closely to the labour market and underemployed part-time workers are also classified as potential labour reserves.** The persons that may potentially be involved in production are those inactive persons that partially satisfy the definition of unemployment. On the one hand, these are the persons who would like to work and would be able to start working within two weeks (available), but for some reason at present they are not actively looking for a job. A much smaller group includes those inactive persons who are active jobseekers, but not available**. Similarly to unemployment, the number of inactive persons who may be involved in employment fell to a historic low due to the growth in market-based employment and then number of public workers.** Firms can adjust to the bottleneck on the intensive side as well, i.e. as a result of the stronger labour demand they may increase the number of hours worked per employee. Due to the possibility of intensive adjustment, the underemployed should be also allocated to the potential labour capacity. This group includes those part-timers who admittedly would like to work longer working hours. **As a result of the labour hoarding characterising the post-crisis period, the number of the underemployed gradually increased until 2013 and it shows a decreasing trend since then**. It is a general tendency within the Central Eastern European region to see a decrease of potential additional labour force in parallel with decreasing unemployment. Hungary and Poland both feature a salient contribution of underemployed and inactive persons who may be involved to their unutilised labour capacities: their aggregated number amounts to three quarter of the unemployment.

There are two more larger groups within employment, which could make a significant contribution to the economic upturn by taking jobs in the domestic private sector. **With the favourable change in the composition of employment, both the productivity and the potential growth may improve in the longer run.** The larger group is constituted by those participating in public work programmes, who typically work not in the private sector and in their current jobs they usually produce lower value added. To date, the permanent inflow of public workers to market-based employment was not typical, but – under persisting high labour demand – the adjustment of the public work programmes may bring a positive change in the coming period. Persons employed at foreign sites, who are included in the Labour Force Survey, do not contribute to domestic output, but they also represent unused labour capacity in terms of market-based employment. The integration of those working abroad in the domestic labour market is feasible only through targeted incentives, and thus they can be involved in the market-based domestic employment only in the longer run**. Both the number of public workers, and those employed abroad decreased moderately in the second half of 2016.**

Chart 3-28: Developments in labour capacity that may be involved in market-based employment



Note: *Underemployed part-time employees and inactive persons closely linked to the labour market.

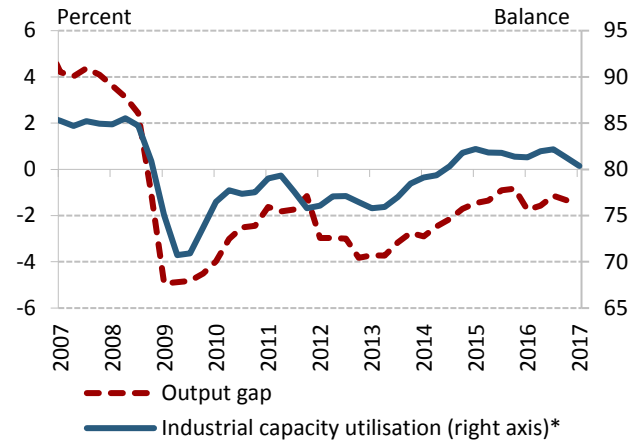
Source: HCSO, MNB

In terms of market-based employment, there is still material unused labour capacity as regards its volume; when also considering the groups within employment, the level of labour reserves still exceeds the pre-crisis level (Chart 3-28). However, the labour supply of most of these groups does not appear – at least for the time being – for the market-based labour demand, or they are not necessarily able to satisfy firms' labour demand due to quality and geographic mismatches. These factors also appear, directly or indirectly, in the labour market flows. With persistently strong labour demand, estimated from the flow data, about 20 percent of the labour capacity – which fell to 700,000 persons by the end of last year – can be involved in market-based employment in the short run. In addition to geographical disparities, the large ratio of low educated persons within the unused labour force is making involvement difficult. Thus, the remaining, substantial part may be involved in the longer run, upon applying active labour market policies and improving education. The acquirement and development of abilities and skills matching employers' needs, along with a rise in the degree of average education should raise the probability of hiring in market-based employment. **On the whole, the expanded labour supply is increasingly limited not only in terms of volume, but also in terms of quality and mobility**.

3.4. Cyclical position of the economy

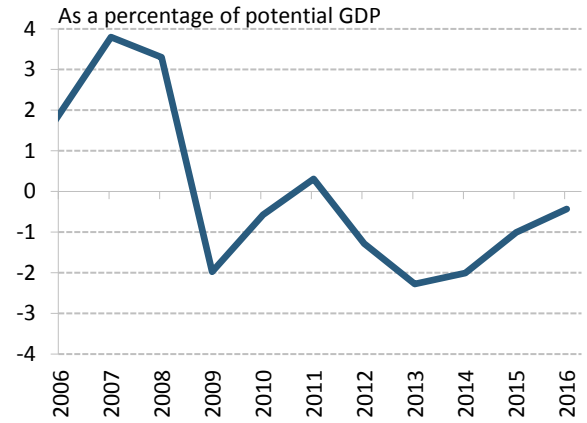
According to our estimate, the output gap remained in negative territory in 2016 Q4 as well. Throughout last year, in parallel with the temporary deceleration in economic growth, the cyclical position of the economy became more open compared to 2015; however, in line with the dynamic increase in employment and domestic demand, it was gradually closing in the past quarters.

Chart 3-29: Evolution of the output gap and industrial capacity utilisation



Note: *Trend.
Source: MNB, ESI survey

Chart 3-30: Evolution of the euro-area output gap



Source: European Commission

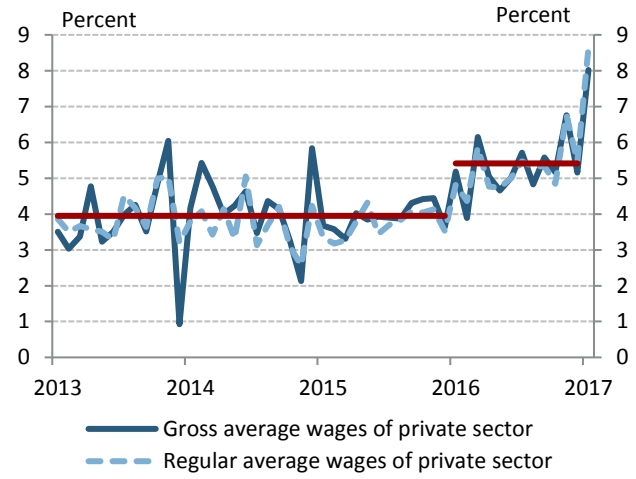
According to our estimate, the output gap remained in negative territory in 2016 Q4, as the performance of the economy fell short of the potential level (Chart 3-29). As a result of the more moderate vehicle manufacturing and construction output, and the **deteriorating productivity observed in industry, capacity utilisation dropped** last year, and thus **several sectors accumulated efficiency reserves**, thereby contributing to persisting open cyclical position. In the case of household consumption, which is of key importance in terms of assessing the output gap, a **significant recovery potential can be identified**. Based on the European Commission's estimate, **the output gap of the euro area** – which is Hungary's most important trading partner – **is still in negative territory** and is expected to close further throughout 2017 (Chart 3-30).

Most surveys capturing corporate business sentiment and capacity utilisation have **improved considerably in the past years,** implying the gradual closing of the output gap. According to the responding companies, workforce was a bottleneck in the past quarters. The historically low unemployment rate also implies that the **utilisation of the labour factor increased considerably in the past period.**

3.5. Costs and inflation

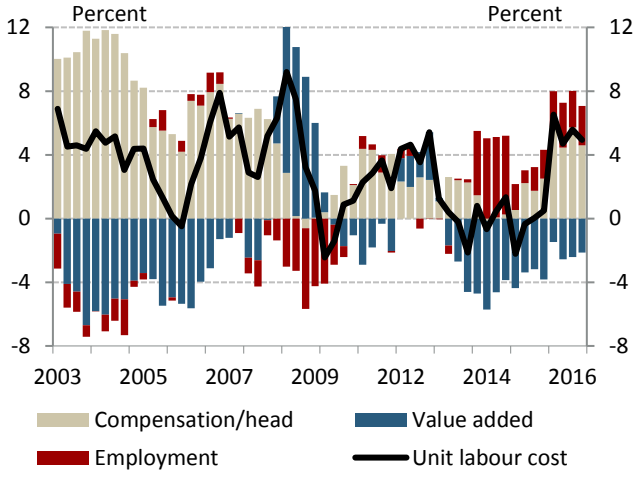
The increase in inflation continued at the end of last year and in the first months of this year. The rate of inflation amounted to 0.4 percent in 2016, but advanced to close to 3 percent by this February. The rise is primarily attributable to the temporary increase in the fuel price index, mostly due to base effects. The wage dynamics of the private sector was more vigorous in 2016 than in previous year; the pay increasing effect of the administrative measures also contributed significantly to the wage growth in January this year.

Chart 3-31: Annual change in gross average wages of the private sector



Note: Seasonally adjusted data. The red lines represent averages of 2013-2015 and 2016.
Source: MNB calculation based on HCSO data

Chart 3-32: Decomposition of annual change of unit labour cost in the private sector



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

3.5.1. Wages

In Q4 2016, the annual index of gross average wage was 5.6 percent, **while private sector wages increased (adjusted seasonally) by 8 percent on average in January 2017 year on year** (Chart 3-31). The outstanding wage dynamics were attributable to the tight labour market environment and the increase in the minimum guaranteed wage and the minimum wage at the beginning of the year. After the wage agreement announced in November, firms restrained wage setting last December. In the private sector, as a result of the administrative measures, wage dynamics accelerated in a wide range of branches in early 2017.

Similarly to previous quarters, growth in nominal unit labour costs was at a historic high in the final quarter of last year (Chart 3-32). The persistently strong dynamics of unit labour costs was attributable to the high compensation per head and the temporarily more moderate productivity.

3.5.2. Producer prices

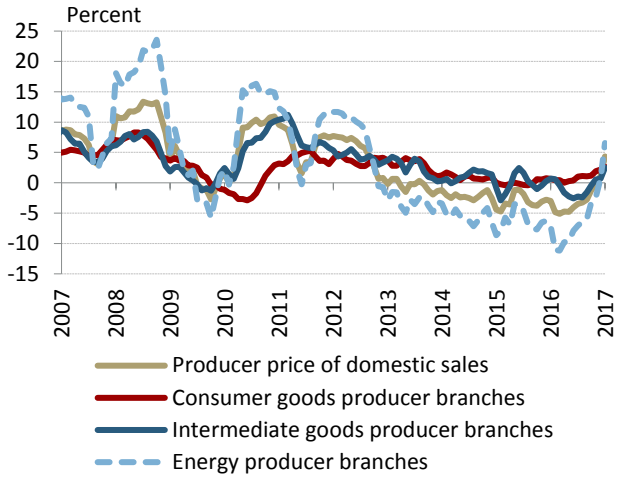
Agricultural producer prices moderately rose in 2016 Q4. This is primarily attributable to the continued rise in the producer price of milk, resulting from the difference between the domestic and foreign procurement prices and the fall in supply. The producer price of cereals – after seasonal adjustment – decreased slightly, while that of the seasonal products moderately rose in the past period.

Domestic industrial sales prices rose year on year (Chart 3-33). In the case of energy producing sectors, the annual index rose to a considerable degree, mostly due to base effects and, to a smaller degree, to the oil price rise in December. In the case of the sectors producing consumer goods for downstream users, producer prices increased slightly year on year. Changes in domestic producer prices were in line with the trends observed in the euro area.

3.5.3. Consumer prices

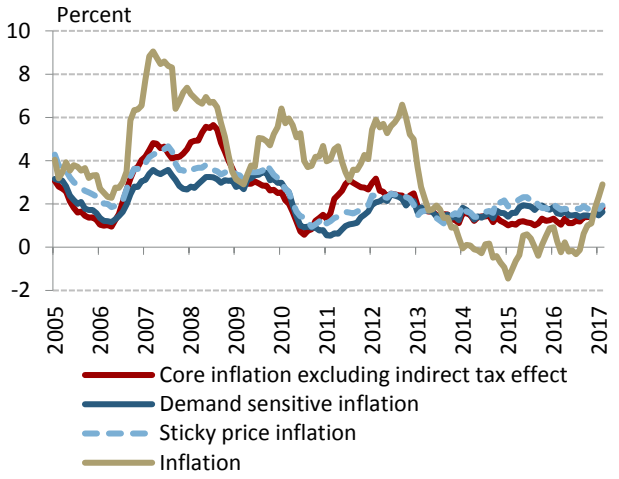
In the winter months, inflation continued to rise. The value of the index was 0.4 in 2016, whereas it came close to 3 percent in this February (Chart 3-34). The rise is primarily attributable to the temporary increase in the fuel price index, mostly due to base effects. Price developments were also influenced by the VAT cut, which entered into force this

Chart 3-33: Annual change in industrial producer prices



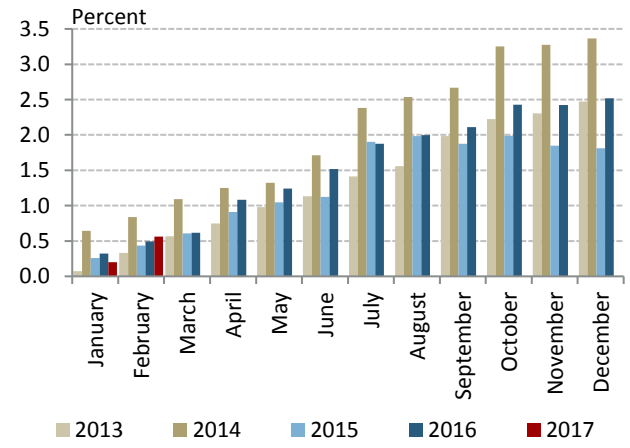
Source: MNB calculation based on HCSO data

Chart 3-34: Inflation and underlying inflation indicators



Source: MNB calculation based on HCSO data

Chart 3-35: Services inflation



Note: Adjusted for indirect tax effects. Percentage change compared to last December.

Source: MNB calculation based on HCSO data

January, resulting in a decrease in internet prices corresponding to the decrease in the VAT rate and in a somewhat smaller decrease in the prices of milk, egg and poultry. In the case of restaurant services, no downward drift related to the VAT cut was observed at the beginning of the year, which may be explained by the postponement of price hikes. Overall, the contribution of demand-sensitive products to inflation did not change, while the more volatile and more cost-sensitive food and energy prices pointed to price increases.

Indicators capturing longer-term inflation trends (the inflation of demand-sensitive and sticky-price products) **showed no substantial shift compared to the end of 2016,** thus they are still between 1.5–2 percent.

Price increases for industrial goods were restrained in past months. Within the product group, the seasonal adjusted prices for both of the durables and non-durables slightly increased. The price-reducing effect of moderate import prices and the steady acceleration in domestic demand continue to influence the prices of industrial goods.

Overall, the price index of market services slightly increased, but it remains at a moderate level. Movements in services prices excluding VAT at the beginning of the year, which mainly determines the annual price dynamics, were broadly in line with those in previous years, explained by the smaller monthly change in January followed by a slightly greater change in February (Chart 3-35).

In the case of food, after seasonal adjustment and excluding indirect tax effects, the prices of both unprocessed and **processed food rose in the past months.** In the case of the first group, the price developments are primarily attributable to the rise in the price of fresh vegetable, while in the latter group to the prices of milk, dairy products, and bread.

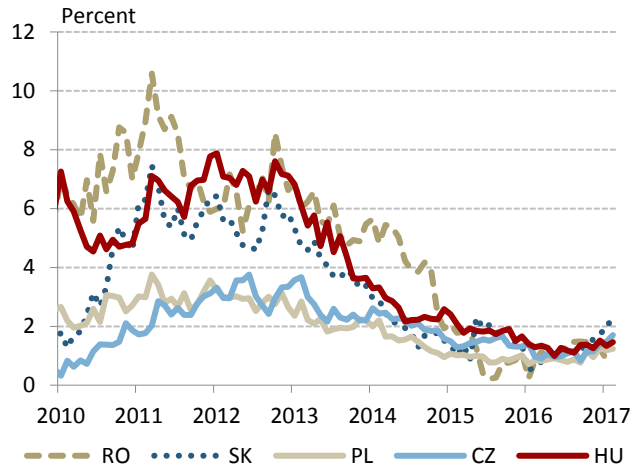
The **inflation of fuel prices considerably increased,** which is explained by base effects and the rise in oil prices expressed in HUF. **There were no major price changes in the case of regulated-price products** in the past months.

In the winter months, the consumer price index exceeded the forecast in the December Inflation Report. The difference is attributable to the larger-than-expected rise in fuel prices.

3.5.4. Inflation expectations

The price expectations of the retail trade sector rose, due to the accelerating inflation seen in past months and the gradual increase in costs.

Chart 3-36: Inflation expectations in the region



Source: MNB calculations based on data of the European Commission

Hungarian households' inflation expectations remained practically unchanged; despite the increasing inflationary environment, they are still at a moderate level. The latest post-crisis trend in household expectations suggest a more anchored expectation than before. In a regional comparison, expectations in Hungary were in line with the expectations observed in countries characterised by permanently low inflation in the past as well (Chart 3-36).

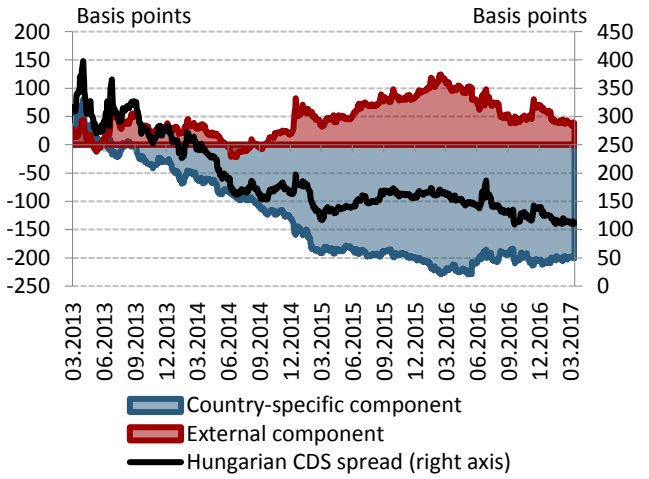
4. FINANCIAL MARKETS AND INTEREST RATES

4.1. Domestic financial market developments

The international financial markets have fundamentally been characterised by favourable sentiment. Global inflation trends, the decisions of President Donald Trump, the developments of Brexit and the European elections and market expectations concerning the Federal Reserve have shaped market trends the most. The major risk indicators for the equity and bond markets also showed that investor sentiment has improved. Stock exchange price indices have risen further in the favourable market sentiment, with US indices advancing to new peaks. Overall, bond yields have increased, including developed countries' long-term yields, which were characterised by significant volatility. The US dollar weakened in the past quarter, which can partly be interpreted as a correction of the previous strengthening. In sum, the currencies of the region appreciated against the euro.

In addition to international developments, domestic financial markets were primarily affected by central bank measures. Due to the transformation of MNB policy toolkit and the increasing crowding-out of HUF liquidity, money market yields decreased further, in January BUBOR yields declined by 10-15 basis points. Similarly to the zloty, the forint appreciated versus the euro during the quarter, but we could observe two periods when the two regional currencies were moving in opposite directions. The yields of government securities moved differently in the short and long maturity segments. Short-end yields were more driven by domestic factors, and a continued slight decrease was registered. In accordance with the international trends, long-term yields rose by 20-55 basis points. The HUF denominated government security portfolio of non-residents decreased by over HUF 300 billion, and thus their share dropped to 22.4 percent.

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



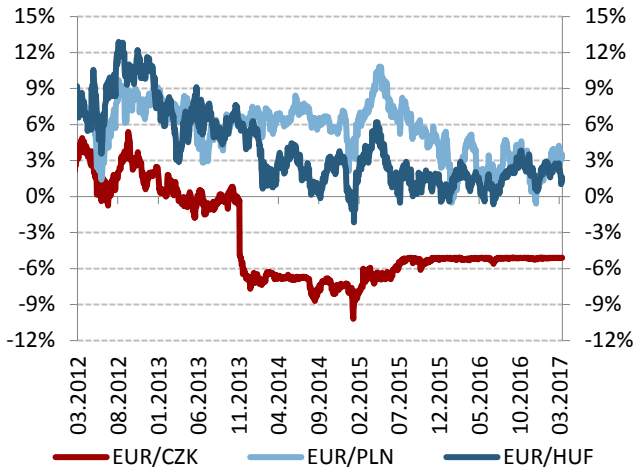
Note: The decomposition method used can be found in the MNB Bulletin: Variance decomposition of sovereign CDS spreads, Kocsis–Nagy (2011).
Source: Bloomberg

4.1.1. Hungary's risk perception

Hungary's risk indicators have improved slightly compared to mid-December. The Hungarian 5-year sovereign CDS premium dropped to a historically low level in the first trimester of the quarter (110 basis points), and then after a temporary rise it decreased again to close to this level by the end of the period. Driven by international factors, long-term government securities market yields increased, despite appropriate demand at the auctions. In the first trimester of the period the domestic currency appreciated from the 314 level to 307 per euro, and then after a temporary correction it returned to levels of 307-308, after which it showed some slight depreciation (to the level of 310-312). CDS spreads and long-term yields showed similar trends in the CEE region, although the exchange rate of the Polish zloty moved in the opposite direction in several cases compared to that of the forint.

The Hungarian CDS spread has decreased as a result of international factors and adapted to the global risk perception, the domestic component would have caused a slight increase. The adjustment to international trends is strongly reflected by the fact that when global sentiment deteriorated temporarily, the Hungarian CDS spread tended to increase, while improvement in global sentiment tended to reduce it. Although both S&P and Moody's reviewed Hungary's credit rating, neither changed their current view, and therefore the decisions had no impact on the financial markets.

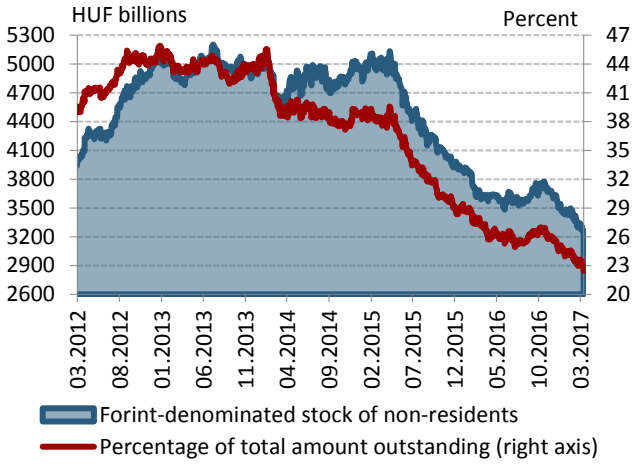
Chart 4-2: Exchange rates in the region



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

Source: Bloomberg

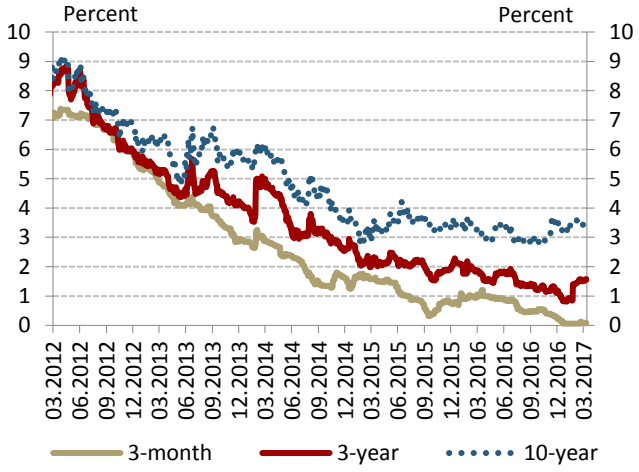
Chart 4-3: HUF-denominated government securities held by non-residents



Note: The chart only shows the stock of T-bills and T-bonds and the amount of government securities held by non-residents.

Source: MNB

Chart 4-4: Yields of benchmark government securities



Source: ÁKK

4.1.2. Developments on the foreign exchange market

During the observed period, the exchange rate of the forint against the euro appreciated by about 1 percent. The exchange rate of the forint fluctuated in a range of 307–314. The domestic currency had appreciated until the middle of January, and then it fluctuated in the range between 308-312, before finally depreciating slightly in March and closing the period in the range of 309-310 versus the euro.

The modest appreciation of the forint was partly in accordance with the exchange rate trends in the region and reflected improving international risk perception. At the same time, in several cases the different regional monetary and economic policy factors also affected the foreign exchange rate: the forint tended to respond with depreciation, while the zloty responded with appreciation. This implies that portfolio re-weighting and position-taking may have occurred between the two regional currencies.

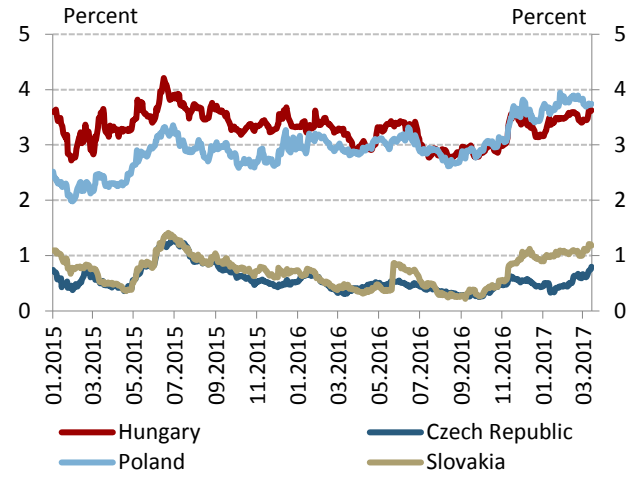
4.1.3. Developments in the government securities market

In the past quarter, the HUF-denominated government security holdings of non-residents decreased gradually. After a gradual decline since 2015, the forint government security holdings of non-residents stabilised in the middle of 2016, and at the end of the year it fluctuated at around HUF 3,500 billion. After that dropped gradually, by some HUF 300 billion in the last 3 months, and thus the ownership share of non-residents decreased to 22.4 percent.

Demand was appropriate at the auctions, and acceptance over the announced level took place in the case of securities with longer maturity. The continuation of the unconventional easing of the central bank through the capped 3-month deposit contributed to a reduction of short-term yields on treasury bills. The auction yields increased for long-term securities as a result of international developments.

The yield curve on the secondary market became steeper in the past quarter. In line with auction yields, short-term secondary market yields decreased by 10-15 basis points, while the over-1-year segment of the yield curve shifted upwards by 20-55 basis points. This can be explained by the change of benchmark papers fully in the case of the 3-year security, and partially in the case of 5-year security. For shorter maturities, yields decreased as a result of the liquidity-boosting effect of the policy toolkit transformation, while for long maturities, the rising international yield environment made an impact. At the end of the period, the 10-year yield fluctuated around 3.6

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



Note: Bloomberg

percent, while the 3-month and the 1-year yields stood at 7 and 13 basis points, respectively.

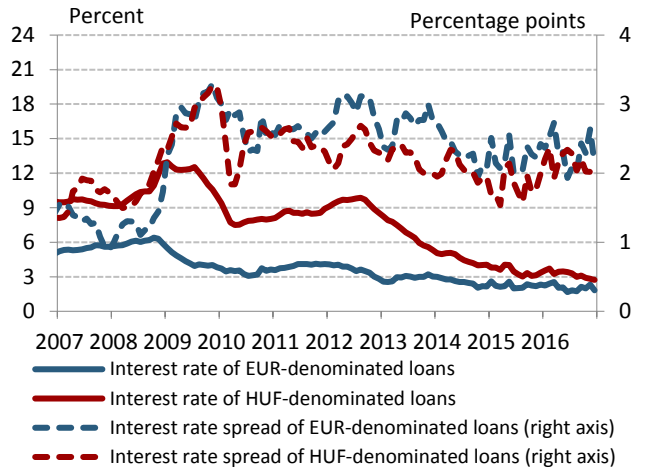
Interbank yields declined at an increasing pace since November, following the transformation of the policy toolkit and the tenders of capped 3-month central bank deposit. In the last quarter interbank yields, implied HUF swap yields and T-Bill yields also decreased, and then stabilised at a record-low level.

As for long-term yields, similar trends were occurring in the region, and HUF and PLN yields basically moved together, but the Slovak and Czech 10-year yields also showed an increase.

4.2. Credit conditions in the financial intermediary system

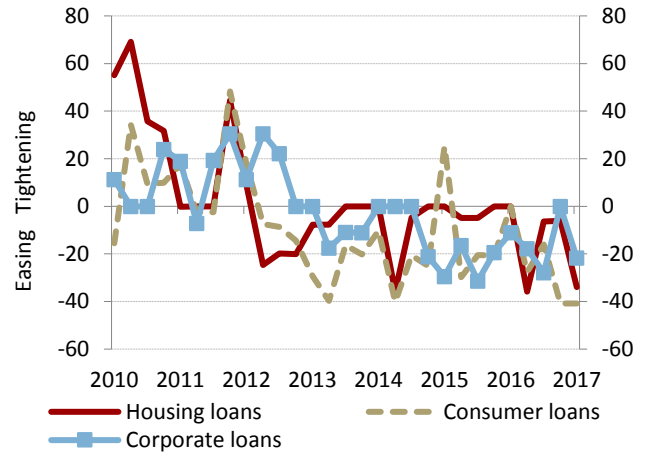
In Q4 2016, credit conditions remained practically unchanged in case of both corporate loans and housing loans, while conditions on household consumer loans continued to ease in the period under review. As indicated by the banks participating in the Lending Survey, intensifying competition and improving economic prospects continued to be the main factors contributing to the easing, which primarily concerned price conditions. The one-year forward-looking real interest rate declined further in the quarter under review.

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



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

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



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share.
Source: MNB based on banks' responses

4.2.1. Corporate credit conditions

The average financing costs of corporate HUF loans decreased in Q4 2016. Excluding money market transactions, the average interest rate level on new HUF loans with floating interest rates or with up to one-year initial rate fixation[1] fell by 0.4 percentage point to 2.7 percent during the quarter (Chart 4-6). By loan size, the average interest rate level on both high-amount and small-amount corporate HUF loans declined in the period under review. As a combined result of the rising spread on high-amount loans of over EUR 1 million and the decline in credit spreads on small-amount loans, overall spreads dropped by 0.1 percentage point on average. The average interest rate level of EUR-denominated loans was down by 0.3 percentage point to 1.8 percent during the quarter, also accompanied by a corresponding decrease in spreads. By end-December, the average level of interest rate spreads was 2.1 percentage points on new HUF and EUR loans alike.

Corporate credit conditions remained unchanged, but easing is expected in the future. The Lending Survey revealed that, on the whole, banks did not change their corporate credit conditions, although they indicated amendments in partial conditions (Chart 4-7). Responding banks explained the easing mainly with the competitive situation, improving economic prospects and ample liquidity. As in the previous quarter, the easing concerned price conditions (spreads, fees charged). Looking ahead, in net terms,[2] 22 percent of the respondents envisaged further easing in corporate credit conditions, primarily still in terms of price conditions.

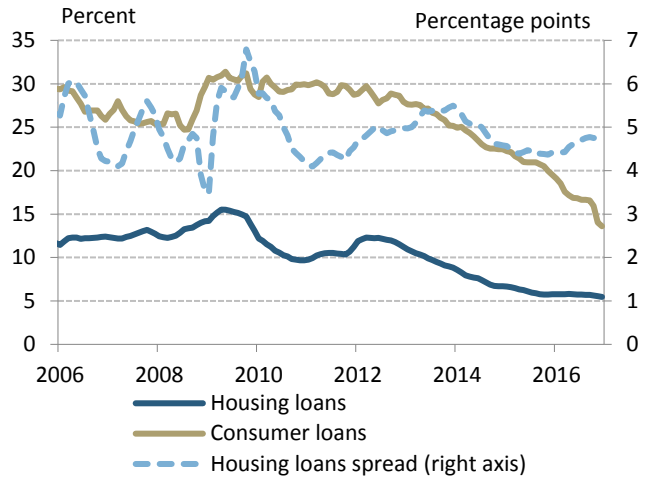
4.2.2. Household credit conditions

Spreads on consumer loans continued to decline. The APR on newly granted consumer loans declined by 1.8 percentage points to 13.6 percent in Q4 2016 (Chart 4-8). The annual percentage rate on housing loans fell by 22 basis points during the quarter, amounting to 5.5 percent at end-December. At the end of the quarter, the average APR on

[1] The majority of loans granted under the Funding for Growth Scheme are long-term loans; therefore, the interest rates reviewed mainly reflect lending developments outside of the scheme.

[2] Net percentage balance of respondents reporting tightening/easing credit conditions weighted by market share.

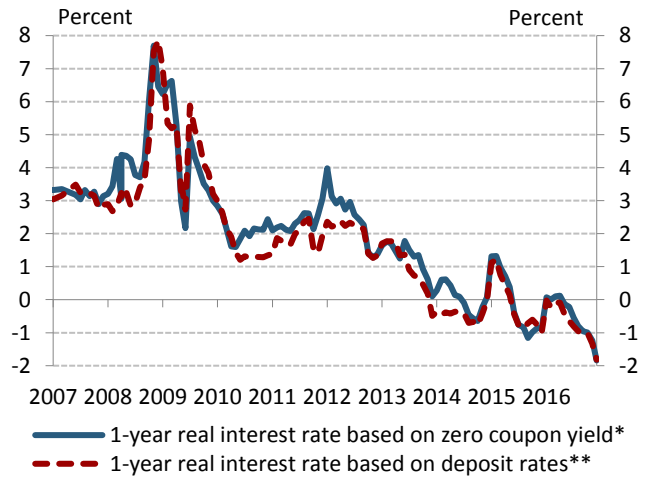
Chart 4-8: Smoothed annual percentage rate of charge (APRC) and spreads of housing and consumer loans



Note: Interest rates and spread smoothed by the 3-month moving average. Prior to 2009, HUF-denominated mortgage lending was marginal.

Source: MNB

Chart 4-9: Forward-looking real interest rates



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

Source: MNB, Reuters poll

variable-rate and fixed-rate housing credit products stood at 4.2 percent and 6.2 percent, respectively. On the whole, the average interest rate spread on housing loans remained unchanged in the period under review, while spreads on consumer loans declined (by 0.2 percentage point to 6 percentage points in the case of home equity loans).

Consumer loan conditions eased considerably, while housing loan standards changed slightly during the quarter. In net terms, 40 percent of banks responding to the Lending Survey eased their consumer loan conditions, in particular the spreads (Chart 4-7). In the consumer segment, the improvement in economic prospects, banks' endeavour to retain or increase their respective market shares and the intensification of perceived competition contributed to the easing of credit conditions. In case of housing loans, 6 percent of banks eased overall conditions, but in specific terms, easing took place to a greater extent. Based on banks' responses, the easing mainly concerned spreads, which may indicate a composition effect as average interest rate spreads increased: the ratio of new, riskier clients may have grown among clients who were granted loans. Looking ahead, in net terms, 47 percent of banks indicated that housing market developments would call for the easing of conditions in the housing loan segment; therefore, 34 percent of the respondents intend to actually implement easing. As for consumer loans, in net terms 41 percent of banks indicated further easing, especially with respect to spreads, the minimum level of required creditworthiness level as well as the fees charged for disbursement.

4.2.3. Changes in real interest rates

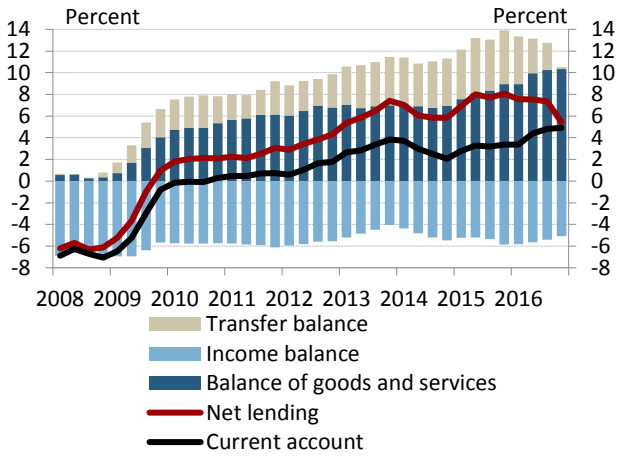
The one-year forward-looking real interest rate declined at the end of 2016. On the basis of the yield estimated from government securities yields, after a decline of 0.9 percentage point, compared to September, the real interest rate level reduced by inflation expectations stood at -1.8 percent in December 2016. With a decrease of 0.8 percentage point, the real interest rate calculated on the basis of the deposit interest rates also reached a level of -1.8 percent in December (Chart 4-9). The decline in real interest rates is mainly explained by a rise in inflation expectations and to a lesser extent by a decrease in deposit rates.

5. BALANCE POSITION OF THE ECONOMY

5.1. External balance and financing

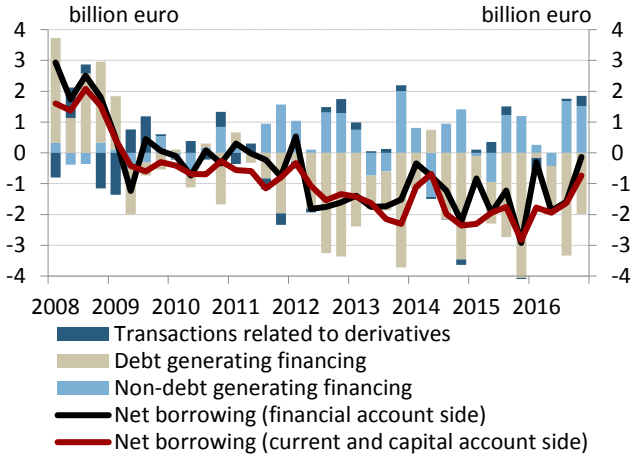
By the end of 2016, in the real economy approach, the net lending of the Hungarian economy fell to close to 5.5 percent of GDP, mostly due to the low absorption of EU transfers. The impact of this was reduced by the historically high trade surplus and the continuous decline in the income balance, which was also reflected by the steadily high current account surplus of around 5 percent. In parallel with this, financing side net lending also decreased in the second half of the year. The outflow of funds developed in parallel with a major decrease in net external debt, while there was a remarkable inflow of non-debt liabilities, particularly foreign direct investments. The outflow of debt-type liabilities mostly related to the banking system. The debt ratio improved in the second half of 2016: net and gross external debt fell below 20 percent and 70 percent of GDP, respectively. The transactions related to the forint conversion still had a bearing on the allocation of debt outflow among the sectors, which overall improved the banking system's net external debt ratio and deteriorated that of the general government.

Chart 5-1: Changes in net lending as a proportion of GDP



Note: Cumulated four-quarter values.
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

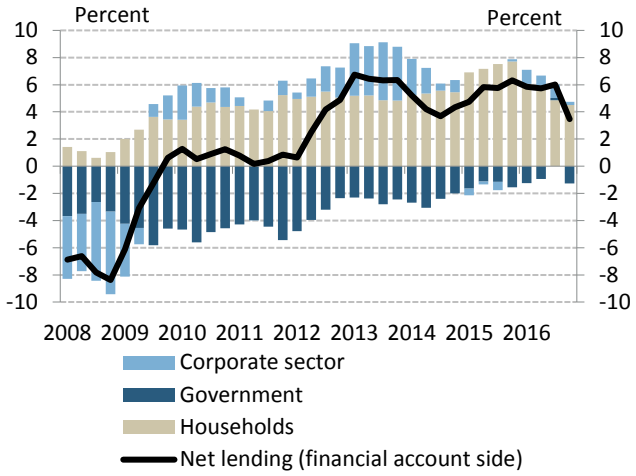
5.1.1. Developments in Hungary's net lending position

According to the real economy approach, at the end of 2016 the four-quarter net lending of the Hungarian economy – primarily due to the decline in the transfer balance – fell to close to 5.5 percent of GDP, while the current account surplus was close to 5 percent (Chart 5-1). In the third quarter, the **trade balance** rose to a historic high, at almost 10 percent of GDP, also supported by the expansion in the goods balance and the improved terms of trade. At the end of last year, in line with the deceleration of industrial production, the trade in goods dynamics fell. On the whole, the trade balance can be still regarded as a factor providing the greatest support for the economy's net lending. By the end of the year, the **transfer balance** fell, which is attributable to the fact that EU transfers were absorbed at year-end only to a small degree, and major other current transfer payments (e.g. taxes paid in relation to the wages of employees temporarily working abroad) were made. The decreasing trend in the **income balance** deficit continued in the second half of the year as well, which was mainly caused by the declining interest expense resulting from the low interest environment.

5.1.2. Developments in financing

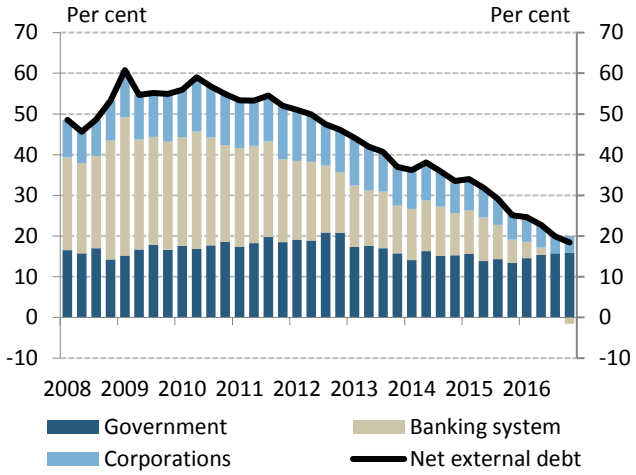
Financing side net lending fell in the second half of the year, and at the end of the year it amounted to EUR 0.1 billion (Chart 5-2). Outflow of funds developed under declining net external debt, the impact of which was mitigated by the inflow of non-debt liabilities. Non-debt liabilities increased by EUR 1.7 billion and EUR 1.5 billion in the third and fourth quarter, respectively, which was almost entirely attributable to the rise in foreign direct investments. In the fourth quarter, the outflow of debt liabilities reduced the net external debt of the economy by EUR 2 billion, with the highest contribution from the banking sector. The foreign currency liquidity generated by

Chart 5-3: Breakdown of net lending by sectors as a proportion of GDP



Note: Four-quarter cumulation.
Source: MNB

Chart 5-4: Breakdown of net external debt by sectors as a percentage of GDP



Note: Excluding intercompany loans.
Source: MNB

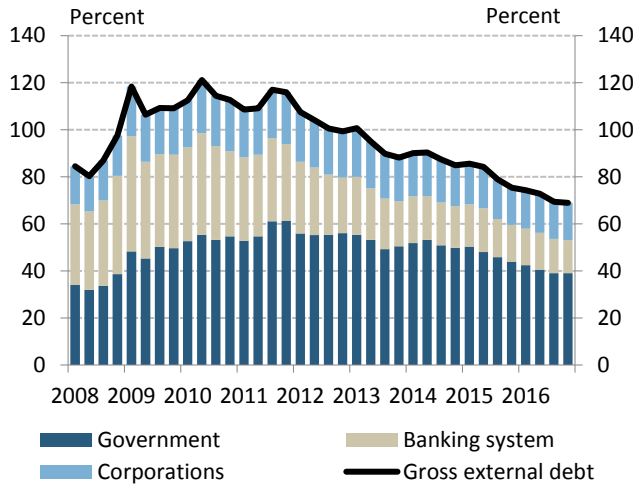
the closing of the foreign exchange swap transactions related to the forint conversion was a major factor in the second half of the year as well, which reduced the banking sector's net external debt and increased that of the general government.

At the end of the year, net lending according to the sectors' savings fell below 4 percent of GDP, which was attributable to the decrease in the private sector's net saving, as well as to the rise in the general government's net borrowing (Chart 5-3). In the third quarter, the general government's four-quarter net borrowing fell to a historic low, i.e. to zero percent of GDP, which was attributable to increasing tax revenues resulting from rising employment and wages. After the fall observed in the previous quarters, the general government's net borrowing increased significantly in the last quarter of 2016, due to the year-end loosening of the budget, but still remained below 2 percent of GDP. Simultaneously with this, private sector net lending continued to decrease in the second half of the year. In the case of the households, rising wages and employment, as well as the decline in unemployment resulted in an increase in households' consumption and investment expenditures and the pick-up in lending to households. The net lending of the business sector gradually decreased from the beginning of 2016, and dropped close to zero by the year-end. In the first half of the year, the process could be explained by the modest decrease in incomes and transfers, while at year-end by the rise in investments and inventory accumulation costs.

In the second half of the year, Hungary's net external debt declined further, and thus by the end of 2016 it fell below 20 percent of GDP (Chart 5-4). In addition to higher outflows of debt generating liabilities, nominal GDP growth also contributed to the decline in net external debt. The decline in net external debt is primarily attributable to the banking system, which was achieved under a greater increase in the banks' foreign receivables and a more moderate fall in their debts; as a result of these factors, the banks' net external debt became negative. The net external debt of the consolidated general government rose, mainly due to fall in foreign exchange reserves which is related to the foreign currency liquidity provided, to the banking system in relation to the forint conversion. The corporations' net external debt – mostly due to the sector's rising foreign assets – decreased further in 2016.

Gross external debt of the economy continued to decline in the second half of the year and at the end of 2016 it amounted to 68 percent of GDP (Chart 5-5). In recent years – partly as a result of the central bank's self-financing

Chart 5-5: Breakdown of gross external debt by sectors as a percentage of GDP



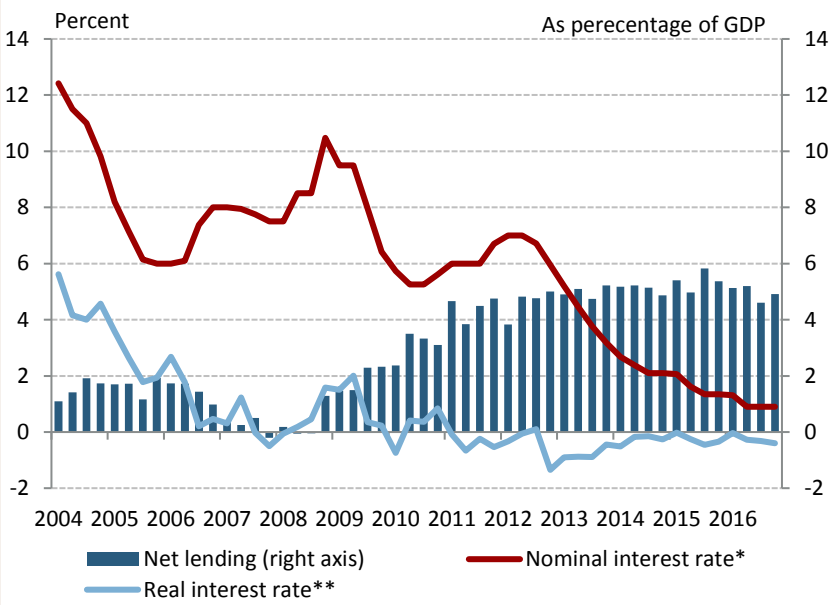
Note: Excluding intercompany loans.
Source: MNB

programme, and partly due to the purchasing of government securities by households in high volumes – the general government's gross external debt decreased substantially, falling from the previous level of more than 50 percent to 40 percent of GDP by the end of 2016. The banking system's gross external debt decreased by almost 2 percentage points during the last six months, in line with the repayment of the banks' debt. There was no material change in the gross external debt of the business sector at year-end, and it is still around 16 percent of GDP.

Box 5-1: Correlations between low interest rates and household savings

According to economic theories prevailing prior to the crisis, declining interest rates basically encourage people to reduce their savings. In the past decades, however, neither Hungarian, nor international data could prove any close correlation between the developments in yields and financial savings. Following the outbreak of the crisis, the base rate, and thus the yield attainable on bank deposits, declined considerably in several waves in Hungary. Nevertheless, households' savings increased steadily before becoming stable at a high level, i.e. no strong correlation between the two indicators was seen. A similar conclusion is drawn if the developments in yields and savings are examined on the basis of international data. However, this does not mean that the theoretical correlations between yield and savings are not valid. It only means that there were numerous factors whose impact on savings was stronger than that of the changes in interest rates. Following the crisis, the increase in unemployment and the rise in instalments as a result of the revaluation of foreign currency loans made households reduce the loans outstanding and increase savings, in addition to restraining consumption. The attitude to strive for caution may have started to change only recently: the rise in incomes and employment, improving economic prospects and the restoration of confidence result in a pick-up in consumption. Accordingly, the slight decline in net financial savings observed in the past quarters may have been related to these factors, and less to yields, which are at a historical low.

Chart 5-6: Correlation between net financial savings and the short-term bank rate



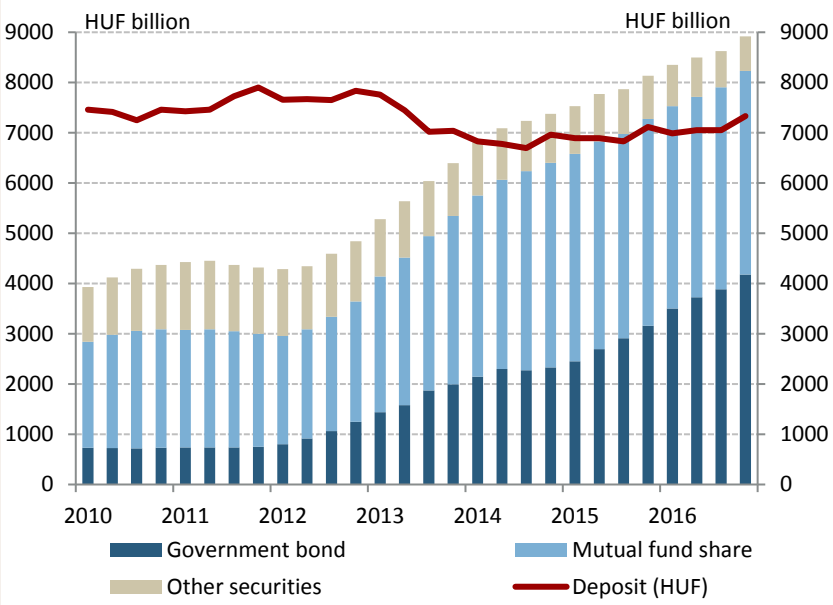
Note: *Average base rate. **Average base rate less inflation.

Source: MNB

Accordingly, the low interest rate environment did not result in a decline in savings, although it clearly contributed to the changes that took place in the composition of the savings portfolio. As the interest income realisable on savings declined, the role of other aspects became more important, e.g. that of liquidity or striving for low risk. The expansion in demand for liquid financial assets is attributable to the fact that in the current low yield environment a significantly higher return cannot be achieved with assets tied up for a long period. In addition, the strengthening in precautionary considerations as a result of the 2008 economic crisis also had an impact on portfolio composition, as households sought even less risky investment possibilities.

In Hungary, in parallel with the decline in interest rates on time deposits, the volume of bank assets decreased, while the volume of securities increased. The fall in deposit rates observed in the past four years reduced the volume of savings held in time deposits, while cash holdings and sight deposits increased gradually. This was because the low yields did not offset the more difficult accessibility of time deposits compared to more liquid assets. As a result of the above, after 2012 households' bank assets declined by some HUF 1,000 billion in total, and the liquidity that became free as a result, flowed into securities, and within that primarily into mutual fund shares and government securities. The reason for this was that the decline in domestic yields resulted in a rise in bond prices, which was reflected in an increase in the retrospective yields of bond funds, which account for the majority of the portfolio of investment funds. The rise in retrospective yields was followed with a delay by an upturn in investment funds. However, this upturn stopped with the stabilisation of yields and the decline in retrospective yields. In parallel with this, the yield premium on government securities that exceeds bank interest rates resulted in strong growth in household demand. By end-2016, the still considerable yield advantage of government securities raised households' government securities holdings to a new historical high of HUF 4,000 billion, which is also favourable in terms of the financing of domestic government debt.

Chart 5-7: Households' securities and bank deposit holdings



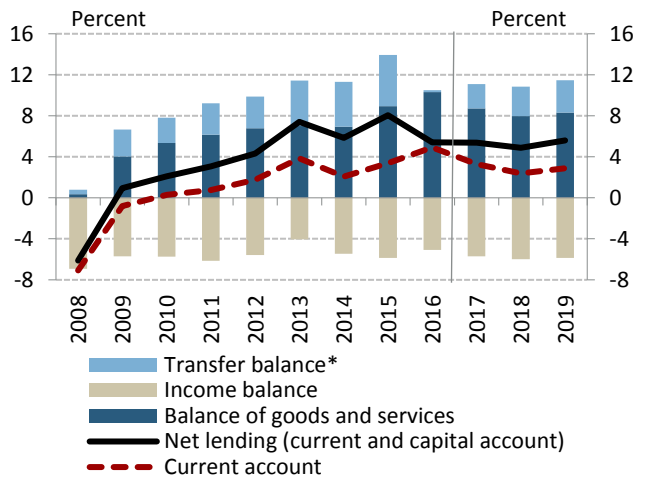
Note: Other securities: bank and corporate securities, listed shares.

Source: MNB

5.2. Forecast for Hungary's net lending position

Over the forecast horizon, in parallel with a decline in the trade balance and an increase in the transfer balance, the net lending will stabilise at around 6 percent of GDP, while the current account surplus will rise slightly, following a gradual decline in 2017 and 2018. The lower goods and services balance is attributable to a slowdown in external demand as well as a pick-up in domestic consumption and investment. As of 2017, in parallel with an upswing in the use of EU funds, the transfer balance is expected to expand again. In the coming years, in parallel with an increase in the profits of foreign-owned companies, the deficit of the income balance may slightly rise before declining again starting from 2019 as a result of decreasing interest expenditures. In the next two years, the current account balance is expected to gradually decline, as it does not include EU transfers, which account for a considerable portion of net lending. In the future as well, the trade balance will remain the factor that supports the external position the most. From the savings side of sectors, consistent with an increase in domestic demand, household savings will decrease gradually over the forecast horizon, while the net borrowing of the state will increase from the historically low value recorded in 2016, but will still remain moderate. On the whole, while Hungary's external position will stabilise, a further decline is expected in the net external debt and the vulnerability of the economy.

Chart 5-8: Net lending forecast (as a percentage of GDP)



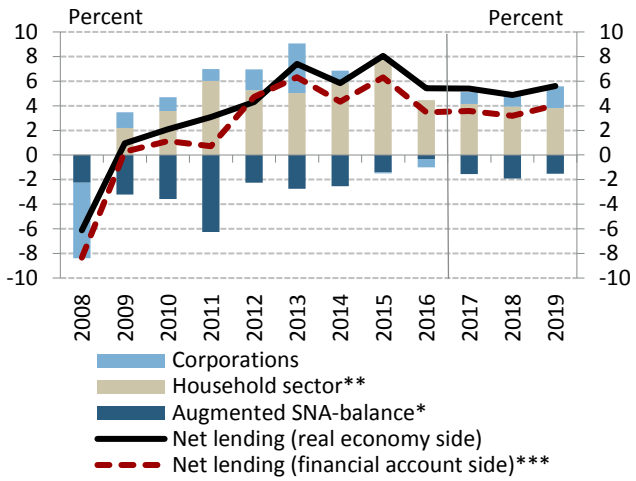
Note: * The sum of the balance of the current transfers and the capital account balance.
Source: MNB

Over the forecast horizon, net lending will stabilise at around 6 percent of GDP, while the current account balance – following a gradual decline in 2017 and 2018 – will increase slightly (Chart 5-8). The stabilisation of net lending will take place in parallel with a decline in the trade balance and an increase in the transfer balance. Both external and domestic demand factors play a role in the decline in the **trade balance**. On the one hand, the slowdown in global trade and in the Chinese economy as well as the change in the structure of the German economy restrain exports; on the other hand, the pick-up in domestic consumption and investment increases the dynamics of imports significantly. At the end of the forecast horizon, consumption and investment will continue to expand, although to a lesser extent than before, and new vehicle industry capacities (e.g. Mercedes) are expected to start production, resulting in a rise in the trade surplus again. Based on the contracts concluded and the advance payments, in line with the Government's intention, an upturn in the use of EU funds and thus an increase in the **transfer balance** are expected. The reduction of the corporate income tax and the accelerating economic growth will improve the profits of foreign-owned companies in 2017 and 2018, slightly increasing the deficit of the **income balance**. At the same time, as of 2019, a lower deficit is expected again, as a result of a decline in interest expenditures occurring in parallel with a decrease in debt indicators.

The stabilisation of net lending occurs in parallel with different developments in the savings of the various sectors: households' net savings decline slightly, while companies' net financial savings rise in parallel with an increase in the net borrowing of the state (Chart 5-9).

The net borrowing of the state, which was historically low in 2016, will increase over the forecast horizon, but will

Chart 5-9: Changes in savings of sectors (as a percentage of GDP)



Note: * In addition to the central government, the augmented general government includes local governments, MNV Inc., institutions discharging quasi-fiscal duties (MÁV, BKK), and the MNB. The augmented SNA deficit takes into account private pension savings. ** Net financial saving of households consistent with the SNA deficit 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

remain moderate for the whole period. The low deficit in 2016 is attributable to the higher tax revenue related to the increase in the wage bill, low government investment as well as the delays in expenditures related to EU funding and other investment. The fiscal deficit is expected to grow in 2017 as a result of already announced demand increasing measures and the reduction of the corporate income tax and labour taxes. The net borrowing of the state will increase further in 2018 as the impact caused by the growth tax credit, which significantly reduced the fiscal deficit in 2016 and 2017, will cease to exist. In 2019, revenues are expected to rise faster than expenditures, slightly reducing the deficit of the budget.

Looking ahead, the private sector's net lending will increase slightly, as a result of companies' rising savings and households' declining savings. Following the end of the temporary effect of the settlement of foreign currency loans in 2015, according to underlying trends households' financial savings will continue to decline gradually starting from 2017. Accordingly, looking ahead, the developments observed last year are expected to continue: consumption will expand as a result of strengthening wage outflows and the increase in the minimum wage, and government incentives will lead to a further pick-up in borrowing and housing investment. As a result of this, households' net financial savings will decline slightly over the forecast horizon, but will remain at a high level overall. Meanwhile, corporates' net lending will increase slightly. In 2017, the declining corporate income tax rate and higher EU transfers will considerably increase companies' net lending, and these impacts may remain a major factor in the following years as well.

As a result of the continued high savings position of the economy, Hungary's external debt and the vulnerability of the economy are expected to decline further over the forecast horizon. In line with the considerable and stable net lending, a continued decline in net external debt is projected over the forecast horizon. In addition, Hungary's external vulnerability may further be improved by the decreasing foreign currency ratio within government debt.

5.3. Fiscal developments

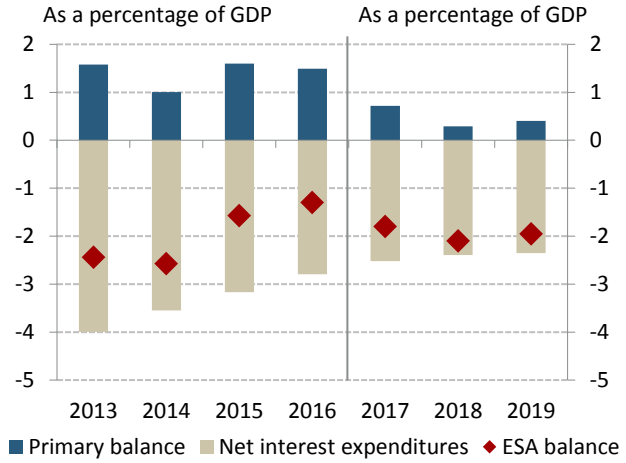
According to preliminary data, in 2016 the deficit reached a record low of 1.3 percent of GDP, resulting in a significant reduction of demand in the economy. However, in 2017 it may be followed by a major fiscal impulse as a result of substantial tax cuts. The ESA deficit is projected to be around 1.6–2.0 percent of GDP, and so there is still some room for manoeuvre until reaching the 2.4 percent deficit target set out in the budget. According to our technical forecast for 2018 and 2019, the balance will remain practically unchanged in the next two years compared to the previous ones, and thus the fiscal demand effect may be nearly neutral. According to our forecast, the declining trend of the Maastricht government debt indicator will continue, and thus the debt ratio will decline to 73 percent of GDP this year and – following dynamic fall – to nearly 70 percent by the end of forecast period.

Table 5-1: Details of the inflation forecast

	2016	2017	2018	2019
ESA balance	-1.3	(-1.6) – (-2.0)	(-2.0) – (-2.2)	(-1.8) – (-2.0)
Primary ESA balance	1.5	0.5 – 0.9	0.2 – 0.4	0.4 – 0.6
Fiscal impulse*	-0.7	1.0 – 1.5	0.2 – 0.4	(-0.1) – (-0.3)

Note: The use of intervals in the forecast is justified by the usage of fiscal reserves and the uncertainty regarding the share of advances in the EU expenditures. * Change in the augmented (SNA) primary balance.
Source: HCSO, MNB

Chart 5-10: Changes in the fiscal balance and interest expenditures



Note: The forecasted values are in the middle of the uncertainty range. 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 as a proportion of GDP may amount to 1.6–2.0 percent in 2017, while on the basis of our technical forecast it may be 2.0–2.2 percent in 2018, and 1.8–2.0 percent in 2019. Preliminary financial account data show that the budget deficit was at a historically low of 1.3 percent of GDP in 2016.[3] The persistently low deficit path over the forecast horizon is a result of a dynamic expansion in tax revenues – despite the tax rate cuts – as well as of a decline in expenditures as a proportion of GDP (Chart 5-10).

Following the record low deficit in 2016, a higher deficit is expected, but the estimated deficit is still lower than the government deficit target.[4] Households' disposable income is increased by the further rise in the amount of tax allowance for families with two children as well as the spillover effect of the reduction of the social contribution tax. The expected 2017 fiscal impulse may have a favourable impact on the corporate sector as well through the reduction of the corporate tax rate and the social contribution tax. The tax burden on the banking sector will continue to ease with the further reduction of the bank levy and the cancellation of the credit institutions' contribution. On the expenditure side, an increase in government investment and the continuation of the government career path models are expected. Our technical forecast for 2018 and 2019 point to a nearly neutral demand effect.

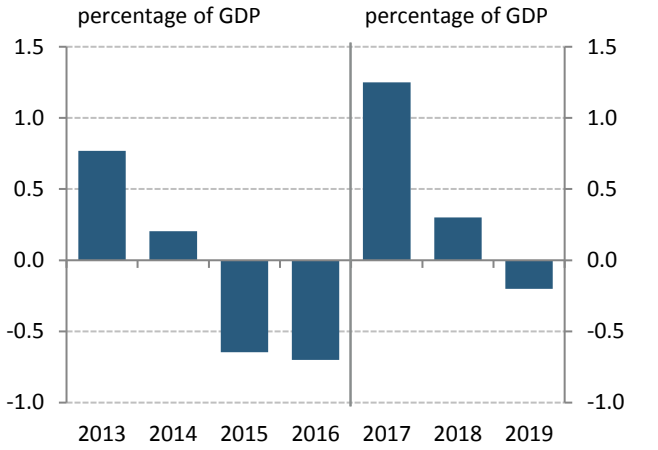
5.3.2. Budget balance in 2016

According to preliminary financial account data, the 2016 accrual-based deficit amounted to 1.3 percent of GDP, i.e. it was 0.7 percentage point lower than the target

[3] The final data for the 2016 ESA balance will be published in the March EDP Report. Therefore, until then the net financing requirement according to the preliminary financial account, which is a good approximation, is used.

[4] The fiscal demand impact is quantified by the change in the augmented (SNA) primary balance, which gauges the impact of fiscal measures, fiscal developments and the automatic stabilisers on the income position of the other sectors.

Chart 5-11: Fiscal demand effect (as a percentage of GDP)



Note: The forecasted values are in the middle of the uncertainty range. The fiscal demand effect corresponds to the change in the augmented (SNA) primary balance. The fiscal impulse contains the effect of EU funds only at extent of the cofinancing. A positive prefix indicates demand expansion, while a negative prefix implies demand restraint.
Source: MNB

Table 5-2: Decomposition of the change in the 2017 ESA balance forecast (compared to the December Inflation Report; as a percentage of GDP)

	Economic developments	Measure and other
I. Central government revenues	0.2	
Payment by economic units	0.1	
Taxes on consumption	0.1	
II. Central government expenditures	0.1	-0.1
Normative subsidies		-0.1
NEF - passive and active allowances	0.1	
III. Other effects	0.1	-0.1
Net interest expenditures	0.1	
Other items		-0.1
Total (I.+II.+III.)	0.4	-0.2

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated value because of the rounding.
Source: MNB

adopted in the Budget Act. The low deficit is attributable to favourable developments in revenues and savings on certain expenditures, mainly investment. In spite of the high-amount expenditures at the end of the year, according to preliminary figures, accrual-based expenditures did not reach the planned level, because some of the expenditures – related to EU funds in particular – were advances or did not leave the government sector (were mostly spent in the local government sector).

5.3.3. Budget balance in 2017

According to our forecast, in 2017 the ESA deficit of the general government will be 1.6–2.0 percent of GDP, i.e. slightly lower than our December forecast (Table 5-1). The macroeconomic path expected for 2017 is changing only to a small extent, but fiscal data for the past quarter suggest that the annual revenues expected from the VAT and enterprises' payments slightly exceed our previous expectation.

No major change is expected on the expenditure side. The rise in so-called normative subsidies stems from the fact that the expenditures related to operating the 'HÉV' railway lines already indirectly burden the central budget. The decline in the expenditures of the National Employment Fund is caused by the further decrease in unemployment, as a result of which the benefits paid to the unemployed may decline, while in the case of the START public work scheme we expect higher flows back to the primary labour market. The further decline in net interest expenditures is attributable to the fact that short-term yields dropped to an extremely low level, while the Government Debt Management Agency reduced the interest rate on retail securities as well, which represent an increasing weight within government debt.

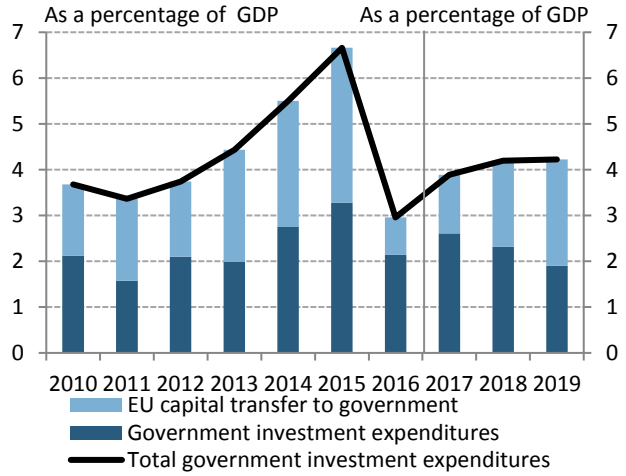
Our deficit projection is 0.4–0.8 percentage point lower than the appropriation of 2.4 percent as a proportion of GDP. Due to the tax cuts announced since the adoption of the law, fiscal revenues may fall short of the target, while revenues related to state property may exceed the plan as a result of the payments stemming from land sales carried over from 2016. The deviation of budgetary institutions' net expenditures is mainly the result of the fact that some of the disbursements related to EU funding may still be advances paid to the general government (budgetary institutions, local governments). In the case of the START public work scheme, in view of the tightness of the labour market we expect fewer participants in the programme than the assumption used upon planning the budget. In

Table 5-3: Differences between our forecast and the appropriations set out in the 2017 Budget Act (as a percentage of GDP)

	Difference from appropriation
I. Central government revenues	-0.4
Payment by economic units	-0.2
Taxes on consumption	-0.2
Labour taxes	-0.4
Payments related to state property	0.4
II. Central government expenditures	0.6 – 0.8
Net own expenditures of budgetary organisations	0.6 – 0.8
Net expenditures related to drug subsidies	-0.2
START public work scheme	0.2
III. Other effects	0.2 – 0.4
Net interest expenditures	0.2
Cancellation of Country Protection Fund	0.0 – 0.2
Other items	0.0
Total (I.+II.+III.)	0.4 – 0.8

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively. The sum of partial data may differ from the aggregated value because of the rounding.
Source: MNB

Chart 5-12: Composition of general government investment expenditures (as a percentage of GDP)



Source: HCSO, MNB

the case of net interest expenditures, the deviation is caused by the decline in government securities yields that has taken place since the adoption of the law.

After reaching a low level in 2016, government investment may increase significantly in 2017. In view of the closure of the 2007–2013 EU budget cycle, the 2016 EU capital transfer to the Government was rather low. Even the Government's own investment expenditures were not able to offset the drop in revenues from the EU. Therefore, government investment in 2016 was well below the previous years' level. Nevertheless, starting from 2017 the investment activity of the government sector may increase at a decelerating rate over the entire forecast horizon.

5.3.4. 2018 and 2019 fiscal balance projection

As budget acts are not available yet, we have prepared technical projections for 2018 and 2019. Expenditure side developments and strong economic growth will offset the effect of tax easing and missing one-off revenues (revenues from land sales, tax credit for growth). Accordingly, the balance is expected to remain practically unchanged compared to 2017.

5.3.5. Risks surrounding the baseline scenario

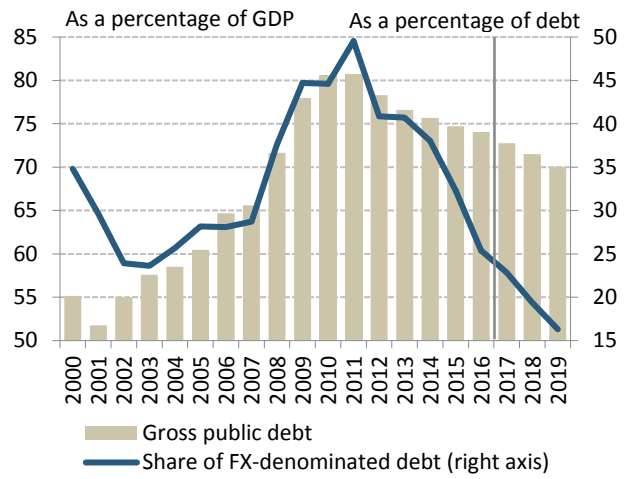
In the forecast, the highest uncertainty continues to surround the disbursement and absorption of EU funds. In the baseline scenario, our projection assumes declining advance payments over the entire forecast horizon. Although absorption of funds at a faster rate than our projection results in better stimulation for the economy, at the same time it contributes to the budget deficit by increasing national co-financing.

5.3.6. Expected developments in public debt

Based on the MNB's preliminary financial account data, at the end of last year the government debt-to-GDP ratio amounted to 74.1 percent. Compared to its end-2015 value, the debt ratio declined by 0.6 percentage point. Accordingly, the debt ratio continued to decrease in 2016, in compliance with both domestic and EU rules. During last year, net borrowing resulted in an increase in the debt ratio, while the expansion in the real economy and the change in the exchange rate of the forint entailed a decline in the ratio. In 2016, net issuance significantly exceeded the financing need of the general government, resulting in an increase in the state's liquid deposits.

Until the end of 2019 – assuming a constant, end-2016 HUF exchange rate – we forecast that the public debt ratio will

Chart 5-13: Gross public debt forecast – calculated with an unchanged (end-of-2016) exchange rate over the forecast horizon



Source: MNB

fall dynamically and that the debt rule set forth in the Fundamental Law will be complied with. Based on our projection, in the coming years the debt ratio is expected to decline by more than 1 percentage point, supported by the low financing need as well as by dynamic economic growth. According to our forecast, by end-2017, the value of the ratio will decline to below 73 percent, while in 2018 it will be around 71.5 percent, reaching 70.0 percent by the end of the forecast period. As a result of negative net FX issuance, the share of foreign currency within public debt is expected to continue to decline, contributing to a decrease in the external vulnerability of the economy.

Box 5-2: Impact of the budget on aggregate demand

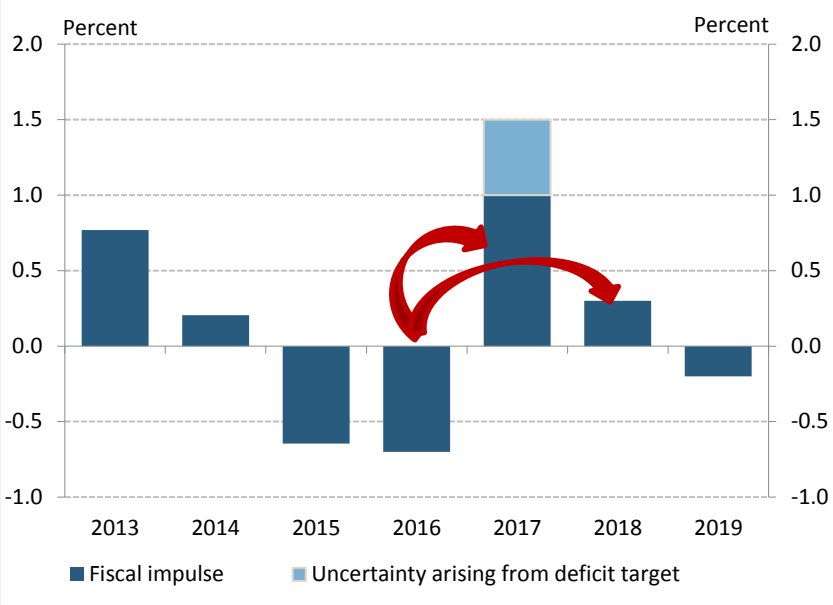
Fiscal policy has a major influence on the developments in economic performance through the fiscal impulse, i.e. by expanding or tightening aggregate demand. The budget may support economic growth by demand increasing (expansive) fiscal impulse, while demand tightening (restrictive) fiscal policy reduces aggregate demand, and thus may restrain economic growth. There are various possible methods to calculate the fiscal impulse. Of them, the indicator with an analytical purpose applied by the MNB uses the impulse defined as the change in the augmented SNA primary balance. For its quantification, this methodology excludes all measures that do not entail any significant economic impact from the accrual-based SNA primary balance that does not include interest expenditures.

According to preliminary financial account data, the fiscal deficit in 2016 amounted to 1.3 percent of GDP, compared to the 2 percent target set forth in the Budget Act. The lower-than-planned deficit and the overlapping effect of year-end expenditures represented a negative impulse equalling 1.1 percent of GDP compared to the plan. The reason for the overlapping effect is that the entire 2016 annual cash-based deficit evolved in the last month of the year, and the demand effect of some of the disbursements at the end of the year may appear only in the later years (Chart 5-14). According to our estimate, the lower-than-planned deficit and the overlapping demand effect may have restrained growth by a total 0.5–0.6 percent in 2016.

We also estimate that in 2016 the demand tightening impact of the budget may have reduced aggregate demand by 0.7 percent of GDP. The negative demand effect stems from the decline in the deficit and from the fact that some of the end-2016 expenditures will only exert their actual stimulating impact on the economy in 2017 and 2018.

However, the budget may significantly increase aggregate demand in 2017, by as much as 1.0–1.5 percent of GDP, strongly contributing to the expected pick-up in economic growth. Most of this stems from an increase in the deficit target, but the overlapping effect of last year's expenditures also contributes. The actual demand effect depends on the final level of the fiscal deficit, which is now estimated to be 1.6–2.0 percent of GDP, i.e. lower than the deficit target.

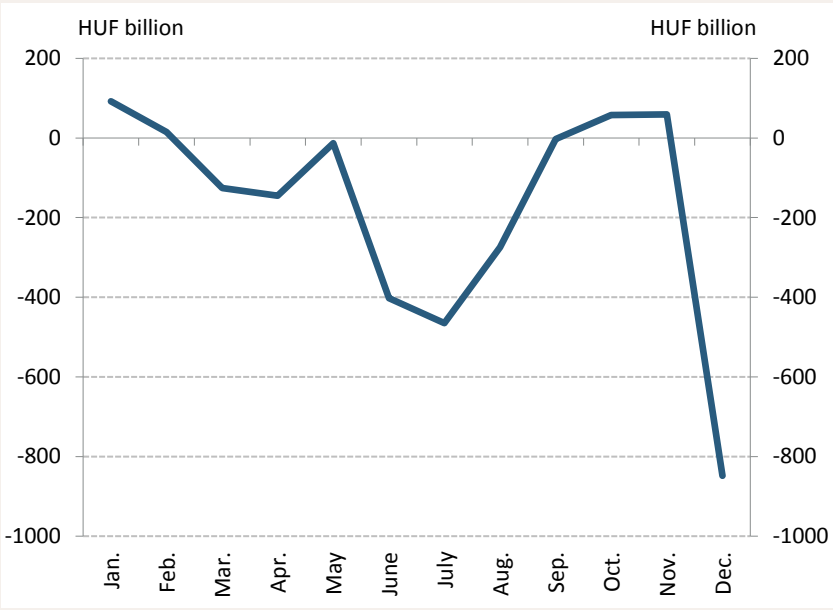
Chart 5-14: Fiscal demand effect (as a percentage of GDP)



Note: The fiscal impulse corresponds to the change in the augmented (SNA) primary deficit. A positive prefix indicates demand expansion, while a negative prefix implies demand restraint.

Source: MNB

Chart 5-15: Changes in the cumulative monthly fiscal balance in 2016 (HUF billion)



Source: Hungarian State Treasury

6. SPECIAL TOPICS

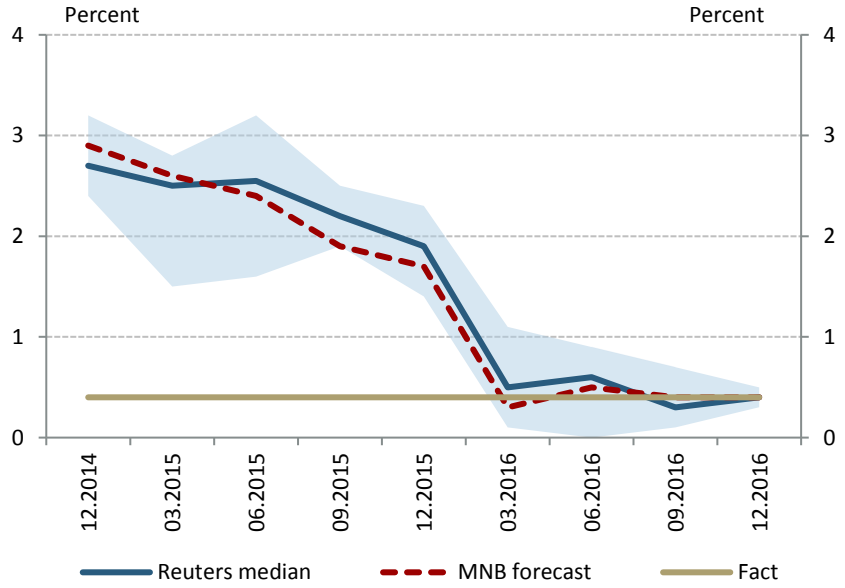
6.1. Evaluation of the central bank's forecasts for 2016

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 the market analysts. The first forecast for the variables examined for 2016 was prepared in December 2014. On the whole, compared to our forecasts for a horizon over one year, 2016 inflation and economic growth was lower, while the wage index and employment level were higher. Our short-term inflation projections were close to the actual value, with a higher degree of stability.

6.1.1. Inflation

In the fourth quarter of 2014, we expected inflation to be around 3 percent throughout 2016. Our close-to-the-target inflation projection was explained by the pick-up in domestic demand, as well as by the continuously strengthening wage increase resulting from the free labour market capacities. After this, **in 2015 we gradually revised our projection downward,** and at the end of the year we projected a price rise of 2.0 percent. At the beginning of 2016, we significantly lowered our inflation expectations, and **from early 2016 we steadily projected an inflation rate of 0.4 percent** (Chart 6-1).

Chart 6-1: 2016 inflation forecasts by the MNB and the market

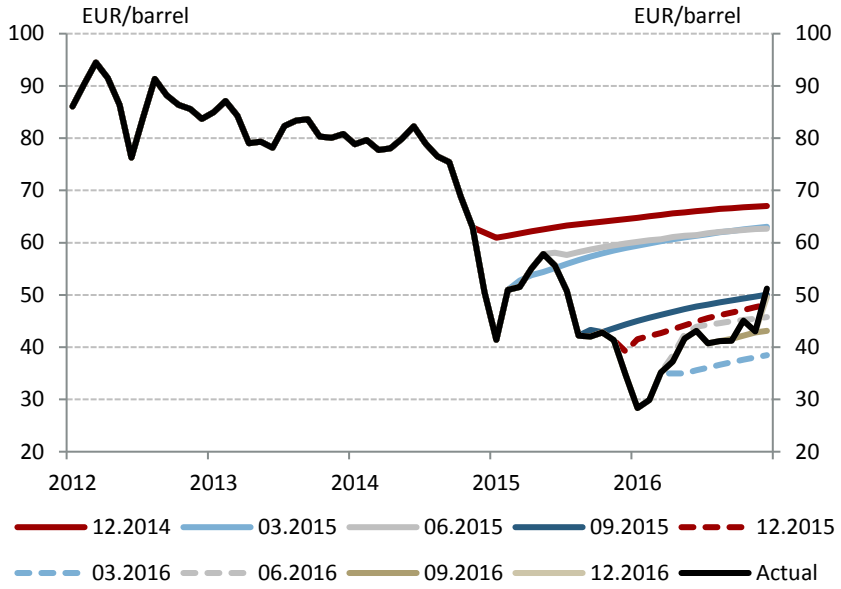


Note: The band shows the extent of the forecast of the economists involved in the Reuters survey.

Source: Reuters, HCSO, MNB

The change in our inflation projection related to 2016 was mainly influenced by import price developments. In 2015, our **declining inflation projections were based on the continuous decrease in commodity prices, and particularly of oil prices.** In early 2016, the oil price was at its trough, and instead of the mid-2015 level of around USD 55-60 per barrel, at the beginning of the year the price per barrel was quoted already at USD 30. In line with the changes in actual oil prices, the future quotes also gradually shifted downwards (Chart 6-2). The decrease in the oil price was attributable, on the supply side, to the output of the OPEC countries close to historic highs and to the increase in US shale oil extraction, while on the demand side it was caused by the deceleration of growth in the larger importer countries.

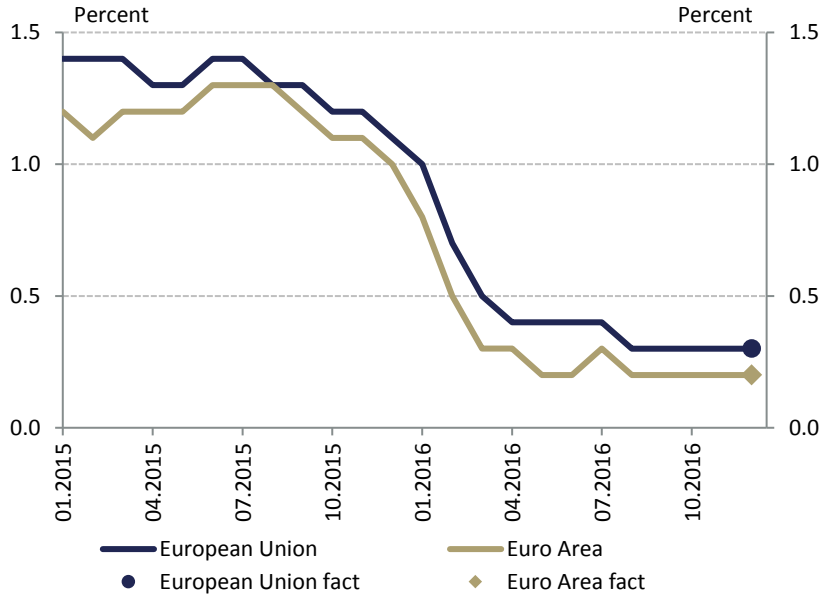
Chart 6-2: Development of oil price assumptions



Source: Bloomberg

In addition to the changes in the commodity prices, we expected that the globally low-cost environment would also substantially lower the inflation of the euro area (Chart 6-3). As a result of this, **in a historic comparison imported inflation had moderate effect on inflation developments in 2016.** Moreover, households' inflation expectations gradually decreased throughout 2015, which also contributed to our more moderate inflation projections.

Chart 6-3: Market forecast for 2016 inflation of the European Union and Euro Area



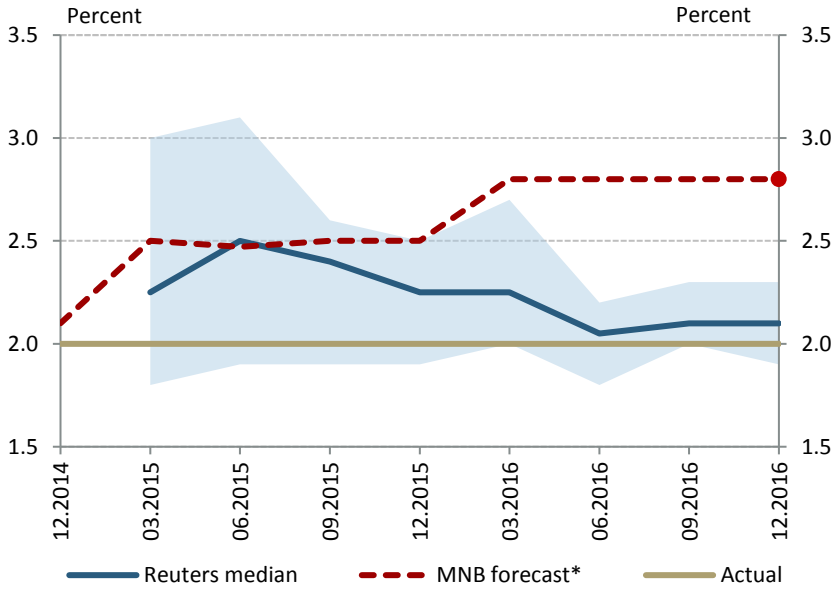
Source: Consensus Economics

On the whole, at the end of 2014 and early 2015 our projection was in line with the median of the market analysts participating in the Reuters survey, while from the second half of 2015, it was slightly closer to the subsequent actual inflation figure. The MNB's forecast error calculated for the entire horizon was smaller than the forecast error in the market analysts' median.

6.1.2. Economic growth

Economic growth in 2016 fell short of our expectations. In 2015, we expected balanced growth in the domestic economy in 2016. According to our forecast, due to the strengthening of domestic demand and the recovery of Hungary's more important European export markets, Hungarian export performance would improve. The pick-up in household consumption was supported by the increasing real incomes resulting from low inflation; in addition, due to the more buoyant lending and the higher absorption of EU funds in line with the commitment of the government, we projected a higher investment path. In early 2016 we revised our forecast upwards, because in the case of public investment we projected a smaller decline compared to earlier expectations (Chart 6-4).

Chart 6-4: 2016 growth forecasts by the MNB and the market



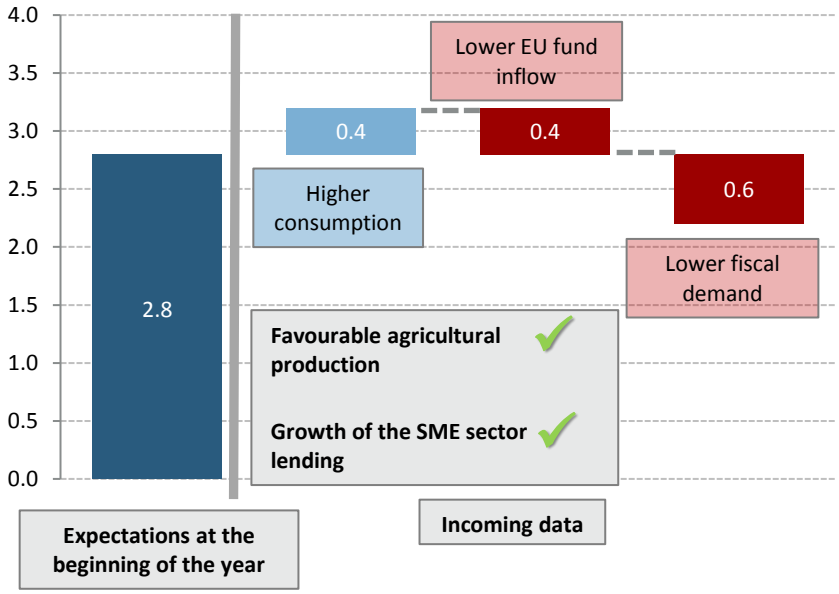
Note: The band shows the range of economic experts' forecasts surveyed by Reuters.
*The December 2016 value takes into account the expected revision effects.
Source: Reuters, HCSO, MNB

During 2016 we projected an economic growth of 2.8 percent, which was the most optimistic forecast among the analysts. The growth data projected by the MNB based on 5 main pillars, which were:

- The dynamic pick-up in the household consumption
- Favourable agricultural production
- Rise of the SME loans
- The impact on government investments of EU fund inflows rise
- (-1.5) – (-2.0) percent budget deficit

The detailed figure published in early 2017 by HCSO with regard to 2016 economic growth substantially deviated from our former forecast. Thanks to the central bank's programs **SME lending growth reached 12 percent by the end of the year**, while corporate loans increased at a rate exceeding 4 percent aswell. According to expectations of early year the **agricultural value added significantly supported last year's economic growth** (+0.6 percent), while **household consumption growth was close to 5 percent, which was also more favorable compared to early year's projections.** By contrast, **EU funds payment effective in real economic terms –** which means no down payment types **– were significantly lower than our former expectations.** According to our calculations this factor caused about 0.4 percentage points lower economic growth. In 2016 the budget deficit was 1.3 percent of the GDP, which means the deficit was lower than the budget target. This itself lowered the GDP growth by 0.3-0.4 percentage point. Note, however the deficit is entirely formed at the end of the year, which real economic impact was postponed to 2017, and along with it **in 2016 the loss of growth impact could reach 0.5 to 0.6 percent** (Chart 6-5) (**for more details, see Box 5.2**).

Chart 6-5: Realisation of the main pillars of the 2016 growth



Source: HCSO, MNB calculation

In 2016 December the MNB came up with a methodological innovation, which means it takes into the account in its' current projections – contrary to market analyst – the level of expected revisions. Based on our estimates we still expect **HCSO can revise up 2016 GDP growth** during subsequent data releases **based on historical experience**, by which the revised forecast may occur around the actual data. On the whole, the central bank's real economy forecast was higher than market median expectations.

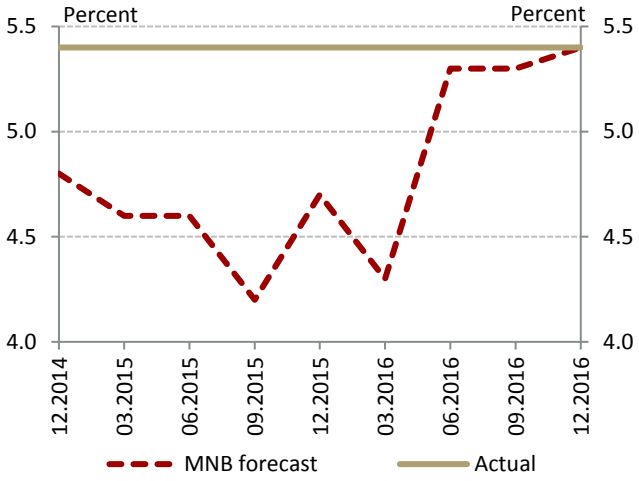
6.1.3. Labour market

Our projections related to private sector wages and the number of employees fell substantially short of the actual figures in the beginning of the period, while from mid-2016 they were close to the actual data.

At the end of 2014 and **in 2015, we expected a moderate pay increase in the private sector due to the low inflation environment and stabilising inflation expectations.** However, due to the tightening labour supply, increasing wage competition developed both among companies and sectors in order to replace and retain the current workforce; in addition, the favourable income position of businesses permitted a higher outflow of wages. **As a result of the tightening labour market, in mid-2016 we revised our forecast upwards, and thereafter the wage forecast was close to the subsequent actual data** (Chart 6-5).

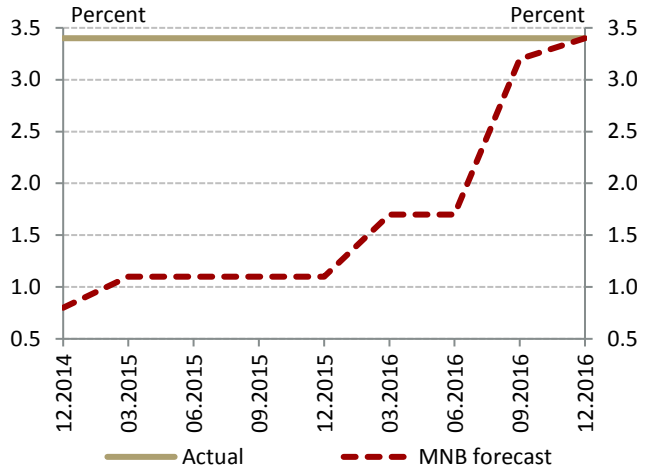
Until the third quarter of 2016, in our forecast we materially underestimated the expansion of the level of employment in 2016. In line with the improving economic environment, growth in the number of private sector employees was observed, as a result of which **from the end of 2015, we gradually revised our expectations upwards with regard to growth in the number of employees.** Primarily in the services sector, the dynamics of the growth in the number of employees was well over the assumed level, in line with improving domestic demand (Chart 6-6).

Chart 6-6: MNB and market forecasts for 2016 private sector gross average earnings



Source: HCSO, MNB

Chart 6-7: MNB and market forecasts for 2016 private sector employment



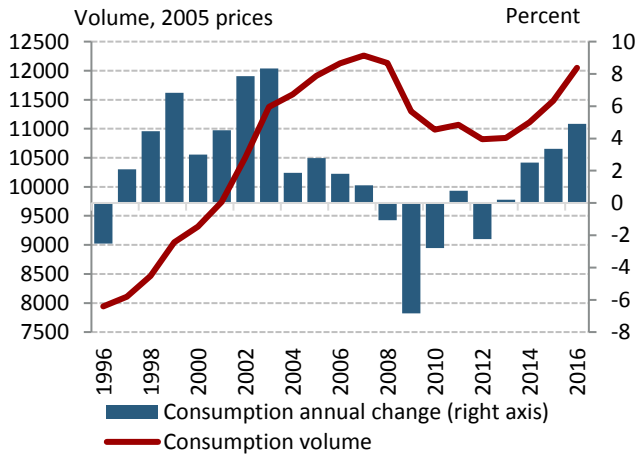
Source: HCSO, MNB

6.2. Analysis of the recovery potential inherent in consumption

Macroeconomic analysis of households' consumption expenditures is of the utmost importance in several respects. On the one hand, the volume of goods and services that the households are able to consume fundamentally influences social welfare. **Consumption is the largest item of the domestic absorption of GDP; in Hungary, households' consumption expenditure accounts for more than half of the gross domestic product, hence it is also key to macroeconomic growth.** It is also important to bear in mind how the change in consumption influences macroeconomic balance. Consumption volumes departing from the level that can be sustained in the long run, influence the economy's external (trade balance) and internal (inflation) balance. But what can we regard as long-term sustainable consumption? This section attempts to answer this question. **The question is particularly important in the present phase of the business cycle, when a major acceleration of consumption expenditure can be observed and thereby the largest domestic absorption item becomes the key driver of growth.**

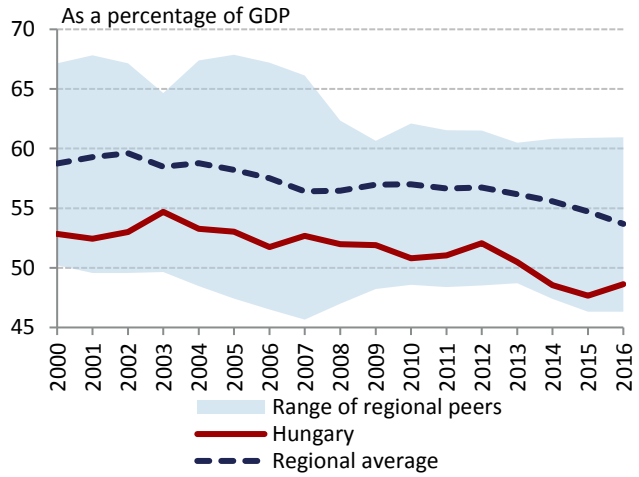
The period of 1997-2001 was characterised by sustained, balanced consumption growth. In this period growth was primarily driven by the income trends, improving in line with the expansion in employment. After the shock-like adjustment that followed the political transition, the consumption rate normalised, which was accompanied by the increase in the expenditure of consumption postponed earlier. **In the initial phase of the period between 2002 and 2008, household income increased primarily through the indebtedness of the general government; later on, the expansion of consumption broke away from the income processes, which meanwhile became less favourable, and resulted in households' indebtedness, mostly in foreign currency.** This period was already characterised by a consumption path that was higher than justified by the macroeconomic fundaments. **It was also characterised by lending to households, which later on proved to be unsustainable, when the consumer and housing loans dynamically increased, the larger part of which was foreign currency loans.** After the budgetary adjustments in 2006, the banking system took over financing households' persistently expanding consumption. Nevertheless, even with the exaggerated loan demand, growth in household consumption started to decelerate, and a drastic contraction of consumption was observed during the 2008 financial crisis (Chart 6-8).

Chart 6-8: Developments in the annual change in household consumption and its level as a proportion of GDP



Source: HCSO, MNB calculations

Chart 6-9: Changes in the consumption rate between 2000 and 2015



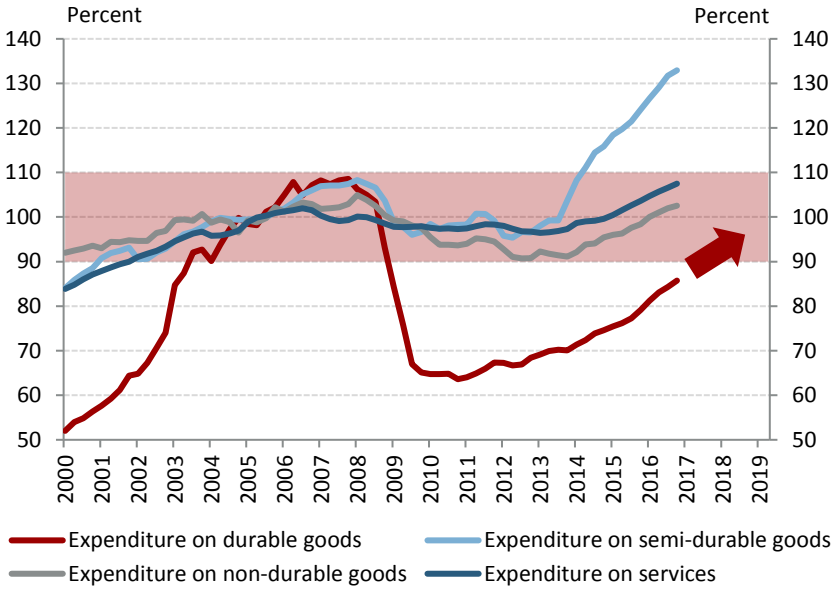
Source: HCSO

After the crisis, as a result of the deleveraging coercion resulting from the unsustainable degree of outstanding debt accumulated in previous periods, household consumption started to decline steadily. In the years of the adjustment, households postponed part of their consumption, which was also evidenced by consumption growth, the rate of which was more moderate than that of the income trends. As a result of the process, household consumption embarked on a persistent negative path and the GDP-proportionate consumption rate declined both in historic and in international comparison (Chart 6-9). The structure of consumption also changed as a result of the crisis: the magnitude of expenditures

spent on consumer durable goods declined considerably, and thus the weight of consumer durable goods in the structure of consumption materially fell, while the consumption of services and non-durable goods remained generally stable.

In the years after 2010, disposable income started to increase due to the positive impact of the tax reform, which initially resulted in an increase in savings and only later on, after 2013, gave rise to a gradual increase in consumption as well. In the post-crisis years, households' consumption expenditure fell significantly short of the level justified by the underlying processes, and as a result of the deferred consumption strong recovery potential was able to develop in the consumption demand of households. **The potential inherent in consumption is well illustrated by the fact that the share of durable goods within the total household consumption fell substantially after the crisis,** while as a result of the gradually recovering consumption underlying processes in recent years, a slight increase can be already observed in demand for durable goods (Chart 6-10).

Chart 6-10: Changes in the structure of households consumption expenditure, 2005=100



Note: Range of pre-crisis levels.

Source: HCSO, MNB calculation

The persistently positive income trends gradually raised households' propensity to consume, and thus the previously common precautionary considerations gradually eased. As a result of the foregoing, household consumption in the past quarters already rose on average by more than 4 percent and in parallel with this the decline in the consumption rate also halted.

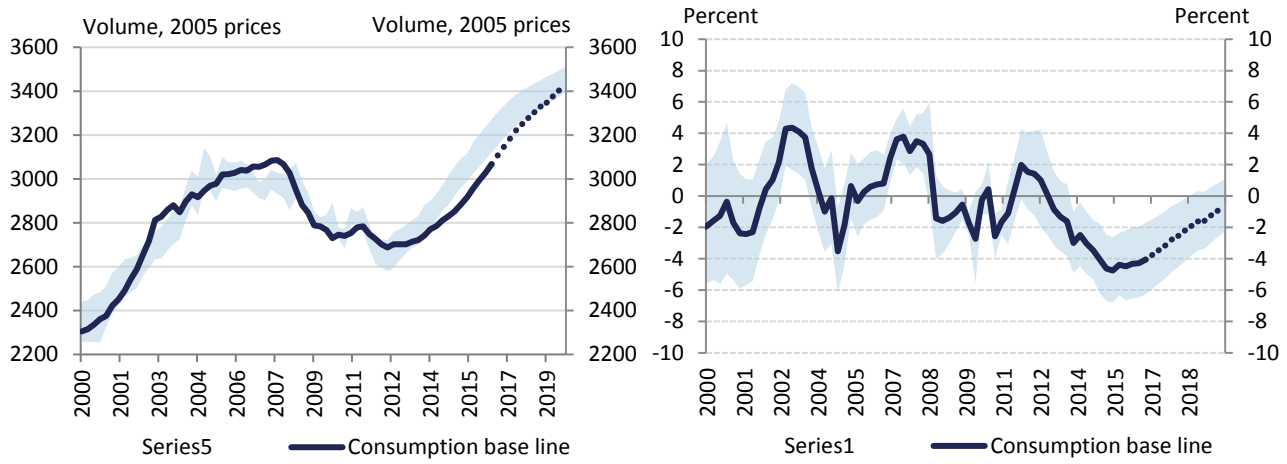
Relying on the error correction model (ECM), we prepared estimates to identify the recovery potential inherent in the present consumption cycle and the dimension thereof, which is suitable for identifying a sustainable consumption path justified by the income trends. By examining the correlation of household consumption with the key macroeconomic variables in an ECM model framework, it is possible to determine the long-term value of consumption. On the other hand, by analysing the short-term dynamics, it can be properly estimated how fast the wedge relative to the estimated long-term trend will close.

In the long-term and short-term correlations we primarily used income variables, but also integrated absorption and financing variables in the equations used for the explanation of certain consumption sub-items in several cases. **In the estimation of the long-term level of aggregate consumption, we found a strong correlation (cointegration) primarily with the income variables, but in certain cases household investment and net financial worth also proved to be fundamental factors.**

Based on the data available for the last 20 years and the estimated long-term correlation, the consumption path of Hungarian households can be divided into four phases:

- 1997-2001: After the political transition, consumption cycle commencing in line with the income trends
- 2002-2008: A period overheated by household lending activity and breaking away from the income trends
- 2009-2013: Persistently restrained consumption period driven by strengthening precaution and deleveraging coercion as a result of the crisis
- 2013-: Restarting consumption cycle primarily attributable to the positive income trends and supported by the high level of financial wealth

Chart 6-11: Range of estimates related to the level and cyclical position of consumption sustainable by the income trends and developments in the expected underlying trends of consumption



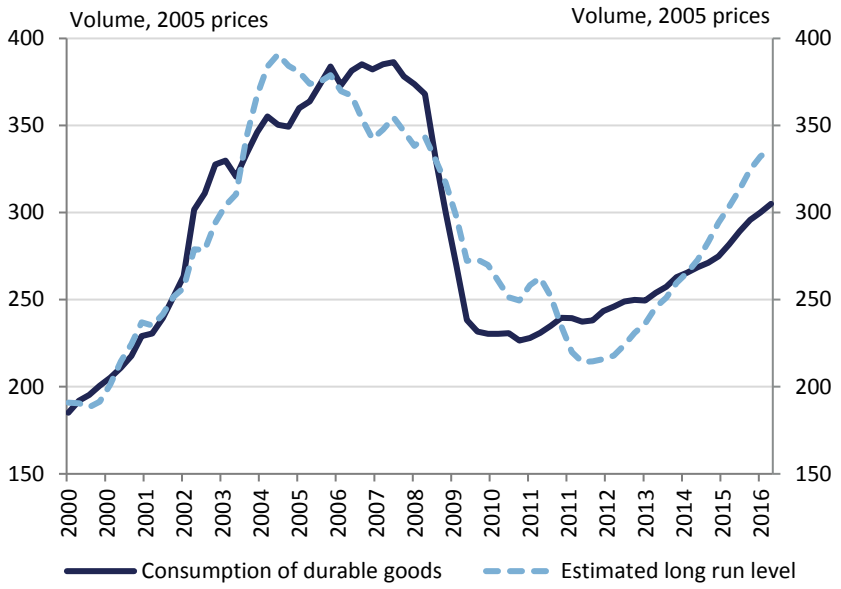
Source: HCSO, MNB calculation

The estimation results vary in a relatively narrow range and implies almost identical conclusions. **Household consumption has shown gradually recovering dynamics in recent years, but lags behind the level that would be justified by the macroeconomic variables, and thus recovery potential can be identified** (Chart 6-11). In order to ascertain the robustness of the results, we also apply an alternative approach for the identification of the recovery potential. In line with households' declining consumption after 2007, the consumption ratio also steadily decreased and is still at its historic low; thus, the degree of recovery in household consumption can be also estimated by projecting the average consumption rate of previous consumption cycles to the present income trends and comparing the consumption level thus obtained with the facts. This analytical approach also yielded similar results.

The speed of the closing of the wedge relative to the estimated sustainable level can be determined based on the correlation describing the short-term dynamics in the ECM model framework. **In addition to the income sub-items of disposable income in the short-term equation, the cost indicator of household loans and the household investment also proved to be significant dependent variables.** The parameter of the return to the sustainable level is 0.1 on average, which means that the wedge falls 10 percent quarterly, and its half-life is 8 quarters on average.

In order to substantiate the results obtained based on the analysis of aggregate consumption and to present the results in more details, the applied framework can be also applied to the consumption sub-items published officially by HCSO and the recovery potential inherent in the level of the various sub-items can be estimated. **Based on the estimation results for the long-term level of the consumption sub-items, the largest wedge relative to the estimated sustainable level is clearly shown by durable products (Chart 6-12).** After the crisis the consumption of durable goods declined substantially; the ratio of this product group in the consumer basket fell from 11 percent to close to 5 percent, which also contributed, in addition to the decline in the level of consumption, to the decrease in the import demand of household consumption. **The large, post-crisis decline in car purchases, which represent the highest weight within durable goods, made a significant contribution to the aforementioned processes.** The parameter of the return to the sustainable level is the lowest in the case of durable goods (0.04), which means that the wedge falls 5 percent quarterly, and its half-life is 17 quarters on average.

Chart 6-12: Estimate related to the long-term level of durable goods and developments in the actual consumption of durable goods



Source: HCSO, MNB calculation

The post-crisis negative trend in household consumption turned around in 2013, and since then households' consumption demand has been gradually recovering, but the rate of expansion has fallen short of the income trends. **Based on the various estimation methods, we identified negative deviation both in the level of aggregate consumption and in the individual sub-items from the sustainable level explained by the income trends, which substantiated the persisting recovery expected to be seen in household consumption.** Based on the foregoing, strong recovery potential can be identified in domestic demand. In parallel with the recovery expected in the case of durable goods, the import demand of consumption may substantially rise, which points to a decline in the trade surplus and a deterioration in the balance of payments. On the whole, **based on the recovery potential inherent in household consumption, the consumption gap may close further in parallel with the dynamic growth in demand, which not only contributes to economic growth, but also points to a gradual increase in inflation. However, based on the recovery potential identified in the case of durable goods, the inflationary impact of the rising household demand may be moderate.**

7. BREAKDOWN OF THE AVERAGE CONSUMER PRICE INDEX FOR 2017

Table 7-1: Decomposition of inflation to carry-over and incoming effect

	Effect on CPI in 2017		
	Carry-over effect	Incoming effect	Yearly index
Administered prices	0.0	0.1	0.1
Market prices	0.8	1.7	2.5
Indirect taxes and government measures	0.2	-0.2	0.0
CPI	**1.0**	**1.6**	**2.6**

Note: The tables show the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of the 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.

Table 7-2: Detailed decomposition of our inflation forecast to carry-over and incoming effects

	2017				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	0.2	0.0	3.3	-1.1	2.4
non-processed	-1.6	0.0	5.4	-2.5	1.3
processed	1.0	0.0	2.5	-0.5	3.0
Traded goods	0.2	0.0	0.8	0.0	1.0
durables	-0.4	0.0	0.9	0.0	0.5
non-durables	0.4	0.0	0.7	0.0	1.1
Market services	1.0	0.0	2.0	-0.2	2.8
Market energy	1.0	0.0	1.6	0.0	2.6
Alcohol and tobacco	0.3	0.6	2.0	2.1	5.0
Fuel	5.9	1.7	2.7	-1.5	8.8
Administered prices	0.2	0.0	0.3	0.0	0.5
Inflation	**0.8**	**0.2**	**1.8**	**-0.2**	**2.6**
Core inflation	0.6	0.1	1.7	0.1	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 the 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.

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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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