INFLATION REPORT

DECEMBER

2015

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

Miklós Zrínyi: The Life of Matthias Corvinus

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

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

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

The analyses in this Report were prepared under the direction of Barnabás Virág, Executive Director of the Directorate Monetary Policy, Financial Stability 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 13 December 2015.

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CHANGES TO THE PRESENTATION OF THE MONETARY COUNCIL'S STATEMENT AND THE ALTERNATIVE SCENARIOS IN THE INFLATION REPORT

Regarding the structure and content of the Inflation Report, the Monetary Council decided to change its previous practice in two points. First, instead of publishing a statement, in line with its practice in the interim months, it will **release a brief announcement in the publication months of the *Inflation Report***, which will be supplemented with 'The Monetary Council's key findings related to the Inflation Report', which is presented in the Introduction of the Report. Second, **in addition to a detailed presentation of the most relevant risk paths, the *Inflation Report* will also give a brief overview of other risk factors in the chapter discussing the alternative scenarios.** These arrangements are in line with international central bank practice and improve the predictability and transparency of the central bank.

In the assessment of the Monetary Council, standardising the structure of the communications issued after its rate-setting meetings helps to simplify and improve the transparency of the MNB's communication, in particular the efficiency of its communications regarding monetary policy. To that end, the Monetary Council of the Magyar Nemzeti Bank decided that, for the sake of month-to-month comparability, starting from December 2015 it will release communications in the publication months of the Inflation Reports in the same format as the press releases issued after interest rate decisions in the interim months. **Consistent with the press releases of interim months, the communication is intended to sum up the Monetary Council's evaluation of the actual economic developments, to present the Council's current decision and its justification, and to communicate the Council's forward guidance.**

Concurrently, the section 'The Monetary Council's key findings related to the Inflation Report' relevant to the current *Inflation Report* will be presented, as usual, at the beginning of the Report. It will discuss the individual chapters, current macroeconomic and financial market developments and the MNB's forecast in more detail than the announcement. This introductory chapter of the Inflation Report will still include the Monetary Council's evaluation of current developments.

Discussing the uncertainties surrounding the forecasts and presenting, in addition to the central projection, alternative scenarios showing the risks most relevant to decision-making play a significant role in central bank communications worldwide. **Presenting the risks is also an important part of the MNB's communication tools.** Consistent with the previous practice, the *Inflation Reports* will describe in detail the 2-4 risk scenarios deemed most important by the Monetary Council. For the sake of even more transparent communication, **along with the 2-4 most relevant risks arising in the given quarter, other additional risk factors will also be presented in the *Inflation Report.*** As regards the presentation of individual risks, **the alternative scenarios deemed most important by the Monetary Council will be discussed in detail, while risks arising in addition to the main risks will be presented in the form of a brief summary**. All of this will be reflected in the formal presentation of alternative scenarios on the risk map, where the more important scenarios will be highlighted.

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

In the Council's assessment, Hungarian economic growth continues. A degree of unused capacity remains in the economy, and therefore the domestic real economic environment continues to have a disinflationary impact. Inflation remains substantially below the Bank's target. Hungary's persistently strong net lending position and the low budget deficit are contributing to the sustained reduction in the vulnerability of the economy.

Global economic growth has slowed in recent months; inflation rates remain at low levels, below central bank's target values.

Expansion of the global economy slowed in the third quarter. The slow recovery from the crisis in developed economies continued, but prospects for growth in emerging countries deteriorated. Inflation continued to be subdued around the world. Fragile economic activity and the moderate inflation environment warrant maintaining an accommodative monetary policy stance for a prolonged period by the majority of the world's leading central banks. However, expectations related to the Fed's future interest rate decisions may lead to higher financial market volatility over the coming period.

Inflation rises gradually over the forecast horizon, but approaches the 3 per cent level corresponding to price stability only at the end of 2017.

Based on incoming data, domestic inflation developments have been in line with the September Inflation Report. In the Council's assessment, core inflation has been rising gradually as a result of an expansion in household consumption and an acceleration in wage growth, but the persistently low global inflationary environment, especially the moderation of oil and commodity prices, contains the increase of the inflation rate. The Council's view is that the increase in aggregate wage dynamics have been limited despite a tightening labour market, and therefore that, coupled with recent developments in demand, suggests that low inflation will persist. The Bank's measures of underlying inflation are likely to rise only gradually in the coming years. Inflation is expected to remain below the 3 per cent target over the forecast period, and is only likely to approach it by the end of the forecast horizon.

Economic growth is likely to pick up again from the second half of 2016 following a temporary slowdown. Rising household consumption is likely to remain a main contributor to growth.

Hungarian economic growth continued at a weaker-than-expected rate in the third quarter of 2015. The slowdown in emerging market economies is mitigating import demand in Hungary's export markets and the expansion of the country's exports. The deceleration in external demand and in funding from the EU will lead to a significant slowdown of growth in 2016. Recovery is expected from the second half of 2016, mainly reflecting the strengthening performance of Hungary's export markets as well as the Bank's and the Government's measures. In the Council's assessment, the Bank's Growth Supporting Programme and the recent steps taken by the Government to encourage home building and improvement are expected to dampen the slowdown in the rate of growth. In addition to these factors, rising household consumption is likely to support the economic expansion in the coming years.

Hungary's net lending remains high; the reduction in the economy's external vulnerability continues.

In 2015, the trade surplus rises, driven by the improvement in the terms of trade and the supportive external environment, coupled with improvements in the transfer balance and the income balance. The country's net lending is expected to be lower on the forecast horizon than this year, but will remain firmly high. This weakening reflects the temporary decline in EU transfers. Looking forward, the deficit on the income balance is likely to stabilise at a slightly lower level than this year, as a result of the opposite effects of falling interest expenses and improving corporate profits. Net lending is expected to remain high in the next two years, which contributes to a further improvement in the economy's resilience to shocks through a decline in debt ratios.

Sentiment in international financial markets improved slightly; conditions in domestic markets were in line with international trends.

Global financial market sentiment improved slightly in the past quarter, with measures of risk falling and equity indices rising. Expectations related to the ECB's and the Fed's monetary policy decisions as well as uncertainty about growth prospects in emerging market economies were the main factors influencing market sentiment. Developments in foreign exchange markets were dominated by the appreciation of the US dollar in recent months. Overall, conditions in domestic markets were in accordance with international trends, with country-specific factors playing a modest role. The forint exchange rate weakened over the period. Short term yields in the government securities were rising significantly, while long term yields declined slightly. Among risk indices, the domestic CDS spread fell slightly.

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

The Monetary Council considered three alternative scenarios around the baseline projection in the December Inflation Report, which might influence significantly the future conduct of monetary policy. The persistence of the low cost environment and slower growth in emerging market economies imply a lower path while potential financial market turbulence, emerging due to a change in global risk appetite, implies a higher path for inflation than the baseline projection. In case of persistently low global commodity prices, domestic economic growth may be more favourable than in the projection, and it may be lower if emerging market economies decelerate more than anticipated or if financial market turbulence occurs. In addition to the key risk scenarios, the Council identified other modest uncertainties: a slower-than-expected tightening in global monetary conditions, the faster correction in thepath of low oil and commodity prices, subdued investment and the possibility of accelerating increases in wage dynamics associated with a tightening labour market.

In the Council's assessment, the reduction in unused capacity is stopping temporarily as economic growth slows, and therefore the negative output gap will close only at the end of the policy horizon. Inflationary pressures remain moderate over a sustained period.

If the assumptions underlying the Bank's projections hold, the current level of the base rate and maintaining loose monetary conditions for an extended period, over the entire forecast horizon, are 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)

	2014	2015	2016	2017
	Actual	Projection		
Inflation (annual average)				
Core inflation	2.2	1.3	2.4	2.6
Core inflation without indirect tax effects	1.4	1.2	2.0	2.6
Inflation	-0.2	0.0	1.7	2.6
Economic growth				
External demand (GDP based)	1.7	1.8	2.1	2.3
Household consumption expenditure	1.8	3.0	3.2	2.6
Government final consumption expenditure	2.9	0.3	0.2	0.5
Gross fixed capital formation	11.2	0.0	-2.0	3.6
Domestic absorption	4.2	1.4	1.6	2.4
Exports	7.6	8.6	6.3	6.6
Imports	8.5	7.4	5.9	6.5
GDP	3.7	3.0	2.5	3.0
External balance[1]				
Current account balance	2.3	5.3	5.6	6.0
External financing capacity	6.0	9.9	7.2	7.8
Government balance[1,5]				
ESA balance	-2.5	-2.0	-2.0	-1.7
Labour market				
Whole-economy gross average earnings	2.4	3.8	3.9	3.8
Whole-economy employment	5.3	2.9	2.9	1.9
Private sector gross average earnings[2]	4.3	3.8	4.3	4.7
Private sector employment	4.6	2.4	1.4	1.1
Unemployment rate	7.7	6.6	5.7	5.2
Unit labour cost in the private sector[3]	3.8	1.6	2.6	2.2
Household real income[4]	3.4	3.1	2.8	2.0

[1] As a percentage of GDP.
[2] According to the original HCSO data for full-time employees.
[3] Private sector unit labour cost calculated with full time equivalent domestic employment.
[4] MNB estimate.
[5] With complete cancellation of free reserves.

1. INFLATION AND REAL ECONOMY OUTLOOK

In the past period, the economy continued to expand at a slower pace than in the previous quarters. Deceleration in industrial activity, declining agricultural yields, and subdued output in construction contributed to the slower-than-expected GDP growth. In line with the September projection, inflation remained moderate. Private sector employment continued to rise in Q3, while wage dynamics remained in the 3-4 per cent range seen in recent years.

Inflation may remain well below the 3 per cent target this year and next year, and only approximate the medium-term inflation target by the end of 2017. The Hungarian economy continues to operate in a highly favourable global cost environment. The cost effects resulting in lower inflation are only expected to fade in the second half of the forecast horizon. As for domestic factors, the current growth in household consumption and gradual acceleration of nominal wage dynamics strengthen underlying inflation trends. Rising demand may increase core inflation, but this inflationary effect is restrained by the price-depressing effect of persistently low imported inflation. Stabilisation and stronger anchoring of inflation expectations helps to ensure that price and wage-setting decisions are consistent with the inflation target, even with the upturn in domestic demand.

According to our forecast, the structurally balanced expansion of the Hungarian economy will continue in the years ahead, albeit at a slower pace than in the recent period. The growth for this year is predicted to be around 3 per cent. Growth may slow in the first half of 2016, due to smaller inflows from EU funds, the deteriorating external environment and base effects. At the same time, from the second half of next year, the recovery in lending activity as a result of the Growth Supporting Programme and the lower bank levy – coupled with an emerging upturn in the housing market– may offset the negative effects of the external environment. In line with this, the rate of economic growth may reach 3 per cent again in 2017. Rising domestic demand, especially consumption and private investment, will continue to play a key role in growth. Low commodity prices and the ECB's asset purchase programme are factors supporting growth in Hungary's most important trading partner, the euro area, but due to the poor growth prospects in emerging countries, Hungary's exports will expand at a slower pace than in previous years. Depreciation of the euro against major currencies, however, bolsters the competitiveness of euro area exporters, which might mitigate the impact of the slowdown in emerging markets on Hungarian suppliers.

In addition to the improving labour market conditions, the reduction of the personal income tax next year will also boost the purchasing power of households' income. Household indebtedness has gradually declined in the past years, and therefore debt reduction will restrain the recovery in consumption less and less. Moreover, the conversion of foreign currency loans into forints makes the instalment payments more predictable, which contributes to a decline in precautionary considerations and eases the pressure for balance sheet adjustment. Accordingly, over our forecast horizon, in addition to increasing real incomes, the rising propensity to consume will also contribute to the recovery in household consumption. In the coming years, the share of investments in the national economy relative to output will remain stable at above 20 per cent, but the structure of investments will change significantly in 2016. In parallel with a sharp decline in inflows of EU funds in the first half of the year, public investment may fall, while private investment is expected to rise gradually. Along with easing lending restrictions, growth in private investment may be mainly supported from the demand side by capacity-expansion investments of the sectors producing for the domestic market. Households' investment activity may increase due to the more stable longer-term income expectations and the historically low yield environment. Stronger investment in the real estate market is also supported by the housing market programme announced by the government.

In parallel with increasing output, the participation rate and employment in the national economy may continue to rise, supported by the expansion of public employment programmes and a growing workforce in the private sector. Corporate labour demand may continue to increase as a result of sustained economic growth, and therefore the unemployment rate will decline even in parallel with a rise in the participation rate. The falling unemployment rate is accompanied by an increase in labour market tightness. Due to the segmentation of the labour market by regions and qualifications, as well as the existing labour market reserves, the labour shortage in specific areas only has a limited upward impact on aggregate wage dynamics over the forecast horizon.

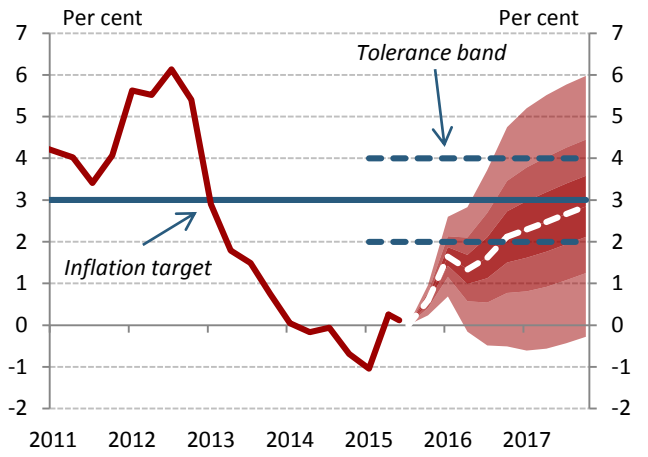
Hungary's net lending may remain permanently high in the coming years as well, contributing to the ongoing decline in net external debt. With continued discipline in fiscal policy, the budget deficit may be significantly below 3 per cent this year and next year, at a level of around 2 per cent of GDP.

Overall, the disinflationary effect of the real economic environment will only decrease gradually over the coming years. Household consumption remains below the pre-crisis level, but looking ahead the pick-up in domestic demand will close the output gap. The global output gap is still negative and may be closing more slowly as well, in line with the weaker-than-expected performance of Hungary's export markets. The inflation target may only be met at the end of 2017.

1.1. Inflation forecast

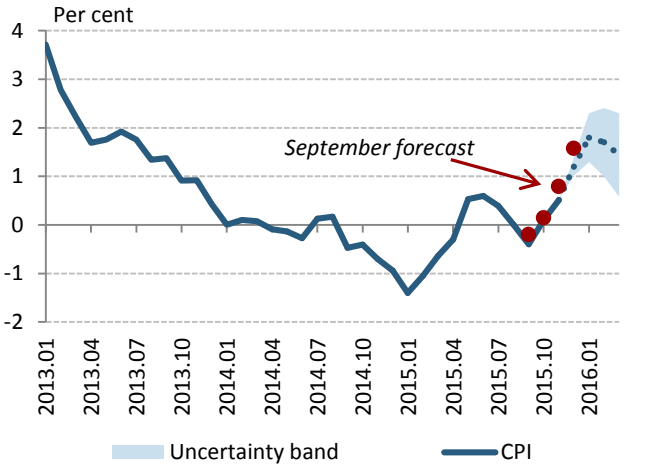
Although inflation may rise in the coming months, inflation developments are still substantially influenced by the price-depressing effect of the persistently low cost environment. Supported by household consumption and accelerating wage dynamics, core inflation may rise gradually over the forecast horizon, although it may be restrained by the effect of persistently low imported inflation. The second-round effects of cost shocks significantly restraining inflation are only expected to fade in the second half of the forecast horizon. Accordingly, inflation may approach the medium-term target only at the end of 2017.

Chart 1-1: Fan chart of the inflation forecast



Source: 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

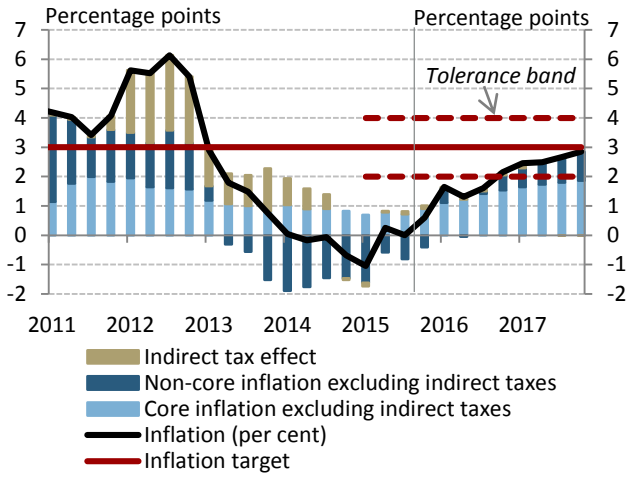
Inflation will fall well short of the 3 per cent medium-term target both this year and next year, and may only approach the target by the end of 2017. The second-round effects of cost shocks significantly restraining inflation are expected to fade in the second half of the forecast horizon. At the same time, core inflation adjusted for indirect taxes may only gradually rise over the forecast horizon. Rising demand also contributes to the increase in core inflation, which is restrained however by the price-depressing effect of persistently low imported inflation. The inflation target may only be met at the end of 2017 (Chart 1-1).

According to our near-term forecast, in the months ahead, the annual increase in consumer prices may remain steadily in positive territory (Chart 1-2). The fading base effect from declining fuel prices at the end of last year will result in rising inflation at the end of this year. Annual average inflation may be zero this year and 1.7 per cent next year.

The path of inflation continues to be significantly influenced by restrained cost-side developments, but looking ahead these are expected to gradually fade. The ECB's asset purchase programme and the adjustment of the depressed cost environment may contribute to gradual increasing inflation in the euro area, which is Hungary's most important trading partner. At the same time, by historical standards, imported inflationary pressure may remain subdued over the medium term.

Core inflation adjusted for indirect taxes may rise gradually over the forecast horizon, due to a slight increase in costs as well as recovering demand and improving labour market developments (Chart 1-3 and Table 1-1). The negative output gap gradually closes over our forecast horizon, and thus the disinflationary impact from the real economy declines. Rising economic output may result in more leeway for economic agents in terms of pricing, possibly facilitating a gradual increase in inflation towards the medium-term target. At the same time, the impact of rising consumption on inflation may be more moderate than in the pre-crisis period. In parallel with a decline in free labour market capacities, unit labour costs

Chart 1-3: Decomposition of the inflation forecast



Source: MNB

Table 1-1: Details of the inflation forecast

		2015	2016	2017
Core inflation		1.3	2.4	2.6
Contribution to inflation		*0.8*	*1.6*	*1.8*
Non-core inflation	Unprocessed food	4.9	4.4	3.0
	Fuel and market energy	-11.0	-2.5	4.6
	Regulated prices	-0.8	0.4	1.1
	Total	-2.6	0.2	2.4
Contribution to inflation		*-0.9*	*0.1*	*0.8*
Inflation		0.0	1.7	2.6

Note: The subgroups may not sum to the aggregate figure due to rounding.

Source: MNB

in the private sector may increase moderately over the forecast horizon. Expectations around the inflation target may help maintain wage and price dynamics at levels consistent with the inflation target.

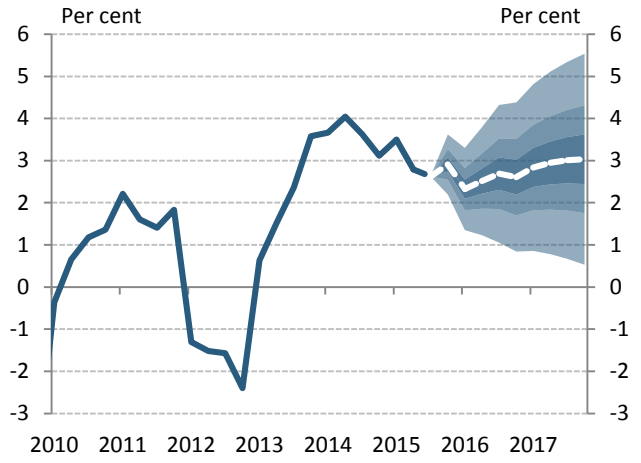
The price index of non-core items may remain at moderate levels (Chart 1-3 and Table 1-1). Euro-denominated oil prices are still low. Futures prices project a slightly rising path. Nevertheless, as a result of the base effect of the earlier decline in fuel prices, a considerable increase is expected in the price index of this product group at the turn of 2015 and 2016, resulting in a substantial rise in the consumer price index as well.

The direct impact of government measures on inflation will remain subdued. The tax changes concerning tobacco products which come into force this year point to rising inflation, especially at the turn of 2015–2016 (Chart 1-3). However, next year this will be offset by the reduction of the VAT on fresh pork, which has a slightly disinflationary effect. We assume unchanged regulated energy prices over the entire forecast horizon. Furthermore, non-energy regulated prices are expected to rise only moderately (Table 1-1).

1.2. Real economy forecast

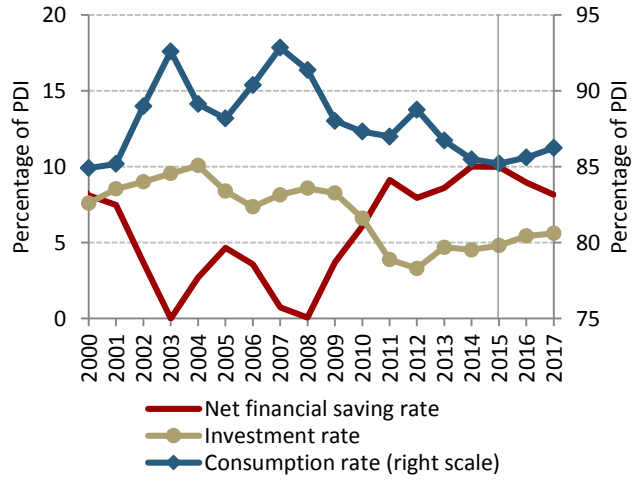
Economic growth may continue over the forecast horizon. In early 2016, growth may slow down tangibly, mainly due to the end of EU funding and weak external demand. Coupled with the planned VAT reduction of new dwelling construction, and the recovery in lending activity due to the Growth Supporting Programme and the decreasing bank levy may offset the negative effects originating from the external environment. In line with this, the rate of economic growth may reach 3 per cent again in 2017. Growth may increasingly be driven by the revival in domestic demand, which may be primarily influenced by expanding consumption and private investment. Household consumption is expected to continue expanding, which will be supported by improving income developments and the gradual easing of precautionary motives. The structure of investments will change significantly in 2016. In the context of low yields, household investment activity may be boosted by the rise in real income as well as government measures supporting home construction, while corporate investment may expand due to the easing of lending restrictions. However, public investment will decline sharply next year in parallel with a strong fall in inflows of EU funds. Moderate growth in external markets slows the pace of export growth, but the weakening of the euro and a depreciated real exchange rate supports the ongoing rise in export share.

Chart 1-4: Fan chart of the GDP forecast



Note: Seasonally adjusted and reconciled data.
Source: MNB

Chart 1-5: Use of household income



Note: As a percentage of disposable income (PDI). Net financial savings of households exclude mandatory contributions payable to private pension funds.
Source: HCSO, MNB

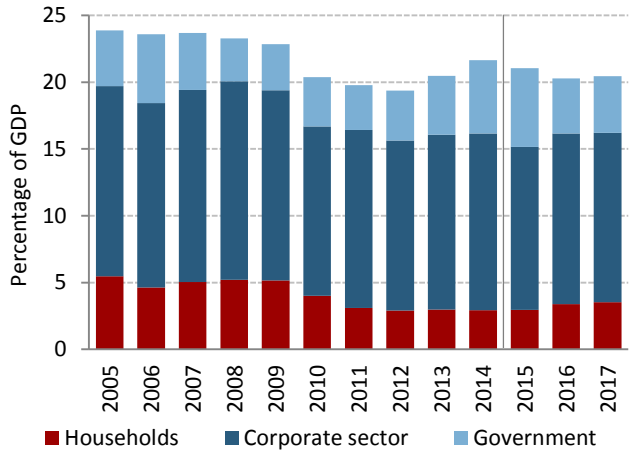
The Hungarian economy may continue to grow over the forecast horizon. Growth may be driven by strengthening domestic demand, especially by expanding consumption and private investment. In line with the weak growth prospects for emerging countries, external demand may be subdued, but net exports will continue to support economic growth. The Hungarian economy may grow by 3 per cent in 2015 and by 2.5 per cent in 2016 (Charts 1-4 and 1-8), and accordingly Hungary's economic convergence, which restarted in 2013, will continue. Annual growth may decrease considerably early next year, due to the end of EU funding and weak external demand. The recovery in lending activity as a result of the Growth Supporting Programme and the decreasing bank levy – coupled with the planned VAT reduction of new dwelling construction – may offset the negative effects originating from the external environment. In line with this, the rate of economic growth may reach 3 per cent again in 2017.

Household consumption is expected to continue rising in the years ahead. This is supported by improving income and the gradual easing of precautionary motives. From early next year, households' disposable income will be boosted by the reduction of the personal income tax rate, while the conversion of foreign currency loans into forints will reduce the sensitivity of households to exchange rates. Consequently, the financial savings rate is expected to decline slightly from its current high level over our forecast horizon, while the rate of consumption and household investment may increase gradually (Chart 1-5).

Within output, the share of national economy investments may remain stable above 20 per cent. In parallel with the decrease in the drawdown of EU funding, government investment may drop considerably in the first half of next year, but looking ahead, in parallel with the accelerated initiation of the disbursement of EU funding,

public investment may start expanding again from the second half of next year. In addition to easing lending restrictions, private investment growth may be mainly supported from the demand side by the capacity-expansion investments of sectors producing for the domestic market. Households' investment activity may increase due to the more stable longer-term income expectations and the persistently low yield environment as well as the government measures supporting home construction (Chart 1-6).

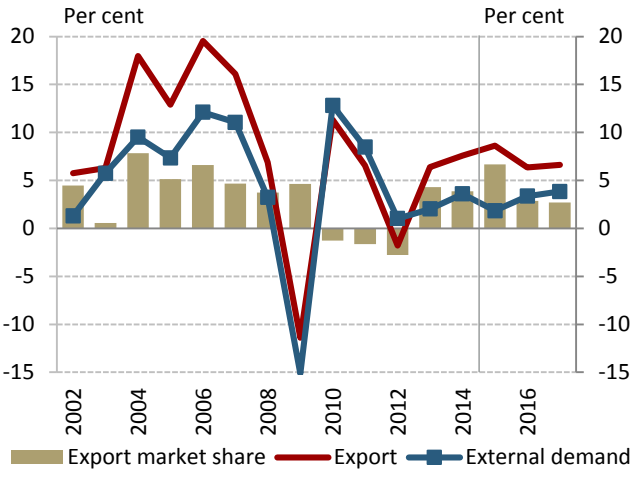
Chart 1-6: Breakdown of gross fixed capital formation



Source: HCSO, MNB

With a rising demand for lending, corporate loans are expected to increase substantially over the forecast horizon. The Funding for Growth Scheme will be gradually phased out from 2016, and therefore the availability of funds through this channel will gradually taper off. However, in order to stimulate market-based lending, the central bank introduced the Growth Supporting Programme. In addition, the low interest rate environment enables commercial banks to meet the rising demand with an increasingly large proportion of market-based loans. The contraction in households' outstanding debt may continue. Demand for consumer loans may remain subdued for years, but as a result of the government measures supporting home construction, the housing market may continue its recovery, which may lead to an increase in new property loans.

Chart 1-7: Changes in export market share

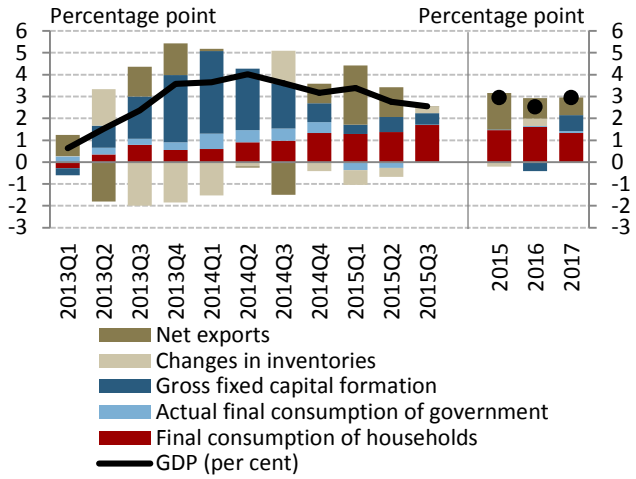


Note: Annual change.
Source: MNB

Hungary's export market share may continue to increase. In line with the weak growth prospects for emerging countries, however, the import demand of Hungary's export markets is expanding at a slower rate; consequently, Hungary's exports are growing more slowly than in previous years. Nevertheless, the ECB's asset purchase programme and low oil prices may have a favourable impact on demand in Hungary's European trading partners. The depreciation of the euro may improve the competitiveness of euro area exporters, which supports the performance of Hungarian suppliers as well. Looking ahead, in addition to the development of new capacities, the more depreciated real exchange rate also supports Hungary's export market share (Chart 1-7). Net exports may continue to positively impact growth (Chart 1-8).

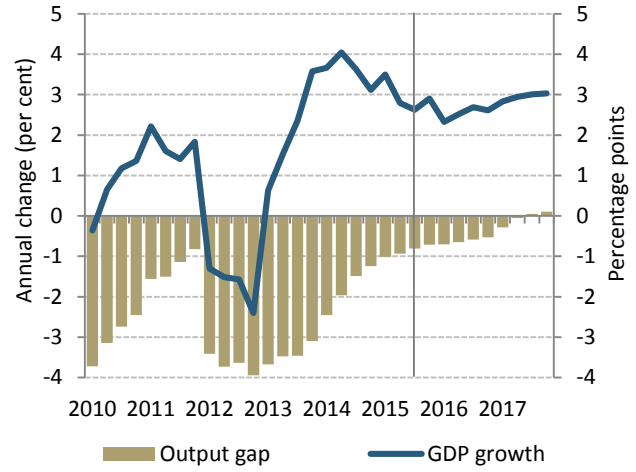
The disinflationary effect of the real economy environment may only decrease gradually over the coming years. In line with the weak growth prospects for emerging countries, the output of Hungary's trading partners may fall persistently short of the potential level, which entails steadily low imported inflation. Nonetheless, household consumption – which is a key factor in relation to domestic inflationary pressure – will continue to show a

Chart 1-8: Evolution of GDP growth



Source: HCSO, MNB

Chart 1-9: Evolution of economic growth and the output gap



Source: HCSO, MNB

rising trend, and therefore its disinflationary effect will gradually diminish. The negative output gap may only close by the end of the forecast horizon.

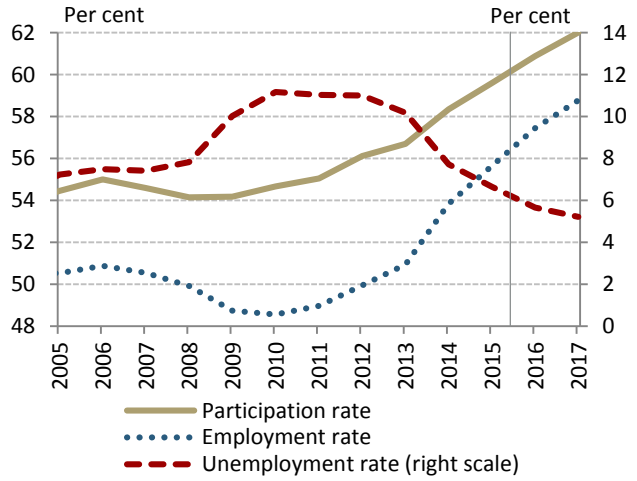
Potential growth may slowly increase over the forecast horizon, supported by the rebound in the labour market participation rate, the reduction of unemployment and the rise in corporate investment. The rise in lending can contribute to increasing productivity. Among others this may take the form of technology transfers materialized in new capital, and the increasing market share of more productive firms. The improving cyclical position of the economy also raises the potential growth rate of the economy. Accordingly, overall, economic growth is fostered the gradual closure of the output gap and the increase in potential growth (Chart 1-9).

The forecast for economic growth in 2015 has declined compared to that of the September Inflation Report, while the projection for 2016 has remained unchanged. Exports will expand at a slower pace due to the weaker performance of external markets. Furthermore underlying developments in lending have also been slower than expected, which contributed to the moderate development of corporate investment. The recovery in lending activity as a result of the Growth Supporting Programme and the decreasing bank levy – coupled with measures to support home construction – may offset these effects.

1.3. Labour market forecast

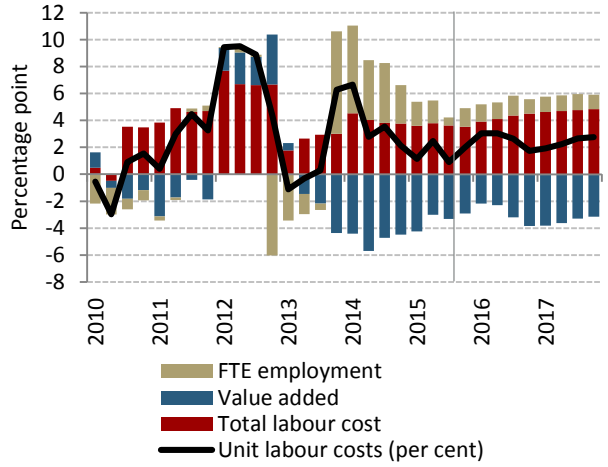
The participation rate and rate of employment in the national economy may continue to rise over the forecast horizon. In parallel with economic growth in Hungary, the number of employees in the private sector may rise, while the public work programmes will continue to contribute substantially to the increase in employment in the national economy. The unemployment rate may drop below 6 per cent next year. Tighter labour market conditions and the increase in inflation expectations point towards a rise in nominal wages in the private sector. At the same unit labour cost may rise at a moderate pace due to increasing productivity.

Chart 1-10: Employment, participation and unemployment rate in the national economy



Source: MNB calculations based on HCSO data

Chart 1-11: Decomposition of unit labour costs in the private sector



Note: FTE – Full-time equivalent.

Source: MNB calculations based on HCSO data

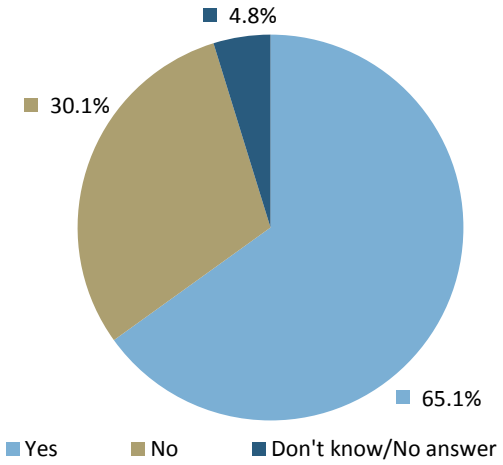
We expect the participation rate to continue rising over our forecast horizon. Since the crisis, as a result of measures aimed at increasing labour supply, the participation rate has increased substantially, which may have an impact in the coming years as well, albeit to a decreasing extent. In addition, in line with the continued expansion of the Hungarian economy, the return of 'discouraged workers' to the labour market may also contribute to an increase in the participation rate (Chart 1-10).

Labour demand in the private sector may gradually rise over the forecast horizon, but in parallel with slowing economic growth, labour demand growth may also decelerate. As the spread of part-time employment has stopped in recent years, the number of people in employment may grow at the same pace as the number of hours worked over the forecast horizon. **In addition to rising employment in the private sector, the planned extension of public employment programmes may also continue to contribute substantially to employment in the national economy in the years ahead.** In the forecast, we assume that the number of people in public employment may rise to well above 300,000 by the end of 2017.

Over the forecast horizon, as a result of tighter labour market conditions and rising inflation expectations, nominal wage growth is expected to gradually accelerate in the private sector (see Box 6.1). Nevertheless, in parallel with the rise of the inflation rate and slower economic growth, the growth rate of real wages may decrease. Unit labour cost may rise at a moderate pace due to increasing productivity (Chart 1-11).

According to the results of a survey by the Hay Group conducted in December 2015, companies – primarily large corporations – will raise wages next year by more than the actual figure for this year. Furthermore, many companies have not made their decisions on a wage rise yet, since they are waiting for the decision on increasing the minimum wage and the guaranteed minimum wage. This is also backed by the fact that according to the corporate growth survey conducted by the Századvég Foundation,

Chart 1-12: Do you take into account the potential increase in the minimum wage, the guaranteed minimum wage, or wages in the public work scheme in your wage decisions?



Source: Századvég Foundation

the majority of companies take into account the increase in the minimum wage and the guaranteed minimum wage when making their decisions on wages (Chart 1-12).

In the public sector, a moderate rise in wages is expected, since the national economy wage index is reduced by the expansion of the public work programme through the composition effect, due to the low wages ea rned by participants.

Box 1-1: Main assumptions applied in the forecast

Hungary is a small, open economy, and as such our forecasts for the most important macroeconomic variables are fundamentally influenced by developments in external factors and changes in the assumptions based on such. The purpose of this brief presentation of the changes in the external assumptions – published in the chapter on forecasts – is to make the central bank's forecasts more transparent.

Table 1-2: Main external assumptions of our forecast

Technical Assumptions	2015		2016		2017	Change	
	September	December	September	December	December	2015	2016
EUR/USD	1.12	1.11	1.12	1.06	1.06	–0.9%	–5.4%
Oil (USD/barrel)	53.9	52.7	53.6	47.9	53.9	–2.2%	–10.6%
Food prices							
Wheat (USD/bushel)	5.12	5.06	5.19	4.91	5.33	–1.2%	–5.4%
Maize (USD/bushel)	3.77	3.79	3.94	4.00	4.19	0.5%	1.5%
Euro area inflation (%)	0.0	0.1	0.9	0.8	1.4	0.1 pp.	–0.1 pp.
GDP growth of our main trading partners* (%)	1.8	1.8	2.5	2.1	2.3	0.0 pp.	–0.4 pp.

Note: * GDP growth of Hungary's 21 main export partner countries, weighted by export shares.

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

In the past month, USD-denominated oil prices were stable, in line with our assumption in September. Oil prices remain extremely subdued, which may be due to increasing supply and weak demand, primarily caused by sluggish growth in the major oil-importing countries. Looking ahead, prices may drop significantly, if, as a result of the agreement on its nuclear programme, Iran is able to increase its output over the short term as well. Furthermore, due to decreasing demand, the slowdown in the Chinese economy may also reduce prices. Price movements in the opposite direction may be prompted by the reduction of oil production in the US, the escalation of the domestic situation in Saudi Arabia as well as the growing discontent among OPEC countries. Overall, futures prices continue to project a slightly rising path. Nonetheless, uncertainty about expected oil price developments continues to be high among analysts, and oil prices for break-even points are distributed in a wide band. According to our technical assumption about the EUR/USD cross rate, the euro has depreciated against USD in the past period, leading to a marginal increase in EUR-denominated oil prices. Looking ahead, our technical assumption for EUR projects an unchanged exchange rate level, and thus does not affect EUR-denominated oil prices.

Since the September Inflation Report, futures prices of wheat and maize have increased slightly, but no material change was observed compared to the assumption applied in September. Looking ahead, based on futures prices, grain prices are expected to remain moderate. Domestic developments were dominated by this year's positive global agricultural crop yields and large stocks, which resulted in moderate futures prices of wheat and maize at the commodities section of the Budapest Stock Exchange (BSE) over the past months.

Euro area inflation may remain low, due to subdued growth prospects and the depressed cost environment. The significant decline in the oil price since the end of last year has significantly restrained international inflation developments. Through the weaker euro, the ECB's asset purchase programme may increase the price level over the forecast horizon, but it may only have a long-term impact. Due to the different monetary policy stances of the ECB and the Fed, a persistently weak EUR exchange rate is expected.

Our assessment of GDP growth in Hungary's export markets deteriorated compared to our September forecast. Based on the Q3 GDP figures, the economy of the euro area, Hungary's most important export partner, may expand this year at a pace similar to the previously estimated rate, while its growth may fall short of expectations in the years ahead. Emerging countries are also projected to grow at a slower pace than previously expected. Economic expansion in Europe continues to be negatively affected by the Russia–Ukraine conflict and economic sanctions. At the same time, low oil prices and the euro, which is weaker as a result of the ECB's quantitative easing, may stimulate growth in the region.

Figures received recently point to a slump in global trade, which can be primarily attributed to the weakening import demand in emerging countries. The trade intensity of the global economic performance has weakened since the crisis.

Between 1980 and 2007, a 1 per cent growth in global economic output resulted in an almost 2 per cent expansion of world trade, but since the crisis, it has only entailed a more moderate rise (around 1 per cent).

Although the temporary drop in demand caused by the global economic crisis may have had a negative effect on external trade during the recovery, after cyclical effects fade out, the dynamics of world trade may fall short of the pre-crisis average in the coming period as well. In part, this can be attributed to structural factors such as the major geopolitical events in the past decades (e.g. China's accession to the WTO, the reintegration process of Central and Eastern European countries following their political transition), the fact that the expansion of global value chains has reached its limit, and protectionist trade policies. Additionally, strong cyclical effects have also played role: as a result of the crisis the investment activity of developed countries has significantly and permanently decreased. Investments have a high import content, and thus this phenomenon entailed a slowdown in external trade.[1] In the years ahead, investment in developed countries may accelerate, but in the emerging economies – especially in China- the earlier high investment rates is expected to decrease according to the forecasts. In light of the above, **in our forecast we expect that the world trade elasticity to global economic performance will remain low**.

[1] The causes of the slowdown in world trade were discussed *inter alia* in CBH 2015 Growth Report Chapter V. The setback in investment is analysed by Bussière, M. – Callegari, G. – Ghironi, F. – Sestieri, G. – Yamano, N. (2013): Estimating Trade Elasticities: Demand Composition and the Trade Collapse of 2008-2009, *American Economic Journal: Macroeconomics*, vol. 5 no. 3, pp. 118-151.

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

	2014	2015		2016		2017
	Actual	Projection				
		September	Current	September	Current	Current
Inflation (annual average)						
Core inflation	2.2	1.4	1.3	2.5	2.4	2.6
Core inflation without indirect tax effects	1.4	1.2	1.2	2.2	2.0	2.6
Inflation	-0.2	0.0	0.0	1.9	1.7	2.6
Economic growth						
External demand (GDP-based)	1.7	1.8	1.8	2.5	2.1	2.3
Household consumer expenditure	1.8	3.3	3.0	3.2	3.2	2.6
Government final consumption expenditure	2.9	0.2	0.3	-0.4	0.2	0.5
Gross fixed capital formation	11.2	2.7	0.0	-3.2	-2.0	3.6
Domestic absorption	4.2	2.5	1.4	1.0	1.6	2.4
Exports	7.6	7.9	8.6	7.7	6.3	6.6
Imports	8.5	7.6	7.4	6.7	5.9	6.5
GDP	3.7	3.2	3.0	2.5	2.5	3.0
External balance[1]						
Current account balance	2.3	5.4	5.3	6.6	5.6	6.0
External financing capacity	6.0	9.6	9.9	8.0	7.2	7.8
Government balance[1,5]						
ESA balance	-2.5	-2.4	-2.0	-2.0	-2.0	-1.7
Labour market						
Whole-economy gross average earnings	2.4	3.2	3.8	3.7	3.9	3.8
Whole-economy employment	5.3	2.8	2.9	2.4	2.9	1.9
Private sector gross average earnings[2]	4.3	3.5	3.8	4.2	4.3	4.7
Private sector employment	4.6	2.0	2.4	1.1	1.4	1.1
Unemployment rate	7.7	6.8	6.6	6.2	5.7	5.2
Private sector unit labour cost[3]	3.8	1.1	1.6	2.3	2.6	2.2
Household real income[4]	3.4	3.4	3.1	2.9	2.8	2.0

[1] As a percentage of GDP.

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

[3] Private sector unit labour cost calculated with full-time equivalent domestic employment.

[4] MNB estimate.

[5] With complete cancellation of free reserves.

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

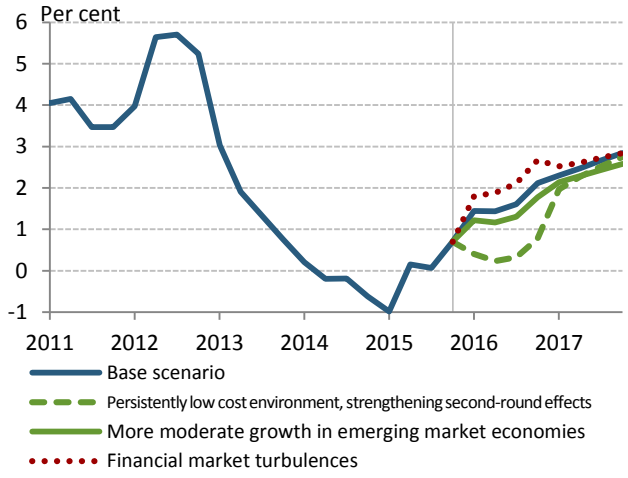
	2015	2016	2017
Consumer Price Index (annual average growth rate, %)			
MNB (December 2015)	0.0	1.7	2.6
Consensus Economics (November 2015)[1]	(-0.3) – 0.1 – 0.5	1.0 – 2.0 – 2.9	
European Commission (October 2015)	0.1	1.9	2.5
IMF (October 2015)	0.3	2.3	2.9
OECD (November 2015)	0.1	2.2	2.7
Reuters survey (December 2015)[1]	(-0.1) – 0.0 – 0.0	1.4 – 1.8 – 2.3	2.3 - 2.7 - 2.9
GDP (annual growth rate, %)			
MNB (December 2015)	3.0	2.5	3.0
Consensus Economics (November 2015)[1]	2.4 – 2.8 – 3.1	1.9 – 2.3 – 2.6	
European Commission (October 2015)	2.9	2.2	2.5
IMF (October 2015)	3.0	2.5	2.3
OECD (November 2015)	3.0	2.4	3.1
Reuters survey (December 2015)[1]	2.6 – 2.8– 2.9	1.9 – 2.2 – 2.5	
Current account balance[3]			
MNB (December 2015)	5.3	5.6	6.0
European Commission (October 2015)	4.3	5.5	6.1
IMF (October 2015)	5.0	4.3	3.7
OECD (November 2015)	4.3	5.5	6.4
Budget deficit (ESA 2010 method)[3,4]			
MNB (December 2015)	2.0	2.0	1.7
Consensus Economics (November 2015)[1]	1.5 – 2.4 – 2.7	1.2 – 2.4 – 2.7	
European Commission (October 2015)	2.3	2.1	2.0
IMF (October 2015)	2.7	2.3	
OECD (November 2015)	2.3	1.9	1.5
Reuters survey (December 2015)[1]	1.6 – 2.5 – 4.4	1.2 – 2.4 – 4.2	
Forecasts on the size of Hungary's export markets (annual growth rate, %)			
MNB (December 2015)	1.8	3.4	3.8
European Commission (October 2015)[2]	4.2	4.8	5.5
IMF (October 2015)[2]	3.2	4.9	5.3
OECD (November 2015)[2]	4.6	4.2	5.0
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (December 2015)	1.8	2.1	2.3
European Commission (October 2015)[2]	2.0	2.2	2.3
IMF (October 2015)[2]	1.6	2.1	2.2
OECD (November 2015)[2]	1.8	2.1	2.3

[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] With complete cancellation of free reserves.
Source: Consensus Economics, European Commission, IMF, OECD, Reuters poll

2. EFFECTS OF ALTERNATIVE SCENARIOS ON OUR FORECAST

The Monetary Council considered three alternative scenarios around the baseline projection in the December Inflation Report, which might influence significantly the future conduct of monetary policy. The persistence of the low cost environment and slower growth in emerging market economies imply a lower path, while potential financial market turbulence, emerging due to changes in global risk appetite, implies a higher path for inflation than the baseline projection. In the case of persistently low global commodity prices, domestic economic growth may be more favourable than in the projection, and it may be lower if emerging market economies decelerate more than anticipated or if financial market turbulence occurs. In addition to the key risk scenarios, the Council identified other modest uncertainties: a slower-than-expected tightening in global monetary conditions, the faster correction in the path of low oil and commodity prices, subdued investment and the possibility of accelerating increases in wage dynamics associated with a tightening labour market. Recently, the Hungarian economy was characterised by a highly favourable cost environment. If – in contrast to the adjustment projected in the baseline scenario – global commodity prices remain at a persistently low level in the years ahead as well, this may increase the probability of second-round effects through expectations. If this scenario materialises, achieving the inflation target could be ensured by looser monetary conditions than projected in the baseline scenario. The deceleration of emerging market economies may impact Hungary's key trading partners unfavourably, and thus demand for domestic exports may be subdued. The fall in demand for exports may lower growth in the domestic economy. As a result of depreciation of the HUF exchange rate and the lower growth rate, the realisation of the inflation target is supported by looser monetary conditions than projected in the baseline scenario. Finally, financial market turbulences may, inter alia, result in a protracted decline in external demand and a sudden, significant rise in the risk premium. Therefore, only a monetary policy that is tighter than assumed in the baseline scenario could ensure the achievement of the inflation target over the forecast horizon.

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



Source: MNB

Persistently low cost environment, strengthening second-round effects

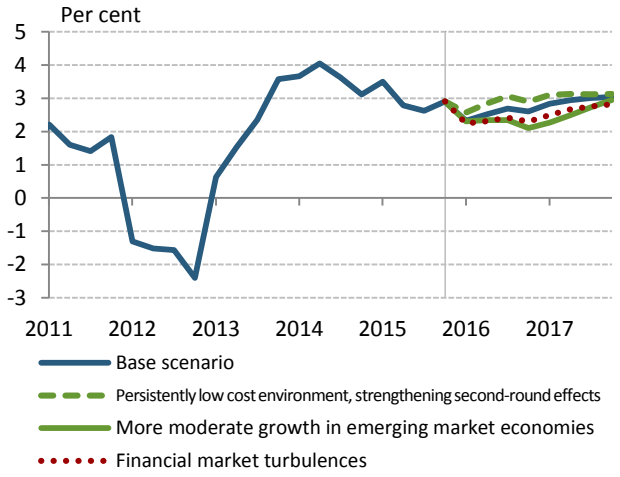
In recent months, oil prices in USD terms have not changed significantly compared to the assumptions in the September *Inflation Report*, and fluctuated around USD 45-50. Commodity prices are still moderate, which – in addition to increased supply and weak demand – may primarily be attributable to the deceleration in growth in some major importing countries.

If, in the baseline scenario, instead of a slow increase in costs, **commodity prices remain at a level that is persistently lower than the current level,** it may result in a further decline in companies' production costs and an increase in households' purchasing power, which may have a positive impact on growth prospects in the importing countries. Improvement in external and domestic demand conditions may also support domestic growth, and which may thus approach 3 per cent as early as 2016, and may be close to that over the forecast horizon. The persistently low cost environment may have a positive impact on growth in Hungary's export markets – mainly the euro area – as a result of which external demand conditions might improve and export demand increase. However, **second-round effects may also become stronger** through a further decline in inflation expectations. Nominal wage dynamics in the private sector may decrease if companies start to determine wages in

line with low inflation environment experienced for a longer period of time.

In this alternative scenario, commodity prices which are persistently lower-than-projected in the baseline scenario will reduce inflation, while the growth path may be more favourable. Due to the stronger disinflationary effects, in this scenario **achieving the inflation target points to looser monetary conditions than those assumed the baseline scenario**

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



Source: MNB

More moderate growth in emerging market economies

The previously rapidly growing emerging market economies were characterised by decelerating growth in 2014 and 2015, as a result of which most central banks expect **growth to continue slowing in the emerging economies**. In parallel with this more moderate growth, the role of investments also shrank in most of these economies. Since the import content of investments is high, this phenomenon causes deceleration in external trade.

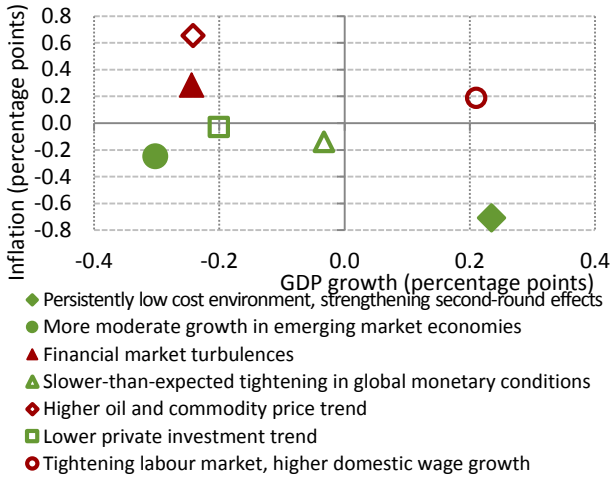
As a result of the change in global demand and supply conditions, deceleration in emerging market economies may also impact Hungary's key trading partners, and **thus demand for domestic exports may remain more moderate**. Via the expenditure side of GDP, the decline in demand for exports may have unfavourable impact **on domestic economic growth**, which **may be less favourable** than projected in the baseline scenario. During the nominal adjustment process, the HUF exchange rate may react to the aforementioned events with slight depreciation. On the other hand, the risk premium is not affected by the processes, as these processes persist for more than a quarter rather than appearing as sudden shocks. Due to the depreciation of the HUF exchange rate and the lower growth rate, **the achievement of the inflation target is supported by looser monetary conditions than projected in the baseline scenario**.

Financial market turbulences

In addition to the real economy factors described in the previous scenario involving growth in emerging economies, **financial market turbulence may occur as a result of a possible deviation of the Fed's behaviour from market expectations, the geopolitical tensions in the Middle East, and further significant deterioration in growth expectations for emerging markets**, especially in the case of China.

The continuous geopolitical problems (conflict in Iraq and Libya, upheavals in the Middle East) may affect the economy through various channels. In terms of the

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

operation of financial markets and the risk appetite of international investors, it is of key importance that **the general increase in distrust may result in increasing volatility in regional exchange rates, and may entail further unfavourable economic consequences through a rise in the risk premium.** In addition, through the decline in their import demand, the growth slowdown in **emerging economies** (the 'Fragile Five', Russia, Ukraine and China) **may have a negative impact on Hungary's exports. Deterioration in emerging economies' growth prospects, a deviation of the Fed's behaviour from market expectations, and government measures in China may cause turbulences in emerging financial and capital markets.**

In this scenario, the deterioration in general investor sentiment is consistent with a higher risk premium path than the current one. According to the assumption of the alternative path, the elevated risk premium results in higher costs of funds and a considerably weaker exchange rate, adding to inflationary pressure. In addition, through the decline in export demand, **it represents a material downside risk in terms of the developments in Hungary's external demand and exports.** Overall, **the achievement of the inflation target is ensured by a monetary policy that is tighter than the one forecast in the baseline scenario**.

Other risks

In addition to the key risk scenarios, other risks include a slower-than-expected tightening in global monetary conditions, a faster correction in the path of low oil and commodity prices, subdued private sector investment and the possibility of accelerating increases in wage dynamics associated with a tightening labour market.

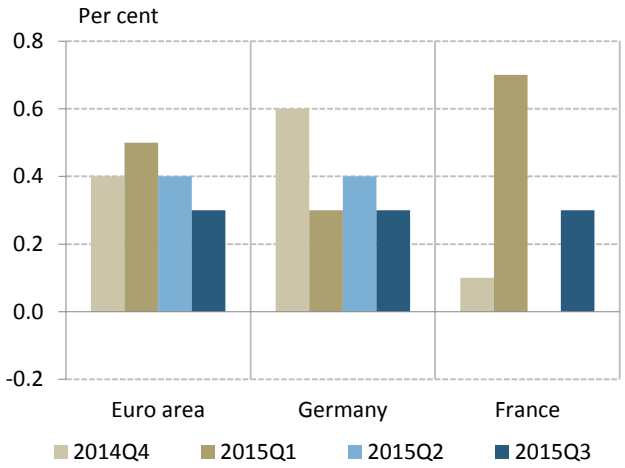
In the case of a slower-than-expected tightening in global monetary conditions, growth and inflation may be lower than in the baseline projection, and therefore looser monetary conditions ensure the achievement of the inflation target. Higher oil and commodity prices and a faster-than-projected tightening of the labour market pose upside risks to both inflation and domestic growth, and therefore tighter monetary conditions would support the achievement of the price stability target. If the alternative scenario which assumes a lower private investment path materialises, growth may be lower than projected, and thus meeting the price stability target points would be supported by a more expansive interest rate policy.

3. MACROECONOMIC OVERVIEW

3.1. International environment

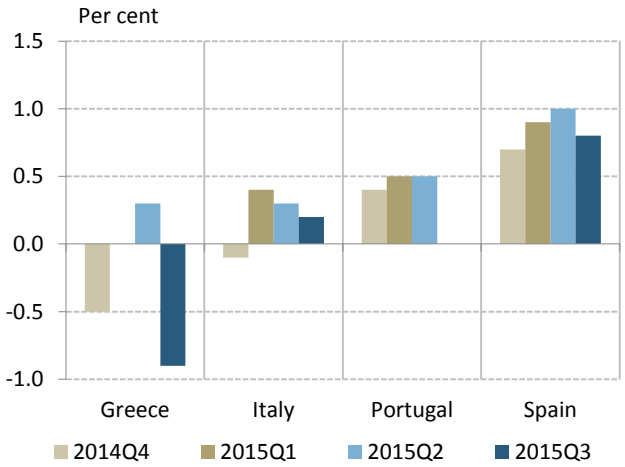
Global economic growth slowed in the third quarter. Recovery from the crisis continued in the developed countries, but the rate of growth decelerated. Conditions for growth deteriorated further in the emerging regions, which had played a decisive role in post-crisis growth. Looking ahead, the divergence between the business cycles of developed and emerging regions may deepen. Inflation rates remained subdued. Some developed central banks, including the Fed in particular, may be preparing for monetary tightening. Nevertheless, inflation and capacity utilisation trends point to the maintenance of loose monetary conditions in most countries, while further easing is possible in others.

Chart 3-1: Quarterly GDP growth in euro area



Note: Seasonally adjusted series.
Source: Eurostat

Chart 3-2: Quarterly GDP growth in the periphery



Note: Seasonally adjusted series.
Source: Eurostat

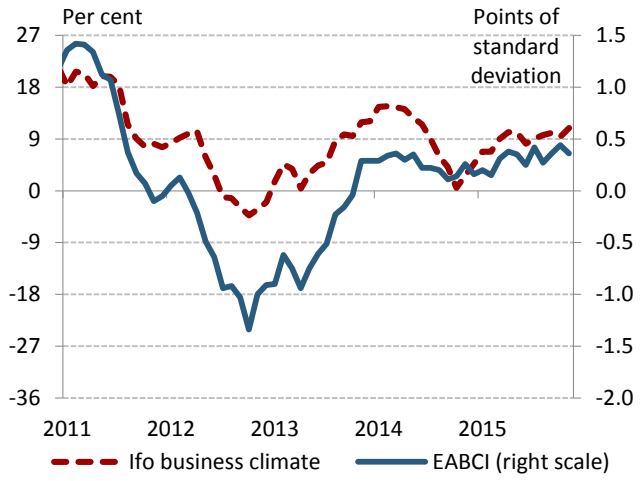
3.1.1. Developments in global economic activity

In the third quarter of 2015, global economic performance was restrained and there are still significant differences between regions. In the developed economies the post-crisis recovery continued. The economy of the euro area expanded slightly in 2015 Q3, and thus the slow improvement in economic performance continued. Based on the annualised quarterly rate, economic growth in the United States decelerated. **Emerging countries, which had accounted for two thirds of global economic growth since the crisis, slowed further. Global growth prospects deteriorated compared to the previous quarter.** Looking ahead, in the developed countries, growth is likely to accelerate slightly further overall, while growth in the emerging countries is expected to decelerate. **Downside risks to the growth forecast rose** compared to the previous quarter, especially in the case of the emerging economies.

Data for the third quarter indicate that economic activity in the euro area continued to improve, although the rate of growth slowed somewhat compared to the previous quarters (Chart 3-1). In 2015, the rebound in euro area domestic demand may be reinforced by the low oil prices and expansion of the ECB's asset purchase programme, although according to market expectations the recent strengthening of the euro and the low inflation environment may justify further easing on the part of the ECB to achieve its inflation target. Growth in Germany, Hungary's most important trading partner, expanded at a rate of 0.3 per cent compared to the previous quarter. While Germany's economic growth may have still been driven by domestic demand and an upswing in government consumption, investment and net exports are likely to have declined. Growth decelerated in the peripheral countries as well (Chart 3-2).

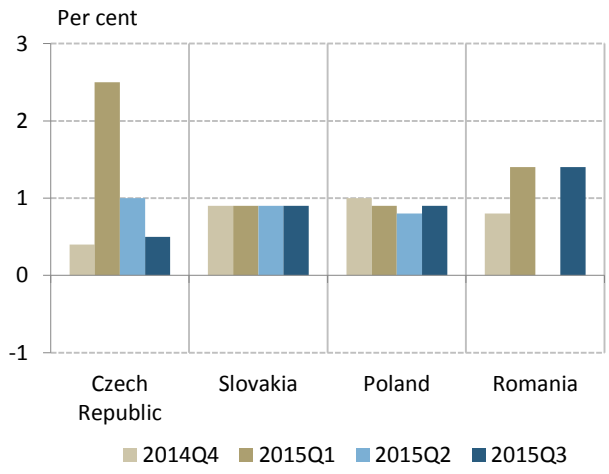
Forward-looking indicators have shown mixed patterns in recent months, but still point to positive prospects across the euro area (Chart 3-3). After weakening

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



Source: European Commission, Ifo

Chart 3-4: Quarterly GDP growth in CEE countries



Note: Seasonally adjusted series.
Source: Eurostat

somewhat in August, the business confidence indicator started to gradually rise in the autumn months. Expectations regarding the German economy (Ifo) improved in the third quarter. Looking ahead, the gradual improvement in economic activity may continue. At the same time, industrial export orders fell to a level not seen since 2011, which indicates that German industrial production and exports may remain weak in the coming months.

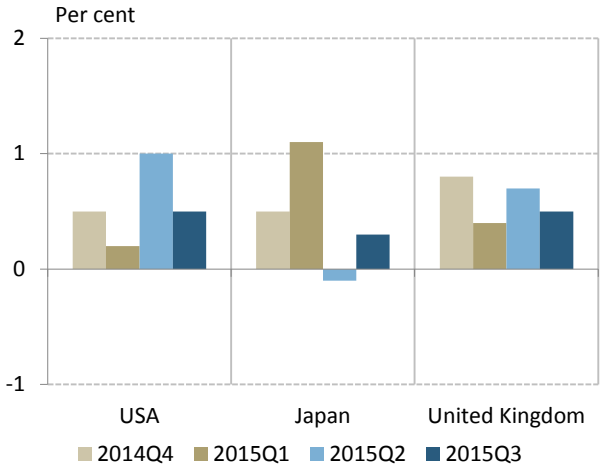
Average growth dynamics in the Central and Eastern European region did not change much compared to the previous quarter, and the region's performance remains outstanding by European standards (Chart 3-4). The growth rate of the Czech economy continued to decelerate. Quarterly growth was primarily boosted by the manufacturing sector on the output side, while consumption, investment and net exports also exhibited signs of growth on the consumption side. As in the previous quarters, the Slovakian economy expanded by 0.9 per cent, while Poland reported moderate economic growth compared to the previous quarter. After the stagnation observed in the second quarter, Romania's economy showed robust growth (1.4 per cent) in the third quarter.

Based both on the annualised quarterly rate and the annual rate, economic growth slowed in the United States in the third quarter compared to the outstanding values recorded in the second quarter (Chart 3-5). This deceleration was caused mainly by a decline in inventory investment and exports. After the substantial inventory accumulation in the previous quarter, businesses cut back on restocking warehouses in the third quarter; as expansion is expected in the next quarter, this decline will be temporary. Lower oil prices are hampering investment and production dynamics in the energy sector while increasing households' disposable income; thus, household consumption remains strong.

Year-on-year growth was up 1.7 per cent in Japan; compared to the previous quarter a mild 0.3 per cent improvement was recorded. Better-than-expected expansion of consumption and investment contributed to this growth. Market expectations indicate that the Bank of Japan is likely to introduce further stimulus.

Growth in the United Kingdom decelerated on a quarterly basis. On the output side, while services, agriculture and industrial production made positive contributions to growth, construction faltered. At the

Chart 3-5: Quarterly GDP growth in developed economies



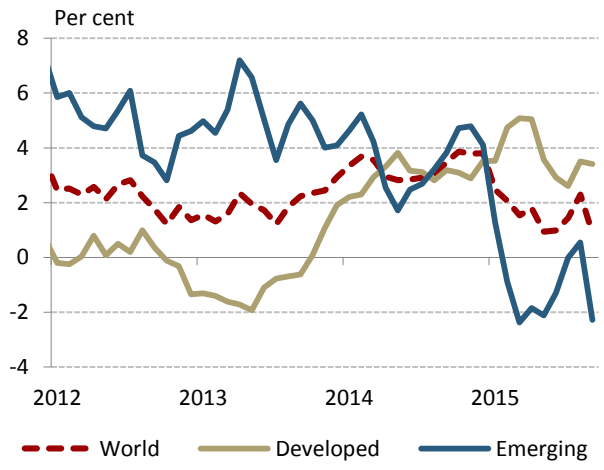
Note: Seasonally adjusted quarterly change.
Source: OECD

Table 3-1: Growth forecast in BRICS

	2015	2016
Brazil	-3.0	-1.6
Russia	-4.0	-0.2
India	7.5	7.8
China	6.9	6.5
South Africa	1.5	2.0

Note: Annual change, per cent.
Source: Consensus Economics

Chart 3-6: Changes in world import



Note: Annual change of 3-month moving average.
Source: CPB

same time, unemployment rose by 0.6 per cent in the United Kingdom compared to the previous quarter.

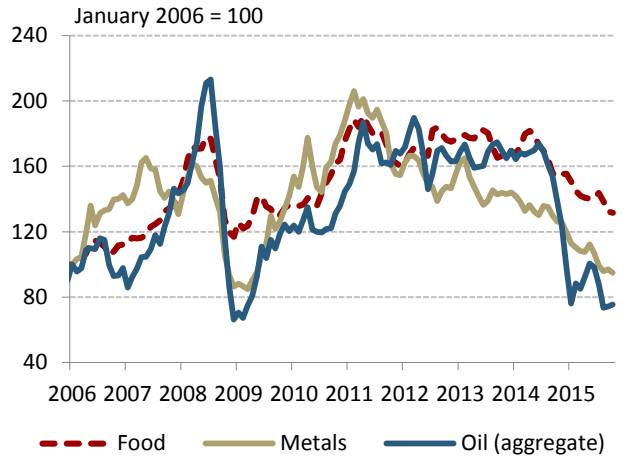
Looking at the main emerging economies, Chinese economic growth slowed compared to previous quarters, expanding at a rate of 6.9 per cent in 2015 Q3 in year-on-year terms. With this, economic growth dropped to its lowest rate in 6 years. The slowdown is attributed to a contraction in industrial production and weak real estate market investment, which further reduced Chinese imports during the past quarter. Moreover, export volumes have fallen continuously since the beginning of the year. Expansion is expected to remain slow in the coming period, with downside risks to growth. Growth projections have been revised down to 6.5 per cent for 2016 (Table 3-1).

Economic growth is expected to be subdued across the other emerging economies as well. The slowdown in world trade can be almost entirely attributed to the waning import demand of the emerging economies (Chart 3-6). The Brazilian economy has been hit by falling demand for commodities, the high level of USD-denominated government debt and uncertainties in domestic politics, with analysts consequently anticipating a contraction of 3 per cent this year and 1.6 per cent in the following year. There are also downside risks in India, and analysts' expectations are gradually being lowered for the current year (to 7.5 per cent) as well as for the following year (to 7.8 per cent). Analysts expect modest growth in South Africa. **As for Hungary's main emerging export markets, the Russian economy continued to contract in 2015 Q3.** Economic sanctions, the continuing outflows of capital and geopolitical tensions all point to an economic downturn. Accordingly, analysts project a pronounced contraction of around 4 per cent for 2015.

3.1.2. Global inflation trends

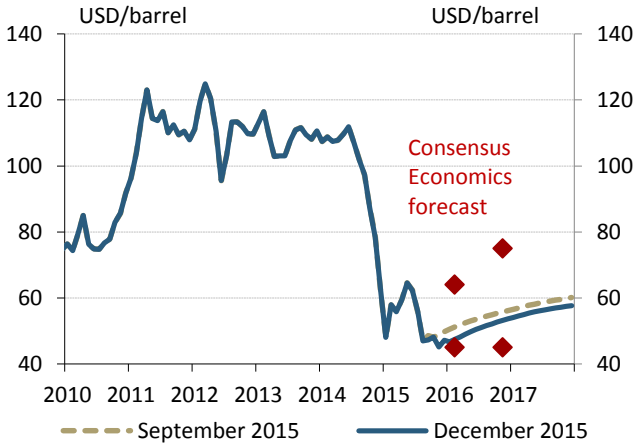
In 2015 Q3, after a continuous decline, commodity prices fell to the lowest level seen in several years (Chart 3-7). In November, the Brent crude oil price fell to around USD 40 per barrel, a level even lower than its January trough. On the supply side, the fall reflected the combined effect of the agreement on Iran's nuclear programme, OPEC countries' persistent over-quota production, a slight increase in the number of rigs drilling in the United States and the improved efficiency of shale oil extraction. On the demand side, the deceleration of growth in China and concerns about global activity weighed on oil prices. At the same time, in addition to supply and demand factors, oil prices also react sharply to geopolitical events. Futures quotes point to a

Chart 3-7: Changes in major commodity prices (USD)



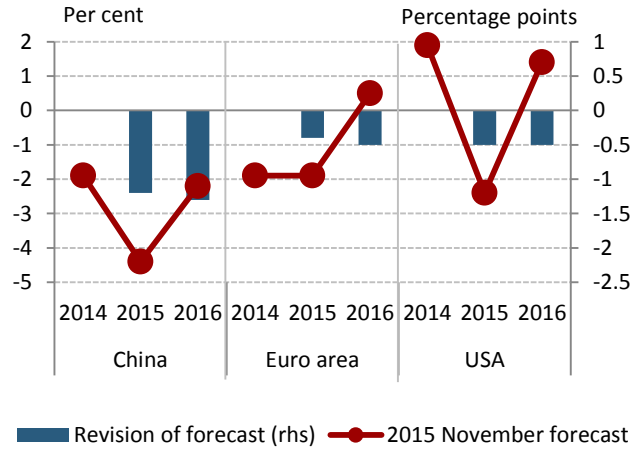
Source: IMF

Chart 3-8: Change in oil price assumptions



Note: The chart shows the maximum and minimum of the individual forecasts in the Consensus Economics poll.
Source: Bloomberg, Consensus Economics

Chart 3-9: Development of producer prices



Note: Annual change.
Source: Consensus Economics

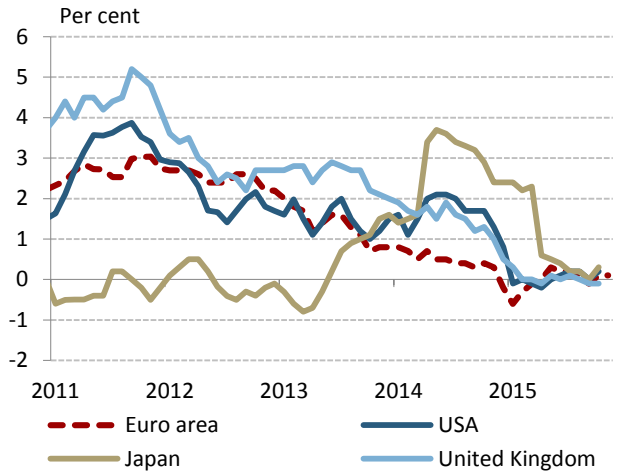
moderate increase in the coming period (Chart 3-8).

The decline in industrial commodity prices continued in the past period. As a result of waning demand and volatility on the Chinese stock market, world metal prices dropped further in 2015 Q3, followed by yet another decline in October. Agricultural commodity prices fell for four months in a row, mainly reflecting contraction in Chinese demand. At the same time, futures quotes edged up across the board in response to unfavourable weather conditions – the hot drought conditions in the northern hemisphere and extreme precipitation in the southern hemisphere – and due to the escalation of the El Niño weather phenomenon and expectations about its effects. In October, food prices showed the sharpest month-on-month increase in the past three years, spurred by rising prices of sugar, vegetable oils and dairy products.

Due to the low commodity prices and subdued demand, global producer price developments are restrained. Producer price projections for the next year have been also revised downward (Chart 3-9). Producer prices in China have continued to fall in recent months: the producer price index stood at –5.9 per cent in the third quarter and is expected to stay in the negative domain going forward. The euro area producer price index is in negative territory as well, and despite projections for a positive value in 2016, its level will remain low. In the United States, expectations point to a sharp decline in producer prices this year.

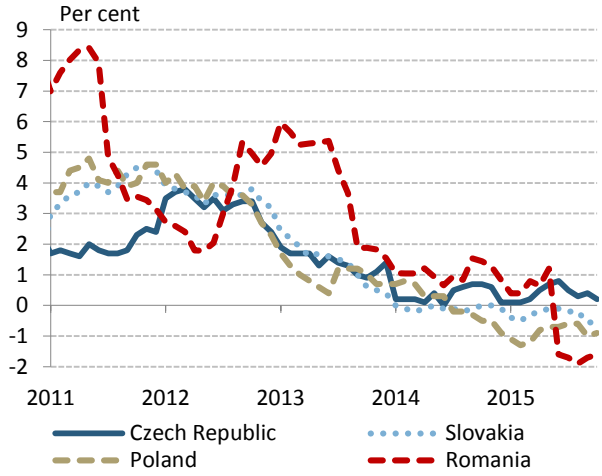
The rate of increase in consumer prices has remained below the central bank targets in developed countries (Chart 3-10), and central bank forecasts expect the rate to remain below target for a longer period. Core inflation indicators were also restrained in the regions under review. Developed countries continue to be characterised by a negative output gap and moderate demand-pull inflation. Since commodity prices have been persistently low, there is no significant inflationary pressure from the expenditure side. In the United States, the annual change in the consumer price index stagnated at the beginning of the third quarter, dropping to 0 per cent by September, but then returning to a value of 0.2 per cent in October. The price index for personal consumption expenditure (PCE) – a measure relevant in terms of monetary policy – has moved within a low range of 0.2–0.3 per cent on average since the beginning of the year and stagnated at 0.1 per cent in September and October. **The annual growth rate of the consumer price index remained subdued in the euro area.** After gradual deceleration in the third quarter, inflation turned negative (–0.1 per

Chart 3-10: Inflation in developed economies



Note: Annual change.
Source: OECD

Chart 3-11: Inflation in CEE countries



Note: Annual change.
Source: OECD, National Institute of Statistics (Romania)

cent) in September, but then returned to positive territory in October and November. In October, a modest upward shift was observed both in core and peripheral countries. Looking at the developed economies, in the United Kingdom the annual growth rate of the consumer price index dropped to –0.1 per cent in September and October. In Japan, inflation has been low and well below the target since the effect of last April's VAT increase dropped out of the base in April, and the rate declined further (to 0.2 per cent) in the third quarter.

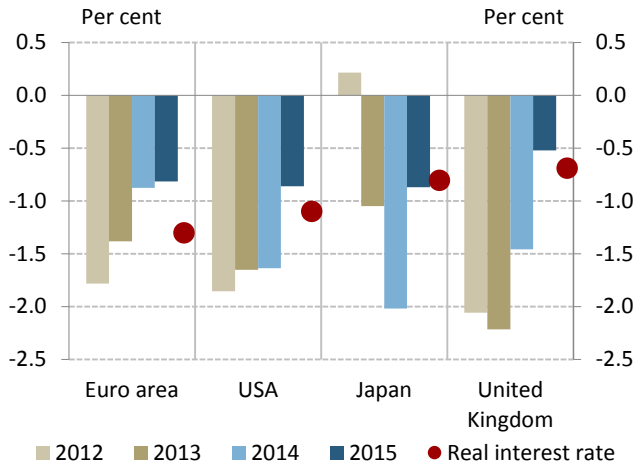
Inflation remained low and was below target levels in the Central and Eastern European region (Chart 3-11). **Average inflation was in the negative domain across the region.** Inflation has subsided significantly in Romania since the VAT reduction in June, but increased slightly from its August trough in the third quarter. The currently negative inflation may only rise to the edge of the tolerance band around the inflation target by the beginning of 2017. In Poland, domestic demand is rising at a moderate rate and the output gap remains negative. The consumer price index stood at –0.9 per cent in October, and inflation may remain below the target over the entire forecast horizon. In the Czech Republic, inflation rose slightly in September and dropped to 0.2 per cent in October; accordingly, it is still well below the inflation target.

Regarding the larger emerging countries, the moderate rate of inflation seen in China in previous quarters ended in September, as inflation fell to 1.3 per cent in October. **After the increase observed at the end of the summer in Russia, inflation shifted moderately lower in September and October.** Based on the central bank's forecast, inflation may fall below 7 per cent by October 2016, and reach the 4 per cent central bank target by 2017.

3.1.3. Monetary policy and financial market developments

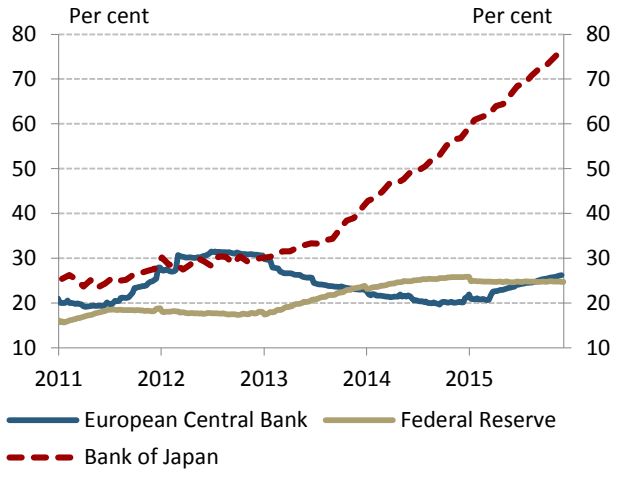
The central banks which are monitored have not changed their monetary policy strategies in recent months. While achieving and maintaining price stability remain the primary goal of major central banks, the divergence between their monetary policy stances has gradually increased. **At the moment, most countries do not exhibit any inflation and capacity utilisation trends pointing to monetary tightening in the short run, and developed countries are still characterised by negative real interest rates** (Chart 3-12). **By contrast, the Fed may begin its gradual monetary tightening this year,** although it is conceivable that the first interest rate

Chart 3-12: Real interest rates in developed economies



Note: The real interest rate is annual average. The one-year ex ante real interest rates are calculated as difference of market agents' one-year inflation expectations and one-year bond yields.
Source: Consensus Economics, Bloomberg

Chart 3-13: Central bank balance sheet total in developed countries (as a percentage of GDP)



Source: Databases of central banks, IMF, Eurostat

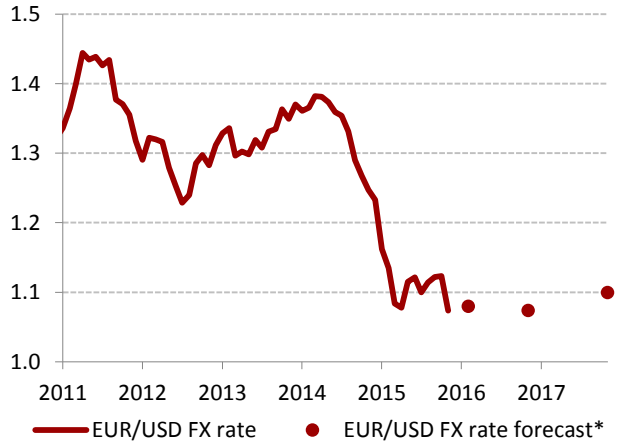
increase will be delayed until next year.

The Federal Reserve did not change its policy rate either in September or in October and has not announced any new measures. Although one policymaker voted in favour of a 25-basis point rate increase at both meetings, the majority agreed that the conditions for increasing the federal funds rate were not met for the time being. In recent months, the Fed's forward guidance has shifted towards signalling possible monetary tightening in December, and communications regarding the rate increase have changed significantly. In September the Fed communicated that the policymakers would assess the economic stance before determining how long to maintain the policy rate at an unchanged level. The October statement, however, indicated that after the assessment of the economic stance, the FOMC would decide at the December meeting whether a rate increase was consistent with achieving the Fed's mandate. In the opinion of some market agents, this statement increased the probability of a December rate hike.

At its December meeting the ECB reduced its deposit rate and extended its asset purchase programme. Although in October the ECB did not change its key policy rate, its forward guidance had already pointed to the possibility of further easing its monetary stance. In line with Mario Draghi's October announcement, the ECB reviewed its asset purchase programme in December, and extended the programme until March 2017 without changing the value of monthly purchases. In addition, it cut the deposit interest rate from –0.2 per cent to –0.3 per cent. According to the respondent market analysts, the extension of the asset purchase programme appeared to be the most likely possibility. Based on the latest data published by the ECB at the end of October, during the asset purchases the ECB and the central banks of the euro area purchased government securities roughly in accordance with the set target, i.e. in proportion to the ECB capital keys. From the start of the programme until the end of October, government bonds were purchased in the value of EUR 396 billion (Chart 3-13), with the duration ranging between 6.2 and 10.6 years. Inflation expectations began to rise, but – at 1.7 per cent – they remain below the central bank target.

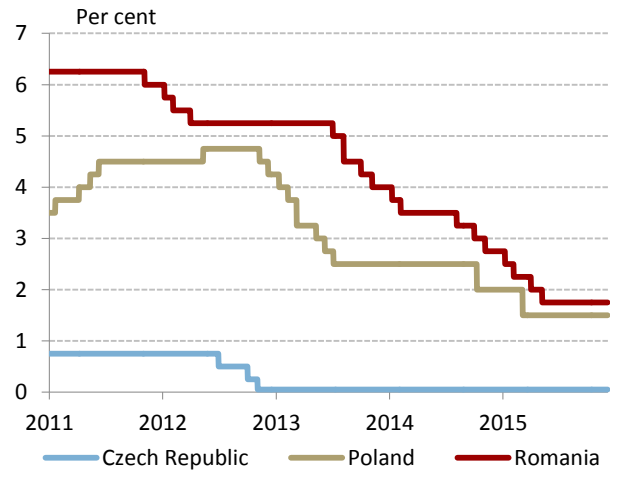
Although the euro strengthened mildly against the US dollar in September and October in terms of monthly averages, after the press release following the ECB's October meeting – which raised expectations for further policy accommodation – the euro weakened significantly (1.3–1.4 per cent). This escalated further with mounting

Chart 3-14: Changes in the EUR/USD exchange rate



Note: * November 2015 Consensus poll. Higher values mean euro appreciation.
Source: ECB, Consensus Economics

Chart 3-15: Central bank rates in some CEE economies



Source: Databases of central banks

expectations about the Fed's rate increase at the end of October and the beginning of November (Chart 3-15). At the same time, the euro exchange rate strengthened significantly after the ECB's December announcement.

The Bank of Japan maintained its key policy rate and decided to continue its Quantitative and Qualitative Easing Programme without changing its pace. In view of low inflation, some analysts had expected further stimulus (expansion of the QQE programme) with the monetary policy decisions in October and November. **Similarly, the Bank of England maintained its monetary conditions.**

As regards the emerging countries, the People's Bank of China (PBoC) responded to unfavourable macroeconomic releases with a number of measures. In order to boost economic growth and reduce the cost of finance for corporations, in October the PBoC cut the benchmark bank lending and deposit rates by 25 basis points each. In addition to reducing policy rates, the PBoC lowered the reserve requirement ratio by 50 basis points, and raised the interest rate ceilings on deposit. In November, it cut the overnight lending rate on its standing lending facility (SLF). In recent months, the PBoC has allocated a total of CNY 1,040 billion (USD 163 billion) in extra liquidity to the banking system. **The Russian central bank did not change its 11 per cent key policy rate in the past quarter.**

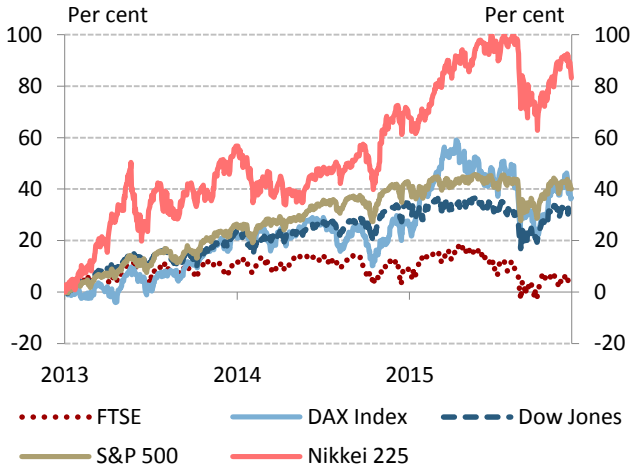
Central banks in the Central and Eastern European region maintained loose monetary conditions (Chart 3-15). At its rate-setting meetings in August and September, policymakers at the Czech National Bank unanimously decided to maintain the key policy rate at 0.05 per cent, and confirmed the central bank's commitment to using the exchange rate as an additional monetary policy instrument until at least the second half of 2016, according to the central bank's guidance. According to the assessment of policymakers at the latest rate-setting meeting, the exchange rate cap may be maintained until the end of 2016.

Policymakers at the Polish central bank also decided to leave the key policy rate unchanged in recent months. According to the latest statement, stable economic growth continues, but it may take longer than expected to meet the inflation target. Since the policymakers at the Polish central bank concluded the easing cycle in March, based on the central bank's communication, the policy rate is not expected to be lowered further looking ahead. At the press conference following the latest interest rate decision, the Polish central bank Governor

stressed that market expectations of further interest rate cuts were unfounded.

The National Bank of Romania has not reduced its key policy rate in recent months. According to its statement following the latest rate-setting decision, the consumer price index dropped further, mainly owing to falling oil and food prices and the economic slowdown. At the same time, despite the decline in growth, incoming data point to an upturn in consumption and investment. Looking ahead, inflation may remain in the negative domain until May 2016, and may only rise to a level within the target tolerance band by the beginning of 2017. Accordingly, the Governor of the central bank pointed out in October that, pending incoming data, there may remain some room for further quantitative easing.

Chart 3-16: Leading stock exchange indicators



Note: 1 January 2013 = 0.
Source: Bloomberg

Based on the slight decline in risk indicators and rising stock market prices, global market sentiment improved moderately, in the wake of the financial market volatility triggered by the deceleration of the Chinese economy in August. Developed stock exchanges posted clear gains (Chart 3-16), while the stock markets of emerging countries exhibited a less straightforward pattern. Initially, with respect to long-term yields, US and UK yields shifted upwards along with Latin American yields, and then declined at the end of period similarly to European yields. Latin American and Asian yields showed mixed results. Expectations about the key policy rates of major central banks shifted more towards easing (with diverging trends across the regions), but the rising probability of the Fed's interest rate increase in December renders the picture somewhat more complex.

To a large degree, money market developments have been shaped by the divergent monetary policies of the ECB and the Fed: while the ECB eased monetary conditions at its rate-setting meeting in December (albeit to a lesser extent than anticipated), the Fed is expected to commence tightening. Meanwhile, market sentiment was affected by expectations regarding the deceleration of China, the possible effects of the new 5-year plan and the diverging growth of emerging countries.

Regarding foreign currencies, the strengthening of the US dollar has undoubtedly had the biggest impact in recent months. Emerging currencies weakened against the dollar overall, but the extent of the depreciation varied relatively widely. CEE currencies depreciated sharply against the dollar, but this was almost entirely due to the nearly 3 per cent weakening of the euro against the US currency.

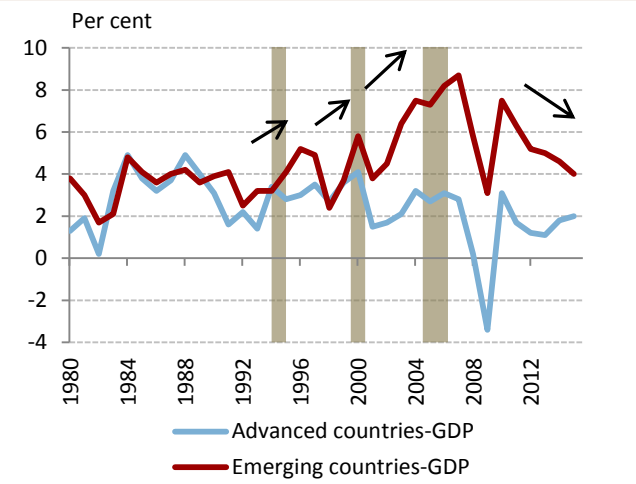
Box 3-1: Potential impact of US rate increase on the emerging markets

Over the past 20–25 years, the Fed commenced three tightening cycles, and the effects of these on the emerging markets may offer valuable experience with regard to the consequences of the monetary tightening expected by the market for December 2015. Drawing parallels with the tightening cycles launched by the Fed in 1994, 1999 and 2004 is not easy as the numerous differences that characterise the current macroeconomic and financial environment compared to these past periods may generate an entirely different impact mechanism. The effects of the Fed's interest rate increase may be mitigated by decelerating growth in the emerging regions, mounting expectations spurred by the Fed's active communication, and the accommodative monetary policy of the ECB and the Bank of Japan. On the other hand, the strengthening of emerging market capital flows may contribute to the exacerbation of market risks.

Slowing growth in emerging markets may mitigate risks

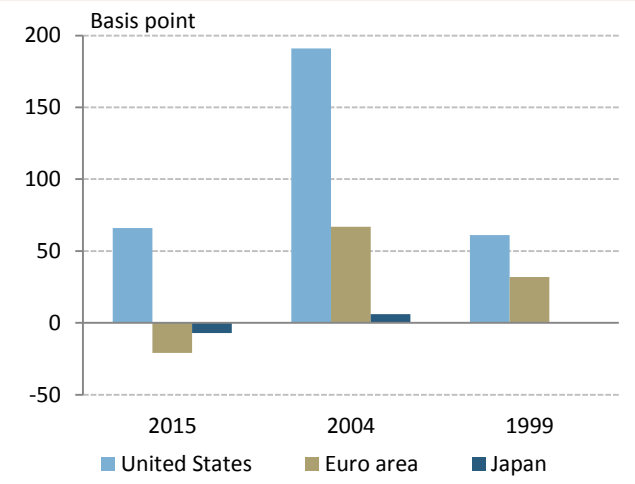
While emerging markets experienced dynamic growth prior to the previous US tightening cycles, their economic growth has been decelerating since 2010 (Chart 3-17). Whereas the Fed's previous rate hikes led to tighter monetary conditions in emerging countries as well, at present the decelerating growth trajectories of the emerging regions and the low inflation environment may warrant accommodative monetary policies, as reflected by emerging market interest rate expectations. As a result, if emerging market central banks partially copied the US rate increases, it would not be an unexpected development and hence, it may mitigate risks.

Chart 3-17: Growth rates in advanced and emerging countries and the interest rate rising cycles of the Fed



Source: IMF

Chart 3-18: Market implied policy rates 1 year ahead



Source: Bloomberg

The Fed's active communication coupled with the divergence of large central banks reduces the probability of market turbulence

Of the Fed's previous rate hikes, the tightening in 1994 triggered a considerable reaction on the bond market: 10-year US yields surged, followed by a large-scale bond sell-off and significant money and capital market turbulence. By contrast, with regard to the 2004 tightening cycle the Fed made it clear from the start that it would raise rates in small steps, which proved to be a successful strategy to alleviate bond market tensions. **Since the outbreak of the 2008 financial crisis the Fed has become even more active in communicating its future policy, which may help to mitigate the risks surrounding the rate hike.**

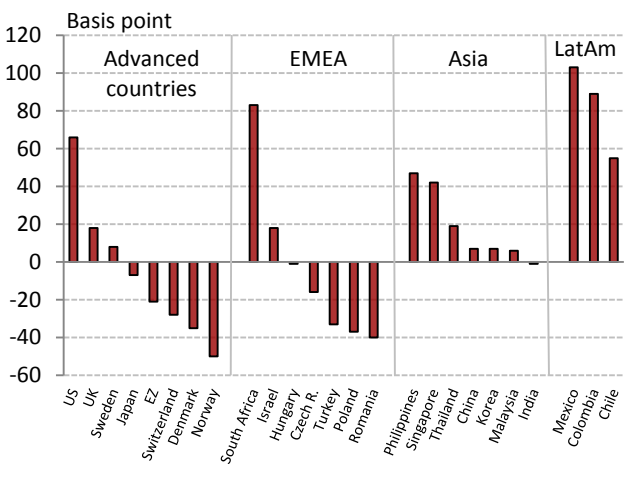
Another important difference is that **the divergence between the monetary policy stances of major central banks was not nearly as pronounced during former US tightening cycles as it is now.**[2] As opposed to the tightening anticipated in

[2] While at the time of the 1994 interest rate increase the Bundesbank was still pursuing the easing cycle commenced in 1992, before the Fed's tightening in 1999 and 2004, 1-year forward expectations pointed to an interest rate increase in the euro area as well, although it was expected to be less pronounced than in the United States.

the United States, the markets expect the ECB and the Bank of Japan to ease monetary conditions (Chart 3-18). The current divergence is also demonstrated by the difference between US and European policy rate expectations: while the differential amounted to 20 basis points in 2004 for a 1-year horizon, at present it is 85 basis points. The divergence was also captured in the exchange rates of major currencies. While the US dollar has strengthened significantly (by 20–25 per cent) against the euro and the yen since the spring of 2013 in the period leading to the Fed's imminent tightening, both exchange rates remained essentially stable in the environment of the 1994 and 2004 tightening cycles. As regards the tightening commenced in 1999, although the euro weakened at a similar rate as its current depreciation, this was offset by the strengthening of the yen. **In other words, neither of these occasions saw a general strengthening of the US dollar comparable to its current appreciation.**

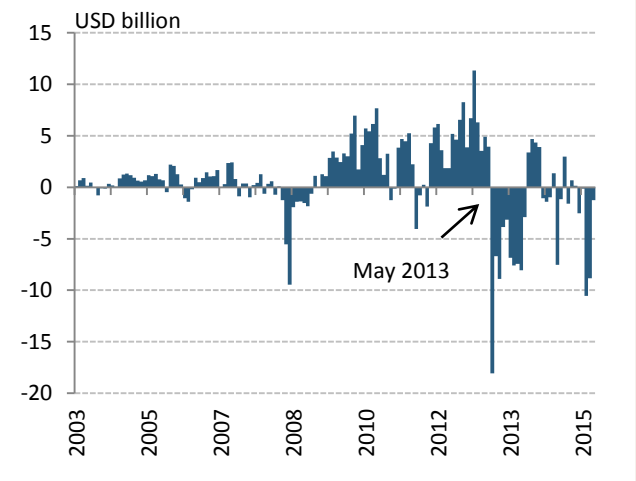
With the strengthening of the US dollar, the higher yield differential generated by the US rate hike may restrict the room for monetary policy manoeuvre in the developed and emerging countries. By contrast, for the next 1-year period, the market currently expects interest rate cuts in most of the developed countries under review and in one third of the emerging economies, while expectations point to only a modest interest rate increase in another third of the emerging countries. Similarly, interest rates are expected to be maintained or reduced in the Central and Eastern European region. An interest rate path comparable to that of the United States is only priced in for South Africa and the South American region (Chart 3-19). **The integration of the divergent monetary policies of leading central banks into heterogeneous emerging market interest rate expectations may alleviate the negative effects of the US interest rate increase on emerging economies, including the Central and Eastern European region.**

Chart 3-19: Market implied policy rates 1 year ahead



Source: Bloomberg

Chart 3-20: Emerging market bond fund flows



Source: EPFR Global

Increased capital market financing in emerging countries may heighten risks

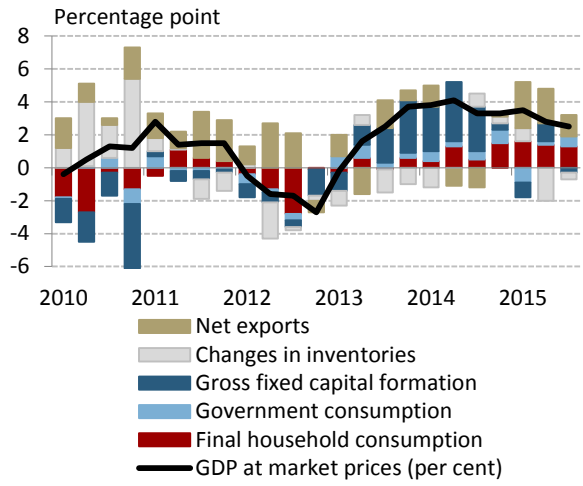
Recent years have seen the gradual integration of emerging countries into the global financial system, which is reflected in firms' propensity to raise funds in international capital markets on the one hand, and in the increasing volume of sovereign public debt denominated in foreign currency on the other hand. Aggregate borrowing in US dollar bond markets by non-banks outside the United States more than quadrupled between 2000 and 2015, which represents a significant change compared to bank lending, the previously characteristic method of raising funds.[3] **The increased role of the capital market in the financing of emerging countries may amplify the risks associated with the US interest rate hike,** as demonstrated by the emerging market sell-off which occurred in 2013, at the time of the "taper talk". It should be noted, however, that the communication related to the tapering of US bond purchases surprised the markets, which may have contributed to the market turbulence in 2013 (Chart 3-20).

[3] Sobrun, J. – Turner, P. (2015): Bond markets and monetary policy dilemmas for the emerging markets, *BIS Working Papers,* No. 508.

3.2. Aggregate demand

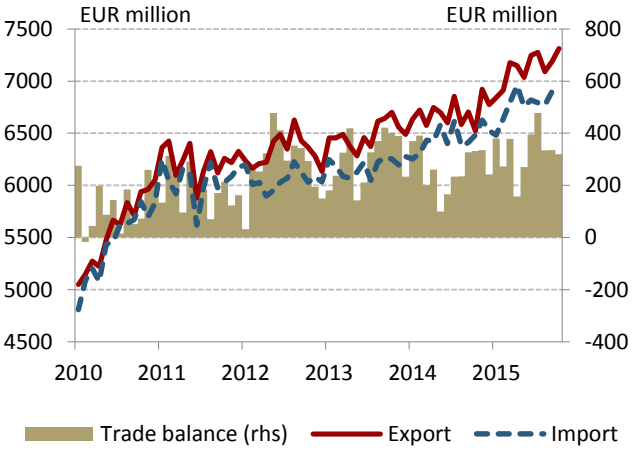
In 2015 Q3, Hungary's GDP expanded at a year-on-year rate of 2.4 per cent. This growth was primarily driven by rising consumption, while investment declined both in annual and quarterly terms. Net exports also made a positive contribution to growth. While households' outstanding borrowing declined, the volume of new loans continued to increase.

Chart 3-21: Contribution to annual GDP growth



Source: HCSO

Chart 3-22: External trade in goods



Source: HCSO

In 2015 Q3, Hungary's gross domestic product expanded 2.4 per cent in annual terms. GDP expanded by 0.6 per cent compared to the previous quarter. As in previous quarters, the structure of growth was more balanced than in previous years: net exports increased in parallel with the upturn in domestic demand. Domestic demand was driven by consumption, while investment slowed in the third quarter (Chart 3-21).

3.2.1. External trade

In the third quarter, net exports continued to rise compared to the previous quarter. While exports of goods decreased in the third quarter after the robust growth observed early in the year, services exports rose significantly in the past quarter. Based on the preliminary data for October, exports of goods rose again in October (Chart 3-22). Boosted by the balance of goods and the balance of services, Hungary's trade surplus increased further. Based on revised national accounts data, the contribution of net exports to GDP growth was larger than expected – 2 percentage points – in the first three quarters of the year.

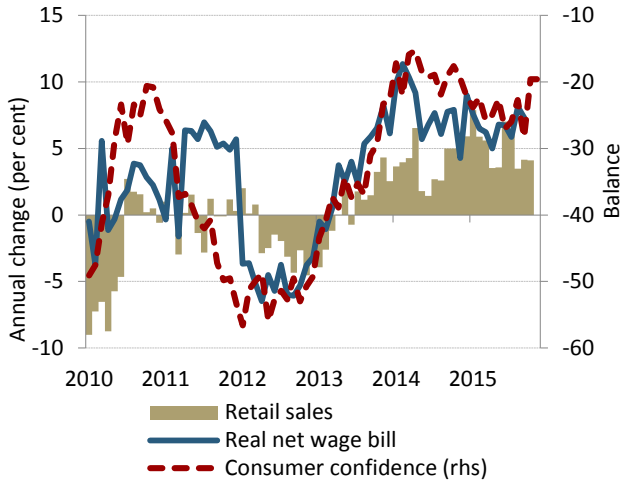
In 2015 Q3, the terms of trade improved slightly compared to the same period of the previous year, primarily reflecting the positive contribution of the oil price decline.

3.2.2. Household consumption

Household consumption expenditures continued to grow in 2015 Q3. This can be mainly attributed to improving labour market conditions and dynamically increasing real wages in the low inflation environment. Retail sales continue to increase dynamically. In recent quarters, the effect of the introduction of online cash registers on the shadow economy may have distorted the indicators showing an expansion in retail sales (Chart 3-23). This statistical effect, however, is expected to gradually drop out of the annual dynamics of retail sales and the indicator may become a more precise measure of underlying trends of consumption.

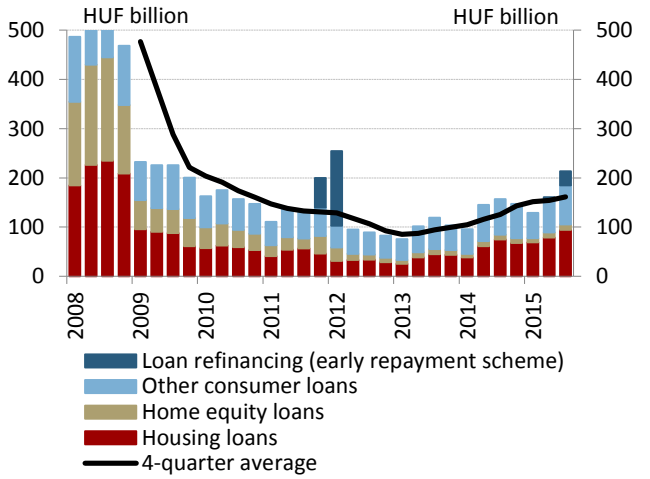
Households' net financial wealth continued to increase in the third quarter. In addition to the financial accumulation, the decline in debt also made a positive

Chart 3-23: Developments in retail sales, income and the consumer confidence index



Source: GKI, HCSO

Chart 3-24: New household loans in the credit institution sector



Source: MNB

contribution to the increase in net wealth.

Similar to the end of 2014, the saving rate remained high. According to the underlying process (filtered for the conversion of households' foreign currency loans and settlements affecting foreign currency debtors), households' net savings amounted to 5.8 per cent of GDP in 2015 Q3. **Precautionary savings may begin to ease gradually, reflecting the decline in households' foreign currency exposure.** This is supported by falling unemployment and the reduction of the exchange rate risk as a result of the conversion of households' foreign currency loans to forint.

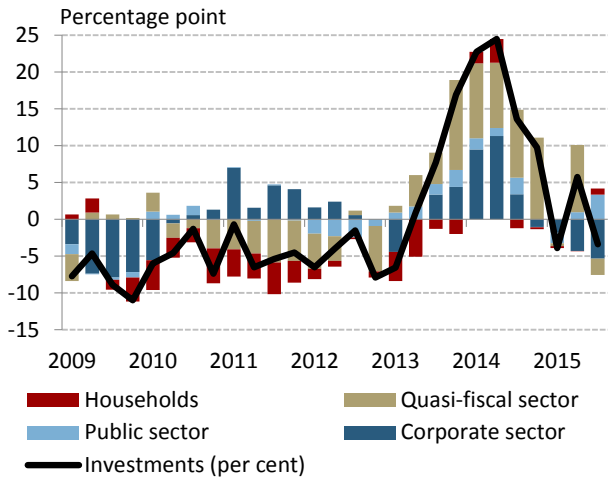
The ratio of household debt to disposable income has dropped sharply in recent years and is no longer considered high in a regional comparison. Outstanding loans continued to decline in 2015 Q3; transactions reduced the household portfolio of the financial intermediary system by around HUF 90 billion (Chart 3-24). **At the same time, the volume of new disbursements picked up in the period under review.** Even excluding loan refinancing, new lending to households exceeded the value recorded in the same period of the previous year by 18 per cent. New housing loans showed the highest rate of increase (26 per cent). Rising demand for housing loans mainly reflects the recovery in the housing market, growing household savings, historically low interest rates and increasing real wages. At the same time, the volume of new loans is still far below the level recorded before the crisis.

3.2.3. Private investment

In the third quarter, the volume of whole economy investment fell by 1.5 per cent in year-on-year terms. The ratio of investment to GDP stood at 21.9 per cent in the third quarter, marking a 0.3 percentage point decline compared to the previous quarter. This decline can be mainly attributed to the decelerating investment activity of the business sector, which affected firms producing for the domestic and export markets alike. By contrast, household investment increased compared to the low level recorded in the previous year (Chart 3-25).

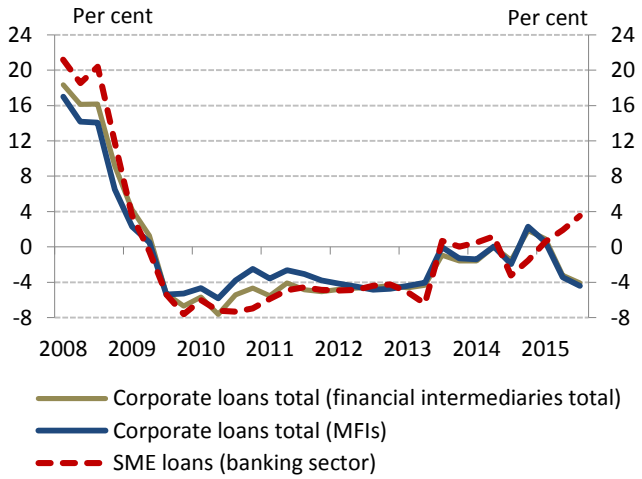
The decline in corporate sector investment was mainly caused by export-oriented companies, and to a lesser extent by industries producing for the domestic market. Part of the decline can be attributed to the high base resulting from earlier manufacturing sector investment. Corporate capacity utilisation indicators remained higher than their historical averages, and thus supply conditions continue to support expansion projects. At the same time,

Chart 3-25: Contribution of main sectors to annual change in national investments



Source: HCSO

Chart 3-26: Annual growth rate of lending to non-financial corporates and SMEs



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

the Financial Conditions Index (FCI) calculated by the MNB suggests that the banking sector's waning willingness to lend in the second half of 2015 may have contributed to the decline in corporate investment.

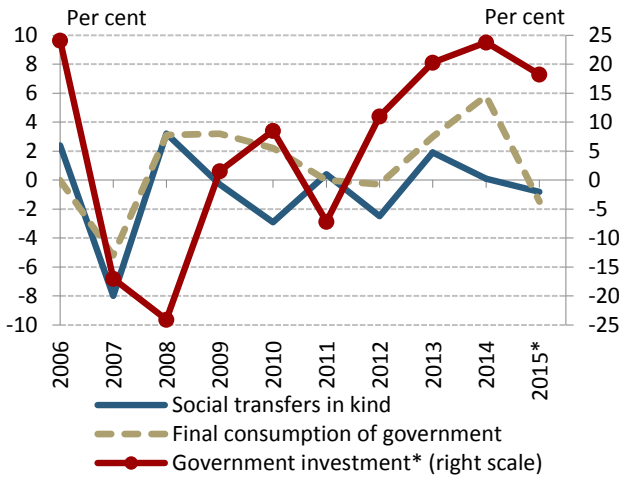
Corporate lending developments continued to be characterised by two distinct trends, depending on corporate size categories. On the whole, outstanding borrowing of non-financial enterprises from the entire financial intermediary sector rose by around HUF 41 billion in total in the third quarter of 2015. In year-on-year terms, however, the portfolio decreased by 4.4 per cent due to a base effect. At the same time, lending to SMEs accelerated further, with a 3.5 per cent annual increase in the portfolio overall (Chart 3-26). The Funding for Growth Scheme made a significant positive contribution to the expansion of the SME portfolio; around one third of the total outstanding borrowing of the sector was extended under the Scheme. Corporate lending is negatively affected, overall, both by demand and supply factors. On the one hand, the productivity and investment activity of firms remained subdued compared to the same period of the previous year; on the other hand, banks' risk appetite is still characterised by caution.

Transaction data indicate a continuing upswing in aggregate housing market turnover. Accordingly, housing prices are on an upward trend. The number of homes sold increased by 22 per cent in the third quarter in annual terms. Housing prices are still below their pre-crisis levels; however, the prices of used and new homes rose by 12.4 per cent and 5.1 per cent, respectively, in response to recovering demand in the first half of the year. **New home construction was restrained in the previous quarter, but the moderate increase in the number of building permits issued continued.** The continued increase in outstanding orders point to a gradual return to dynamic growth in the coming quarters. On the whole, the investment activity of households expanded slightly in the third quarter, which may reflect, in part, the low base of the previous year.

3.2.4. Government demand

Government consumption increased compared to the previous quarter. Besides the absorption of EU funds, government consumption may have been boosted by border protection measures as well. At the same time, owing to the government's efforts to control budget expenditures, in the first three quarters of 2015 the volume of public consumption and government transfers remained close to the level observed in the previous year (Chart 3-27).

Chart 3-27: Annual volume changes in government consumption and investments



Note: *Annual change calculated for the first three quarter of 2015.

Source: HCSO, MNB

The investment activity of government-related sectors varied across the segments of the narrowly interpreted public sector and the quasi-fiscal sector. In line with border protection measures, the significant increase in the investment projects of the narrowly interpreted public sector was linked to the administrative branch. Within the quasi-fiscal sector, energy sector investment gained momentum, while the investment activity of the transportation/storage segment moderated. To a large degree, the performance of the sector may have been shaped by the drawdown of EU funds, which may point to a future contraction in public sector investment.

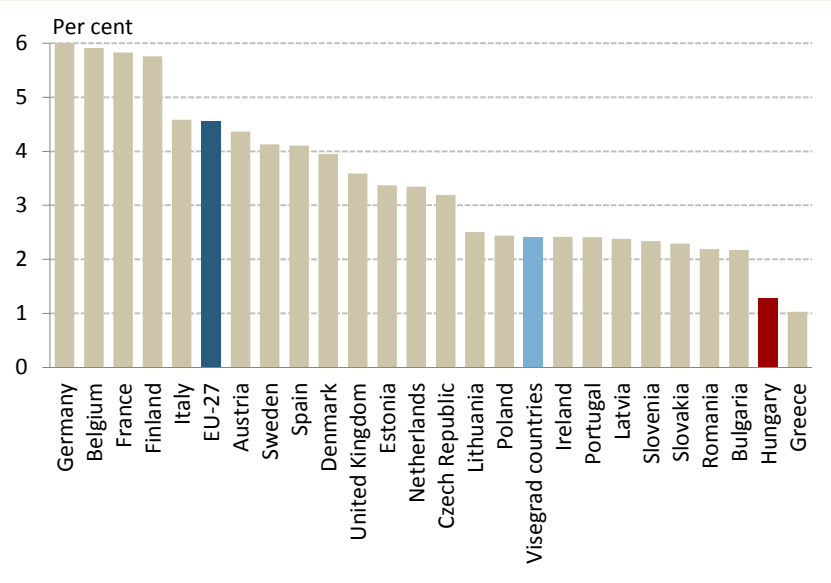
3.2.5. Changes in inventories

In the third quarter, changes in the inventories of the national economy made a negative contribution to growth, which may be attributable primarily to the deteriorating performance of agriculture and the deceleration of industrial production.

Box 3-2: Possible macroeconomic effects of the expected boom in home construction

In Hungary, the level of household spending on housing construction is extremely low in international comparison (Chart 3-28). Expenditures amount to less than one third of the European Union average and they fall short of the regional average as well. The amount is insufficient to even compensate for the amortisation of the existing stock of dwellings.

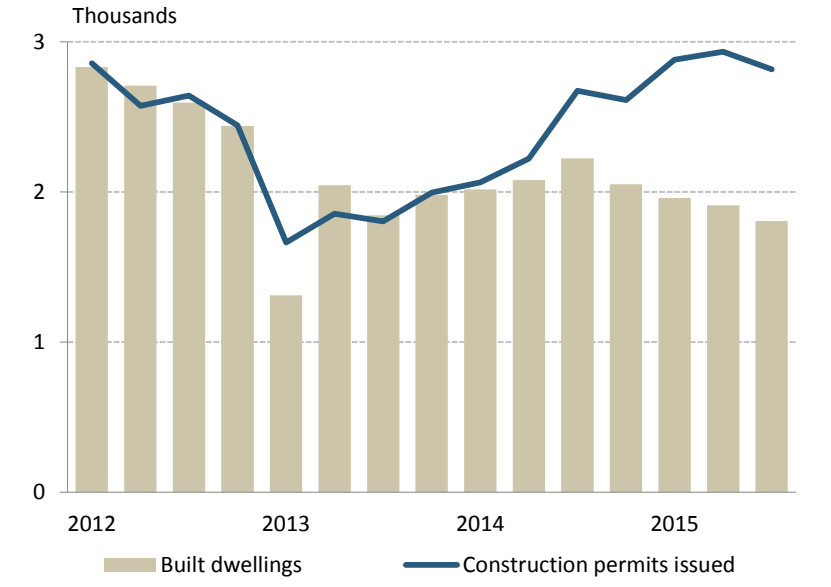
Chart 3-28: Housing construction as a per cent of GDP (2014)



Source: European Commission

The latest housing market data point to a mild recovery in turnover after the low point in early 2013. Upward trends primarily affect the market of pre-owned homes, while the **share of newly completed residential dwellings in housing market turnover remains subdued.** Although the dynamics of housing construction have remained muted in recent quarters, the **number of construction permits issued increased sharply,** which points to an expansion in the market of new homes (Chart 3-29). According to regression estimates and past experience, the surge in construction permits precedes the expansion in new residential construction by 4 to 8 quarters, and thus an improvement may be seen in the number of dwelling completions as early as end-2015.

Chart 3-29: Development of housing market trends



Note: Seasonally adjusted data.

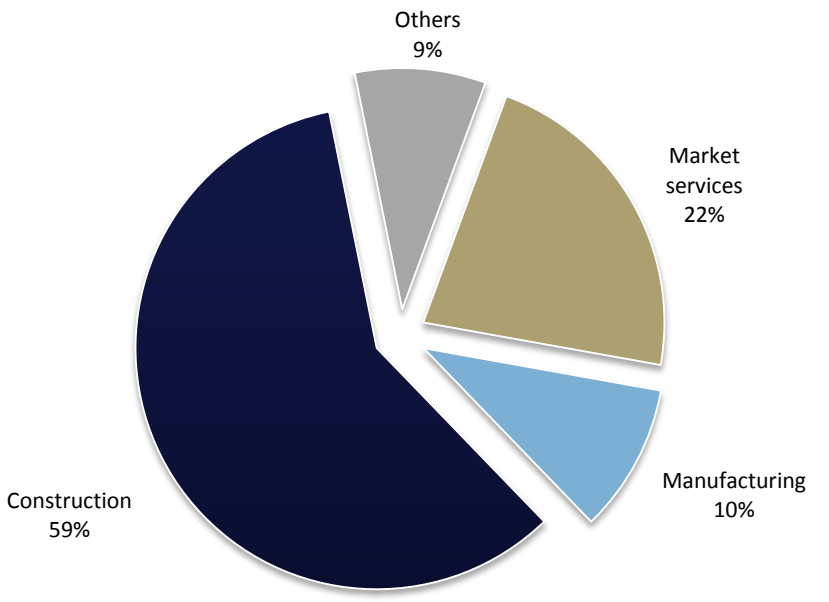
Source: HCSO

Both income side and interest-related effects contribute to the rise in the number of construction permits. **Improving employment and increasing real incomes** raise longer-term income expectations, which are an important determinant of house purchases. **The historically low interest rate contributed**, on the one hand, **to the easing of price credit conditions** and on the other hand, it **increased the appeal of housing market investments.**

The widening gap between the number of construction permits issued and the number of new dwellings suggests that real estate developers opted for a strategy of "wait and see" in the past period. This is justified by the government's signals about the possible adoption of various housing market stimulus measures. A package containing a proposal to lower the VAT on new dwelling construction from 27 per cent to 5 per cent from the beginning of 2016 has been submitted to the Parliament. **The reduced rate can be applied in the final price. The proposal also simplifies and accelerates the administrative procedures. Based on the number of already issued permits, further 5,000 new dwellings may be completed over the short term.** This number is reconfirmed by the estimates of housing market advocacy groups published in the media. In our forecast we assumed that the increase in the number of dwellings built will be consistent with this estimate regarding 2016.

According to our estimations, the expected upturn in housing construction may increase the level of GDP by 0.2–0.4 per cent. To a large degree, the exact magnitude of the effect not only depends on the number of dwellings, but also on their size.[4] **Real economy effects directly boost the output of the construction sector; in addition, significant indirect effects occur through the supplier networks.** Thus, the pick-up in construction improves the performance of various manufacturing subsectors (e.g. non-metal mineral products, metallurgical industry, engineering) and certain market services (e.g. trade, transportation, Chart 3-30).

Chart 3-30: Share of sectors from the effect of housing construction on GDP growth



Note: GDP impact is estimated by input-output tables which quantify the supplier relationships across sectors and the different import intensity of sectors. The chart shows the sectoral distribution of the aggregate GDP effect.

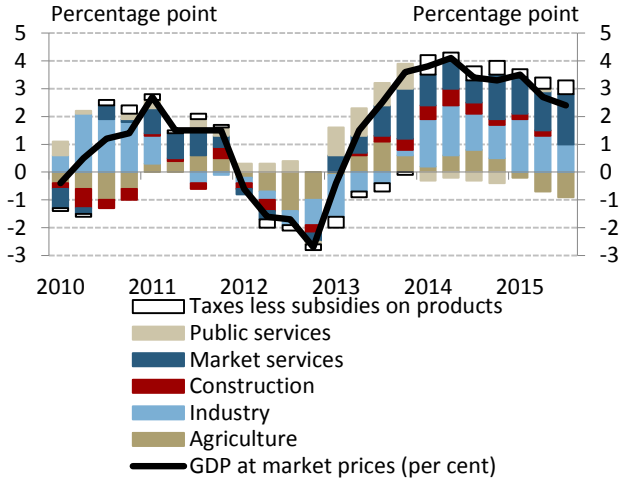
Source: HCSO, MNB calculations

[4] In the first three quarters of 2015, for instance, the average floor space of newly completed homes was 81.7 m^2 in Budapest and 108.9 m^2 in the countryside.

3.3. Production and potential output

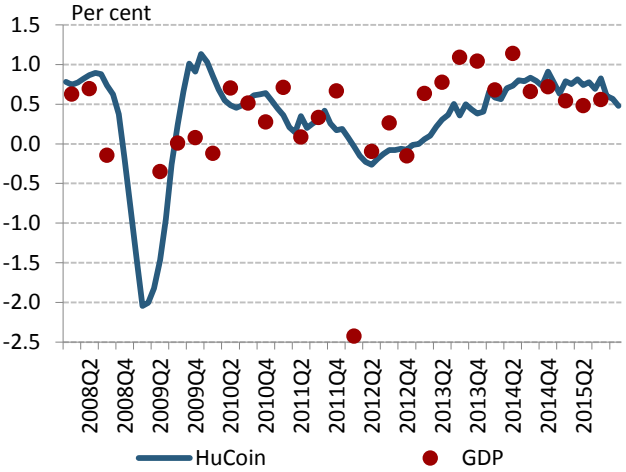
The slowdown in economic growth in 2015 Q3 can be mainly attributed to restrained industrial production. Construction is decelerating gradually following the peak in the absorption of EU funds. In addition, after the outstanding harvest results last year, value added in agriculture declined in 2015.

Chart 3-31: Contribution of the output of the main sectors of the national economy to GDP growth



Source: HCSO

Chart 3-32: Development of the HuCoin indicator



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

In 2015 Q3, output growth slowed in several sectors **compared to the previous quarter.** The performance of industry, construction and agriculture worsened relative to the second quarter (Chart 3-31). The HuCoin indicator – which, relying on a broad range of indicators, captures the underlying trends of economic growth – has exhibited a declining trend in recent months, indicating a general slowdown in the 2016H1 in economic activity (Chart 3-32).

The performance of industry fell compared to the previous quarter (Chart 3-33). The dynamics of industrial sectors showed a mixed picture: while output declined in the light industry and the chemical industry, it improved in engineering and the food sector. The output of vehicle production – a crucial segment within manufacturing – continued to increase in the third quarter.

On the whole, forward-looking indicators point to a deceleration in production over the short term. The value of the economic sentiment indicator declined, while Hungarian and German industrial orders have taken a negative turn in recent months. Looking ahead, the scandal involving the Volkswagen Group implies a downside risk to motor vehicle production in the region. The implications of this event are discussed in Box 3-3.

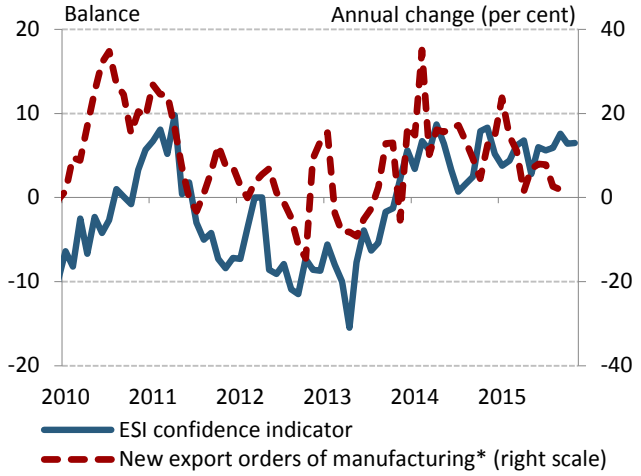
Construction output contracted by 3.7 per cent compared to the previous quarter as projects financed from European Union funds have passed their peak. After a year and a half of contraction, outstanding orders continued their downward trend in the third quarter, pointing to further declines in production (Chart 3-34).

Value added in agriculture fell sharply after the outstanding harvest results last year. The sector restrained GDP growth by 0.6 percentage points on average in the first three quarters of the year (Chart 3-31). Of the crops determining the fluctuations in value added in agriculture, wheat yields were consistent with last year's harvest. At the same time, corn yields decreased by nearly a third compared to 2014 as a result of the recent drought.

Value added in the services sector continued to increase in the third quarter (Chart 3-31), supported by stable growth in consumption demand.

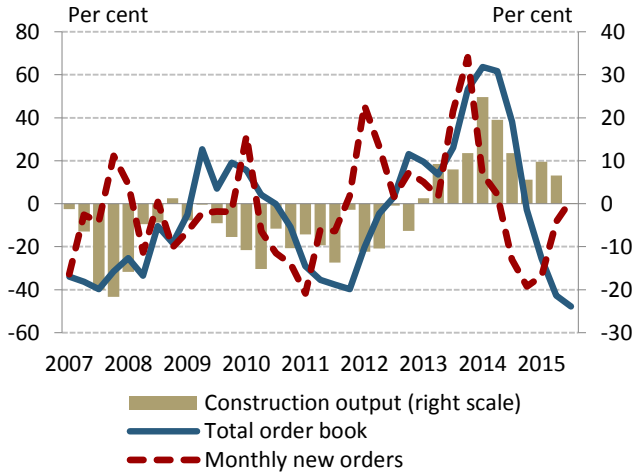
Value added in the catering and tourism sectors

Chart 3-33: Industrial business climate indicators



Note: * Three-month backward-looking moving average.
Source: European Commission, HCSO

Chart 3-34: Annual changes in construction output, orders and new orders



Source: HCSO

continued to grow in the third quarter, and the number of tourism nights increased. The upturn in tourism was supported by the improving income position of households and the increased utilisation of fringe benefits aimed at boosting domestic tourism. In addition, the depreciation of the exchange rate may have supported the steady increase in the overnight stays of foreign tourists.

The performance of the financial sector declined in year-on-year terms, but remained the same compared to the previous quarter. The subdued performance of the sector reflects moderate lending dynamics. Growth in the real estate sector can be mainly attributed to the upswing in the market of pre-owned homes.

In parallel with rising demand, potential growth may also have recovered. Due to the improvement in the demand outlook, the strong expansion in investment contributed substantially to the increase in the economy's production capacity. In addition, better employment prospects improved the match between labour demand and labour supply. In addition to facilitating capital accumulation, the easing of financial constraints may have supported the improvement of productivity.

Box 3-3: Possible effects of the scandal involving the Volkswagen Group on the Hungarian economy

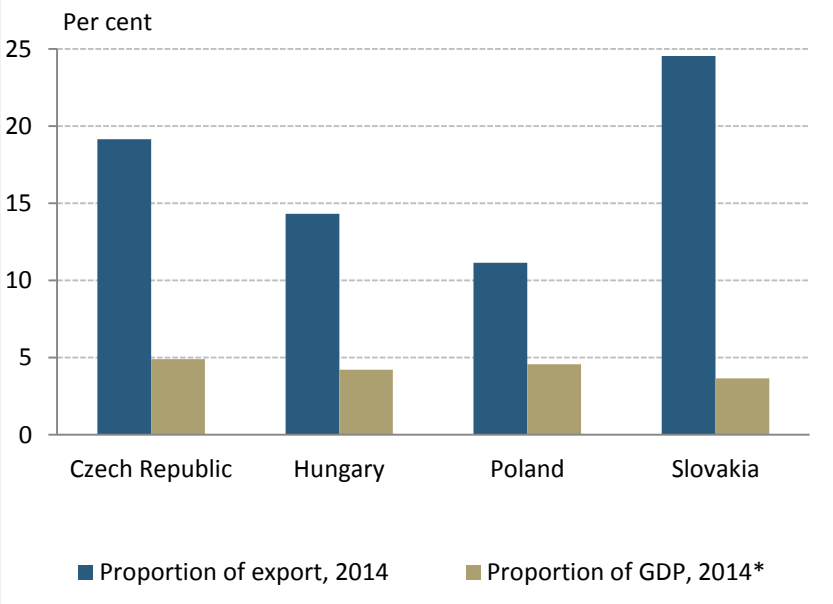
The Volkswagen Group is the second largest car manufacturer of the world and plays an important role in the industry of the Visegrád countries as well. Therefore, it is especially important to examine the possible effects of the scandal involving the Volkswagen Group on the Hungarian economy.

On 19 September 2015, the United States Environmental Protection Agency announced that the Volkswagen Group had programmed some of its 4-cylinder diesel engines to recognise ongoing emission testing and manipulate test results. According to VW, this affects 11 million cars worldwide. The company announced that it would earmark EUR 6.5 billion – nearly one half of last year's profits – to rectify the error. In addition, VW faces fines in various countries for misleading consumers and the authorities. Based on the estimates of certain analysts, VW could be liable for EUR 20–78 billion in total. According to the latest news, fraud is also suspected in the case of Audi models, with the possibility of additional recalls. Although total car sales increased in November in the US and in the UK, Volkswagen sales decreased considerably compared to the previous November. There was a smaller decrease in Germany.

By 2014, the share of road vehicles and their components in Hungarian exports rose to 15 per cent compared to 9 per cent in 2009. **Located in Győr, Audi Hungaria – the only plant of the Volkswagen Group in Hungary – accounted for 7.8 per cent of Hungarian exports and 1.4 per cent of GDP in 2014** (for the sake of comparison, the corresponding values in the case of GDP was 0.2 per cent for Mercedes and 0.1 per cent for Opel).

The car industry also has a considerable weight in the exports of other countries in the region, with Slovakia boasting the largest share (Chart 3-35). The share of the VW Group in the exports of individual countries is roughly the same across the region (7–8 per cent). Based on the number of vehicles manufactured, the Volkswagen Group has the largest share in the Czech Republic; in the remaining three Visegrád countries its share is around 30 per cent.

Chart 3-35: Weight of the car industry in the Visegrád economies



Note: *Data for 2013 in the case of Poland

Source: Eurostat

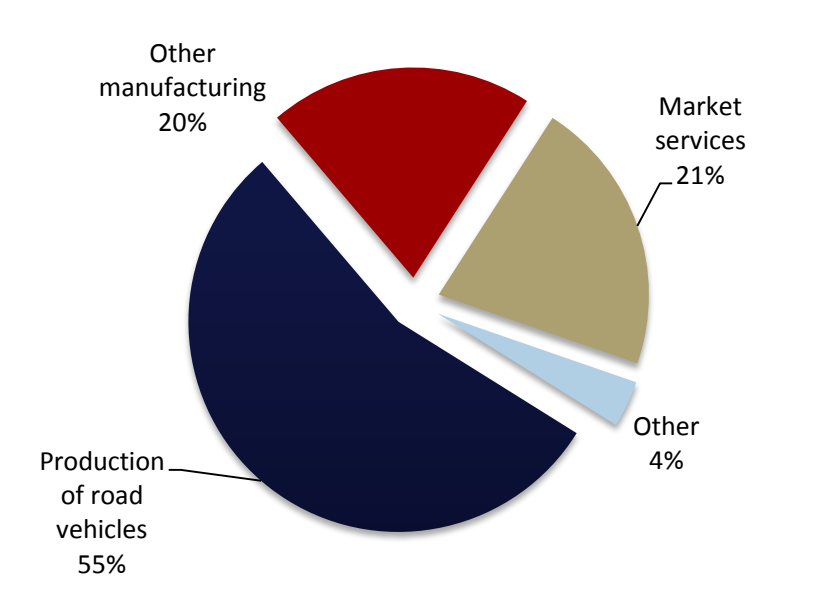
At the time being, the impact of the scandal on the performance of the Volkswagen Group cannot be estimated precisely. The magnitude of the possible ramifications may be illustrated by the recent example of Toyota. Toyota was forced to recall, in several batches, millions of vehicles between 2009 and 2011. After the scandal started, the company's share in European markets fell by one fifth.

As we understand, Audi Hungaria no longer manufactures the engines involved in the scandal, and thus the direct effect stemming from the ban on their sales might be negligible. At the same time, indirect effects may reach the Hungarian economy through several channels. The sales ban on certain models and the shattered confidence in the brand may lead to a sharp decline in demand for VW models. In addition, the fines imposed and the refitting costs of the engines may

reduce VW's financial resources for investment. At the same time, if VW seeks to cut production costs in the next few years, this could even increase the significance of the Győr plant with its relatively low wage costs. According to press reports, VW Group plans to scale back the value of planned investment for 2016 by EUR 1 billion to EUR 12 billion, but the company has not yet revealed any details.

In the baseline scenario, we did not consider the impact of the scandal, but given the risks involved, possible negative scenarios should be examined. We relied on input-output tables to quantify the effects. Input-output tables describe intersectoral production relationships in the national economy, as well as the structural relationship between production and final use. They include intersectoral intermediate consumption, which can be used to estimate the spillover effects of a given economic event (in this case, the downturn in the production of the Audi factory) on the total economy. For instance, **a 10 per cent fall** in the global share of the VW Group would **lower Hungarian GDP by 0–0.2 per cent** through the production of Audi Hungaria and the supplier network.[5] More than a half of the effect would materialise in the production of road vehicles. The effects may be considerable in the remaining segments of the manufacturing sector, typically through smaller suppliers and parts manufacturers. Among the relevant market services, transportation, storage and trade represent the greatest weight (Chart 3-36).

Chart 3-36: Breakdown of the GDP effect by sector



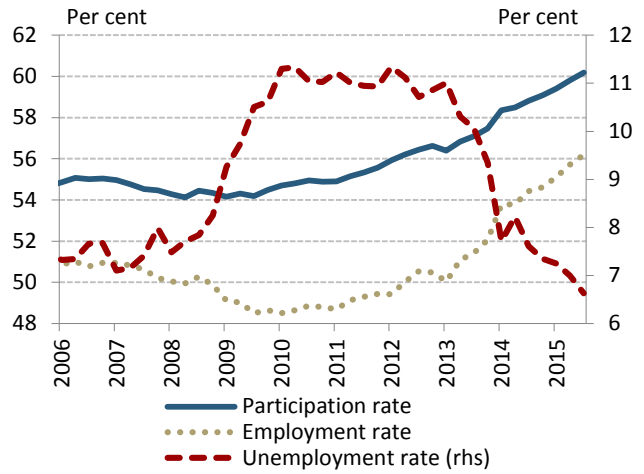
Source: MNB calculation based on HCSO data

[5] For the sake of comparison, Toyota's European market share fell by one fifth after the recalls of its models with faulty airbags starting from 2009.

3.4. Employment and unemployment

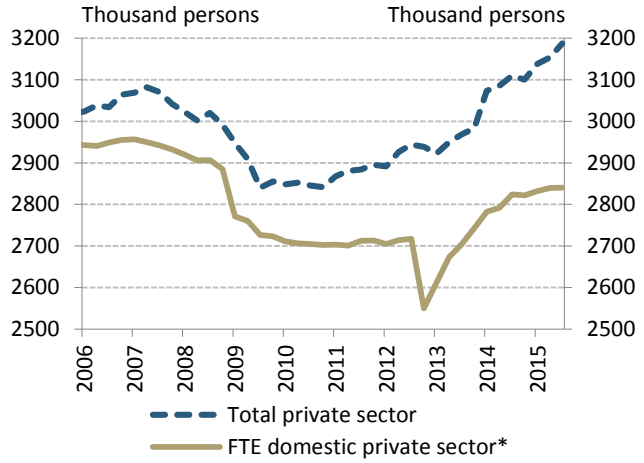
In 2015 Q3, the labour force participation rate increased further. The private sector workforce continued to rise, with the number of persons employed in the sector of market services increasing strongly in particular. The unemployment rate dropped below 7 per cent in the third quarter. The labour market is still tighter than in previous years.

Chart 3-37: Participation, employment and unemployment rate, total economy



Source: HCSO

Chart 3-38: Employment in the private sector



Note: * Full-time equivalent without workers employed abroad.
Source: HCSO

In 2015 Q3, the flow of economically inactive persons into the labour market continued at the pace seen in the previous quarter. Labour market participation increased further, and the participation rate for the 15–74 age group exceeded 60 per cent (Chart 3-37), while it stood at 69.3 per cent for the 15–64 age group in the third quarter.

During the third quarter, the number of employees in the national economy increased further. Private sector employment rose dynamically, while the number of persons employed in the general government remained roughly the same as in the previous quarter. Regarding the private sector, the number of employees did not change in the manufacturing sector, but employment in the sector of market services rose sharply compared to the previous quarter. The average weekly hours worked by full-time and part-time employees decreased. On the whole, the full-time equivalent of private sector employment increased to a lesser degree than employment compared to the previous quarter (Chart 3-38).

Continuing its downtrend since 2013, the unemployment rate was around 6.6 per cent in the third quarter. The number of non-subsidised new jobs has been fluctuating in the range of 45–50 thousand for the past few quarters; in addition, the number of non-subsidised vacancies continued to expand.

3.5. Cyclical position of the economy

The real economy continues to display disinflationary effects, and the output gap may have remained in the negative domain in 2015 Q3 as well. The latest incoming data and the development of the resource utilisation gap suggest that the rise in corporate capacity utilisation may have come to a halt in the past quarter.

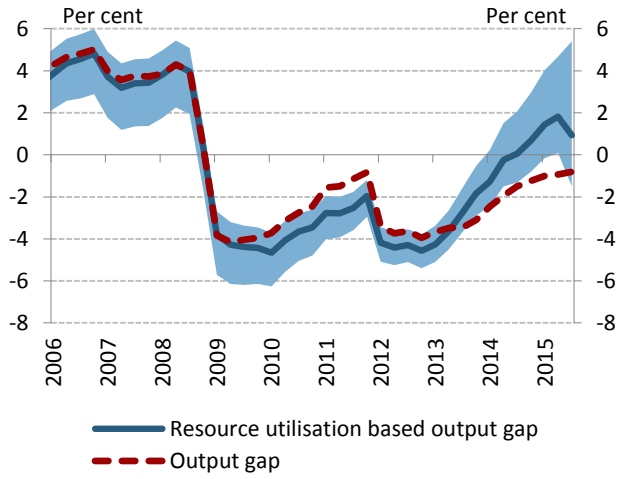
According to our estimation, the output gap continues to be negative, but in parallel with the economic slowdown, the closing of the gap may come to a halt in the second half of 2015. This assessment is also supported by surveys focused on business climate expectations. **Corporate business climate and capacity utilisation indicators are still above their long-term average,** but have decreased from the extremely high levels recorded in the previous quarter. In the context of decelerating world trade, after the decline in industrial and government orders, the business climate indicators of the construction industry reflected a correction as well. At the same time, business climate expectations remained stable for services.

The assessment of demand prospects deteriorated in 2015 Q3. Compared to previous quarters, a higher percentage of respondent service provider and construction firms identified demand as an important factor constraining production. Labour shortage as a factor constraining production continues to play an important role among corporations in the manufacturing and services sectors, exceeding both the levels recorded during the crisis and the historical average in the second half of 2015.

The output gap indicator based on the utilisation of resources of the corporate sector fell short of the value recorded in the previous period, which in itself could be indicative of the closing of the output gap (Chart 3-39). The decline from its previously high level may reflect the weaker assessment of demand. At the same time, the uncertainty band of the indicator widened further, pointing to a divergence between individual sectors and capacity utilisation indicators.

Data received since the September Inflation Report indicate that the closing of the output gap may have come to a halt in the past quarter. The output gap is somewhat wider than assumed in our previous estimate, primarily because the economic performance of Hungary's export markets fell short of expectations.

Chart 3-39: Output gap measures



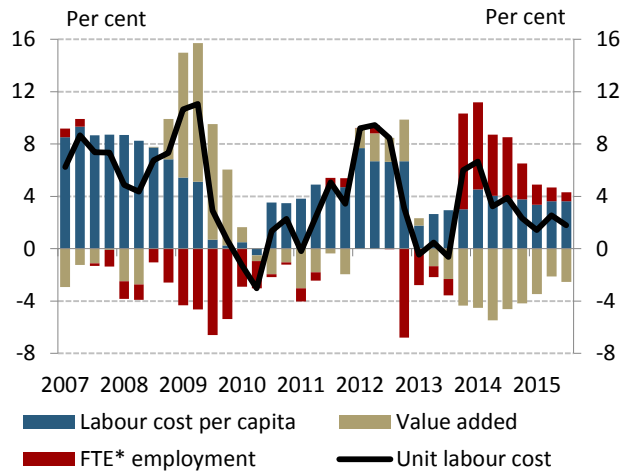
Note: The resource utilisation based output gap consolidates the information content of various corporate capacity utilisation indicators into a single indicator. The band reflects the uncertainty of that estimate. For a detailed description of the methodology, see: Rácz O. (2012): Using confidence indicators for the assessment of the cyclical position of the economy, MNB Bulletin, June 2012.

Source: MNB

3.6. Costs and inflation

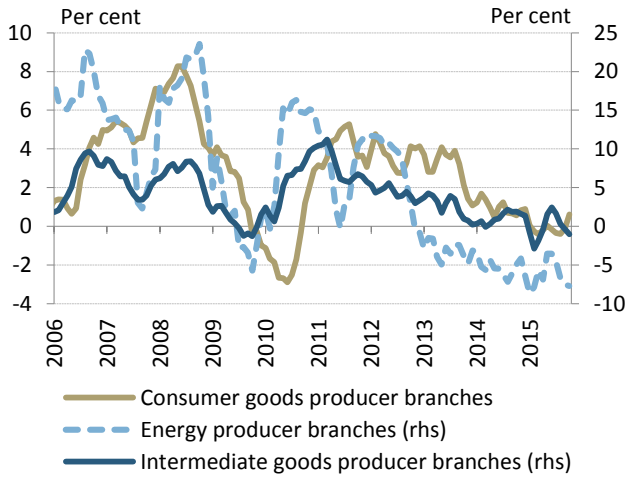
Inflation remained in the positive domain during the past quarter, but was still below the 3 per cent target. Restrained inflation trends reflect the subdued commodity prices, low imported inflation and persistently stable inflation expectations. Private sector wage dynamics remained stable in the third quarter.

Chart 3-40: Annual changes and components of unit labour cost in private sector



Note: * Full-time equivalent. Seasonally adjusted data.
Source: MNB calculation based on HCSO data

Chart 3-41: Annual change in industrial producer prices



Source: MNB calculation based on HCSO data

3.6.1. Wages

Private sector wage dynamics did not change notably compared to the previous quarter, and gross average wages rose 3.8 per cent in annual terms. Corporate bonuses did not deviate considerably from those seen in previous periods. Within the private sector, manufacturing had more robust wage dynamics than the sector of market services. Changes in wages are determined by the combined effect of a tighter labour market and a moderately positive inflation environment.

Unit labour cost dynamics (calculated using full-time equivalent employment) decelerated relative to the previous quarter (Chart 3-40). The weaker growth in unit labour costs stems from the acceleration in value added and the moderate increase in full-time equivalent employment.

3.6.2. Producer prices

Despite the moderate increase seen in previous quarters, commodity prices remain at low levels. For the most part, the price increase was due to unfavourable weather conditions and rising prices of seasonal products, in particular, potato prices. The producer price of dairy products declined at a slower pace in the third quarter.

Industrial producer prices were restrained in the past period. Prices of the energy-producing sectors continued to fall in year-on-year terms, possibly reflecting the persistently low level of global oil prices. Producer prices of the sectors producing consumer goods declined moderately, while the price dynamics of the sectors producing intermediate goods did not change notably (Chart 3-41). Changes in domestic producer prices were consistent with the trends observed in the euro area.

3.6.3. Consumer prices

In the autumn months, inflation returned to the positive domain, but was still below the 3 per cent target. Subdued commodity prices, low imported inflation and the stabilisation of inflation expectations at moderate levels may all have contributed to low inflation.

Indicators capturing longer-term inflation trends have been rising since the second half of 2013, but remained stable overall in the past few months. Repressed cost side and subdued demand side developments may have

contributed to the moderate inflation environment (Chart 3-42).

Prices of industrial goods increased compared to previous months. The increase in prices of durable products was mainly driven by the price dynamics of new cars. There was no substantial shift in the prices of non-durable goods. In the past quarter, besides the price-reducing effect of low import prices, the prices of industrial goods were shaped by the gradual pass-through of the earlier exchange rate depreciation and the recovery in domestic demand.

Increases in the prices of market services were generally moderate across a broad range of services. The annual inflation of the product group decreased compared to the previous period, primarily reflecting the fact that the effect of the fee increase of other financial services last October dropped out of the base.

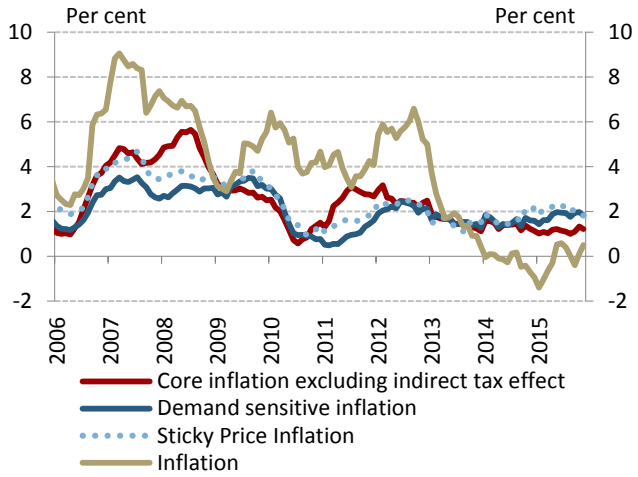
Prices of processed foods have risen at a moderate pace in recent months, mostly boosted by the dynamics of sugar prices. The price level of the product group was still shaped in the fourth quarter by the falling prices of milk and dairy products in the wake of the abolition of milk quotas across the European Union. At the same time, the price level of milk increased in October for the first time since last August. The price level of unprocessed foods has increased further in recent months, mainly reflecting the price increase of fresh vegetables and fruits.

Fuel prices continued to fall with the decline in HUF-denominated oil prices. While oil prices remain extremely subdued, developments in oil prices are still surrounded by both upside and downside risks.

The inflation of regulated prices typically remained moderate in the past quarter; at the same time, a base effect (price reductions last autumn affecting district heating and energy prices) prompted a rise in the annual price index. The prices of textbooks, however, declined sharply compared to the previous period as a part of primary and high school students received free textbook supplies.

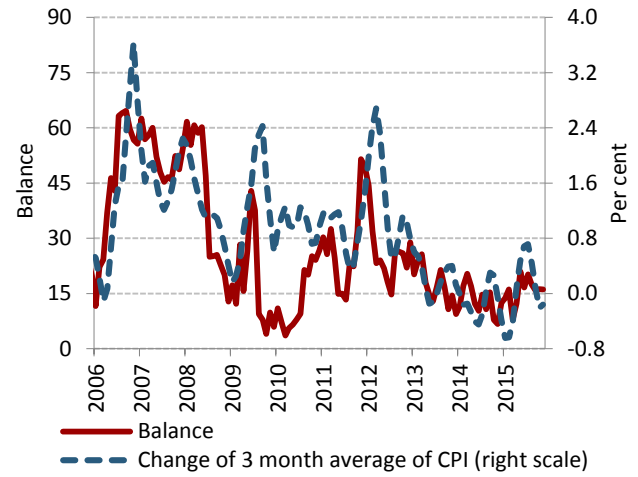
Based on data received in recent months, our assessment of underlying inflation trends has not changed notably since the September Inflation Report. Inflation and core inflation excluding indirect taxes were slightly lower than our September forecast.

Chart 3-42: Inflation and underlying inflation indicators



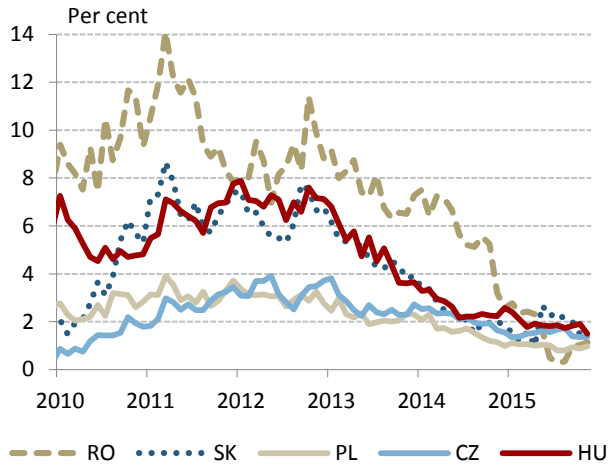
Source: MNB calculation based on HCSO data

Chart 3-43: Expected changes in retail sales prices in the next 3 months* and actual inflation



Note: * Balance is the difference between the proportion of corporations expecting price increase and price decrease.
Source: GKI and MNB calculation based on HCSO data

Chart 3-44: Inflation expectations in the region



Source: MNB calculations based on data of the European Commission

3.6.4. Inflation expectations

With regard to retail sales prices, inflation expectations have remained at low levels over the past few months. This may suggest that cost and demand-side developments remain moderate and do not warrant price increases in the coming months (Chart 3-43).

In a regional comparison, Hungarian households' expectations are similar to the levels seen in countries characterised by persistently low inflation (the Czech Republic and Poland). In November, Hungarian households' inflation expectations decreased compared to the previous months. Inflation expectations fell in the Czech Republic, and started to rise again in Romania for the first time after the VAT reduction (Chart 3-44).

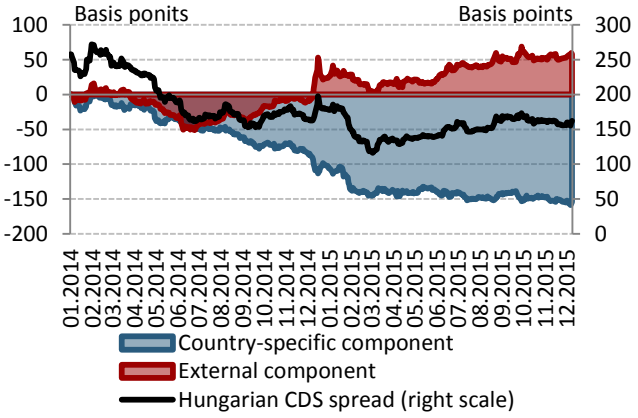
4. FINANCIAL MARKETS AND INTERES RATES

4.1. Domestic financial market developments

Following the financial market shock in August that essentially originated from China, global market sentiment has slightly improved since the middle of September, which can be seen from the decrease in risk indices and the rally in stock markets. US yields first rose, and then by period-end they showed a decrease, similar to European yields. In the case of foreign currencies, the appreciation of the US dollar dominated the markets, with a relatively great dispersion as compared to emerging currencies. Financial market developments were fundamentally influenced by the diverging monetary policies pursued by the ECB and the Fed. Market sentiment was also affected by expectations about a slowdown in China and the divergent growth of emerging countries. The expectations about the base rates of the key central banks shifted towards loosening, but the easing by the ECB, which failed to live up to market expectations, and the increasing probability of an interest rate increase by the Fed in December make the situation more complex.

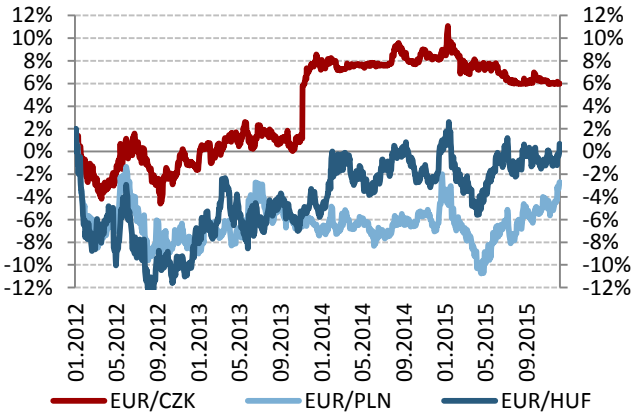
Hungarian financial market developments were primarily influenced by international factors, although a few country-specific factors also affected the Hungarian financial markets. In line with this, the forint fluctuated in the 309–317 band over the past quarter, slightly depreciating along with regional currencies. On the government securities market, short yields approached the base rate by rising considerably, while longer yields decreased marginally. The portfolio of government securities held by non-residents continued to decline, falling by HUF 270 billion, but the slight decrease in the Hungarian 5-year CDS spread reflected a modest improvement in Hungary's risk perception.

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



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

Chart 4-2: Exchange rates in the region



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

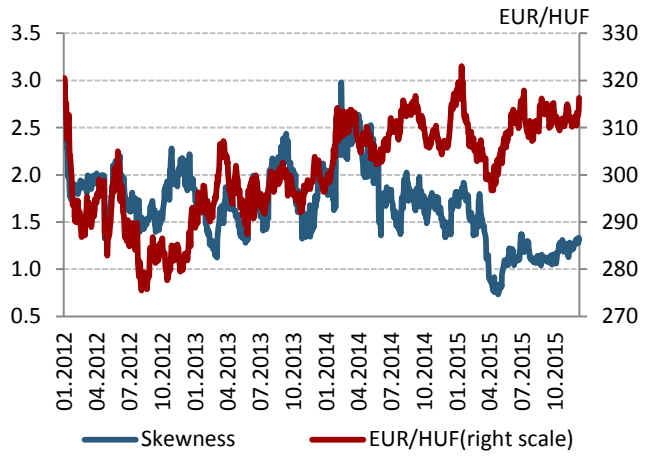
4.1.1. Risk assessment of Hungary

Hungarian risk indicators have been mixed since the September *Inflation Report*. The Hungarian 5-year sovereign CDS spread fell by approximately 2 basis points compared to the beginning of the period under review, however, it remained at a moderate level (in the 155–175 basis point range). The 10-year government bond yield fell by 11 basis points, while the forint exchange rate fluctuated in the 309–317 band. In neighbouring countries, CDS spreads rose slightly and foreign currencies depreciated against the euro. The Hungarian forint moved together with the Romanian leu, weakening by 1.5 per cent, which was smaller than the depreciation of the Polish zloty.

The small decline in the Hungarian CDS spread was primarily due to domestic factors. The global market wobbles in August had a significant impact on regional and Hungarian CDS spreads, but after this the risk assessment gradually improved. The Hungarian spread fluctuated around 155–170 basis points throughout the majority of the period, and the improvement of the risk assessment may have been supported by the fact that Moody's changed the credit rating outlook for Hungary to positive in November. Overall, regional spreads rose slightly. According to our CDS decomposition methodology, the drop in the Hungarian risk spread was chiefly influenced by domestic factors, while on the whole the international component exerted a slight upward impact on the spread, in line with the increasing probability of a rate hike by the Fed (Chart 4-1).

In contrast to Hungary's CDS spread, the EUR-denominated Hungarian foreign currency bond spread rose marginally. As regards the situation in regional countries, the Romanian spread decreased, while in Poland the foreign currency bond spread surged by 7 basis points, i.e. by more than in Hungary.

Chart 4-3: EUR/HUF exchange rate and 1-month skewness



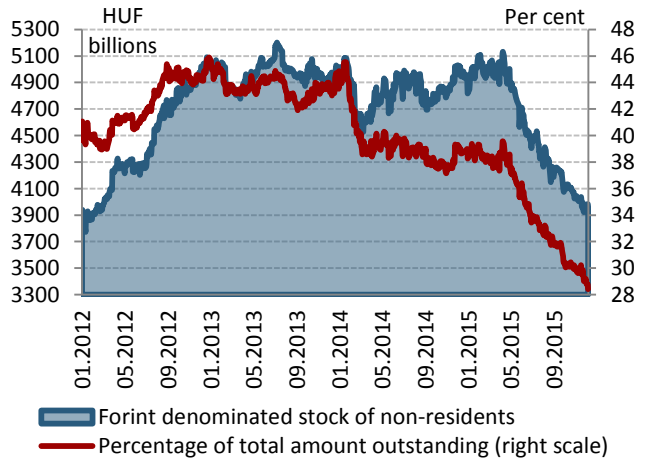
Note: Skewness = Risk reversal/Volatility *10.
Source: Bloomberg

4.1.2. Developments in foreign exchange markets

The EUR/HUF cross rate fluctuated in a narrower band than in the previous quarter and was at a slightly higher level at the end of the period. On the whole, the forint exchange rate moved in a range of EUR/HUF 309-317 during the period (Chart 4-2). The forint was mainly affected by international factors. The most important of these were the increasingly likely rate hike by the Fed, the heightened expectations about the easing by the ECB and the monetary loosening measures taken by the ECB, which proved to be more restrained than expected by the markets. In addition, the announcement of the MNB's new programme and some central bank statements also impacted the forint exchange rate. As regards forward-looking indicators, the skewness of exchange rate expectations increased marginally, albeit it fluctuated at relatively moderate levels throughout the period (Chart 4-3).

Among regional currencies, the Polish zloty was on a downward trend, in part due to country-specific factors (lower-than-expected inflation figures, increasing expectations about a rate cut, as well as other measures). Overall, the Romanian leu depreciated by 1.5 per cent, while the Czech koruna was able to appreciate against the euro, moving very close to its exchange rate floor. Regional exchange rates depreciated against the US dollar, by approximately 2–6 per cent.

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

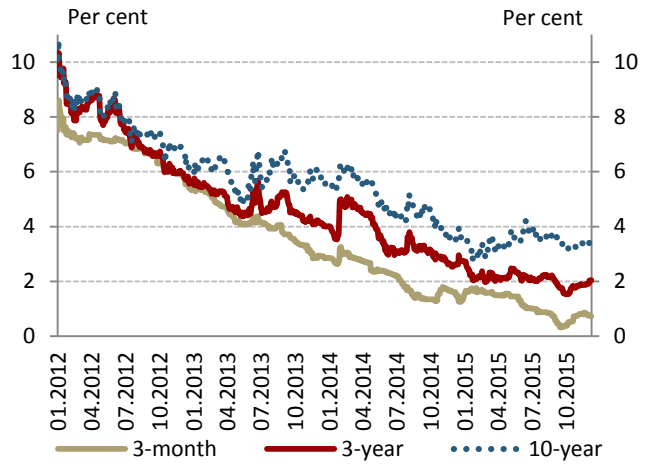


Note: The chart shows the stock of T-bills and T-bonds and the amount of government securities held by non-residents; retail securities are not included.
Source: MNB

Swap spreads for short-term maturities typically decreased during the period. They primarily rose during the adjustment to the transformation of the central bank's policy instruments, and later adjusted downwards, and closed the quarter at lower levels. In the period under review, spreads for medium-term maturities (1 to 6 months) decreased steadily from the high levels of August and September, but spreads started to rise again in early December. In the case of long-term maturities, spreads fell more significantly, by 20–50 basis points.

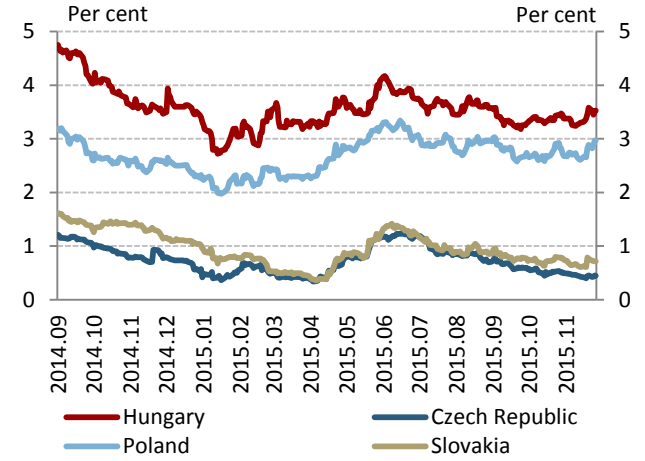
In parallel with the modest decrease in the 10-year government bond yield, the proportion of government securities held by non-residents continued to fall (Chart 4-4). The stock of HUF government securities held by non-residents, which has steadily declined since April,

Chart 4-5: Yields of benchmark government securities



Source: GDMA

Chart 4-6: 10-year government benchmark yields in CEE countries



Note: Bloomberg

continued to fall in recent months, dropping below HUF 4000 billion by the end of the period. Compared to the beginning of the year, the stock of government securities held by non-residents contracted by around HUF 900 billion. All in all, compared to mid-September, the portfolio decreased by HUF 270 billion, while non-residents' share in HUF-denominated securities dropped from 31 per cent to around 28 per cent. The reduction of the share of non-residents in government securities did not entail a rise in yields.

4.1.3. Government securities market and changes in yields

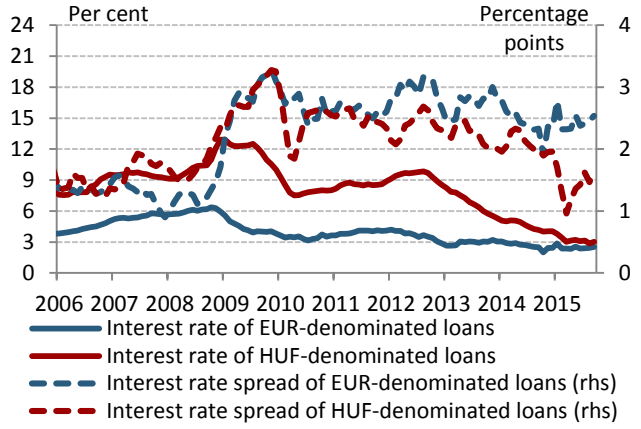
On the primary market for government securities demand was mixed, and, depending on the maturity, yield trends varied as well. Demand for securities with maturities of less than a year was occasionally considerable but overall rather low, and yields clearly converged upward to the base rate. By contrast, in the case of longer-term maturities, especially 5 and 10-year securities, demand was intense and a drop in yields could be observed, and consequently, all in all, the steepness of the yield curve decreased substantially (Chart 4-5).

The steepness of the yield curve declined notably. Yields for short-term maturities rose by 40–55 basis points. The 3-year and 5-year benchmark increased by 10–30 basis points, whereas in the case of 10-year maturity, the yield dropped approximately by 10 basis points. The 15-year benchmark yield was unchanged compared to the previous quarter. Nonetheless, 10-year yields in the region declined more than in Hungary (by 20–30 basis points; Chart 4-6).

4.2. Credit conditions of the financial intermediary system

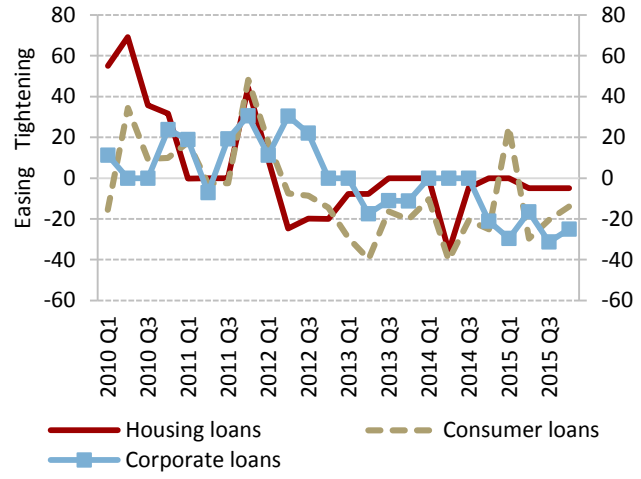
Costs of financing decreased in both the corporate and household segments in 2015 Q3, after eliminating the composition effect. In the Lending Survey, about one third of responding banks reported an easing in corporate credit conditions, and further easing is expected in the next half-year. Conditions on housing loans remained unchanged in parallel with a considerable increase in demand, while one fifth of the banks eased their consumer credit conditions. The one-year forward-looking real interest rate reached a historical low in the third quarter as a result of the fall in deposit rates.

Chart 4-7: Smoothed interest rates and spreads on corporate loans by denomination



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

Chart 4-8: 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

Financing costs of HUF-denominated corporate loans approximated that of EUR-denominated loans in 2015 Q3. The interest rate level on new HUF loans with floating interest rates or with up to 1-year initial rate fixation[6] was 3.0 per cent at the end of September, declining by 0.1 percentage point compared to the end of the previous quarter (Chart 4-7). The average spread on HUF loans rose 0.2 percentage point in the period under review, attributable to composition effect. Within new loans, an increase was observed in the ratio of small-amount loans, which typically have higher spreads, and thus the average spread rose despite the decline in the average spread on the large-amount loans and on the small-amount loans as well. In the case of EUR-denominated loans, both the average interest rate level and the spread increased quarter-on-quarter, by 0.1 and 0.2 percentage point, respectively.

Corporate lending conditions continued to ease. The Lending Survey[7] revealed that, in net terms,[8] 31 per cent of banks eased credit conditions in Q3 (Chart 4-8). An increase in market competition was mentioned in the lending surveys in the region and all over Europe as a factor contributing to easing. In addition, the favourable liquidity and capital position of banks also contributed to easing in Hungary, as well as an increase in risk tolerance. Looking ahead, 25 per cent of the banks indicated further easing in the conditions in 2015 Q4 and 2016 Q1.

4.2.2. Household credit conditions

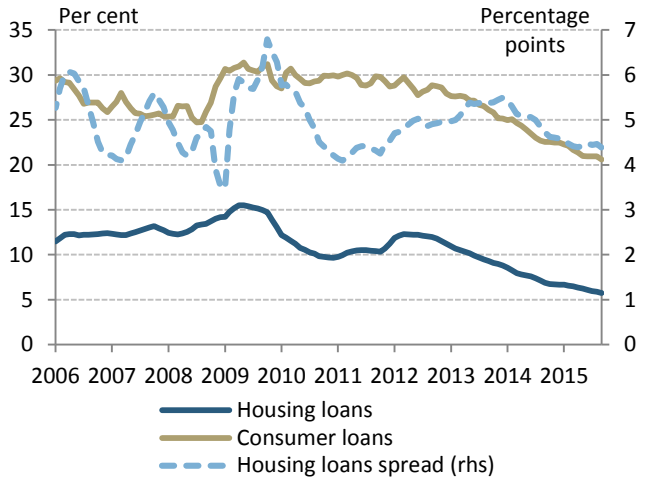
Interest rates and spreads on consumer and housing loans also continued to decline. In 2015 Q3, the annual percentage rate of charge (APR) on new disbursements declined by 0.3 percentage point and 0.4 percentage point in the case of consumer loans and housing loans, respectively (Chart 4-9). The decline in the average interest

[6] 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 programme.

[7] For a detailed analysis of the findings of the Lending Survey, please refer to the MNB's 'Trends in Lending' publication, available at: *http://www.mnb.hu/en/publications/reports/trends-in-lending*

[8] Difference between banks that tightened and eased credit conditions, weighted by market share.

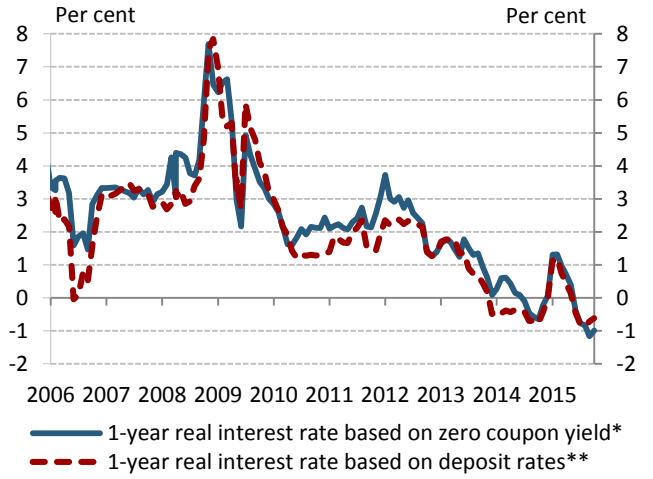
Chart 4-9: Smoothed annual percentage rate of charge (APRC) and spreads of housing and consumer loans



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

Source: MNB

Chart 4-10: 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

rate on new housing loans was the result of heterogeneous developments: interest rates on floating-rate loans fell considerably, while fixed lending rates decreased slightly. Average interest rate spread on housing loans decreased by 0.1 percentage point to 4.4 percentage points, and spread on consumer loans also declined, by 0.2 percentage point in the case of home equity loans.

Credit conditions on housing loans remained unchanged, while conditions on consumer loans eased slightly. Based on banks' responses to the Lending Survey, in net terms, one fifth of the banks eased the conditions on consumer loans, mainly with regard to the maximum maturity (Chart 4-8). The banks that eased the conditions indicated their efforts to maintain and/or increase their market share as a reason for easing. Looking ahead, 14 per cent of the banks plan further easing in the next half-year in this segment. The responding banks did not ease housing loan conditions in Q3, while in parallel with this all banks registered an increase in demand for housing loans. Responding banks do not expect any changes in housing loan conditions in the next half-year either.

4.2.3. Changes in real interest rates

The one-year forward-looking real interest rate continued to decline in 2015 Q3. In September 2015, on the basis of the yield estimated from the government securities, the real interest rate level reduced by inflation expectations amounted to –1.2 per cent, thus falling to a historical low, and then subsequently returned to –1 per cent in October. On the basis of deposit rates, the real interest rate level reached its minimum at –0.9 per cent in August, but in October it amounted already to –0.6 per cent (Chart 4-10). Inflation expectations remained unchanged during the quarter, and thus the fall in the real interest rate observed in the third quarter was primarily attributable to the decline in deposit rates.

Box 4-1: The Growth Supporting Programme and its macroeconomic effects

In order to reduce credit risks and attain more dynamic economic growth through lending to SMEs, the MNB made decisions which will support banks' changeover to market-based lending. The achievement of sustainable, dynamic economic growth requires a significant strengthening of the banking sector's lending activity. For the past two years this has been the aim of the Funding for Growth Scheme (FGS), which has been able to stop the drastic fall in lending. In the long run, however, the central bank cannot substitute market-based lending by banks. Therefore, the MNB decided to launch a Growth Supporting Programme (GSP) to facilitate banks' return to market-based lending.

The objective of the MNB is that even **with the gradual phasing out of the FGS the credit market should function smoothly**, and outstanding loans should increase in a sustainable manner while being less dependent on the central bank. Accordingly, the FGS will be phased out in 2016, and in order to maintain lending activity in parallel with the gradual phase-out of the FGS, the MNB is launching the Market-Based Lending Scheme (MLS).

As part of the GSP, the phase-out period of the FGS consists of two pillars. Within this framework, domestic SMEs will have the opportunity to borrow from banks in the period from early January 2016 to the end of December. Both pillars will be announced with an overall amount of HUF 300 billion:

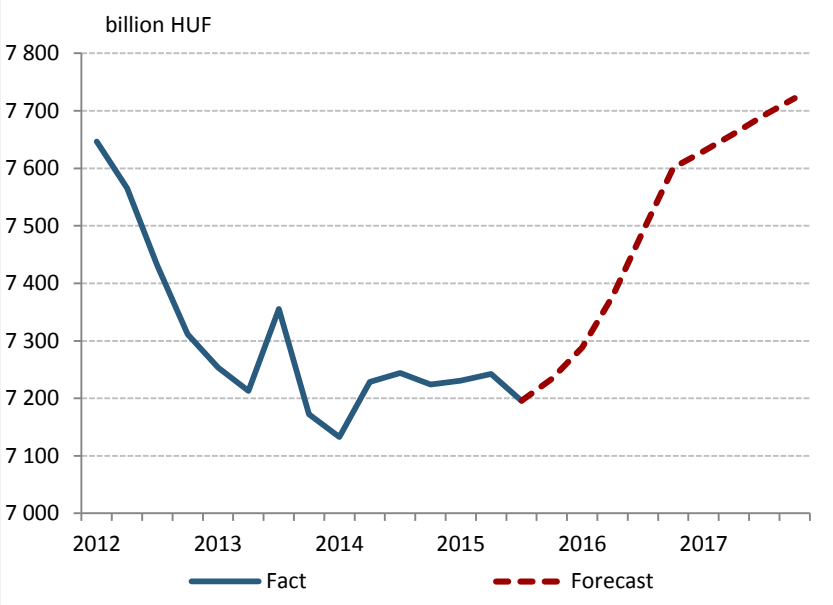
- Under Pillar 1, the MNB will provide refinancing for credit institutions at a 0 per cent interest rate, which they can lend on to enterprises at a maximum 2.5 per cent interest rate. Compared to the second phase of the FGS, the range of credit objectives will be reduced and the maximum amount of loans will be lowered to HUF 1 billion, in order to ensure that the new funding limit allows for an as wide as possible range of smaller participants to implement their investment projects.
- By announcing Pillar 2, the MNB aims to manage market distortions in long-term foreign currency lending, as enterprises with mainly foreign currency revenues have so far had only limited access to the Scheme, while they have had access to financing on more unfavourable terms relative to their foreign competitors. The MNB will also provide funding to credit institutions at a 0 per cent interest rate, which it will convert into euros against its foreign exchange reserves in the form of a market-priced currency interest rate swap (CIRS). Credit institutions will be able to lend on the funds received under the Scheme to SMEs with natural foreign currency hedging at a maximum 2.5 per cent interest rate.

Simultaneously with the gradual phase-out of the FGS, the MNB will announce a new package of measures containing positive incentives, supporting banks in switching to market-based lending, in order to reduce risks of low lending activity. The **Market-Based Lending Scheme (MLS)** will consist of the following three elements:

- Supplementing the central bank instruments with an interest rate swap conditional on lending activity (LIRS) and a preferential deposit facility. The instruments supplementing the central bank instruments provide an incentive for lending through the conditions of access, as the credit institutions participating in the programme undertake to increase the stock of lending to SMEs.
- Creating incentives through capital adequacy requirements for banks, as a business model preferring sustainable lending to SMEs may pose smaller risks to a bank's operations. In such cases, the use of a lower supervisory capital requirement may be considered.
- In addition, the opportunity for the banking sector to have access to the corporate credit reporting system may be an efficient tool for banks in mapping out credit risks as precisely as possible.

By implementing the Growth Supporting Programme, it will be possible to achieve the dynamics of corporate lending dynamics which are necessary for balanced economic growth. The gradual phase-out of the FGS and introduction of lending interest rate swaps and the preferential deposit facility are expected to raise the stock of lending to SMEs by some HUF 250–400 billion in 2016, which is equal to a growth rate of 5–10 per cent annually in lending to the corporate sector and particularly to SMEs (Chart 4-11).

Chart 4-11: Corporate credit flow forecast

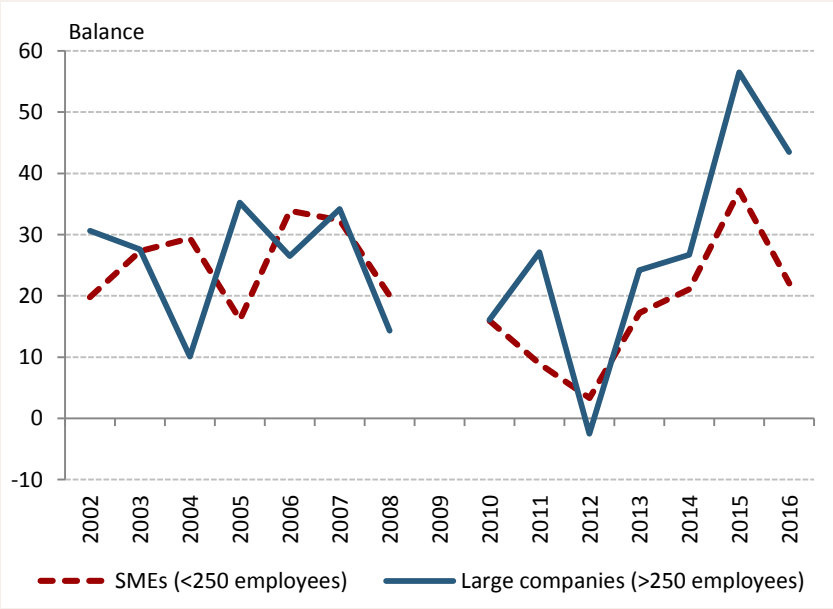


Note: Seasonally adjusted cumulative flow.

Source: MNB

The Growth Supporting Programme may exert its macroeconomic effects through corporate investment. Corporate investment activity primarily depends on demand conditions and changes in financing options. As a result of the improving domestic demand, capacity utilisation of the corporate sector has increased recently. According to surveys, perception of demand has improved in a wide range of companies, thus capacity-increasing investments may grow over the forecast horizon (Chart 4-12).

Chart 4-12: Assessment of aggregate demand



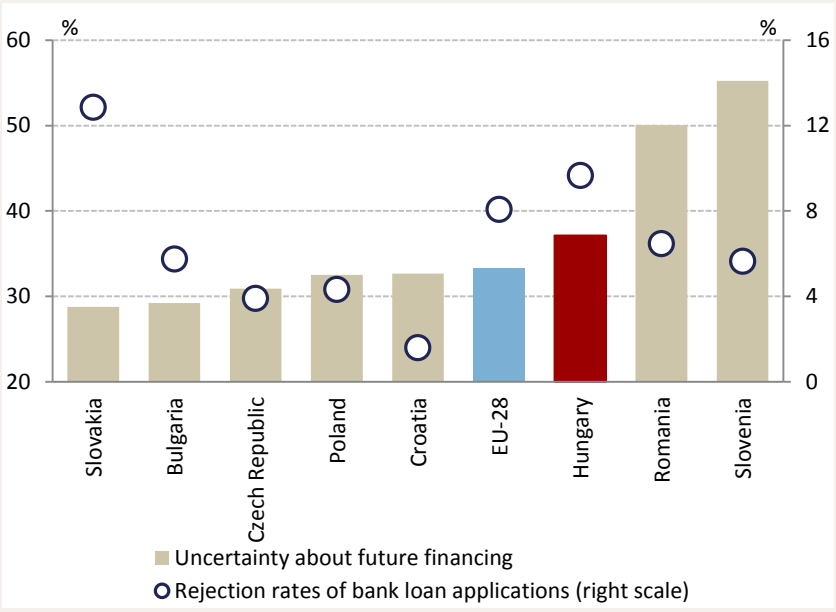
Note: No data are available for 2009.

Source: European Commission ESI survey

Financing conditions may primarily limit the investment activity of the SME sector. Larger companies have easier access to funds from both domestic banks and other sources (e.g. from abroad or through the capital market). For the SME sector, however, the primary source of funding is the domestic banking sector. Quantification of the financing constraints perceived by the SMEs is allowed by the SAFE survey (Survey on the access to finance of enterprises) published by the European Commission and the ECB. Based on the survey, **there has been an overall easing in financial constraints**

recently, **but in international comparison shortfalls can still be identified** in the case of several factors. The ratio of rejections of loan applications submitted by SMEs to banks is below that of other countries in the region, and has been at a level similar to that of Mediterranean countries (Chart 4-13). The survey suggests that Hungarian interest rates on overdrafts as well as collateral requirements are relatively high. All of this may lead to the fact that compared to the regional average in Hungary more SMEs perceive doubts as to whether it will be possible to satisfy their significant demand for external funding expected in the coming years.

Chart 4-13: Assessment of financial conditions among SMEs in 2015[9]



Source: European Commission SAFE survey

Overall, surveys indicate a pick-up in demand for investments and loans as well as persistent credit supply constraints. Therefore, the MNB expects **the GSP to boost lending through further incentives to credit supply, which may support the expansion of corporate investments**, mainly in the SME sector. This effect may be amplified by the future reduction of the bank levy and from the second half of 2016 the increasing EU funds drawn by companies in parallel with stronger inflows of EU funds.

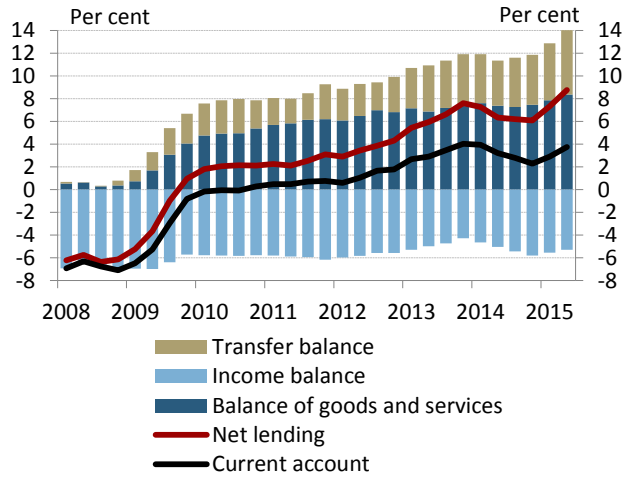
[9] The chart shows the non 'Yes' answers to the question 'Do you feel confident talking about financing with banks and that you will obtain the desired results?' and the answer 'applied but was rejected' to the question 'If you applied and tried to negotiate for this type of financing over the past 6 months, what was the outcome?' regarding bank loans.

5. THE BALANCE POSITION OF THE ECONOMY

5.1. External balance and financing

In 2015 Q2, the four-quarter net lending of the Hungarian economy rose to 8.7 per cent of GDP. The increase in net lending was driven by the rising foreign trade surplus, the expansion of the transfer balance and the decline in the income balance deficit. Based on preliminary monthly data, Hungary's net lending may have increased further, supported by the favourable external environment and the intensifying absorption of EU transfers. On the financing side, the outflow of funds continued in the second quarter as well. These outflows affected debt and non-debt liabilities to roughly the same degree, but recent months have seen FDI inflows as well amidst a sharp decline in external debt. In addition to the outflow of funds, the dip in debt ratios was supported by revaluation and GDP growth. In a sectoral breakdown, net lending was primarily boosted by the reduced net borrowing of the general government, while the net saving of the private sector did not change noticeably.

Chart 5-1: Changes in external financing capacity (cumulated four-quarter values; as a percentage of GDP)



Note: Cumulated four-quarter values.
Source: MNB

5.1.1. Developments in Hungary's net lending position

In 2015 Q2, the four-quarter net lending from the real economy side rose to 8.7 per cent of GDP in 2015 Q2 (Chart 5-1). Supported by a rise in external demand and the deceleration of imports, Hungary's **trade surplus** increased. The decline in imports can be linked to lower energy imports and the decelerating investment activity of import-intensive sectors. Exports of goods was still driven by vehicle exports, and the surplus of services stabilised at a high level. The contribution of the **transfer balance** to Hungary's net lending continued to increase in the second quarter. The absorption of EU transfers amounted to EUR 1.9 billion in the quarter, which represented a significant improvement compared to the same period of the previous year. After the growth registered in 2014, thanks to the improving interest balance on foreign borrowings, the deficit of the **income balance** may have declined considerably with its four-quarter value standing at around 5 per cent of GDP in 2015 Q2. Based on preliminary monthly data, the net lending of the economy increased further in the third quarter, in part reflecting further increases in the trade surplus and the transfer balance.

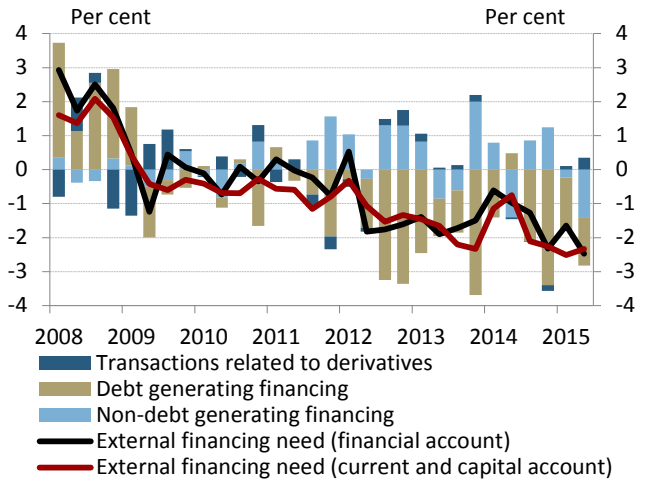
The revision of 2014 data at the end of September had a sizable impact on external balance developments. Based on the incoming corporate questionnaires, foreign companies earned higher profits than reported previously, which, due to the larger income balance deficit resulted in lower net lending, while foreign direct investment also increased, reflecting a higher level of reinvested earnings.[10]

5.1.2. Developments in financing

Hungary's net lending calculated from the financing side amounted to EUR 2.5 billion in the second quarter of

[10] For more detail, see: *Report on the Balance of Payments*, MNB, September 2015

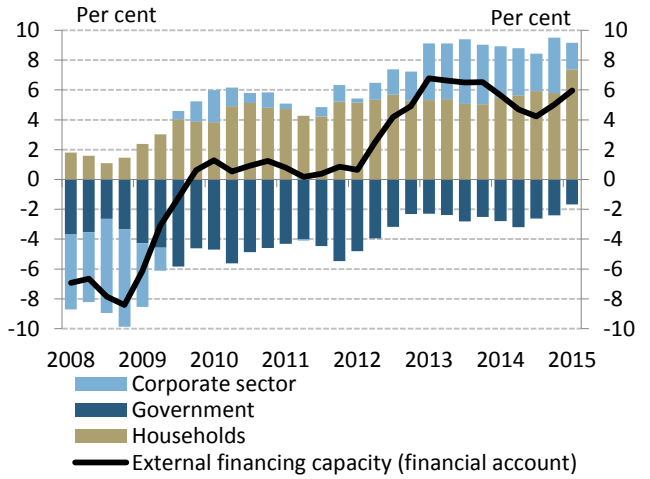
Chart 5-2: Structure of external financing*



Note: The net borrowing calculated from financial account side corresponds to the total of the net lending and the net errors and omissions.

Source: MNB

Chart 5-3: Breakdown of external financing capacity by sectors (four-quarter cumulation as percentage of GDP)



Note: Four-quarter cumulation.

Source: MNB

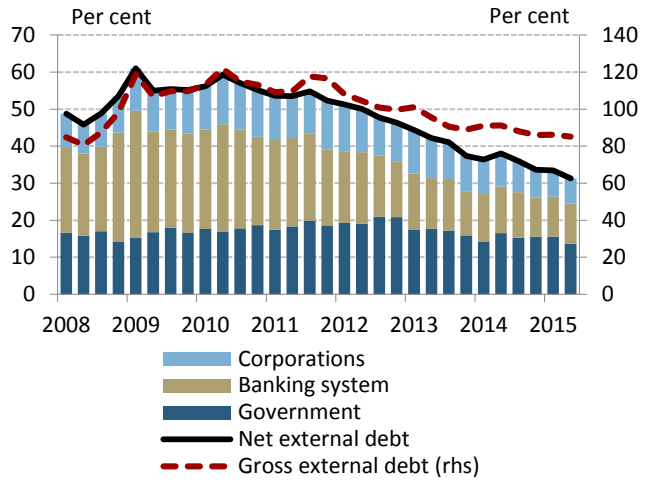
2015, which was largely consistent with the value calculated from the side of the real economy (Chart 5-2). The outflow of funds can be linked, to a nearly similar degree, to the moderation in debt and non-debt liabilities.

As was the case in the same period of the previous year, net foreign direct investment (FDI) by non-residents fell by EUR 1.4 billion in the second quarter, with this decline driven by seasonal and one-off effects. Dividends approved by foreign companies during the quarter reduced the reinvested earnings of non-residents by EUR 1.2 billion. At the same time, foreign direct investment increased roughly to the same extent by the expansion of inter-company loans. Domestic FDI was reduced considerably, by around EUR 600 million, by a one-off item: the acquisition of Budapest Bank by the state. Based on preliminary monthly data, the stock of net FDI inflows started to increase in the third quarter, although the growth fell short of the value recorded in the same period of the previous year.

The net external debt of the Hungarian economy fell by EUR 1.4 billion in the second quarter. While all sectors contributed to this reduction, it was mainly linked to the contraction of the debt liabilities of the government. The net external debt of the consolidated general government decreased by EUR 0.7 billion, primarily owing to substantial sales of government securities by non-residents. The market impact of these transactions was largely offset by domestic banks' purchases of government papers, partly in the context of the self-financing programme. The contraction of net external debt did not reach the level of decline in the gross indicator, as the acquisition of Budapest Bank and the foreign currency liquidity provided to banks for the conversion of foreign currency loans depleted foreign exchange reserves by EUR 1.6 billion. According to preliminary monthly data, non-residents continued to shed their holdings of government papers, while in parallel to this, domestic banks continued to purchase government securities, and these processes led to the further reduction of net external debt.

The increase observed in Hungary's net lending can be attributed to the decreasing borrowing requirement of the government, while the surplus of the private sector stabilised (Chart 5-3). The favourable budgetary processes are associated with exceptionally high tax revenues and, on the expenditure side, with reduced interest expenditures. The net lending of the private sector stabilised at a high level. The substantial net lending of households can be attributed to persistently low credit demand and rising real incomes. Based on preliminary

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



Note: Excluding intercompany loans.
Source: MNB

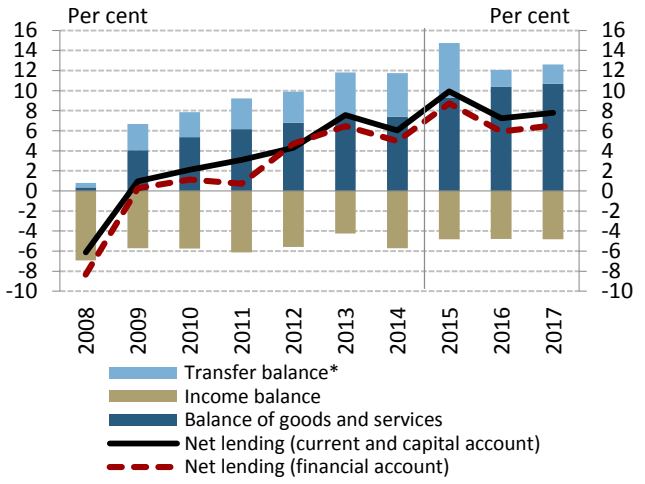
data pertaining to the third quarter, the net financial savings of households did not change noticeably and are still considered high, while the net borrowing of the general government, after further declines, accounted for 0.6 per cent of GDP in the four quarters ending with Q3.

The ratio of net external debt to GDP sank to 31 per cent by the end of the second quarter (Chart 5-4). The continuing debt reduction can be equally attributed to the expansion of GDP and to the revaluations and outflows of debt resulting from rising yields. Based on preliminary monthly data, external debt ratios may have fallen considerably in the third quarter.

5.2. Forecast for Hungary's net lending position

Favourable trends in the external balance may result in a further decline in external vulnerability in the years ahead. This year, the benign external environment and the improving terms of trade may entail an increase in the trade surplus. In addition, a material improvement may take place in the transfer and income balances, and these factors jointly may result in a considerable rise in the financing position. In 2016, the effect of the end of the previous EU budget period is expected to be only partly offset by an increase in the trade surplus, which may be supported by an improvement in the terms of trade, a decline in investment and an improvement in the external environment. In 2017, with an expansion in the trade and transfer balances and stabilisation in the income balance, the external financing position may improve slightly. According to the approach that considers the savings of sectors, the net borrowing of the general government may remain low, in parallel with a slight decline in households' fundamental net savings, resulting from a slow rise in lending. As a result of better profit prospects, the net lending of companies may improve again in 2016 and 2017. The steadily high external net lending may be reflected in a decline in external debt indicators as well, which are especially important in terms of external vulnerability, with significant support from the MNB's self-financing programme and the conversion of foreign currency loans into forints.

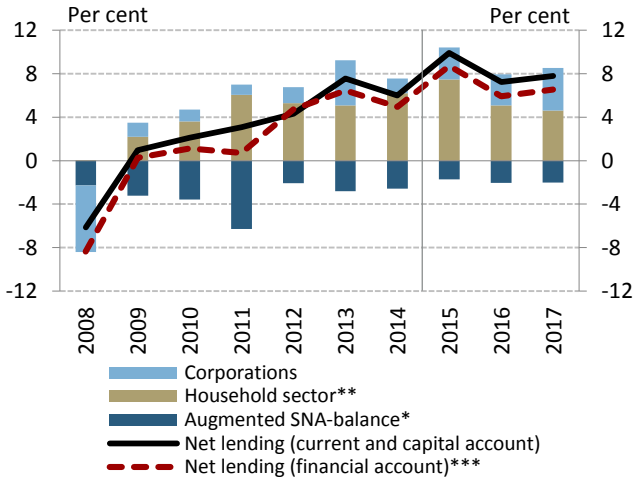
Chart 5-5: Net lending (as a percentage of GDP)



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

Following this year's increase, the net lending of the economy may become stable at a lower, but still high level in 2016 and 2017 (Chart 5-5). The net lending of the economy is expected to rise again this year and may be close to 10 per cent of GDP. This strong rise is mainly attributable to a higher goods and services surplus, also supported by the favourable external environment and the improvement in the terms of trade. The latter improves the trade balance by 0.5 per cent of GDP in 2015, and by 0.6 per cent of GDP in 2016. Inflows of EU transfers may continue to increase in 2015 in connection with the utilisation of the available amount remaining from the 2007–2013 budget cycle. In 2016, the significant decline in the utilisation of EU transfers due to the changing of the budget cycle will be reflected in the decline in the transfer balance, which may only be partly offset by an increasing trade surplus. In 2014, the deficit of the income balance

Chart 5-6: Changes in the 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

increased due to temporary factors as well, and thus it may decline in 2015, and may become stable in the coming years as a result of contrasting effects. The favourable impact of decreasing interest expenditures may be offset by foreign companies' improving profit prospects. Overall, following a decline in 2016, Hungary's net lending may stabilise at a high level of around 8 per cent of GDP in 2017.

In terms of the savings of sectors, **the high net lending of the economy may result from the low net borrowing of the general government and high savings in the private sector expected for this year**. In 2016 and 2017, net lending is expected to be lower, reflecting the lower savings of the private sector (Chart 5-6).

In 2015, households' net financial savings will still increase as a result of the one-off effect of the settlements, but – looking ahead – fundamental developments indicate a decline. Excluding the one-off effects, a slight decline in households' savings is expected for 2016 and 2017, which may be supported by the easing of precautionary motives due to the declining exchange rate risk and by a decline in tax burdens (decrease in the personal income tax rate, expansion of the tax allowance for families). A decline in net savings may also occur because households' investment may increase as a result of a reduction of the VAT on home-building, which may be reflected in a strong rise in borrowing.

In 2015, the settlement is having a considerable one-off reducing effect on the net lending of companies, but net corporate savings may increase again starting from 2016. This year, the effect of the settlement which increased banks' losses and the slowing growth rate of investment resulted in a deceleration in financial corporations' net savings. In 2016, corporate net lending may be reduced by an increase in investment resulting from the MNB's Growth Supporting Programme and by the declining utilisation of EU transfers, while it may be increased by the improving profit prospects. In 2017, in addition to improving profit prospects, increasing EU transfers and an expected slowdown in investment may result in an increase in net lending of corporates.

The net borrowing of the general government may remain low in the coming years. The decline in net borrowing in 2015 has been attributable to both revenue and expenditure side developments, such as increasing tax revenues (VAT, income taxes) on the one hand, and the decline in cash transfers as a proportion of GDP as well as the saving on interest expenditures resulting from the decline in the yield level on the other hand. In 2016, a

slight increase in net borrowing will result from the reduction of the personal income tax rate and the lower bank levy burden as well as from the raising of government investment expenditures from own funds, which will only be partly offset by the fiscal revenues from land sales. In 2017, the increase in wages, material expenditures and pensions, which is expected to be lower than GDP growth, and a rise in tax revenues due to economic growth may offset the expenditure increasing effect of own contribution from own funds related to EU transfers, which are expected to increase again.

Net lending, which is high over the forecast horizon, and non-residents' government securities sales may be reflected in a decline in external debt indicators as well. The high net lending allows domestic players to repay some of the maturing debt. External debt will be further reduced by domestic players that purchase – partly as a result of the MNB's self-financing programme – the government securities sold by non-residents. Overall, developments in financing point to a further decline in vulnerability over the forecast horizon.

5.3. Fiscal developments

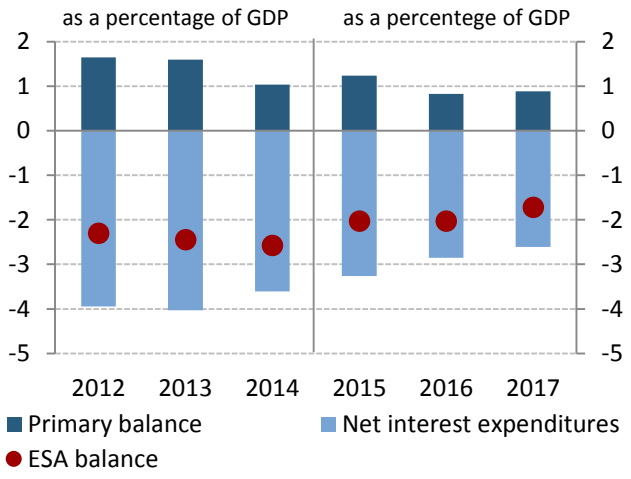
Over the forecast horizon, the ESA deficit of the government sector may be around 2 per cent of GDP, which would be the lowest level measured since the democratic transition. This means that the deficit is expected to be in line with or below the deficit targets set out in the annual Budget Acts. Based on new information received in the past quarter, the projection for this year's deficit declined primarily due to the increase in tax revenues and the cautious financial management of budgetary institutions, while our expectations concerning next year's balance remained practically unchanged compared to September. According to our forecast, the ESA deficit may amount to 2.0 per cent of GDP in 2015 and 2016, while based on our technical projection, the deficit may decline to 1.7 per cent of GDP in 2017, mainly as a result of a dynamic fall in interest expenditures as a proportion of GDP. This year, fiscal policy has a slight demand-reducing effect, while next year and in 2017 its impact may be slightly demand-increasing. Calculated at the end-2014 exchange rate, the debt ratio may decline only slightly in 2015 due to one-off effects, and then, as a result of the steadily low deficit, it may decrease by some 2 percentage points a year starting from 2016.

Table 5-1: General government balance indicators (as a percentage of GDP)

	2015	2016	2017
ESA deficit*	-2.0	-2.0	-1.7
Primary ESA deficit	1.3	0.8	0.9
Fiscal impulse**	-0.5	0.7	0.2

Note: * Complete cancellation of the available free reserves (Country Protection Fund) was assumed upon the calculation of the balance indicators in 2015, and partial cancellation in 2016-2017. ** Change in the augmented (SNA) primary balance.
Source: MNB

Chart 5-7: Decomposition of the ESA balance



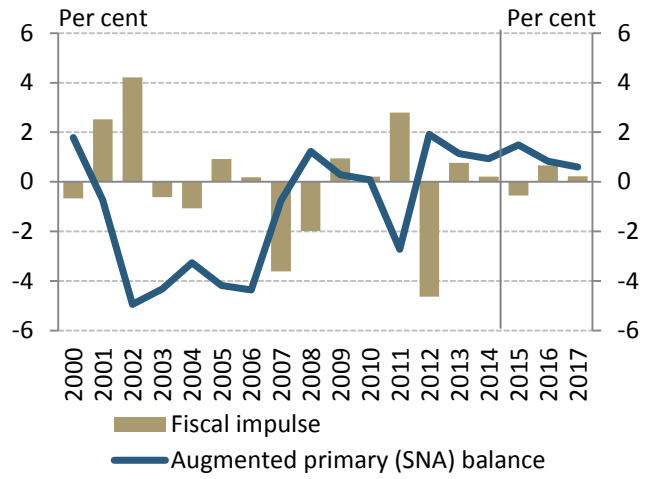
Note: The numbers do not include the imputed interest expenditures related to the reform of the pension system.
Source: Eurostat, MNB

5.3.1. Main balance indicators and the fiscal demand effect

According to our forecast, the ESA deficit of the government sector may amount to 2.0 per cent of GDP in 2015 and 2016, compared to 1.7 per cent of GDP in 2017 (Table 5-1). This year's deficit reduction of 0.5 percentage point compared to last year is attributable to both the improvement in the primary balance and the dynamic decline in net interest expenditures as a proportion of GDP, which is a result of the significant fall in government securities market yields observed in the past three years. As this trend is expected to continue in the coming years as well, next year the primary surplus may decline and the fiscal demand effect may increase in spite of an unchanged ESA deficit (Charts 5-7 and 5-8). Pursuant to the Budget Acts, the government may use the Country Protection Fund only if the fiscal deficit target is met. Therefore, based on the feasibility of the government's deficit targets, our forecast the Country Protection Fund to be spent in 2015 and its partial cancellation in 2016 and 2017.

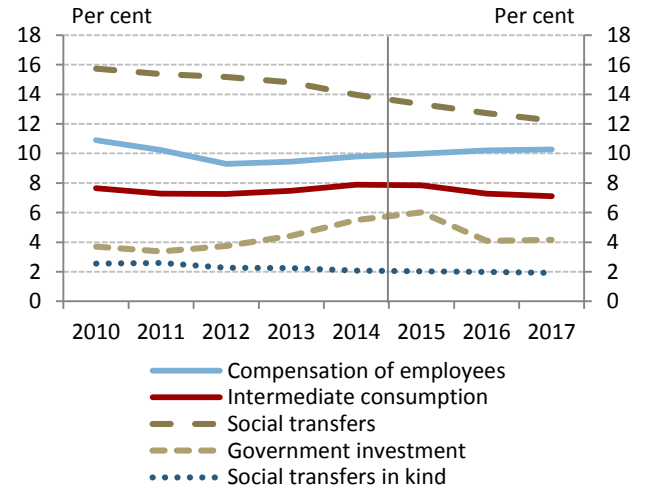
Our forecast for the 2015 deficit is corroborated by the monthly developments of the cash-based deficit as well as the available quarterly statistics. Based on monthly data, the developments in the deficit are relatively favourable compared to the previous years, which is the result of two contrasting processes. Developments in tax revenues and expenditures of own financing point to a low deficit. By contrast, the high level of expenditures funded by support from the EU and mainly the delays in the receipt of the EU funds covering them have increased this year's cash-based deficit considerably to date. However, the latter is not expected to affect the accrual-based balance, because according to the ESA methodology the revenues from the EU related to this year are accounted for in 2015, even if actually they are received later. The above developments are reflected by the fact that

Chart 5-8: Fiscal impulse (as a percentage of GDP)



Note: 1) The fiscal impulse corresponds to the change in the augmented (SNA) primary balance. 2) The positive prefix indicates demand expansion, while the negative prefix implies demand restraint. 3) Assuming the complete cancellation of the available free reserves in 2015, and partial cancellation in 2016-2017.
Source: MNB

Chart 5-9: Government sector primary expenditures as a percentage of GDP



Source: HCSO, MNB

according to 2015 Q3 financial account data the financing requirement of the general government was historically very low in the past four quarters, not reaching 1 per cent of GDP on average.

The effect of fiscal policy on demand is estimated to be essentially neutral. Within that, in 2015 it may be slightly demand-reducing, while it may be somewhat more demand-increasing in 2016 and less demand-increasing in 2017 (Chart 5-8).[11] The mild demand-reducing effect in 2015 is attributable to a rise in tax revenues (higher corporation tax payments, increase in VAT stemming from whitening) and a decline in cash transfers as a proportion of GDP. The demand-boosting effect in 2016 will mainly be the result of cutting the personal income tax rate and reducing the bank levy. Detailed fiscal plans for 2017 are not known yet, but according to our forecast the expected further decline in cash transfers as a proportion of GDP will reduce the fiscal impulse. The expected decline in EU funding affects fiscal demand effect only through the change in co-financing related to the funding, as the decline in funding reduces both fiscal revenues and expenditures.[12]

The developments, i.e. the improvement, in the balance of the government sector is the joint result of a major fall in expenditures as a proportion of GDP (Chart 5-9) **and a smaller decline in revenues.** On the expenditure side, the decline in cash transfers to the household sector as a proportion of GDP contributes to this process, firstly by the indexing of pensions to inflation and secondly by unchanged of social transfers. In addition to the above, the size of total expenditures as a proportion of GDP is also reduced by the decline in interest expenditures and the decrease in the related disbursements due to the drop in EU funds. Total revenues as a proportion of GDP will decline over the forecast horizon as a result of tax cuts and a decline in EU funding.

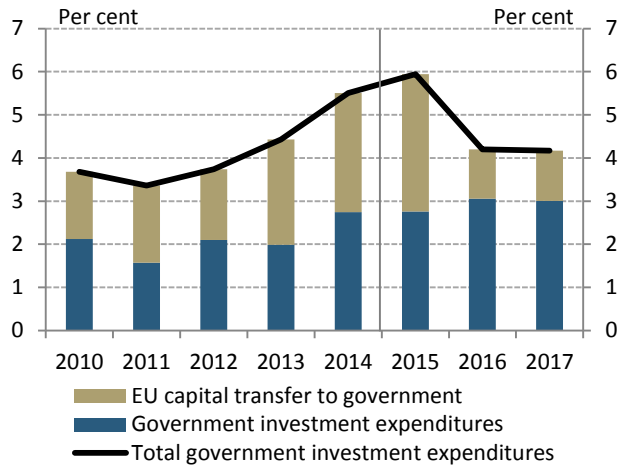
5.3.2. Budget balance in 2015

In 2015, according to our forecast, the ESA deficit of the general government may be 2 per cent of GDP, i.e. 0.4 percentage point lower than our forecast prepared for the September Inflation Report (Table 5-2). On the revenue side, we reduced the expected amount of payments by economic organisations by 0.1 per cent of

[11] The fiscal 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. Demand may increase in 2016 in spite of the unchanged ESA balance, because the demand effect is derived from the change in the primary balance.

[12] However, the temporary decrease in the funds means a significant loss of source for the national economy as a whole.

Chart 5-10: Composition of government sector investment expenditures (as a per cent of GDP)



Source: HCSO, MNB

Table 5-2: Decomposition of the change in the 2015 ESA balance forecast (compared to the previous *Inflation Report*; as a percentage of GDP)

	Macro data	Measure	Other
I. Central government revenues	0.2	0.0	-0.1
Payments by economic organisations			-0.1
Labour taxes	0.2		
II. Central government expenditures	0.0	-0.1	0.4
Net expenditures of budgetary organisations		-0.1	0.5
Payments related to state property			-0.1
III. Other effects	0.0	0.0	0.0
Balance of local governments			0.1
Other items			-0.1
Total (I.+II.+III.)	0.2	-0.1	0.2

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively.
Source: MNB

GDP, as the other revenues in this category are reduced by the ruling of the European Court of Justice, according to which the companies concerned are also entitled to an interest penalty on the VAT refunds that had been retained by the state in contravention of the EU VAT directive.[13] Revenues from taxes and contributions on labour may exceed our earlier expectations by 0.2 per cent of GDP, which is mainly attributable to the more favourable-than-expected changes in whole-economy wages.

Since the September forecast, several government measures have been adopted in relation to increasing expenditures (amendment of the Budget Act in November, partial spending of the Country Protection Fund and the increase in health care appropriations), but many of these were the implementation of steps already presumed in our previous forecast. The funding requirements of the public health sector and of the Klebelsberg Institution Maintenance Centre that exceed the appropriations as well as the additional costs related to refugees had already been taken into account, and thus the new measures added a mere 0.1 per cent of GDP to our expenditure forecast.

The effect of the increase in expenditures is offset by the fact that on the basis of accrual-based data we see that the government spent some of the cash-based expenditures on the reduction of accounts payable (which reduces the ESA deficit), while the aggregate expenditures of budgetary institutions remained below our expectations. Accordingly, we believe that budgetary institutions may close the year with savings, compared to the expenditure projected before.

The ESA deficit target in the 2015 Budget Act amended in November continues to be 2.4 per cent of GDP, exceeding our latest forecast by 0.4 per cent (Table 5-3). Based on macroeconomic developments and monthly data, higher-than-planned revenues are expected from corporate income tax, excise duties and especially taxes on labour. The favourable developments observed in the case of tax revenues are partly offset by the fact that we still do not take into account in the budget the HUF 169 billion planned under the title 'revenues from other asset sales and utilisation', as the planned land sales are expected to result in major revenues in 2016.

Compared to the budget appropriation, concerning the

[13] The ruling is related to the earlier judgement stipulating that the earlier Hungarian provision that did not allow the reclaiming of pre-charged VAT if the countervalue of the transactions serving as a basis for the VAT refund has not been paid in full contravenes the EU VAT Directive.

Table 5-3: Differences between our forecast and the appropriations set out in the 2015 Budget Act (as a percentage of GDP)

	Difference from appropriation
I. Central government revenues	0.2
Payments by economic organisations	0.2
Consumption taxes	0.1
Labour taxes	0.4
Payments related to state property	-0.5
II. Central government expenditures	0.3
Net own expenditures of budgetary organisations	0.5
Net expenditures related to EU-funding	-0.2
Housing subsidies and pension expenses	0.1
Expenditures related to state property	-0.2
III. Other effects	-0.1
Balance of local governments	0.1
Other items	-0.2
Total (I.+II.+III.)	0.4

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively, compared to appropriations.
Source: MNB

Table 5-4: Decomposition of the change in the 2016 ESA balance forecast (compared to the previous Inflation Report; as a percentage of GDP)

	Macro data	Measure	Other
I. Central government revenues	0.2	-0.1	0.0
Consumptions taxes		-0.1	
Labour taxes	0.2		
II. Central government expenditures	0.0	0.0	-0.1
Net expenditures of budgetary organisations			-0.2
Net expenditures related to EU funding			0.1
START public work scheme			0.1
III. Other effects	0.0	0.0	0.0
Net interest expenditures			0.1
Partial cancellation of Country Protection Fund			-0.1
Total (I.+II.+III.)	0.2	-0.1	-0.1

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively.
Source: MNB

expenditures of budgetary institutions we see considerable savings in view of the savings observed in the first eleven months as well as due to the decline in accounts payable. The effect of the above is offset by the fact that the expenditures financed with EU funding and the co-financing related to the funding may exceed plans. Expenditures will be reduced by a total of 0.1 per cent of GDP as pension expenditures this year are expected to be lower than planned and due to the fact that fewer people used the possibility of the exchange rate cap scheme which resulted in some savings on housing subsidies as well.

5.3.3. Budget balance in 2016

According to our forecast, assuming a partial cancellation of the Country Protection Fund, the ESA deficit of the general government may be 2.0 per cent of GDP in 2016. The deficit equals the projection published in the September *Inflation Report*, although there are differences in the case of some budget items (Table 5-4). We reduced the VAT revenue forecast by 0.1 percentage point of the GDP, as we took into consideration the Government's plan to decrease VAT rate on home buildings to stimulate the real estate market. We raised our forecast for taxes on labour by 0.2 per cent of GDP, which can be explained to a lesser extent by this year's base effect and to a greater extent by a higher-than-expected increase in next year's wage bill and the estimated stimulus effect of the government's measures on the housing market.

The 0.2 per cent increase as a proportion of GDP in budgetary institutions' net own expenditures is attributable to two factors. Firstly, it is assumed that next year state institutions and chapters of the Budget Act will be allowed to spend the amount saved by the institutional system this year, and secondly, based on incoming 2015 data, a slightly higher wage bill is expected in the public sector. Based on the disbursements and headcount data observed in previous months, the forecasted expenditures in the START labour programme was reduced to some extent.

We reduced our projection for net interest expenditures by 0.1 per cent of GDP, due to the downward shift in the yield curve estimated based on the market yield environment. The estimated ESA balance for 2016 in accordance with the above changes will be more favourable than the 2.0 per cent deficit target set forth in the approved Budget Act. Therefore, our forecast assumes that the government will spend the difference from the

Country Protection Fund.

Table 5-5: Differences between our forecast and the appropriations set out in the 2016 Budget Act (as a percentage of GDP)

	Difference from appropriation
I. Central government revenues	0.2
Payments by economic organisations	0.1
Consumption taxes	-0.1
Labour taxes	0.2
II. Central government expenditures	-0.3
Net expenditures of budgetary organisations	-0.5
Net expenditures related to EU funding	0.1
Net expenditures of drugs budget	-0.1
START public work scheme	0.1
III. Other effects	0.1
Net interest expenditures	0.1
Partial cancellation of Country Protection Fund	0.1
Other items	-0.1
Total (I.+II.+III.)	0.0

Note: The positive and negative prefixes indicate deficit-reducing and deficit-increasing effects, respectively, compared to appropriations.
Source: MNB

The ESA deficit in the 2016 Budget Act is 2.0 per cent of GDP. Our forecast corresponds to the government's deficit target, but it differs in its structure (Table 5-5). On the revenue side more revenues – a total 0.3 per cent of GDP – are expected from payments by enterprises and taxes on labour. Besides the base effect, it has also an impact on revenues from labour taxes that the macroeconomic trajectory already contains the stimulus effect of the deduction of VAT rate on new houses. On the other hand, according to our forecast, the expected revenue from VAT will be less than the panned value, because of this tax measure.

Partly due to spending this year's savings, the net expenditures of budgetary chapters and institutions may be higher than the appropriation by 0.5 per cent of GDP. On the other hand, since the approval of the Act, this year's funding has been complemented from the budget in several areas, which increases next year's expenditures through the base effect. This includes, for instance, the funding requirement that arose during the year at the Klebelsberg Institution Maintenance Centre. Similarly, the increase in subsidies for pharmaceuticals this year also adds 0.1 per cent of GDP to the 2016 expenditures. The impact of these items is partly offset by the fact that own funds related to the EU projects implemented already in 2015 instead of 2016 will not burden the budget next year, and compared to the appropriation the financing requirement of the public work programme may also be lower by the same amount.

Due to the more favourable interest rate environment, interest expenditures are projected to be 0.1 per cent of GDP below the budget appropriation, and the partial blocking of reserves will also improve the balance to a similar extent.

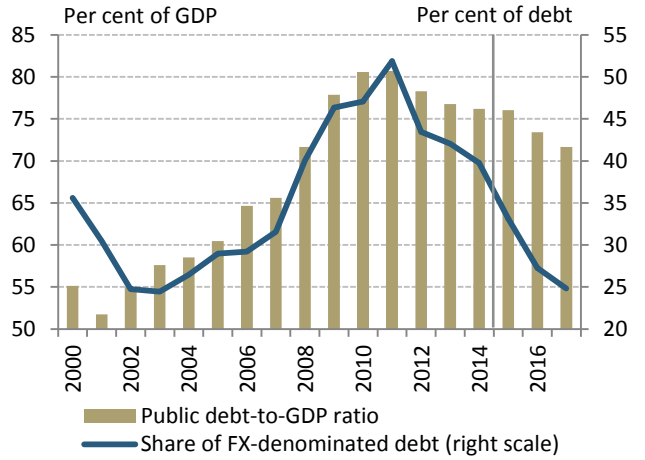
5.3.4. Budget balance in 2017

According to our forecast based on technical assumptions, with the Country Protection Fund partially spent, the ESA deficit is expected to be 1.7 per cent of GDP in 2017, representing a 0.3 percentage point balance improvement compared to the previous year. Total revenues as a percentage of GDP will decline somewhat, firstly because there will be a fall in revenues related to state property following the closure of land sales, and secondly, the bank levy imposed on financial institutions will continue to decrease.

However, total expenditures as a percentage of GDP will

decline to an even greater extent than revenues. This is attributable to the fact that pensions will increase by the inflation rate, and budgetary institutions' expenditures will stagnate nominally in those areas where career programs do not exist; thus, the expenditures of budget institutions will decrease significantly in GDP terms. Moreover, due to the decrease in yields in the past years, the implicit interest burden of government debt will be reduced, resulting in a further decline in public interest expenditures. As the ESA balance resulting from our forecast (based on technical assumptions and containing the differences presented so far) is more favourable for 2017 than the convergence programme published in April and the 2017 deficit target envisaged in the annex to the next year's Budget Act, our forecast assumes that the Government will spend the difference from the Country Protection Fund.

Chart 5-11: Gross public debt forecast – from 2015 calculated with unchanged (end-of-2014) exchange rate



Source: MNB

5.3.5. Risks surrounding the baseline scenario

The risks concerning the 2015 balance are nearly symmetrical. Based on the figures for the first eleven months, the disciplined financial management of budgetary institutions poses a positive risk. Although in December usually more is spent on this item of the budget than in the previous months, and we expect some of the spending that has not happened before to take place in December, it cannot be ruled out that annual savings will exceed our assumptions. By contrast, there is a negative risk if the EU, due to technical problems or referring to the depletion of the total amount (over-spending), does not accept some of the projects already pre-financed by the budget this year.

The achievement of the 2016 deficit target is surrounded by a considerable positive risk. The selling of state-owned land may result in significant extra revenues in addition to the HUF 133 billion in other revenues from sales and utilisation included in the Budget Act as well as in our baseline scenario.

5.3.6. Expected developments in public debt

Based on the MNB's preliminary financial accounts data, **gross public debt amounted to 78.0 per cent of GDP at the end of 2015 Q3**. Since end-June the Q3 value of the debt ratio has declined by 0.7 percentage point, thus becoming 1.4 percentage points more favourable than the value for the same period of last year and 1.8 percentage points higher than the end-2014 level (76.2 per cent). Underlying developments had a favourable impact on the changes in the debt ratio in Q3 as well. The net financing position of the general government showed a surplus in

Q3 for the first time after 25 years. However, one-off factors that influence debt increased the debt ratio to a great extent this year. Of them, the most important is the effect of the appreciation of the US dollar, which contributed to the increase in the debt ratio by around 1.3 per cent of GDP in the first three quarters through the margin deposits placed with the Government Debt Management Agency by market swap counterparties. In addition, the significant delays in budgetary funds from the EU, the acquisition of Budapest Bank by the state and the assumption of the debt of BKV also contributed considerably to the rise in the debt path. Revaluation increased the debt only marginally in the first three quarters, but due to the declining, but still significant, foreign currency exposure government debt continues to be highly sensitive to the exchange rate.

Looking ahead, using the end-2014 EUR/HUF exchange rate, we assume a continuing decline in the annual debt ratio and compliance with the debt rule set forth in the Fundamental Law (Chart 5-11). According to our forecast, the public debt-to-GDP ratio may decline slightly this year and more significantly in 2016 and 2017, sinking below 72 per cent by the end of the horizon. The decline in the debt ratio in 2015 is also hindered by the debt-increasing effects of one-off factors. By contrast, more favourable inflows of EU funds are expected for next year, and debt reduction may be supported over the longer term as well by the permanent surplus of the primary budget balance, economic growth and gradually declining interest expenditures. As a result of the expected continuing negative net FX debt issuance, the share of foreign currency in public debt may fall below 25 per cent by end-2017. The shrinking share of foreign currency may further reduce Hungary's external vulnerability.

Box 5-1: Development of EU funds

According to the regulations related to EU funds, projects may be implemented until the end of 2015 in relation to the 2007-2013 programming period. In 2014 and 2015, Hungary absorbs 40 per cent of all funds available in EU tenders related to the programming period that is about to end, which resulted in the inflow of funds corresponding to 5 and 6 per cent of GDP in 2014 and 2015, respectively (calculated without agricultural subsidies). Based on the figures of recent months it appears that – contrary to the former assumptions – essentially no payment at all will carry forward to 2016 from the closed financial cycle, but rather, the payments made this year will be higher than previously expected. This also means that presumably **no funds will be lost from the 2007-2013 programming period**, although certain disputed issues may still influence the final outcome.

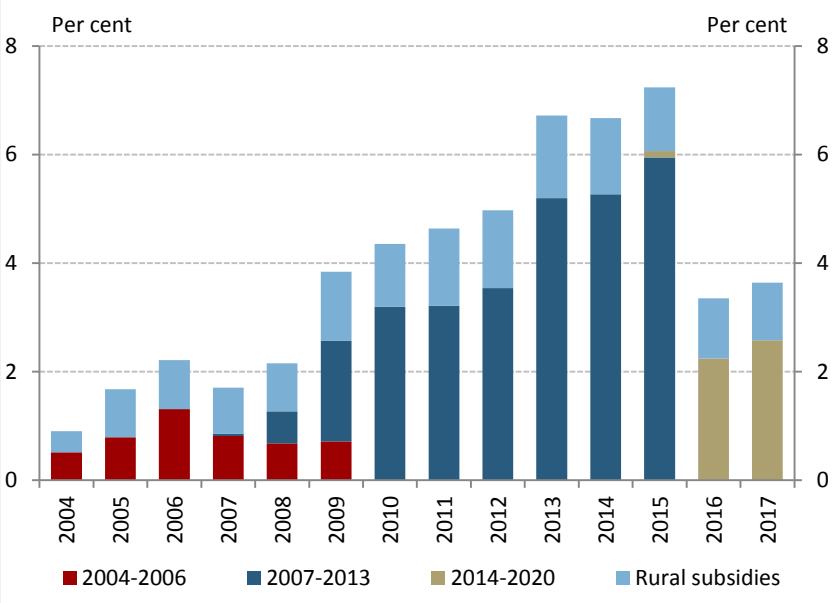
Apart from the fact that as a result of the last two years Hungary managed to absorbs the funds of the previous financial cycle in full, **the plans with regard to the new programming period of 2014-2020 projected smaller subsidies and a gradual increase. However, absorption lags behind even these plans**, which may be attributable to several factors. On the one hand, the administrative capacities were presumably tied up by the efforts to close the projects of the previous cycle and avoid the loss of funds, and on the other hand, the huge absorption in 2013-2015 may have exhausted the range of potential projects and bidders. **In order to accelerate the absorption of the funds, the government is**

endeavouring to remove these obstacles. The first step was the resolution according to which the government wishes to announce all tenders of the new financial cycle by mid-2017. On the other hand, a package of policies – comprising of eight points – was announced on 5 November 2015, which, among others, contains the acceleration of public projects, targets new potential bidders and, as a rule, allocates non-refundable EU funds as well to most of the refundable EU grants.

The government measures may contribute to accelerating the absorption of EU grants, but the volume of EU funds inflow in 2016 is expected to decrease considerably even despite these measures. According to our forecast, EU grants (without the agricultural subsidies) may fall below 2.5 per cent of GDP from 6 per cent, i.e. in nominal terms the decline may be over HUF 1,000 billion. The larger part of the decline impacts the general government (as its share in the total funds is also higher), but the amount expected to be absorbed by the private sector will also considerably decrease. All of this has a major negative impact on public and private investments, and will also reduce current expenditure in certain areas.

After 2016, in accordance with the government's plans, EU funds are once again expected to rise. In the new cycle, the lower share of direct government participation may be a major difference. While in the previous programming period the ratio of the funds available through tenders was shared between the public and private sector roughly at a ratio of 70-30, this ratio now may change to 60-40 based on the thematic objectives defined in the individual operative programmes.

Chart 5-12: Development of EU funds in the different programming periods (as a percentage of GDP)



Note: The drawdown of funds from the 2004-2006 programming period between 2007-2009 is an MNB estimation.

Source: MNB

6. SPECIAL TOPICS

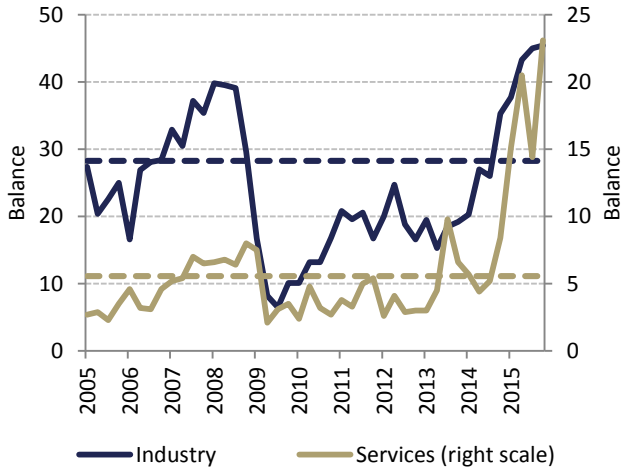
6.1. Heterogeneity behind labour market tightness

In recent quarters, a rising number of firms have reported an increase in labour shortages. Based on correlations examined on aggregate data, increased labour market tightness should lead to stronger private sector wage dynamics. However, the labour market is segmented in various dimensions and the labour shortage emerging in certain sub-markets only has a limited impact on aggregate wage dynamics. In addition, firms may satisfy their labour demand by taking advantage of the remaining reserves among part-time employees. Finally, the deceleration of economic growth may also weigh on wage dynamics. Thus, in our forecast, increased labour market tightness only generates a moderate increase in nominal wage dynamics.

6.1.1. The growth of labour shortage

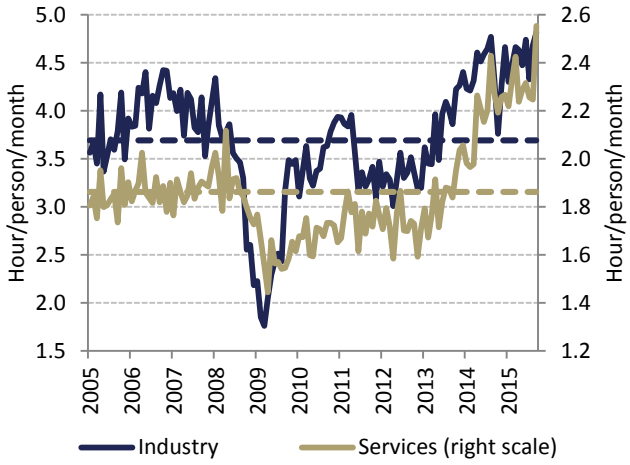
In the past period, numerous indicators suggested that **firms perceive an increase in labour shortage.** First, the Economic Sentiment Indicator (ESI) survey found that since the beginning of 2014 an increasing number of firms have identified labour shortage as a factor limiting production both in the industrial sector and in the services sector (Chart 6-1). Second, overtime has been rising continuously since the beginning of 2013 at private sector firms (Chart 6-2).

Chart 6-1: Labour shortage as a factor limiting production



Source: European Commission

Chart 6-2: Overtime hours worked in the private sector

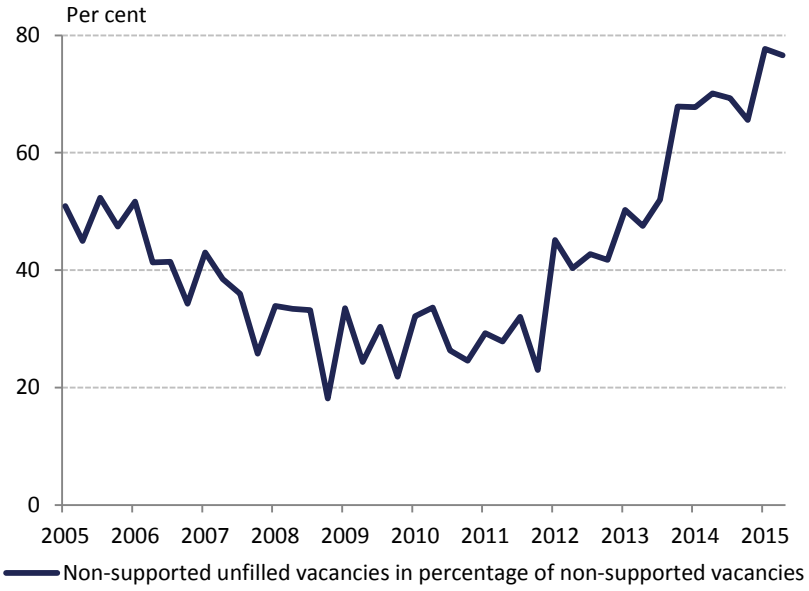


Source: HCSO

In addition, according to data released by the National Employment Service (hereinafter: NES), **the number of unsubsidised unfilled vacancies at the end of the quarter has increased steadily in recent years,** and by the end of 2015 Q3, almost 80 per cent of unsubsidised announced vacancies remained unfilled (Chart 6-3).

Besides the statistical indicators, the growing labour shortage is also cited in business surveys. For example, the 2015 Talent Shortage Survey of ManpowerGroup found that it is because of the shortage of skilled workers that many firms are left with unfilled positions, and year after year, it is becoming more difficult to fill these positions with appropriately skilled candidates from the labour market. **There was a sharp increase in the number of respondents who attribute their difficulty filling jobs to the lack of candidates this year. Similarly**, there was a sharp increase in the number of respondents **who reported to have difficulty finding skilled candidates because of the company's undesirable geographical location.**

Chart 6-3: Proportion of unfilled vacancies in the private sector



Source: National Employment Service

6.1.2. Changes in labour market tightness indicators

Labour shortage also implies growing labour market tightness. The tightness of the labour market essentially measures the number of jobseekers competing for a vacant position. In order to determine the tightness of the labour market, the labour demand of the private sector can be expressed by the number of unsubsidised available vacancies released by the NES[14] or by the number of vacancies in the private sector[15] deriving from the institutional labour statistics of the Hungarian Central Statistical Office (HCSO). While the HCSO survey found that the labour demand of the private sector has been growing steadily since its post-crisis trough at the beginning of 2013, according to the NES statistics, following robust initial growth, the upward drift in labour demand has increased only moderately in recent years.

The recent divergence between the two types of statistics can be explained by two factors. Firstly, the NES statistics only includes jobs registered with the labour centres. While registering jobs is mandatory, failure to do so does not entail any sanctions. Therefore, it is conceivable that the statistics represent only a portion of labour demand. By contrast, CSO institutional data are collected for statistical data collection, and thus the coverage of the statistics prepared on changes in labour demand by the HCSO is more extensive, although enterprises with less than 5 employees are not included. (These firms are not included in wage statistics, either). Moreover, difference between the two statistics is that the HCSO data include currently known jobs that are about to become vacant in the following quarter or to be newly created.

In determining the tightness of the labour market, the level of free labour market capacity can be best expressed by the number of unemployed persons, as they form the pool from which corporate sectors' labour demand can be satisfied in the short run. The number of unemployed persons as derived from the HCSO's Labour Force Survey (LFS) has declined nearly continuously since 2013: in 2015 Q3 the number was 36 per cent lower than in the first quarter of 2013 and thus it had reached its pre-crisis level.

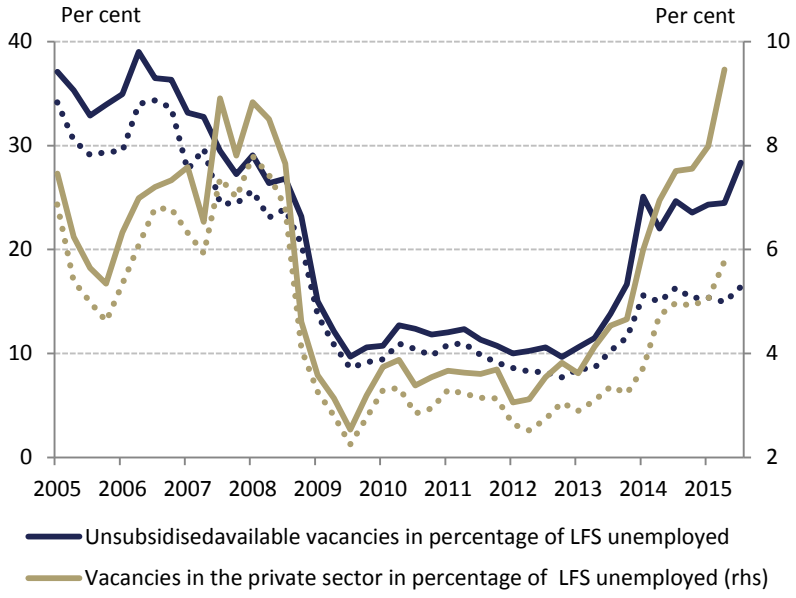
Based on the labour market tightness indicators calculated from the data above, **since the beginning of 2013** – i.e. following the loose post-crisis labour market environment – **the labour market has become increasingly tight,** which reflects growing private sector labour demand and decreasing free labour market capacity. However, the two indicators depict a different picture of the labour market: **while labour market tightness has approached its pre-crisis level based**

[14] Sum of unsubsidised unfilled vacancies at the end of the previous quarter and unsubsidised new vacancies registered during the current quarter.

[15] Number of vacant or newly created jobs on the last day of the current quarter, and jobs becoming vacant within 3 months of the last day of the current quarter or already known jobs to be newly created.

on data derived from the NES statistics, based on the job vacancy data of the HCSO, the labour market already appears tighter than its pre-crisis level (Chart 6-4).

Chart 6-4: Development of labour market tightness indicators



Note: The dotted lines depict labour market tightness indicators adjusted for public workers.

Source: National Employment Service, HCSO, MNB calculation

Since the beginning of 2013, public employment has made a significant contribution to the decline in unemployment and as such, public employment influences our assessment on the development of labour market tightness. **Assuming that, in addition to unemployed persons, public workers may also represent a potential workforce for private sector enterprises, the labour market tightness is still well below its pre-crisis level** according to both tightness indicators (Chart 6-4).

6.1.3. Effect of labour market tightness on wage dynamics

The increase in labour market tightness strengthens nominal wage dynamics. This is because fewer candidates will apply for relatively more positions in a tighter labour market environment, which strengthens the jobseeker's position during wage negotiations.

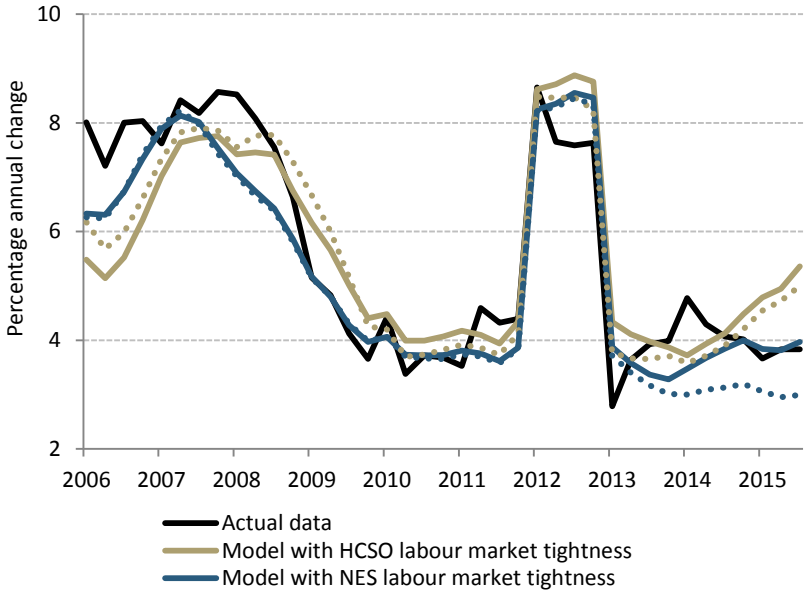
Based on our econometric studies, there is a significant correlation between labour market tightness and wage dynamics. Using both of the tightness indicators described above, we estimated a regression where we explained the growth rate of nominal wages (w_t) by the development of inflation expectations from the Reuters survey (π^e_t) and the development of labour productivity (Yt/Lt) dynamics, in addition to labour market tightness (θ_t). In addition, dummy variables ($minw_{it}$) capture the impact of significant minimum wage increases.

$$\Delta log(w_t) = \mu + \alpha * \theta_t + \beta * \pi_t^e + \gamma * \Delta log\left(\frac{Y_t}{L_t}\right) + \Sigma_i \delta_i * minw_{it} + \epsilon_t$$

The estimated coefficients are significant at a significance level of at least 10 percent. Based on the models, labour market tightness would have suggested wage dynamics lower than the value actually recorded by 0.2-0.5 percentage points, respectively, for the year 2014. Similarly, the wage dynamics received from the models estimated on the basis of the tightness indicators adjusted for public workers would have been 0.4-1.2 (NES) percentage points lower for 2014 than the values observed. By contrast, for 2015 the labour market tightness indicator using NES vacancy data would be consistent with nominal wage growth similar to the actual data, and in turn using HCSO vacancy data would be consistent with higher nominal wage growth. Overall, the **available labour market tightness indicator shows some degree of wage**

dynamic-increasing effect, but the exact degree of it is difficult to judge due to the statistical uncertainty of indicators (Chart 6-5).

Chart 6-5: Nominal wage dynamics estimated by the models



Note: The dotted lines depict labour market tightness indicators adjusted for public workers. Labour market tightness is unsubsidised available vacancies as a percentage of LFS unemployed and vacancies in the private sector as a percentage of LFS unemployed.

Source: National Employment Service, HCSO, MNB calculations

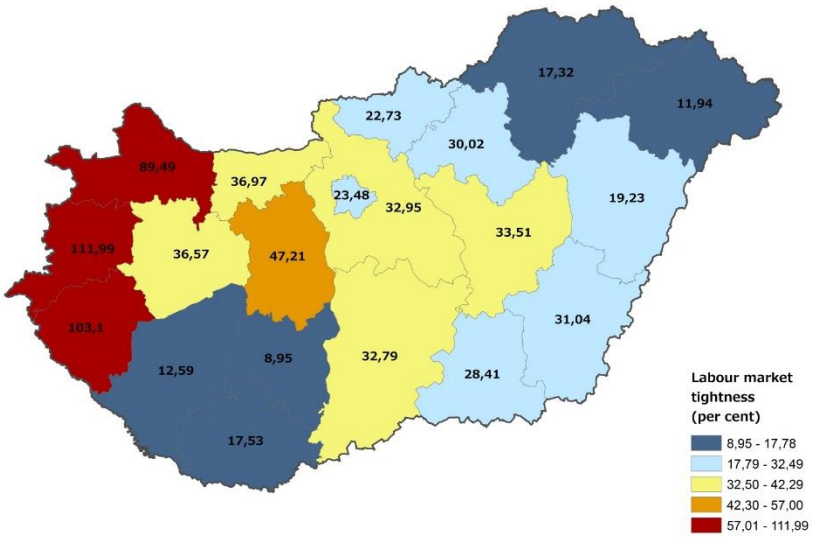
6.1.4. Factors affecting developments in labour market tightness

Our assessment of labour market tightness based on aggregate data may be affected by the fact that **the labour market is highly segmented both in terms of geographical location and education level. For this reason, in certain sub-markets of the labour market the different extent of labour market tightness which is observed may only have a moderate impact on aggregate wage dynamics.** Therefore, it is important to examine the extent to which the rise in labour shortage and labour market tightness is a general phenomenon, and how much influence the labour market tightness in each sub-segment has on aggregate wage dynamics. To do this, we use NES vacancy data, since it is available in the appropriate regional and educational breakdowns.

- **Regional heterogeneity**

Labour market tightness has increased in nearly all counties in recent years, but the distribution across counties shows significant differences. Labour market tightness is far above the average in three counties, but slightly below the average in Budapest and five counties, and significantly below the average in more five counties. For example, while there is less than one unemployed person for each vacancy Vas and Zala county, in Tolna county there are more than eleven. Both the level of labour market tightness and the dynamics thereof indicate that **finding workers is particularly difficult in counties in Western Transdanubia** (Chart 6-6). The ratio of unfilled unsubsidised vacancies to employment has also increased across the regions in recent years, with excessively high values recorded in Western Transdanubia and the Northern Great Plain over the past two years.

Chart 6-6: Spatial heterogeneity of labour market tightness

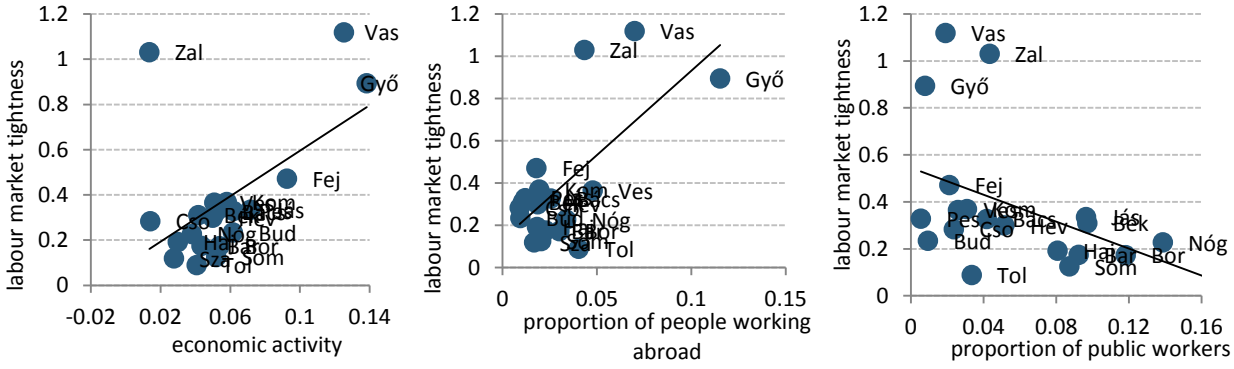


Note: Labour market tightness is unsubsidised available vacancies in percentage of LFS unemployed. 2015 Q3 seasonally adjusted data. Unweighted county average is 37.39 per cent. Whole average is 28.3 per cent.

Source: National Employment Service, HCSO, MNB calculations

Several factors contribute to the geographical divergence of labour shortage. On the one hand, the development of economic activity is different in each county, and on the other hand, the intensity of the factors shaping labour supply – people working abroad and public work programmes – also varies from county to county (Chart 6-7). The highest ratios of public workers to economically active persons are recorded in the most disadvantaged region (Northern Great Plain and the Northern Hungary). In addition, the highest rate of people working abroad (with households in Hungary) to economically active persons are recorded in Western Transdanubia. Working abroad is observed in three counties close to the Austrian border (Győr-Moson-Sopron, Vas, Zala) accounts for almost one third of working abroad appearing in LFS. This indicates that Austria with its higher wage levels siphons off workers from these regions.

Chart 6-7: Factors contributing to county differences of labour marker tightness



Note: Labour market tightness is unsubsidised available vacancies in percentage of LFS unemployed. 2015 Q3 seasonally adjusted data.

Source: National Employment Service, HCSO, MNB calculation

In order to quantify these effects, we estimated a panel regression where county-level labour market tightness (θ_{it}) is explained by county-level economic activity (y_{it}), percentage of people working abroad ($kulf_{it}$), percentage of public workers ($kozf_{it}$). In addition, the model includes county (μ_i) and time (δ_t) fixed effects to capture other, unspecified effects. The indicator measuring county-level economic activity is the weighted average of the volume indices of region-

level industrial and construction output and retail sales (with weights reflecting the sectoral composition of the county). The ratio of people working abroad and public workers to economically active persons derives from the LFS. Based on quarterly data between 2008 and 2015, we received the following results (coefficients are significantly different than zero, the value of the adjusted R^2 is 0.761):

$$\theta_{it} = \mu_i + \delta_t + 0.35y_{it} - 1.71kozf_{it} + 4.20kulf_{it} + \epsilon_{it}$$

The results confirmed that all of the factors described above contribute to the geographical divergence of labour market tightness. Labour market is tighter in counties with stronger economic activity and in counties with higher ratios of people working abroad to economically active persons. At the same time, in counties with higher public employment ratios labour market tightness tends to be lower overall. This is not a causal connection, this only means that public employment plays a bigger role in counties where the ratio of free labour market capacity to labour supply is higher (Chart 6-7).

Based on the above, labour market tightness is very heterogeneous regionally. **The labour market is already extraordinarily tight in some counties, but substantial labour reserves remain in major part of the country.** Based on available empirical studies, in Hungary the sensitivity of wages to local unemployment is considered low by international standards.[16] Accordingly, **the effect of local labour market tightness on local wages may be moderate, and developments in wages are mostly shaped by nation-level factors.** Wages do not provide the balance of labour demand and supply in each sub-market. This is consistent with main labour market micro models designed to explain wage-setting, in which is not guaranteed either at aggregate level that wages create equilibrium in the labour market.

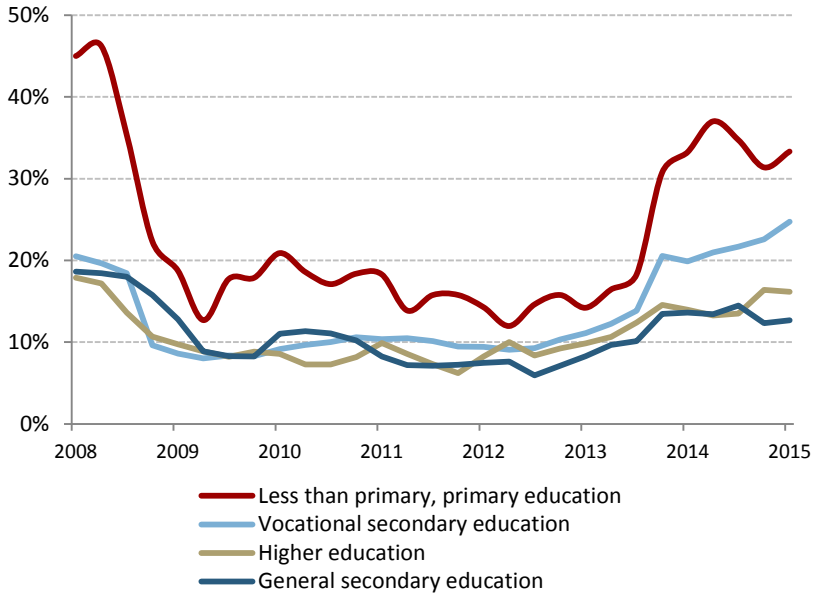
- **Educational heterogeneity**

While the labour market has become tighter in all education categories in recent years, significant differences can be observed between the different education categories (Chart 6-8). The tightness of the labour market has well exceeded the levels observed before the crisis for skilled employees with secondary education. By contrast, for persons with higher education levels (college, university, secondary school), the labour market is even less tight than it was before the crisis. In addition, **for persons with an education level of primary school or less**, **labour market tightness** has not even reached the level prevailing before the crisis, even though this segment **is characterised by the highest levels of labour market tightness**.

Since the highest ratio of public workers to economically active persons is recorded among persons with an education level of primary school or less, **the expansion of public employment may have contributed significantly to the increase in labour market tightness for less educated persons.** This is confirmed by the fact that, according to a panel regression estimated as described above, the level of public employment contributes significantly to the divergence of labour market tightness across education categories. **The wage level of persons with lower education – partly public workers –is low, and thus the increase in labour market tightness among them only has a moderate impact on average wages.**

[16] A number of studies have reached the same conclusion, see for example, Iara, A. – Traistaru, I. (2004): How flexible are wages in EU accession countries? *Labour Economics*, Vol. 11, No. 4, pp. 431–450; and Blanchflower, D.G. (2001): Unemployment, Well-Being, and Wage-Curves in Eastern and Central Europe, *Journal of the Japanese and International Economies*, Vol. 15, No. 4, pp. 364–402.

Chart 6-8: Educational heterogeneity of labour market tightness



Note: Labour market tightness is unsubsidised available vacancies in percentage of LFS unemployed.

Source: National Employment Service, HCSO, MNB calculation

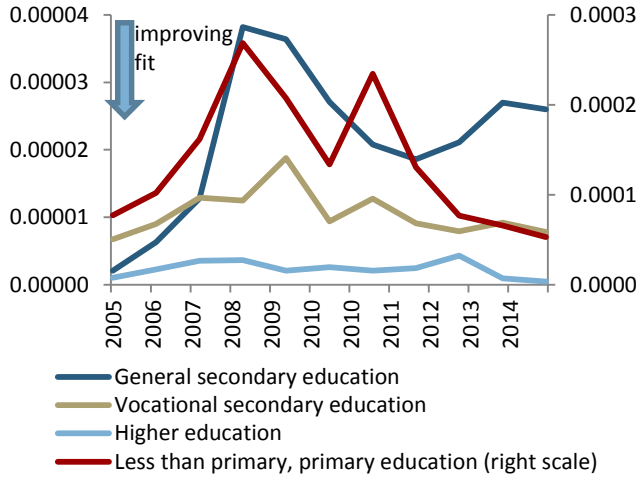
- **Match between labour demand and labour supply**

The assessment of labour market tightness is also influenced by the structural differences between labour demand and labour supply, as jobseekers appearing in different segments of the labour market – for example, depending on education or geographical location – do not directly compete with each other for positions. In case of the tightening of the labour market arises from improvement of labour market matching, it causes wage adjusment only in a moderate extent.

Calculated on the basis of the Skill Mismatch Index[17] (SMI) presented in the article of Estevao-Tsounta (2011), the Regional Mismatch Index (RMI) shows the extent to which the geographical distribution of labour demand and labour supply differs within a given education category (Chart 6-9). Based on the index, **in recent years, improvements in labour market matching have resulted mostly from persons with primary education, i.e. the persons overrepresented among public workers.** By contrast, **the development of labour market matching examined without taking public workers into account** (Chart 6-10) **does not indicate improvement in labour market matching.** Therefore, this factor may cushion the impact of labour market tightness on wages less.

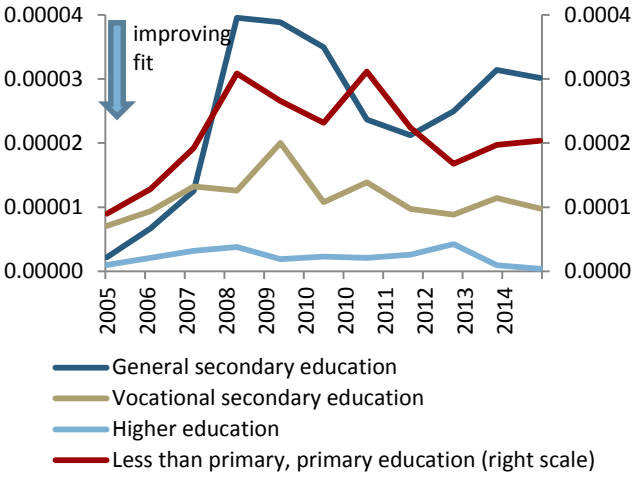
[17] For more detail, see *Quarterly Report on Inflation* (June 2013), Box 6-1.

Chart 6-9: Development of RMI



Source: HCSO, MNB calculations

Chart 6-10: Development of RMI without taking into account public workers (and people working abroad)



Source: HCSO, MNB calculations

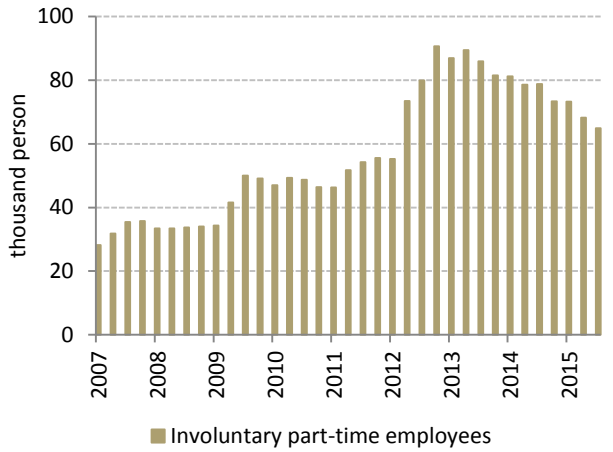
6.1.5. Macro level factors counteracting the strengthening of nominal wage dynamics

Based on the segmented nature of the labour market, we argued that aggregate labour market tightness may only have a limited impact on wage dynamics. Having said that, there are a number of macro level factors that may point to a moderate acceleration of nominal wage dynamics even with a parallel increase in labour market tightness.

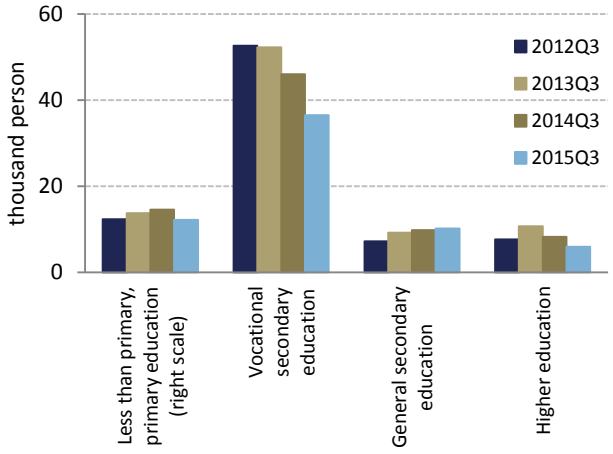
- **Potential labour reserves**

Firms may adjust to the improvement in capacity utilisation by increasing the hours worked by part-time employees. This assumption is confirmed by the continuous decline observed in the number of involuntary part-time employees – i.e. part-time employees who admittedly wish to work longer hours – since the beginning of 2013. Their number was nearly 65,000 in 2015 Q3, comprising mainly skilled employees with secondary education (Chart 6-11). They can still be considered potentially mobilisable reserves as, in case of an escalation of the labour shortage, they can be involved in production over a relatively short term. **In this case, however, nominal wage dynamics may remain moderate even with a parallel increase in labour market tightening.**

Chart 6-11: The number of involuntary part-time employees and their distribution by highest level of education



Source: HCSO



Source: HCSO

- **Corporate behaviour**

In our forecast, we anticipate the deceleration of economic growth, which may weigh on the dynamics of labour demand. In view of the fact that, due to the weakness of the institution of trade unions in Hungary and owing to the much stronger

position of employers in wage negotiations, it is conceivable that **companies will continue to put off pay increases in the context of an uncertain economic environment despite perceiving the labour shortage.**

6.1.6. Summary

Based on the tightening of the labour market and increasing inflation expectations, in our forecast we anticipate a gradual increase in nominal wage dynamics on the whole. In parallel to the aggregate tightening of the labour market, however, certain factors point to only a moderate increase in nominal wage dynamics. On the one hand, due to the segmented nature of the labour market in terms of geographical location and education level, in certain sub-markets of the labour market the different extent of labour market tightness may only have a moderate impact on aggregate wage dynamics. On the other hand, firms may opt to adjust to the recent improvement in labour utilisation by raising the number of hours worked for part-time employees. In addition, due to the uncertainties surrounding the economic environment, companies may continue to put off pay increases despite perceiving the labour shortage. However, inflationary pressure from the labour market may prove to be stronger if firms seek to substitute the missing workforce by offering higher wages. Consequently, a potential wage competition may lead to more robust nominal wage dynamics.

6.2. Real interest may decline persistently in Hungary

The decisions of economic agents are influenced by the level of the real interest rate; therefore, developments in real interest rates are of primary importance from the aspect of monetary policy. Global real interests have declined substantially in recent decades, and the 2008 global crisis only intensified this trend. The protracted nature of the current crisis and a number of longer-term structural effects underscored the significance of persistently low real interest rates in monetary policy decisions. Initially due to the high vulnerability, Hungarian real interest rates declined only gradually, but as vulnerability has abated in recent years and following the easing cycle, the rates entered into a slightly negative domain. According to market expectations, the Hungarian real interest rate may sink to nearly -1.5 per cent which, based on previous crisis experiences, may give an appropriate stimulus to real economy and help achieve – and maintain – the inflation target.

6.1.7. Role of the real interest in central bank decisions

In shaping their monetary policies, central banks make decisions regarding the nominal level of the key policy rate. **The behaviour of economic agents, however, is less influenced by the nominal interest rate than it is by its adjusted level, which removes the effects of inflation. This is referred to as the real interest rate.** Accordingly, the assessment of real interest rates plays a central role in the conduct of monetary policy. When real interests fall, households and firms perceive the possibility of current consumption and investment as being more appealing, and thus, instead of putting them off, they make decisions that stimulate aggregate demand even over the short run. The economy may be further boosted by rising asset prices in the context of lower real interest rates. Through the parallel increase in asset value (whether it is a financial instrument or collateral), this may encourage consumption and investment expenditures. Finally, the effect of the real interest on asset allocation is also an important factor in a small, open economy. Reallocations between domestic and external assets amid declining real interest rates may lead to the depreciation of the nominal exchange rate.

In the years following the crisis, a strong disinflationary trend started in the global economy. In a broad range of economies, inflation has been far below the central bank targets, typically at around 0 per cent. **In the low inflation environment, central bank decisions were often aimed at encouraging aggregate demand (or, in many cases, the exchange rate) through real interest rates for the sake of achieving the inflation target.**

6.1.8. Real interest rates relevant to economic agents

It is generally true that present decisions are driven by expectations for the future; accordingly, in the case of real interest rate indicators it is important to examine values adjusted by forward-looking inflation expectations. It is difficult to assess these values, as the level of the relevant real interest rate may be different for different agents depending on the decision situation, both in terms of the nominal interest applied in the calculation and in terms of the price indices capturing changes in the price level.

While the real interest rate relevant to households considering a saving decision might be the rate reflecting consumer price inflation typically derived from short-term deposit rates and money market yields, for a corporation planning to launch a project – and possibly take out a bank loan – the relevant real interest rate (or real cost of funds) is the rate that is adjusted for price level changes characterising the economy in general (the best approximation of which may be the value of the GDP deflator), derived from longer-term lending rates.

6.1.9. Decline in real interest rates has become a general tendency worldwide over the past 30 years

The literature classifies the determinants of the real interest rate into three groups. It can be stated in general, that the interest environment is shaped, across all horizons, by a balance between the demand for sources of finance (investments) and the supply thereof (savings). It should also be noted that, financial markets have become increasingly integrated in recent decades; therefore, besides the specificities of the given economy, shifts in the global economic environment are worth examining.

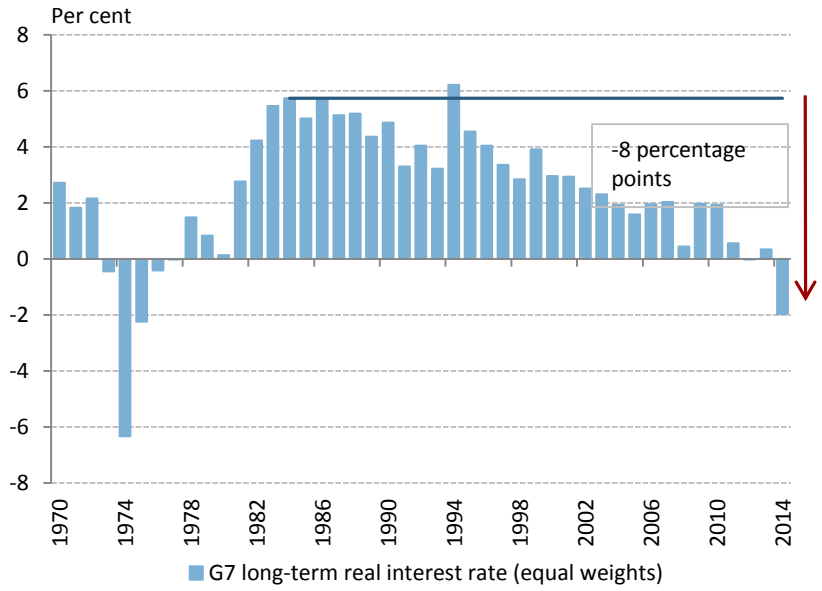
Over the long term (beyond the 8–10 year horizon of business cycles), **the real interest rate is mainly shaped by the structural factors determining the long-term growth potential of the economy. Demography and changes in productivity may be among the most important factors in this regard.** In recent decades, the combination of

deteriorating demographic trends and increasingly sluggish productivity growth has led to a decline in real interest rates, especially in developed countries. Based on the findings of recent research, it is also important to bear in mind the issue of wealth and income disparities, which also have a significant impact on longer-term economic growth. The **income gap is widening** both in developed and emerging economies. As the income distribution shifts to the high-income segment of society – which typically has higher saving rates and lower consumption rates – global savings are boosted structurally, **pushing down real interest rates.**

With respect to medium-term effects, examining the consequences of the crisis is of key importance. Since 2008, several effects have upset the balance between savings and investments in favour of the former. **The consequences of the balance sheet adjustments** following the intensification of the financial crisis in 2008**, the appreciation of saving considerations and the moderation of investment demand led to further declines in real interest rates.** It is also important to highlight the **regulatory changes** adopted in the wake of the crisis. The tightening of macro and microprudential regulations may, in general, increase demand for lower-risk and liquid instrument, thereby reducing the yields on the instruments concerned.

Central bank decisions play the most decisive role with respect to short-term effects. They are typically driven by developments materialising within the horizon of the given business cycle. Monetary policy measures are primarily aimed at achieving and maintaining price stability. In the current, extremely low and protracted low inflation environment, most central banks seek to maintain accommodative monetary policy stances or prepare for further easing. Although in the case of the Fed, a key global player, there is an increased probability of an interest rate hike in December, the monetary policy stance of central banks and current inflation projections, on the whole, point to a decline in real interest rates in the short run (Chart 6-12).

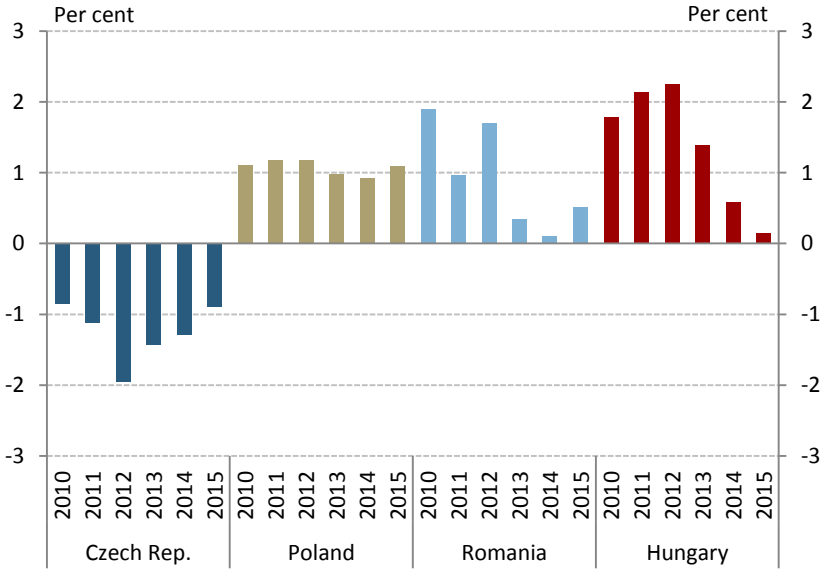
Chart 6-12: Long-term real interest rates in the most developed countries



Note: Data in 2014 is calculated as difference of market actors' one-year inflation expectations and ten-year bond yields.
Source: IMF WEO April 2014, Bloomberg, Consensus Economics

Real interest rates have now declined to low levels even in Hungary's proximate region, albeit with somewhat diverging trends: while in the Czech Republic the level of forward-looking real yields entered into negative territory as early as the first years of the crisis, the indicator tended to stagnate in Poland in the past few years. In Hungary and in Romania – which were counted among the more vulnerable regions at the outbreak of the crisis – real interest rates have only recently dropped to near zero from their previously high levels (Chart 6-13).

Chart 6-13: Ex ante real interest rates in CEE countries



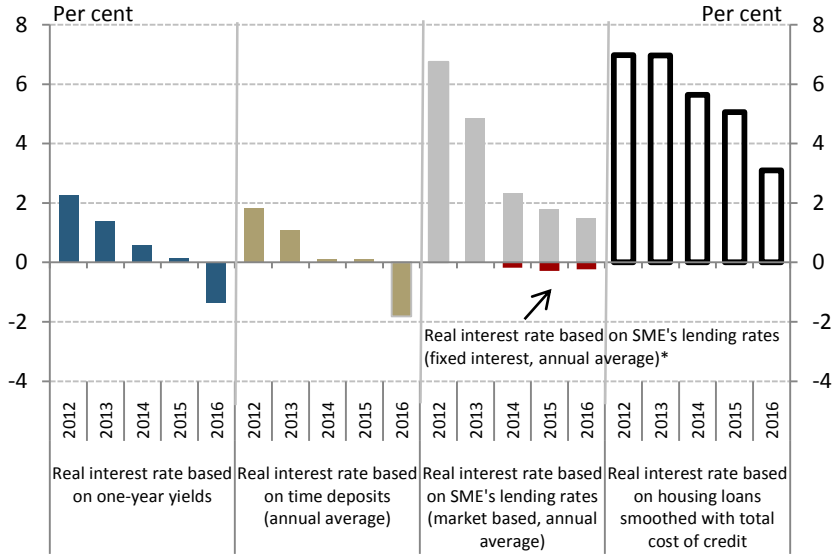
Note: The one-year ex ante real interest rates are calculated as difference of market agents' one-year inflation expectations and one-year bond yields.
Source: Bloomberg, MNB calculation based on Consensus Economics

6.1.10. Expected developments in Hungarian real interest rates

Developments in the Hungarian real interest rates were consistent with international crisis experiences. After the outbreak of the crisis, except for the initial emergency rate hikes due to Hungary's high external vulnerability, the decline in the real interest rate remained moderate. The real interest rate embarked on a protracted decline after the commencement of the MNB's easing cycle in August 2012. In addition to the easing cycles, after achieving historically low interest levels, the MNB has also adopted a number of **unconventional measures** in recent years (Funding for Growth Scheme [FGS], self-financing programme), which **contribute to the decline in real interest rates.** The effects of the measures are reflected in falling interbank and government securities market yields, as well as the moderation of corporate and household lending rates (Chart 6-14). Calculated from short-term money market yields and household deposit rates, real interest rates resided in the negative domain in the second half of 2015 (it should be noted that the real yields derived from the market pricing of long-term government papers – which are more relevant to long-term savings – remained positive), while the previously prohibitively high lending rates have also declined substantially. As regards the latter, forint loans with fixed interest rates – the most relevant loans from the aspect of the investment activity of SMEs – (disbursed, for the most part, under the FGS) have been residing continuously in a moderately negative territory.

Over the medium-term, the low interest rate may help achieve the 3 per cent target consistent with price stability and may stimulate the economy accordingly. In line with the current forward guidance of the Monetary Council and market expectations, the level of real interest rates may continue to fall in the coming years. In addition, in the context of a typically longer-term global interest environment shaped strongly by structural effects, it may well remain in the negative domain for a protracted period.

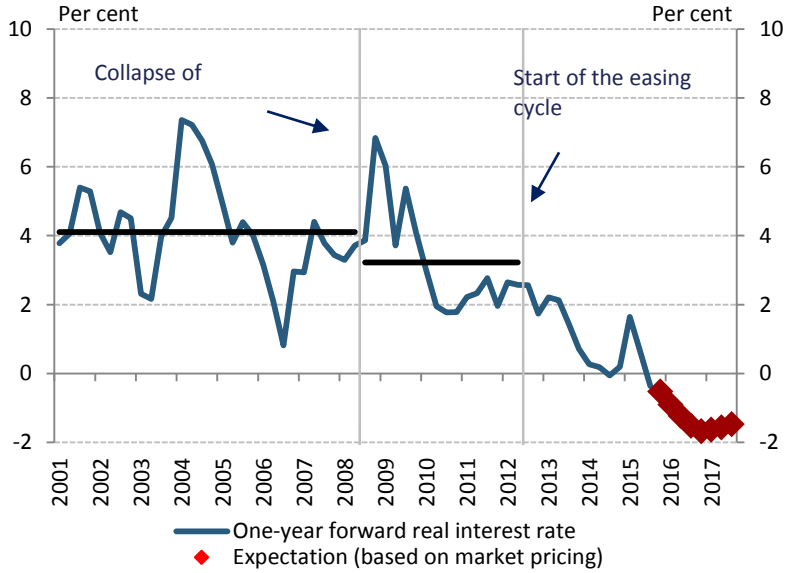
Chart 6-14: Forward-looking real interest rates in Hungary



Note: Real interest rate based on one-year yields are calculated as difference of market agents' one-year inflation expectations and one-year bond yields. Real interest rate based on time deposits are calculated as difference of market agents' one-year inflation expectations and time deposits. Real interest rate based on housing loans smoothed with the total cost of credit are calculated as difference of market agents' one-year inflation expectations and housing loans. Real interest rate based on SME's lending rates are calculated as difference of the GDP deflator expectation and SME's lending rate. *SME's fixed lending rates contain the market-based rates, the rates of FGS, other government sponsored rates and rediscount rates.
Source: MNB, Consensus Economics, MNB calculation based on Bloomberg

Looking ahead, global experiences suggest that low, negative real interest rates may ensure the ability to achieve the 3 per cent target and to stimulate the economy accordingly. According to market yield and inflation expectations, real interest rates derived from short-term yields may drop to –1.5 per cent in the coming quarters (Chart 6-15).

Chart 6-15: Ex ante real interest rates in Hungary



Note: The one-year real interest rates are calculated as difference of Reuters-poll's inflation expectations and NBH's interest rates. Real interest rate expectations are calculated as difference of Reuters-poll's inflation expectations and 3-month FRA yields.
Source: Bloomberg, Reuters

7. BREAKDOWN OF THE AVERAGE CONSUMER PRICE INDEX FOR 2015 AND 2016

Table 7-1: Detailed decomposition of our inflation forecast to carry over and incoming effects

	Effect on CPI in 2015			Effect on CPI in 2016		
	Carry-over effect	Incoming effect	Yearly index	Carry-over effect	Incoming effect	Yearly index
Administered prices	–0.2	0.1	–0.1	0.0	0.1	0.1
Market prices	–1.0	1.1	0.0	–0.3	1.7	1.4
Indirect taxes and government measures	0.0	0.1	0.1	0.2	0.0	0.1
CPI	–1.3	1.3	0.0	–0.1	1.7	1.7

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

	2015					2016				
	Average carry over effect	Carry over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index	Average carry over effect	Carry over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	–2.3	0.0	2.9	0.0	0.6	–0.2	0.0	3.0	0.0	2.8
non-processed	–4.5	0.0	9.8	0.0	4.9	0.4	0.0	7.0	–2.7	4.4
processed	–1.2	0.0	–0.3	0.0	–1.5	–0.5	0.0	2.5	0.0	2.0
Traded goods	0.0	0.0	0.7	0.0	0.7	0.7	0.0	0.6	0.0	1.3
durables	–0.2	0.0	1.1	0.0	0.8	1.1	0.0	0.3	0.0	1.4
non-durables	0.1	0.0	0.6	0.0	0.7	0.8	0.0	0.5	0.0	1.3
Market services	1.3	–0.1	1.3	0.0	2.5	0.8	0.0	2.2	0.0	2.9
Market energy	0.3	0.0	–1.6	0.0	–1.3	0.4	0.0	0.0	0.0	0.4
Alcohol and Tobacco	–0.1	0.0	2.1	1.0	3.1	–1.2	2.3	2.0	0.8	3.9
Fuel	–10.0	0.0	–2.3	0.0	–12.1	–5.6	0.0	2.9	0.0	–2.9
Administered prices	–1.4	0.0	0.7	0.0	–0.8	0.0	0.0	0.3	0.0	0.4
Inflation	–1.2	0.0	1.1	0.1	0.0	–0.2	0.2	1.8	0.0	1.7
Core inflation	0.2	0.0	0.9	0.1	1.2	0.3	0.2	1.6	0.2	2.4

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

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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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