INFLATION REPORT

JUNE

2015

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

Miklós Zrínyi: The Life of Matthias Corvinus

INFLATION REPORT

JUNE

2015

Published by the Magyar Nemzeti Bank

Publisher in charge: Eszter Hergár

H-1054 Budapest, Szabadság tér 9.

www.mnb.hu

ISSN 2064-8723 (print)

ISSN 2064-8774 (on-line)

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 Fiscal 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 Dániel Palotai, Executive Director of the Directorate Monetary Policy. The Report was prepared by staff at the MNB's Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate Fiscal Analysis and Directorate Financial System Analysis. The Report was approved for publication by Dr Ádám Balog, 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 17 June 2015.

CONTENTS

LIST OF BOXES

THE MONETARY COUNCIL'S STATEMENT ON MACROECONOMIC DEVELOPMENTS AND ITS MONETARY POLICY ASSESSMENT

In the Monetary Council's assessment, persistently loose monetary conditions are consistent with the achievement of price stability.

In the Council's assessment, the medium-term achievement of the Bank's inflation target and a corresponding degree of support to the real economy point in the direction of maintaining loose monetary conditions for an extended period. In addition to the primary goal of meeting the inflation target, the Council also takes into account the condition of the real economy and incorporates financial stability considerations into its decisions.

The performance of the global economy has continued to be subdued in recent months. Inflation rates around the world remain at low levels.

Significant differences remain across the individual regions in terms of economic growth. Of the world's developed regions, growth in the euro area picked up slightly on the preliminary estimate in the first quarter of 2015, broadly in line with expectations. By contrast, the US economy contracted relative to the previous quarter. Growth has been stable or slowing in most of the major emerging market economies. Global inflation remains moderate, reflecting low crude oil prices and subdued demand, and inflationary pressure in the global economy is likely to remain moderate looking ahead. The monetary policy stance of globally influential central banks points to the direction of persistently loose monetary conditions: the ECB has continued its quantitative easing policy within the framework of its extended asset purchase programme, the Bank of Japan has maintained the pace of its asset purchases and the Federal Reserve is likely to fine-tune the appropriate timing and magnitude of its interest rate increase likely being postponed to a later date. Monetary conditions remain loose overall and, consequently, global interest rate and liquidity conditions continue to be supportive.

In the Council's assessment, inflation is likely to be below the inflation target this year and next, and is expected to rise to levels around 3 per cent only towards the end of the forecast period.

The Council expects inflation to be significantly below the inflation target over the short term. Data available in recent months were slightly higher than the projection in the March issue of the Inflation Report, mainly reflecting higher-than-expected fuel prices. Inflation has departed from its historical low in recent months and is likely to remain in positive territory looking ahead. Core inflation is likely to rise gradually as the effects of the low-cost environment fade, domestic demand picks up and wages increase. However, inflation is expected to approach levels around the 3 per cent target towards the end of the forecast period, reflecting moderate underlying inflation. The stabilisation of inflation expectations around the target is likely to ensure that price and wage-setting will be consistent with the inflation target over the medium term as domestic demand growth strengthens.

Domestic economic growth is likely to continue to be robust, supported by rising external demand, in addition to growing domestic demand.

Growth in the domestic economy has continued over recent period. In the coming years, domestic demand is likely to remain the main driver of growth; however, rising exports reflecting strengthening growth in Hungary's export markets are also expected to support domestic economic growth. The low inflation environment and the improvement in the labour market will contribute to household real income growth, which in turn is expected to facilitate household consumption. The conversion of foreign currency loans will reduce the household sector's vulnerability, which may facilitate the gradual easing of consumers' precaution. In addition to the general improvement in economic activity, the Funding for Growth Scheme also supports private sector investment. Household investment activity is expected to strengthen at the forecast horizon, due to the pick-up in the housing market and the extension of the housing subsidy system. Export growth is likely to be strong, reflecting higher growth in Hungary's export markets. The negative output gap is expected to close at the end of the forecast period, and therefore the real economic environment is likely to continue to have a disinflationary impact in the coming quarters.

The economy's external vulnerability continues to decrease.

Hungary's external financing capacity continued to increase in the fourth quarter of 2014. Based on the four-quarter values, the trade surplus rose again, with domestic agents using a significant amount of EU transfers also in the final quarter. Looking at the structure of external financing, the outflow of debt liabilities continued in 2014, and consequently, the decline in Hungary's debt ratios as well. Non-debt liabilities have increased overall. Looking ahead, the external financing capacity is expected to remain robust, exceeding 9 per cent of GDP in 2015. Net exports are expected to rise further, reflecting the expected improvement in external demand and the positive impact on the terms of trade of the decline in oil prices. Transfers from the EU will presumably be lower in 2016. The expected stabilisation of the deficit on the income balance is likely to reflect the combined effect of the decline in interest expenses and rising profits of foreign-owned companies, in addition to a falling debt path. The continued very high net lending is likely to contribute to a gradual decline in the country's external debt ratios.

Sentiment in international financial markets was volatile but rather unfavourable.

In April, the positive effect of strong macroeconomic data from the euro area offset the negative effect of political events in Greece, mixed macroeconomic data form the US and geopolitical tensions. However, global investor sentiment deteriorated throughout the latter, greater part of the period, reflecting the downgrade of Greek sovereign debt and the postponement of debt repayments as well as weak macroeconomic data from the US economy. Of the domestic risk indicators, the CDS spread has increased slightly and long-term yields on forint-denominated bonds have risen significantly in the period since publication of the March Report, in line with international trends. The forint has depreciated against the euro in the past quarter, due mainly to international factors. In the Council's assessment, a cautious approach to monetary policy is still warranted due to uncertainty in the global financial environment.

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

The Monetary Council considered three alternative scenarios around the baseline projection in the June Report, which might influence significantly the future conduct of monetary policy. The rise in yields in developed markets may lead to an increase in the risk premium on developing markets, and therefore the inflation target can be achieved with tighter monetary policy than assumed in the baseline projection. Mounting geopolitical tensions may involve a protracted decline in external demand and a sudden, sharp increase in the risk premium, and therefore tighter monetary policy than assumed in the baseline projection ensures the achievement of the inflation target at the forecast horizon as well. On the other hand, the alternative scenario assuming persistently low cost environment and increasing second-round effects may lead to lower inflation and stronger economic growth, which may justify even looser monetary conditions than the baseline projection.

In the Council's assessment, there continues to be a degree of unused capacity in the economy and inflationary pressures are likely to remain moderate. The real economy is likely to have a disinflationary impact at the policy horizon and the output gap is expected to close only gradually.

Based on available data, the risk of second-round effects materialising due to excessively low inflation expectations has moderated. In view of the June Inflation Report projections, following a comprehensive assessment of the medium-term outlook for inflation, the Council assesses that the medium-term achievement of the inflation target points to the direction of further, slight easing of the policy rate.

SUMMARY TABLE OF THE BASELINE SCENARIO

(Forecast based on endogenous monetary policy)

	2014	2015	2016
	Actual	Projection	
Inflation (annual average)			
Core inflation	2.2	1.5	2.8
Core inflation without indirect tax effects	1.4	1.3	2.4
Inflation	–0.2	0.3	2.4
Economic growth			
External demand (GDP based)	1.6	1.9	2.5
Household consumption expenditure	1.7	3.2	3.0
Government final consumption expenditure	2.1	0.6	–0.2
Gross fixed capital formation	11.7	2.2	–2.1
Domestic absorption	4.3	2.5	1.1
Export	8.7	8.0	7.9
Import	10.0	7.6	7.0
GDP	3.6	3.3	2.5
External balance[1]			
Current account balance	4.1	5.4	6.3
External financing capacity	8.3	9.5	7.6
Government balance[1,5]			
ESA balance (2014 data is preliminary)	–2.6	–2.4	–2.2
Labour market			
Whole-economy gross average earnings	2.4	3.2	3.9
Whole-economy employment	5.3	2.2	2.0
Private sector gross average earnings[2]	4.3	3.5	4.6
Private sector employment	4.6	1.7	1.1
Unemployment rate	7.7	6.9	6.3
Unit labour cost in the private sector[3]	4.3	0.5	2.9
Household real income[4]	3.4	3.1	2.6

[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 Hungarian economy continued to expand dynamically, while inflation remained steadily low. Inflation over the short run continue to be determined mainly by the restrained evolution of costs. Underlying inflation indicators rose slightly, in line with the gradual pick-up in demand. In accordance with the favourable developments in economic activity, employment in the private sector increased, while wage dynamics continued to be subdued.

Inflation may remain below the medium-term target this year and next year. With the gradual fading of the extremely low cost effects, inflation may steadily rise over the short run, which may appear in core inflation indicators as well. In addition, the pick-up in demand may also contribute to a rise in core inflation. While the improvement in consumption may expand companies' pricing leeway, the effect of this on inflation may be weaker than that seen prior to the crisis. Inflation may approach the medium-term target only by the end of the horizon. The stabilisation of inflation expectations around the target as observed in the recent period is likely to ensure that – in parallel with an upturn in domestic demand – pricing and wage developments will be consistent with the inflation target over the medium term as well.

The dynamic expansion of the economy may continue over the forecast horizon. Domestic demand may play a more pronounced role in growth, and as a result of stronger growth in Hungary's export markets, Hungarian export performance may also improve. Therefore, looking ahead, growth with a balanced structure may occur. The upturn in domestic demand may be increasingly driven by the pick-up in consumption demand, which may be supported by the increase in real incomes as a result of low inflation, improving labour market developments, and the reduction of the personal income tax rate. Household indebtedness has decreased gradually in recent years, and the settlement with banks following the legal uniformity decision of the Curia will further reduce households' debts. Accordingly, the gradual reduction of debts may restrain less the pick-up in consumption. In addition, the conversion of FX loans into forints may considerably reduce households' sensitivity to the exchange rate, which may help to ease precautionary considerations and thus support consumption. Private sector investment may continue to expand. In addition to the Funding for Growth Scheme, the improvement in demand prospects may also facilitate growth in corporate investment, while households' investment activity may increase as a result of more stable long-term income expectations and historically low financial yields. After the utilisation of EU funds from the last EU cycle this year, public investment may decline considerably next year. In the coming years, the whole economy investment rate may remain at around 20 per cent. As a result of declining public investment and a pick-up in private investment, corporate and household investment may play a larger role. The low cost environment and the ECB's asset purchase programme support growth in the euro area, which is Hungary's most important trading partner. Consequently, demand in Hungary's export markets may increase in the coming quarters, which may once again result in a stronger contribution from net exports to growth over the forecast horizon.

Looking ahead, national economy employment may continue to expand, supported by the public employment programmes as well as an increase in private sector employment. Corporate labour demand may continue to increase in view of improving developments in economic activity, while the unemployment rate is expected to decline alongside a slight rise in the participation rate. In addition to the increasingly tight labour market, an improvement in corporate profitability and productivity may also boost real wages. In the first half of the forecast horizon, pay rises are expected to remain moderate in the private sector as a result of inflation expectations conforming to the low inflation environment experienced in the past period, and thus private sector wage dynamics may remain restrained. However, in the second half of our forecast horizon, in line with an increase in real wages and inflation, stronger private sector wage growth is expected, at a level that is consistent with the inflation target.

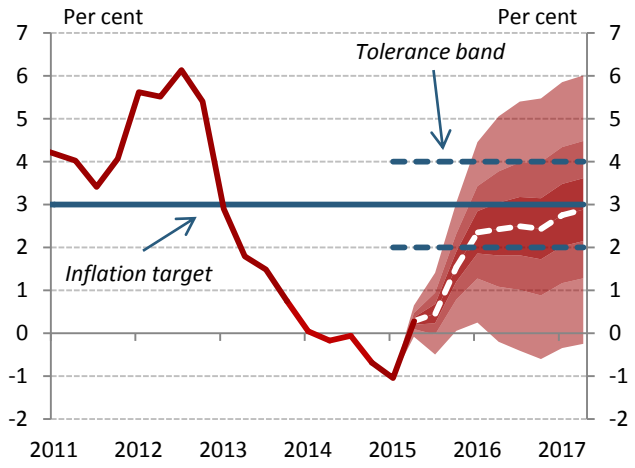
The external financing capacity of Hungary may remain considerable in the coming years as well, which will contribute to the continued decline in net external debt. The budget deficit may remain well below 3 per cent of GDP this year and next year as well, and with continuation of the disciplined fiscal policy the government's deficit target is likely to be achieved.

Overall, the real economy environment continues to have a disinflationary effect, although its extent may gradually decline over our forecast horizon with the closing of the output gap. The output of Hungary's trading partners may fall permanently short of its potential level, reducing the capacity utilisation of the domestic export sector, and thus resulting in low imported inflation. In addition, the level of household consumption is currently significantly below its pre-crisis value. Looking ahead, however, the pick-up in domestic demand will contribute to the closing of the output gap. In parallel with the fading of low cost shocks and a pick-up in demand, inflation may increase and move close to the target only at the end of the horizon.

1.1. Inflation forecast

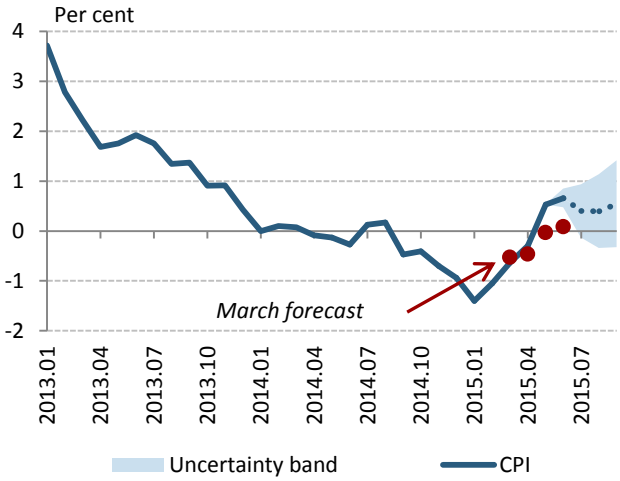
Although inflation may rise in the coming months, it will remain subdued during the first half of our forecast horizon. Core inflation may gradually increase in the coming period in line with a slow increase in costs as well as a pick-up in household consumption and wage dynamics. Although the stronger consumption may expand companies' pricing leeway, the effect of this on inflation may be lower than that seen prior to the crisis. Accordingly, inflation may approach the medium-term target only at the end of the forecast horizon.

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

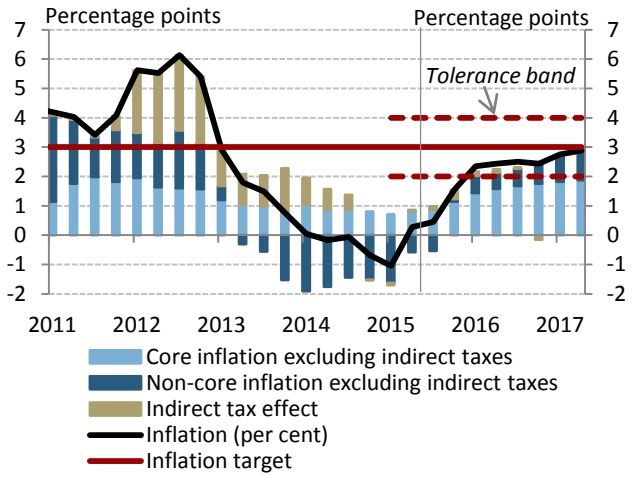
Inflation will fall short of the 3 per cent medium-term target this year and next year as well, and may approach the target only at the end of the forecast horizon. Low commodity prices may contribute to below-target inflation primarily this year. At the same time, we forecast that cost shocks will gradually fade, which – together with a pick-up in domestic demand – will contribute to a gradual increase in core inflation excluding indirect taxes. In parallel with the increase in core inflation, inflation may approach the medium-term target only by the end of the horizon (Chart 1-1).

According to our near-term forecast, inflation may remain stable in positive territory in the coming months (Chart 1-2). Together with the reduction in regulated prices last autumn, the base effect of the previous year's significant drop in fuel prices will result in rising inflation at the end of the year. Inflation this year and next year may average around 0.3 and 2.4 per cent, respectively.

The path of inflation continues to be strongly influenced by restrained cost-side factors, 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 a gradual increase in inflation in the euro area, which is Hungary's most important trading partner. At the same time, imported inflationary pressure may remain subdued over a medium-term horizon.

Core inflation excluding indirect taxes may rise gradually over our forecast horizon, due to a pick-up in demand and improving labour market developments, in addition to a slight increase in costs (Chart 1-3 and Table 1-1). The negative output gap is gradually closing over the forecast horizon, and thus the disinflationary impact from the real economy will decline. A pick-up in business activity may add to economic agents' pricing leeway, which may facilitate a gradual increase in inflation towards its medium-term target. At the same time, the impact of the upturn in consumption on inflation may be more moderate than in the pre-crisis period. Accordingly, the pick-up in domestic demand may increase prices only to a slight extent. In parallel with a decline in free labour market capacities, the unit labour cost of the corporate

Chart 1-3: Decomposition of the inflation forecast



Source: MNB

Table 1-1: Details of the inflation forecast

		2014	2015	2016
Core inflation		2.2	1.5	2.8
Contribution to inflation		*1.4*	*1.0*	*1.9*
Non-core inflation	Unprocessed food	–3.7	3.7	3.9
	Fuel and market energy	–2.1	–8.1	1.9
	Regulated prices	–6.6	–0.8	1.1
	Total	–4.9	–2.0	1.8
Contribution to inflation		*–1.7*	*–0.7*	*0.6*
Inflation		–0.2	0.3	2.4

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

Source: MNB

sector may rise gradually 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). At the same time, the recent rise in euro-denominated oil prices points to an increase in the inflation of this product group. In addition, owing to base effects, we expect a sharp rise in the price index of fuels at the turn of 2015 and 2016, also resulting in a significant increase in the consumer price index.

The direct impact of government measures on inflation may 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. In parallel with that, non-energy regulated prices are expected to rise moderately (Table 1-1).

Box 1-1: Effect of the 2016 budget proposal on the economy

Since publication of the March *Inflation Report*, several new government measures have been announced: the 2016 budget was submitted and the convergence programme was published. In the following, we present the new fiscal information and the effect of such on certain macroeconomic variables.

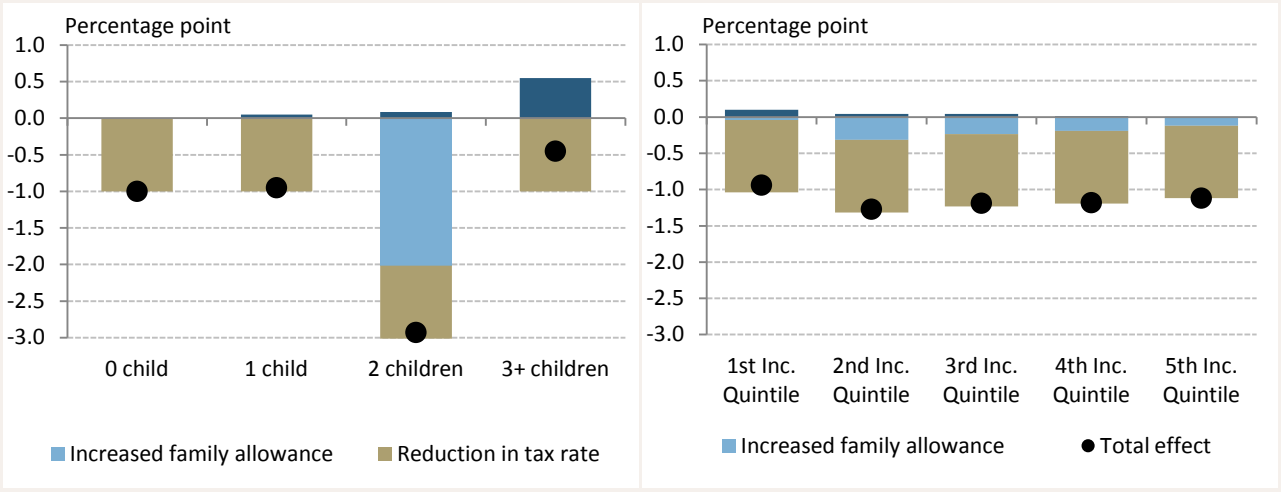
The key measures are as follows:

- The reduction of the personal income tax rate from 16 per cent to 15 per cent increases households' disposable income by HUF 107 billion; this effect may be mitigated by the fact that, net of public employees, the public gross wage bill in 2016 will increase to a smaller degree than previously anticipated, as a result of the fact that according to the budget bill the general freeze on nominal wages in the public sector will remain in place. Next year, in addition to the rate reduction, there is another significant measure. In a two-child family, the tax deduction is increased from HUF 20,000 to 25,000 a month. For a two-child family, this measure means a 2 percentage point tax reduction. For families with three or more children this will mean a half percentage point decrease because some of these families paid zero or close to zero personal income tax with the current legislation. An average taxpayer in every quintile will experience a roughly 1 percentage point tax reduction (Chart 1-4).

- 2016 inflation may be moderated by the reduction of the value added tax on pork from 27 per cent to 5 per cent.
- Next year's lending activity may be influenced by the expected decrease of HUF 72 billion in the levy on financial institutions.
- However, credit institutions' payment obligation to NDIF, IPF and the Claim Settlement Fund of Quaestor Victims may be as high as HUF 25 billion.

In addition to the above, based on the EDP report of the HCSO, government investment in 2014 was higher than expected. Due to the base effect, the level of government investment in 2015 is higher than previously expected. Consequently, even though our forecast for the level of government investment has not changed significantly, the growth rate may be lower than previously expected.

Chart 1-4: Change in the average tax rate on incomes belonging to the consolidated tax base in 2016



Note: For the purpose of the calculation, we considered the PIT on the gross incomes belonging to the consolidated tax base and the family tax and contribution allowances.
Source: MNB

Summarising the macroeconomic effects of the aforementioned factors, the reduction of the personal income tax rate may influence households' consumption and saving decisions through an increase in households' disposable income. As a result of the tax cut, households' real income will rise, and thus they may increase their consumption expenditure, which may contribute to a pick up in domestic demand.

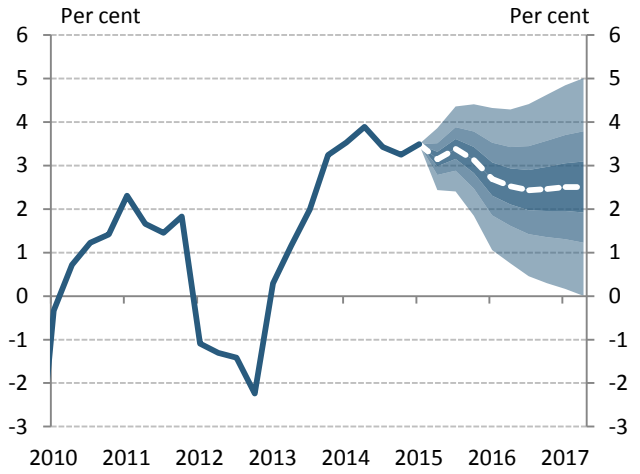
The measures may influence inflation from two opposite sides. On the one hand, the planned VAT cut has a direct effect on the level of the consumer price index, while on the other the pick-up in consumption may generate a price increase. The technical disinflation effect of the VAT cut is 0.2 percentage points; however, based on past experiences, the VAT cut is reflected in the consumer prices to a lesser degree, and thus the actual effect may be slightly lower. The pick-up in consumption, as a result of the personal income tax cut, may mitigate the previous estimate. In summary, the measures have a slight disinflationary impact on overall inflation.

Despite the short-term impacts, the measures included in the budget do not effect the long-term potential growth rate and thus further structural reforms are necessary to increase such.

1.2. Real economy forecast

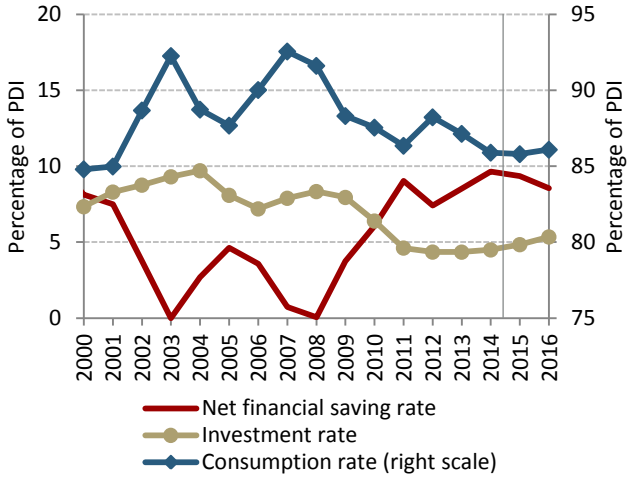
The economy may continue to grow in the coming years. In addition to domestic demand, improving external demand may also support this growth. Low inflation and the reduction in the personal income tax rate raises households' real income. Accordingly, a higher consumption path is expected for the second half of the forecast horizon. Furthermore, the upturn in consumption may also be supported by the easing of precautionary considerations driven by the significant decline in households' debt. Private investment may continue to expand over the forecast horizon, with the contribution of corporate investment through the Funding for Growth Scheme as well as an expansion in household investment. Owing to the strong absorption of EU funds, public investment is expected to be significant in 2015 as well, but a decline is projected in 2016 with the new EU fiscal cycle. As a result of the still low oil prices and the ECB's asset purchase programme, the economic performance of Hungary's main trading partners is expected to improve, and consequently exports may continue to expand dynamically.

Chart 1-5: Fan chart of the GDP forecast



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

Chart 1-6: Use of household income



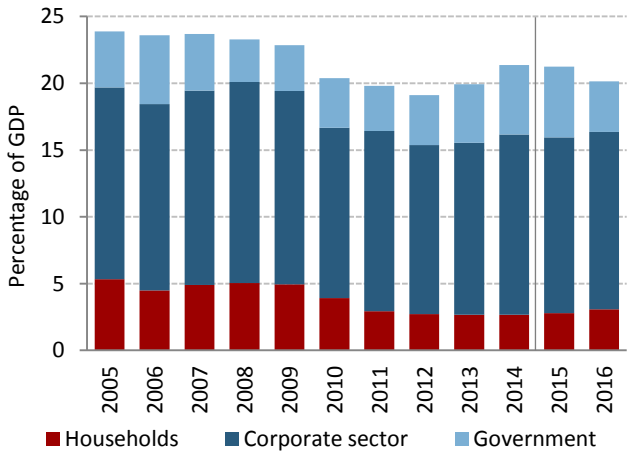
Note: As percentage of disposable income. Net financial savings of households exclude mandatory contributions payable to private pension funds.
Source: HCSO, MNB

Economic growth may remain strong over the forecast horizon, supported by rising real income due to low inflation as well as by the export performance, which is improving as a result of strengthening growth in Hungary's export markets. The contribution of household consumption to growth continues to play a key role. The Hungarian economy may grow by 3.3 per cent in 2015 and by 2.5 per cent in 2016 (Chart 1-5, Chart 1-9).

Household consumption may increase steadily over our forecast horizon. This is mostly a result of the favourable labour market developments and an increase in disposable income due to the decline in the personal income tax rate. As a result of the Curia's decision, this year the settlement with banks may contribute to the pick-up in consumption through both the wealth and income channels. In addition, the conversion of foreign currency loans into forints reduces the sensitivity of households to exchange rates, which may significantly contribute to the gradual easing of precautionary considerations. Consequently, the savings rate is expected to decline from its current high level over our forecast horizon, while household consumption and investment rate may increase gradually (Chart 1-6).

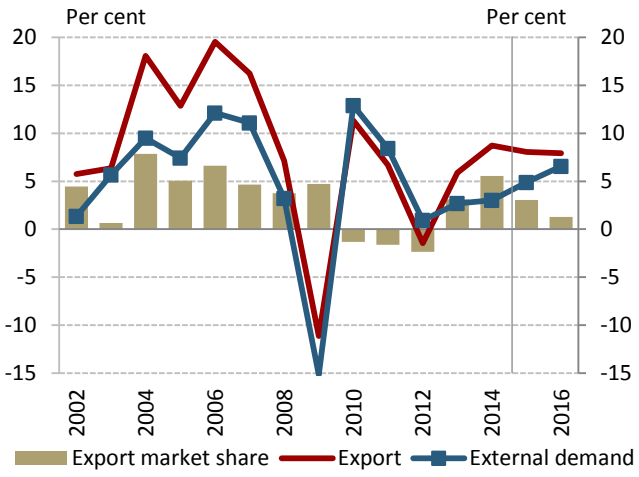
Within output, the share of total investment may remain consistently above 20 per cent, although its structure is expected to change. Within investment, the share of private investment may grow. With the launching of the Funding for Growth Scheme Plus (FGS+), riskier enterprises may receive funds under more favourable lending conditions, which, together with the pick-up in business activity, may contribute to the improvement in corporate investment activity. Households' investment activity is expected to increase, which is attributable to the pick-up in the housing market and expansion of the housing subsidy system. Following strong growth in 2014, public investment may continue to grow this year. However, with the ending of the 2007–2013 EU budget cycle, public investment may decline considerably in 2016 (Chart 1-7).

Chart 1-7: Breakdown of gross fixed capital formation



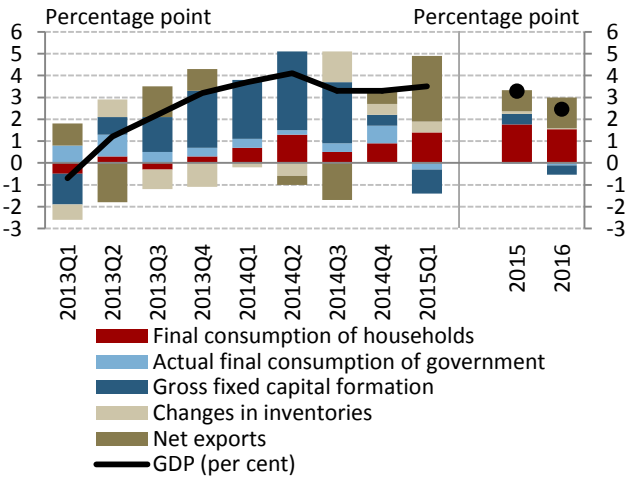
Source: HCSO, MNB

Chart 1-8: Changes in export market share



Note: Annual change.
Source: MNB

Chart 1-9: Evolution of GDP growth



Source: HCSO, MNB

Supported by the extension of the Funding for Growth Scheme and the gradual reduction of the bank levy, the portfolio of corporate loans is expected to increase further over the forecast horizon. Household loans outstanding may continue to decline gradually. Demand for consumer loans may remain subdued in the coming years. At the same time, an increase may take place in the provision of new real estate loans as a result of the pick-up in the housing market.

Higher external demand supports export growth, and Hungary's export market share may also increase over the forecast horizon. Low oil prices and the ECB's asset purchase programme may foster the growth in Hungary's trading partners, although this effect may be reduced by the weak performance of the Russian and Ukrainian economies. The depreciation of the euro may have a favourable impact on the competitiveness of euro-area exporters and may support the performance of Hungarian suppliers, contributing to a pick-up in exports. In addition to the development of new capacities, the weaker real exchange rate may also support a further increase in Hungary's export market share over the forecast horizon (Chart 1-8). As a result of the declining share of high-import-intensity investment, import dynamics may decelerate in 2015. In parallel with that, the contribution of net exports to growth may gradually increase (Chart 1-9). Due to the decline in oil prices seen in the second half of last year, we expect improvement in the terms of trade this year.

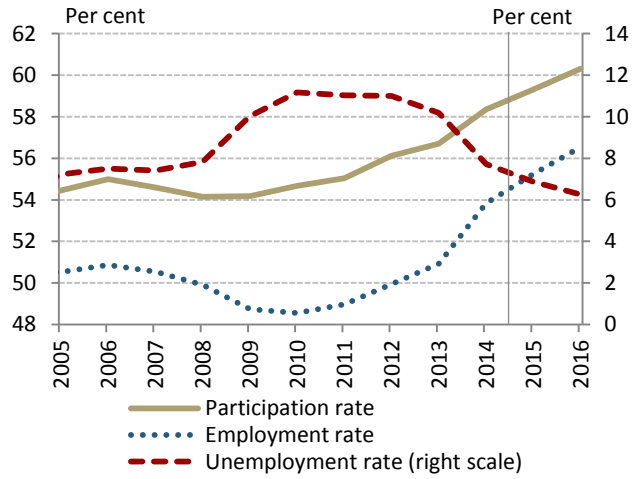
Output gradually approaches its potential level over the forecast horizon. Household consumption, which is a relevant factor in terms of domestic inflationary pressure, may continue to accelerate, but the level of consumption still falls significantly short of its pre-crisis level. The disinflationary effect of the real economy may gradually fade over the forecast horizon, and the output gap may close in 2017.

The expansion in aggregate demand has a favourable impact on potential growth as well. Over the forecast horizon, this may also be buttressed by increasing labour market activity, lower unemployment and growth in corporate investment. Accordingly, in addition to the closing of the output gap, the gradual improvement in potential growth also contributes to economic growth.

1.3. Labour market forecast

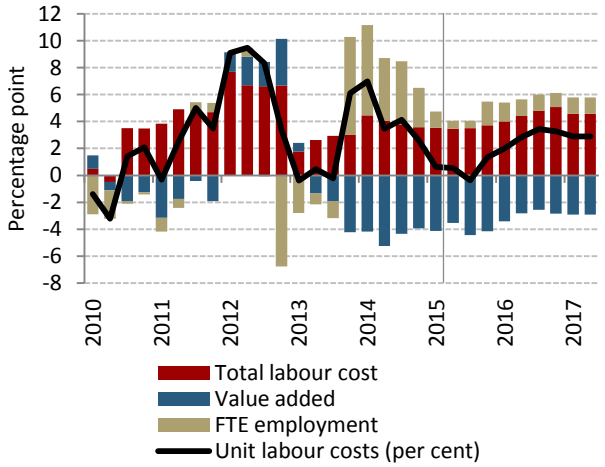
Labour market participation and employment in the national economy may continue to increase over the forecast horizon. In parallel with the improving economic activity, the number of employees in the private sector may grow, while public work programmes continue to contribute to the increase of the employment in the national economy. The unemployment rate may drop to around 6 per cent next year. Labour market tightness, and the improvement in corporate profitability and productivity may boost real wages. The stabilisation of inflation expectations may help wage and pricing developments to evolve in line with the inflation target over the time horizon of monetary policy.

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 cost in the private sector



Note: FTE – Full-time equivalent.

Source: MNB calculations based on HCSO data

Labour market participation is projected to increase at a slower pace over our forecast horizon. Since the crisis, as a result of measures aimed at increasing labour supply, the participation increased rapidly, which may have an impact in the coming years as well albeit to a decreasing extent. In addition, in line with the improvement in economic activity, the return of 'discouraged workers' to the labour market may also contribute to an increase in the participation rate (Chart 1-10).

In addition to the planned expansion of public employment, the rise in private sector employment is making an increasingly strong contribution to the growth in employment. Labour demand in the private sector may increase gradually over the forecast horizon. As part-time employment is gaining ground, the number of people employed may rise at a faster rate than the number of hours worked. The planned increase in the number of public workers will continue to play a major role in the increase in employment in the national economy in the years ahead as well. In our forecast, we expect that the number of people participating in public employment programmes may rise to nearly 300,000 by end-2016.

As a result of increasing labour demand, the labour market may become tighter. In addition, improvement in corporate profitability and productivity may also allow real wages to increase. In the first half of our forecast horizon, pay rises are expected to remain moderate in the private sector as a result of inflation expectations conforming to the low inflation environment experienced in the past period, and thus wage dynamics in the private sector may remain restrained. However, in the second half of our forecast horizon, in line with an increase in real wages and inflation, stronger private sector wage growth is expected to a degree that is consistent with the inflation target (Chart 1-11).

We project a subdued rise in public sector wages. The growth rate of the national economy wage index is also reduced by the expansion of the public work programme through the composition effect due to the low wages earned by participants.

Box 1-2: Main external assumptions behind the projections

Hungary is a small, open economy, and as such our forecasts for the most important macroeconomic variables are fundamentally influenced by the 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 the projections

Technical Assumptions	2015		2016		Change	
	March	June	March	June	2015	2016
EUR/USD	1.125	1.109	1.121	1.104	–1.4%	–1.5%
Oil (USD/barrel)	61.3	61.6	68.8	68.0	0.5%	–1.2%
Food prices						
Wheat (USD/bushel)	5.26	5.10	5.54	5.46	–3.8%	–1.4%
Maize (USD/bushel)	3.98	3.70	4.26	3.95	–6.5%	–7.3%
Euro area inflation (%)	–0.2	0.0	1.1	1.2	0.2 pp.	0.1 pp.
GDP growth of our main trading partners* (%)	1.5	1.7	2.0	2.1	0.2 pp.	0.1 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 recent months, the oil prices expressed in USD have been characterised by a slightly higher level and volatile dynamics compared to our March assumption. The developments observed in the past period may be explained by rising crude oil procurement triggered by increased demand for refined products. On the whole, oil prices remain subdued amid increasing supply and the weak demand associated primarily with sluggish growth in the major oil-importing countries. Oil price futures project a slightly rising path, remaining at levels similar to our March assumption at the end of the forecast period. The 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. On the whole, oil prices expressed in forints also increased in the past period, due to the oil price increase as well as the depreciation of the forint against the US dollar. In our current assumptions, the euro remains at weaker levels compared to our March assumption, which added to the increase in euro-denominated oil prices.

Since the March *Inflation Report* there has been a decline in the commodity exchange prices of wheat and maize. This may primarily be attributable to the ample supply and the favourable news about the state of the wheat crops and the process of maize sowing in the northern hemisphere and probably to the contribution of the termination in May of the export duty imposed on Russian wheat in February. Looking ahead, based on futures prices, moderate grain prices are projected. Looking at the developments in Hungary, similarly to international events, the favourable news about the state of autumn wheat crops and the good progress of maize sowing kept the futures prices of wheat and maize at the commodity section of the Budapest Stock Exchange (BSE) at unchanged low levels.

Euro-area inflation may remain low in view of the subdued growth prospects and the depressed cost environment. At the same time, along with the oil price increases in the past period, the ECB's asset purchase programme may contribute to a gradual increase in euro-area inflation. Accordingly, compared to the assumption applied in the previous *Inflation Report*, a somewhat higher price level increase is expected in the euro-area countries. Both the considerable shift seen in the EUR/USD cross rate and inflation expectations indicate that on the basis of market expectations the development of deflation is rather unlikely in the euro area. In view of the different monetary policy stances of the ECB and the Fed, we continue to expect a persistently weak euro exchange rate.

Our expectations concerning the economic performance of the euro area improved slightly during the recent period. This may primarily be justified by the data becoming available, which are slightly above expectations, the low oil prices and the growth-supporting effect of the weaker euro. At the same time, the improving economic performance may be put in a different perspective by the slight slowdown in developing countries' economic growth as well as by the conflict between Russia and Ukraine.

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

	2014	2015		2016	
	Actual	Projection			
		March	Current	March	Current
Inflation (annual average)					
Core inflation	2.2	1.6	1.5	3.0	2.8
Core inflation without indirect tax effects	1.4	1.4	1.3	2.5	2.4
Inflation	–0.2	0.0	0.3	2.6	2.4
Economic growth					
External demand (GDP-based)	1.6	1.7	1.9	2.5	2.5
Household consumer expenditure	1.7	3.2	3.2	2.7	3.0
Government final consumption expenditure	2.1	0.7	0.6	0.2	–0.2
Gross fixed capital formation	11.7	5.2	2.2	–1.2	–2.1
Domestic absorption	4.3	3.0	2.5	1.2	1.1
Export	8.7	7.3	8.0	7.6	7.9
Import	10.0	7.4	7.6	6.8	7.0
GDP	3.6	3.2	3.3	2.5	2.5
External balance[1]					
Current account balance	4.1	5.3	5.4	6.3	6.3
External financing capacity	8.3	8.8	9.5	7.8	7.6
Government balance[1,5]					
ESA balance (2014 data is preliminary)	–2.6	–2.4	–2.4	–2.2	–2.2
Labour market					
Whole-economy gross average earnings	2.4	3.4	3.2	3.6	3.9
Whole-economy employment	5.3	1.7	2.2	2.2	2.0
Private sector gross average earnings[2]	4.3	3.5	3.5	4.6	4.6
Private sector employment	4.6	1.0	1.7	1.1	1.1
Unemployment rate	7.7	6.9	6.9	5.9	6.3
Private sector unit labour cost[3]	4.3	0.5	0.5	2.6	2.9
Household real income[4]	3.4	3.1	3.1	2.2	2.6

[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

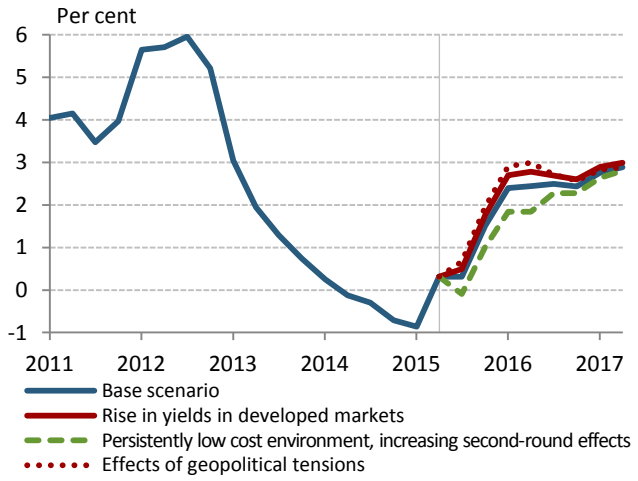
	2015	2016
Consumer Price Index (annual average growth rate, %)		
MNB (June 2015)	0.3	2.4
Consensus Economics (June 2015)[1]	(–0.3) – 0.2 – 0.8	1.5 – 2.5 – 3.2
European Commission (May 2015)	0.0	2.5
IMF (April 2015)	0.0	2.3
OECD (June 2015)	–0.2	2.7
Reuters survey (May 2015)[1]	(–0.8) – 0.1 – 0.2	1.5 – 2.5 – 2.8
GDP (annual growth rate, %)		
MNB (June 2015)	3.3	2.5
Consensus Economics (June 2015)[1]	2.6 – 2.9 – 3.3	1.9 – 2.4 – 3.1
European Commission (May 2015)	2.8	2.2
IMF (April 2015)	2.7	2.3
OECD (June 2015)	3.0	2.2
Reuters survey (May 2015)[1]	2.7 – 3.1 – 3.5	1.9 – 2.5 – 3.1
Current account balance[3]		
MNB (June 2015)	5.4	6.3
European Commission (May 2015)	5.5	6.2
IMF (April 2015)	4.8	4.1
OECD (June 2015)	5.4	5.6
Budget deficit (ESA 2010 method)[3,4]		
MNB (June 2015)	2.4	2.2
Consensus Economics (June 2015)[1]	2.2 – 2.5 – 2.8	2.0 – 2.4 – 2.9
European Commission (May 2015)	2.5	2.4
IMF (April 2015)	2.7	2.5
OECD (June 2015)	2.3	2.2
Reuters survey (May 2015)[1]	2.2 – 2.4 – 2.6	2.0 – 2.3 – 2.6
Forecasts on the size of Hungary's export markets (annual growth rate, %)		
MNB (June 2015)	3.0	4.9
European Commission (May 2015)[2]	4.2	5.4
IMF (April 2015)[2]	2.7	5.0
OECD (June 2015)[2]	4.6	5.0
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)		
MNB (June 2015)	1.6	1.9
European Commission (May 2015)[2]	1.9	2.3
IMF (April 2015)[2]	1.5	2.0
OECD (June 2015)[2]	1.8	2.4

[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

In addition to the baseline projection in the June *Inflation Report*, the Monetary Council has identified three alternative scenarios which may have a tangible impact on the future development of monetary policy. The rise in yields in developed markets may result in an increase in risk premium in developing markets. In this scenario, achieving the inflation target may be ensured by a tighter monetary policy than assumed in the baseline scenario. Recently, the Hungarian economy was characterised by a highly favourable cost environment. If – in contrast to the correction projected in the baseline scenario – commodity prices remain at a persistently lower level in the years ahead, this may increase the possibility of second-round effects through expectations. If this scenario materialises, achieving the inflation target could be ensured by looser monetary conditions than assumed in the baseline scenario. Finally, mounting geopolitical tensions could lead to a protracted decline in external demand associated with a sharp rise in the risk premium. Therefore, a monetary policy stance tighter than assumed in the baseline scenario would ensures that the inflation target is met at the forecast horizon.

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



Source: MNB

Rise in yields in developed markets

The yield environment of developed countries continues to have a significant impact on long-term yields in Hungary. In addition to the expectations regarding the path of the US base rate, the uncertainty related to the monetary policy of the Fed influences the developments in yields in Hungary through the change in maturity premium elements as well. In addition to the developments in the United States, **the yield environment of the euro area also has a perceptible effect on the region;** the intense rise in yields observed recently strongly influenced yields in Hungary.

In developed markets, the earlier-than-expected tightening of monetary conditions may result in a deterioration in investor sentiment, a sudden change of the direction of capital flows, and a rise in risk premiums in the emerging region.

The faster-than-expected rise in euro-area yields and the tightening of US monetary conditions in the second half of the year may be captured with **a risk premium path that is higher** than the baseline scenario calculated in the case of Hungary. **As a result of a rise in imported inflation over the forecast horizon, achieving the inflation target may be ensured by a tighter monetary policy.**

Persistently low cost environment, mounting second-round effects

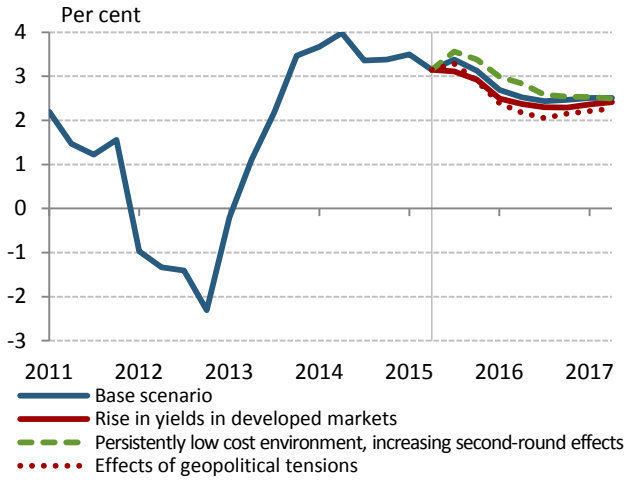
Most futures commodity prices for the year ahead project a slightly rising path. On the whole, however, commodity prices remain subdued amid increased supply and the weak demand associated primarily with sluggish growth in the major oil-importing countries.

If – in contrast to the correction expected in the baseline scenario – commodity prices remain at a persistently

lower level, this may result in a further decline in companies' production cost and a rise in household purchasing power. Second-round effects may increase through the further decline in inflation expectations. Nominal wage dynamics in the private sector may decline if companies start to determine wages in line with the low inflation environment experienced for a longer period of time. Households' increasing purchasing power usually has a positive impact on importing countries' growth prospects, through improving conditions in external and internal demand that also supports economic growth in Hungary.

In this alternative scenario, we expect that commodity prices, which are permanently lower than assumed in the baseline scenario, reduce inflation, while growth path could be more favourable. Due to the stronger disinflationary effects, in this scenario **achieving the inflation target points to looser monetary conditions than those assumed in the baseline scenario**.

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



Source: MNB

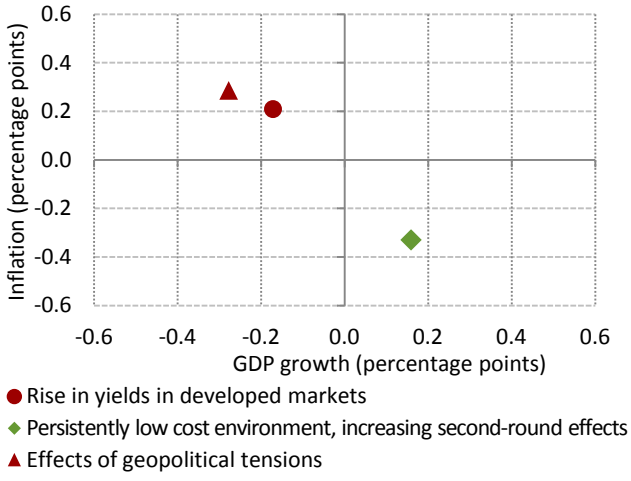
Effects of geopolitical tensions

In the first half last year, the international growth environment gradually became more fragile. In most regions, **growth dynamics were restrained by geopolitical tensions. The negative effects of the conflict between Russia and Ukraine, as well as contagion related to Greece exiting the euro area (Grexit) cannot be ruled out** in the case of the countries in the region or in the case of Hungary, although financial market developments in the past period indicate that contagion may be more limited than earlier.

At the same time, the continuous presence of geopolitical problems (Russia–Ukraine conflict, disturbances in Iraq, Syria and Libya, Grexit) may affect the Hungarian economy through various channels. The general increase in distrust may result in increasing volatility in regional asset prices, and may entail negative economic consequences through a rise in the risk premium. In addition, through the decline in their demand for imports, the fall in economic growth in Russia and Ukraine has an unfavourable impact on Hungarian exports. In the case of Grexit, in parallel with an increase in risk indices, the Hungarian risk premium would also rise. **On the whole, if geopolitical tensions intensify, the ensuing effects on the economy may reduce Hungary's growth prospects over the entire forecast horizon.**

In this scenario, the geopolitical tensions result in a deterioration in investor sentiment, which is consistent

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

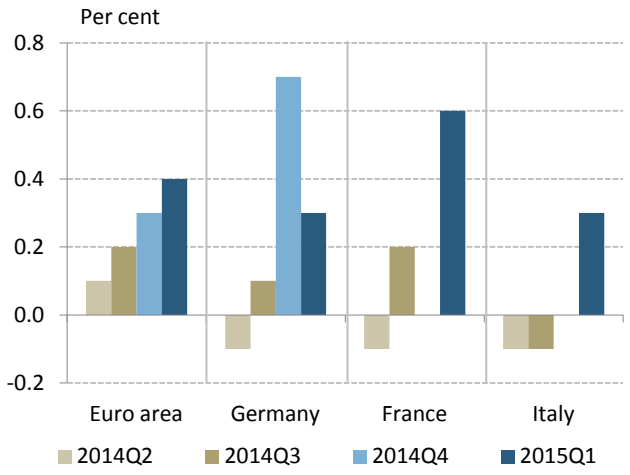
with a higher risk premium path than the current one. According to the assumption of the risk path, through the fall in their import demand, the downturn in the Russian and Ukrainian economies **poses a major downside risk to** developments in **Hungary's external demand and exports**. As a result of a rise in the imported inflation over the forecast horizon **achieving the inflation target may be ensured by a tighter monetary policy than assumed in the baseline scenario**.

3. MACROECONOMIC OVERVIEW

3.1. International environment

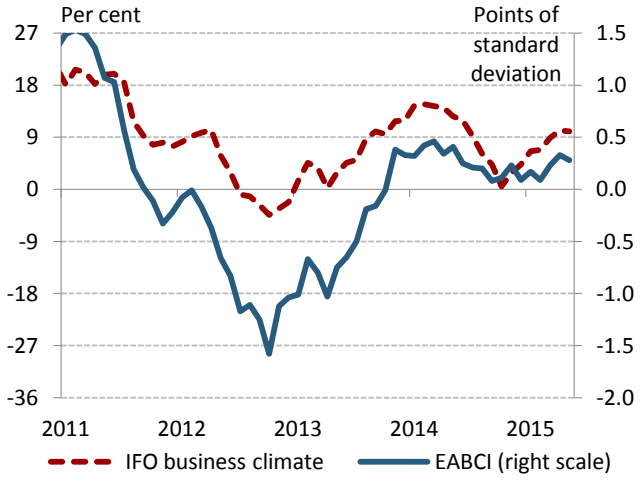
Global economic growth continued in the first quarter of 2015 as well, albeit at a moderate rate. In the first quarter, growth in the euro area accelerated slightly, while based on the quarterly figures the US economy showed a decline. The expansion of the Chinese economy continued to decelerate, but it remains a substantial driver of global economic growth. The decreasing trend in inflation rates has stopped. At the same time, the inflation indices of the major regions are characterised by different shifts. In most countries, inflationary and capacity utilisation developments point to the maintenance of the loose monetary conditions, and in some countries even to the further easing of such.

Chart 3-1: Quarterly GDP growth in euro area



Note: Seasonally adjusted series.
Source: Eurostat

Chart 3-2: Business climate indices for Germany and the euro area



Source: European Commission, IFO

3.1.1. Developments in global economic activity

The performance of the global economy continued to be moderate in recent months, while there are still significant differences between regions. Based on preliminary data, the economy of the euro area expanded slightly in the first quarter of 2015. This was the third quarter in a row when some acceleration in economic activity was seen. In the United States, the rate of economic growth accelerated in year-on-year terms, but performance declined compared to the previous quarter. Global growth prospects have slightly improved compared to the last quarter, which may be due to improving expectations concerning the growth in the euro area. In parallel, prognoses regarding the decline in the Russian economy have not worsened further, and regarding China, which represents a major part in developing countries, growth may still decelerate slightly. Looking ahead, in the case of the developed countries growth is expected to accelerate on the whole, while the emerging countries' growth pace could be similar on a quarter-on-quarter basis.

Data for the first quarter reflect moderate quarterly growth (0.4 per cent) in the euro-area economy compared to the previous quarter (Chart 3-1). In the euro-area core countries, similarly to the overall picture, minor growth was observed; however, it should be noted that after the stagnation at the end of last year the French economy once again expanded by 0.6 per cent. Growth in Germany, which is Hungary's most important trading partner, expanded at a rate of 0.3 per cent compared to the previous quarter, which fell slightly short of the expectations. The pick-up in domestic demand is still the driver of growth, thanks mainly to consumption. The contribution of net exports to growth was negative, which can be explained by the Russia-Ukraine conflict and decelerating Asian demand.

Most periphery countries registered economic growth in the first quarter. Based on preliminary data, the strongest quarter-on-quarter growth was registered by Spain (0.9 per cent). Mild growth was observed in Portugal and Italy compared to the last quarter of 2014, while the economic

performance of Greece continued to weaken.

The recovery in euro-area internal demand in 2015 may be supported by low oil prices and the decreasing cost of finance attributable to the expansion of the ECB's asset purchase programme. According to the lending survey performed by the ECB in April, corporate credit terms were eased further, and accordingly the respondent banks do perceive increased demand for corporate credits. Looking ahead, these trends are expected to continue.

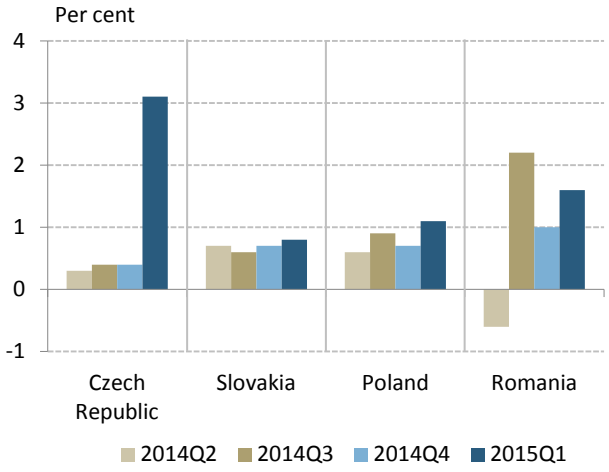
Forward-looking indicators point to improving performance across the euro area (Chart 3-2). Business confidence in the euro area has increased somewhat in recent months. According to the Ifo indicator, the outlook for the German economy has been improving since November, which is also reflected in the industrial production data; accordingly, looking ahead, the slow improvement in economic activity may continue. The unemployment rate of the euro area stagnated at 11.3 per cent in the first three months of 2015; however, this is a slightly lower level compared to the end of 2014.

The Central and Eastern European region registered vigorous growth compared to the previous quarter (Chart 3-3). In the first quarter of 2015, the Czech economy performed the best with a quarterly growth rate of 3.1 per cent, while on year-on-year basis it expanded by 4.2 per cent, attributable to the expansion of consumption and inventory growth. Growth in Romania improved significantly as well, with the contribution of all industries on the production side, while on the user side households and investment played a key role. Growth in Poland was primarily explained by the pick-up in domestic demand items; additionally, since the fourth quarter of 2013 this was the first time when net exports' contribution to growth was positive. Growth in Slovakia was supported both by domestic and external demand.

Growth in the United Kingdom slowed somewhat both on an annual and quarterly basis (Chart 3-4). Consumption expanded at the beginning of the year in line with income growth, but due to the significant rise in imports the contribution of net exports to growth was negative.

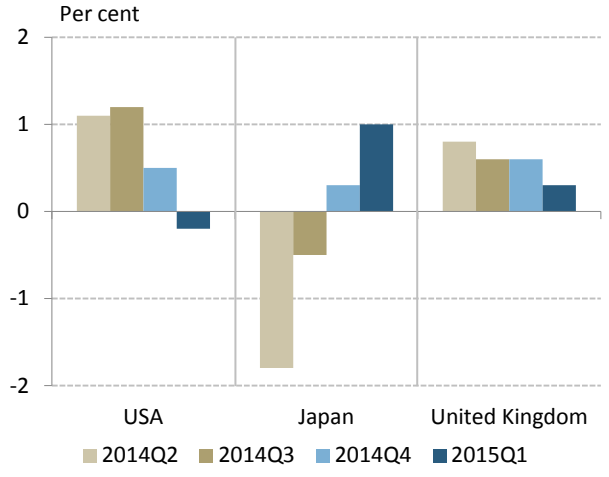
In the United States, there was a downturn in economic performance versus the previous quarter. The quarterly decrease in economic activity is partially attributable to one-off effects such as bad weather conditions and port strikes, while the weakening of exports as a result of the strengthening of the US dollar, as well as decreasing investments due to declining production decline in the oil industry also had a negative impact. Industrial production

Chart 3-3: Quarterly GDP growth in CEE countries



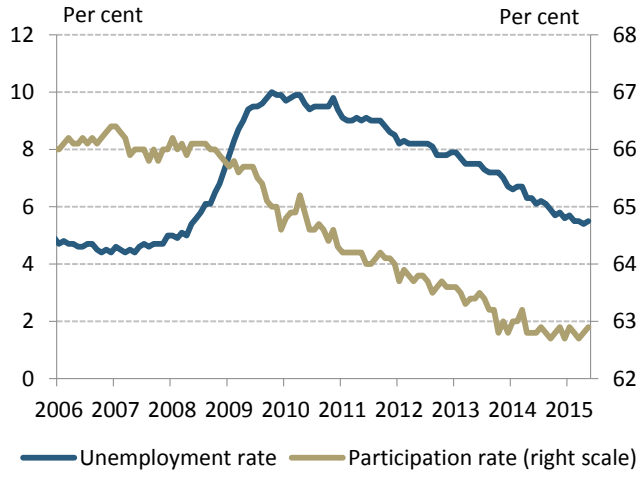
Note: Seasonally adjusted series.
Source: Eurostat

Chart 3-4: Quarterly GDP growth in developed economies



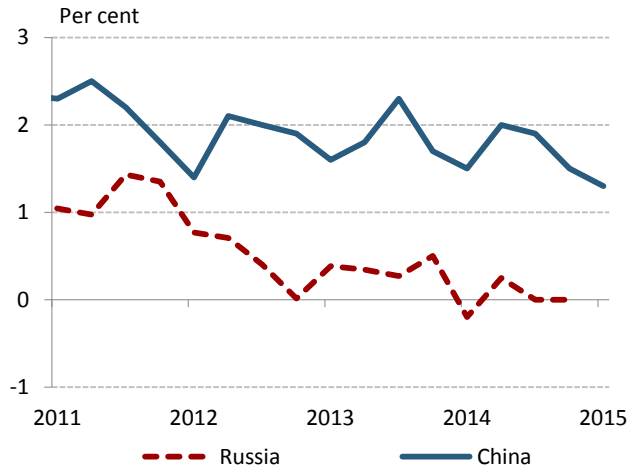
Note: Seasonally adjusted quarterly change.
Source: OECD

Chart 3-5: Unemployment and participation rate in the US



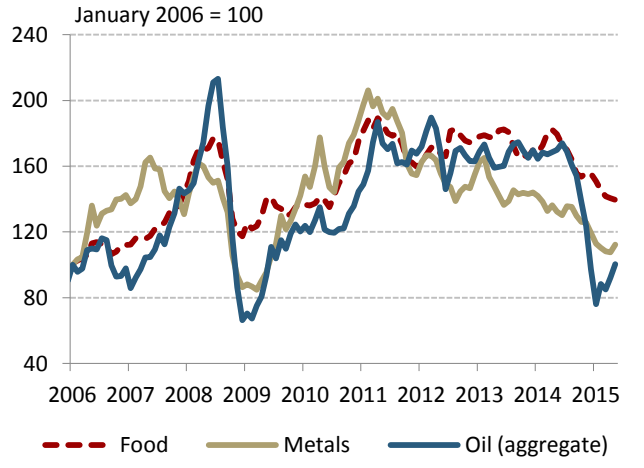
Source: Bureau of Labor Statistics (BLS)

Chart 3-6: Quarterly GDP growth in China and Russia



Note: Seasonally adjusted series.
Source: OECD

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



Source: IMF

in the first quarter declined for the first time since 2009 in quarter-on-quarter terms. The low oil prices continue to increase households' disposable income, which could enhance consumption trends according to expectations. Unemployment decreased slightly, with the rate at 5.5 per cent in May, while the labour force participation rate has stabilised at around 62.8 per cent since last April (Chart 3-5).

On quarterly basis, the Japanese economy once again improved above expectations, due to the low oil prices and the weak yen exchange rate. In an annual comparison, the decline which was experienced can be explained primarily by the base effect of the outstanding performance in the first quarter of last year as a result of consumption brought forward due to the VAT increase in last April. Based on production indicators, the recovery of the Japanese economy from the recession is still fragile.

Of the main emerging economies, the growth rate of China decelerated further in the first quarter of 2015 (Chart 3-6). The Chinese economy expanded by 7 per cent year-on-year, which is the lowest value since 2009. The industrial figures and forward-looking indicators point to further deceleration. The Chinese government plans economic growth of around 7 per cent for this year as opposed to last year's 7.5 per cent.

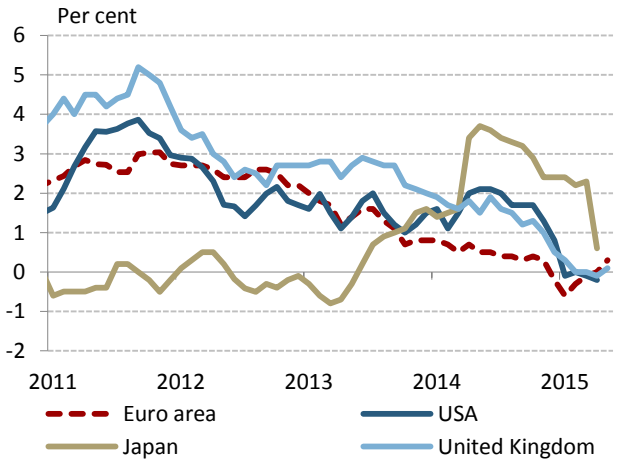
The Russian economy still showed a decline in the beginning of 2015, which was mainly due to the decrease in consumption and the significant decline in real earnings. Forward-looking indicators signal a further decline. Falling export revenues and investments, attributable to the low oil prices, as well as the sanctions applied by the West may further hamper growth prospects. In accordance with this, economists expect a significant contraction of around 3.8-4 per cent in 2015, but the projection has been revised upwards compared to March, due to the recent increase in oil prices.

3.1.2. Global inflation trends

Commodity prices remained low in the first quarter of 2015 (Chart 3-7). Although in recent months there was a correction in oil prices denominated in US dollars, oil prices continue to be moderate. This is explained, on the one hand, by the still high output of the OPEC countries and, on the other hand, by the weaker demand attributable to the slowing growth in the larger importer countries.

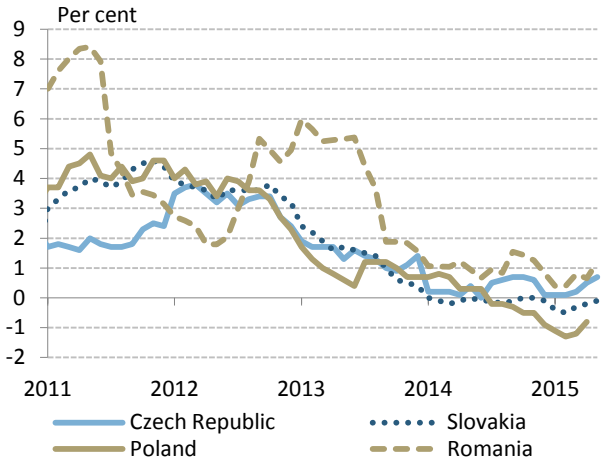
In the first months of 2015, industrial commodity prices continued to fall. Since August, there has been a significant decline in world metal prices, due to the weak demand – particularly in China – and to the expanding supply. The

Chart 3-8: Inflation in developed economies



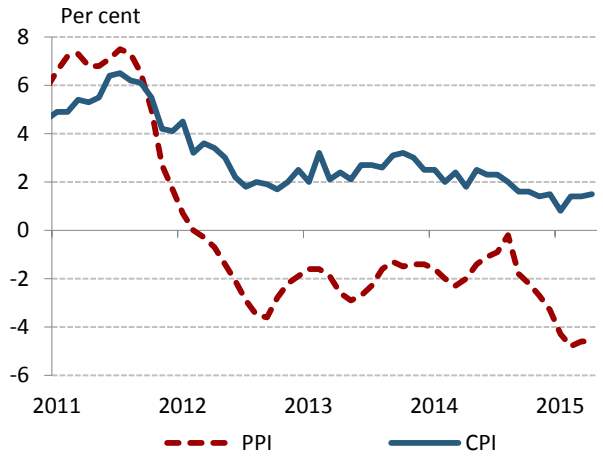
Note: Annual change.
Source: OECD

Chart 3-9: Inflation in CEE countries



Note: Annual change.
Source: OECD, Eurostat

Chart 3-10: Consumer and producer prices in China



Note: Annual change.
Source: National Bureau of Statistics of China, OECD

decline in agricultural prices also continued in the first quarter, which is possibly attributable to the improving supply prospects for most commodities.

The rate of increase in consumer prices continued to be below the target in the developed countries (Chart 3-8), **and looking ahead, according to the central bank forecasts the rate may remain below the target on a two-year horizon**. The developed countries are typically characterised by a continued negative output gap and moderate demand-pull inflation. Since commodity prices remain low, there is also no perceivable inflationary pressure from the expenditure side. In the United States, the annual change in the consumer price index fell into the negative domain in the first quarter of 2015, due to the low oil prices. The price increase calculated from the personal consumption expenditure (PCE), relevant in terms of the price stability mandate, also fell.

The annual growth rate of the consumer price index accelerated in the euro area in the first quarter. As a result of the oil price rise, inflation moved into the positive domain in May. This increasing trend may also be observed in the inflation of the core and periphery countries. In the United Kingdom, in April inflation was in the negative domain temporarily, and it was 0.1 per cent in May. In Japan, due to the absence of last April's VAT increase from the base, inflation significantly decreased in April. Although the quantitative and qualitative easing launched in 2013 raised inflation into the positive domain, it is still below the central bank's target.

Inflation remained low and was below target levels in the Central and Eastern European region (Chart 3-9). Average inflation in the region has increased in recent months, but was still near zero per cent. In addition to increasing energy prices, the increase in inflation was attributable to the significant rise in the price of alcoholic beverages and tobacco products – caused by a change in excise duties – in the Czech Republic and of the core inflation items in Poland. Within the region, Romania continues to record the highest inflation rate, but the difference compared to the other countries is gradually decreasing.

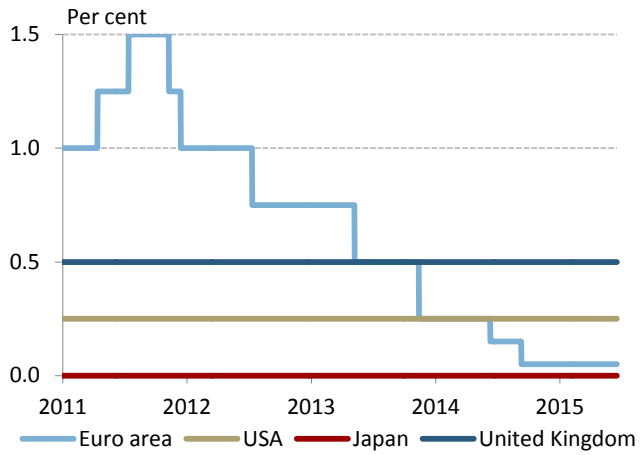
Of the larger emerging countries, **the rate of price increase is still moderate in China,** but producer prices fell in recent months in annual terms and the producer price index was –4.6 per cent in May (Chart 3-10). **By contrast, inflation in Russia accelerated after a continuous rise, reaching a thirteen-year high by March at 16.9 per cent,** mainly due to the pass-through of the weakening rouble exchange rate into import prices; then, in April a moderate decrease was observed. Based on the central bank's forecast, inflation

may fall to the 4 per cent central bank target by 2017.

3.1.3. Monetary policy and financial market developments

Due to the continued decline in inflation, a number of central banks moved to further ease monetary conditions in recent months, but expectations regarding the date of the first interest rate increase in the United States and the United Kingdom have been postponed. While the Fed and the Bank of England are still preparing the appropriate timing and degree of the interest rate increase, starting from March the ECB launched an asset purchase programme which includes government securities, to boost economic growth and reach the central bank's inflation target. In order to ensure that inflation and inflation expectations rise close to the target, the Swedish central bank also expanded its government bond purchases, in addition to the interest rate cut in March. In most countries, there are no such trends in terms of inflation and capacity utilisation that point to monetary tightening in the short run, and apart from this, certain countries may even consider easing their monetary stance further looking ahead. In New Zealand, Sweden and Norway, there are still risks related to household indebtedness and the real estate market. All this may justify the broader application of macroprudential tools.

Chart 3-11: Central bank rates in developed economies

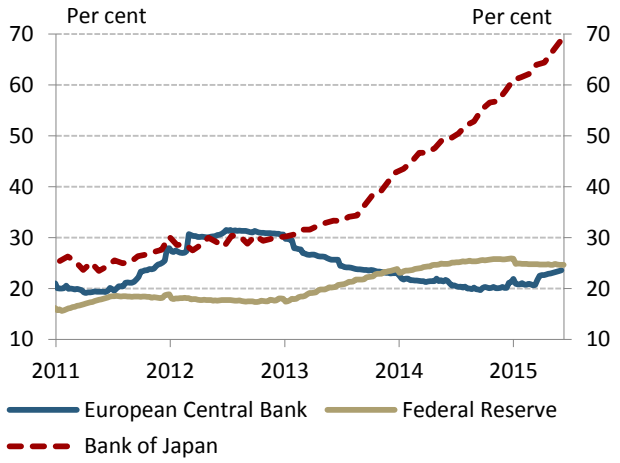


Source: Databases of central banks

In recent months, the Federal Reserve has not changed its policy rate (Chart 3-11), **nor announced any new measures.** In March, the former phrase according to which it will be "patient" when making the decision on the interest rate increase, was left out from Fed's forward guidance. However, in the communication it emphasised that despite the change, the interest rate increase is conditional upon the further steady decrease of unemployment and the return of inflation close to the target; in addition, it forecasted a much slower interest rate increase than previously expected. In line with expectations, the Fed maintained the policy rate in June, and thus the most economists regard September as the most probable date for the first interest rate increase. Based on the statement after the monetary policy meeting in June, a large majority of decision-makers regard 2015 as appropriate timing for policy-firming.

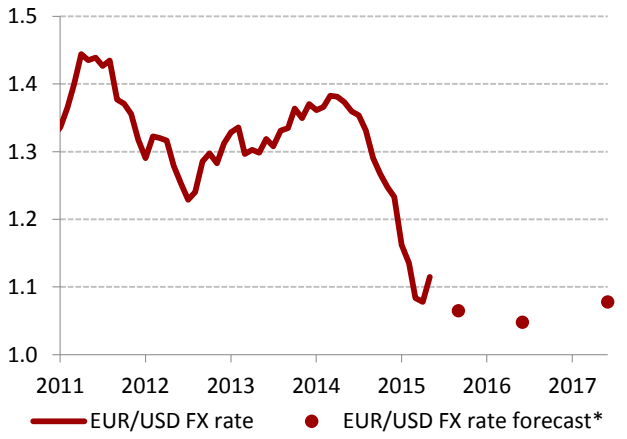
The ECB did not change its forward guidance, according to which the policy rate may stay at the current level over the longer run; the extended asset purchase programme may continue until September 2016 or until such time as the inflation rises steadily above the target. Based on the data published by the ECB at the end of May, during the extended asset purchases, launched on 9 March, the ECB and the central banks of the euro area purchased

Chart 3-12: Central bank balance sheet totals in developed countries (as a percentage of GDP)



Source: Databases of central banks, IMF, Eurostat

Chart 3-13: Changes in the EUR/USD exchange rate



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

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 May, government bonds were purchased in the value of EUR 146 billion as part of the quantitative easing (Chart 3-12). The weekly distribution of the purchases was almost even, with the weekly volume of purchases moving around EUR 10-16 billion. In mid-May the ECB announced that, bearing in mind the seasonal volatility of the bond markets, it would slightly increase the government securities purchases in May and June to ensure that with the reduced purchases in July and August, in line with the lower liquidity, the monthly purchase of EUR 60 billion on average can be fulfilled. It also emphasised that in addition to the brought-forward excess purchases, higher purchases may be also postponed to September, as necessary.

The euro exchange rate versus the US dollar has been depreciating since April 2014 mostly as a consequence of the different monetary policy stance, and this process was further strengthened by the extension of the asset purchase programme; however, in May 2015 it could once again strengthen as a result of the unfavourable US macro data and the increased inflation expectations in the euro area (Chart 3-13).

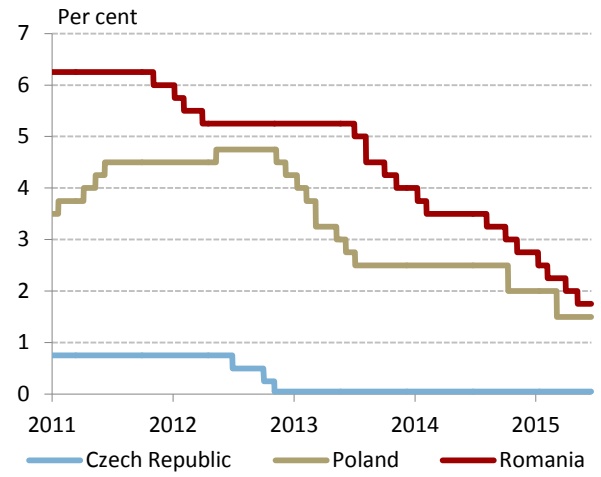
The Bank of England maintained its guidance, which was modified due to the unemployment threshold being reached. In that guidance, the central bank stresses that the interest rate would be raised only gradually, with the timing, extent and progress of the increase depending on economic conditions and various indicators linked primarily to capacity utilisation and the labour market. Based on market expectations, the first anticipated interest rate increase by the Bank of England was postponed to the beginning of 2016, in view of the fact that inflation is now negative and still falls far short of the target.

Of the central banks in the emerging countries, in response to the slowdown in the Chinese economy, the central bank of China cut its policy rate on two occasions and also modified its lending programme. In order to stimulate the economy, the central bank of China cut the one-year policy lending rate by 25 basis points in March and then by another 25 basis points in May to 5.1 per cent. It also cut the rates for the Standing Lending Facility (SLF) programme, and almost trebled the liquidity available under the programme, accompanied by the expansion of its Medium-term Lending Facility (MLF) programme. In addition, it also decided to reduce the required reserve ratio to increase liquidity in the banking system and encourage bank lending and stimulate economic growth.

Looking ahead, due to the downward pressure on inflation and economic deceleration, further easing of the monetary stance can be expected. **In March, in April, and then in June, the Russian central bank cut its policy rate to 11.5 per cent by 100, 150 and 100 basis points, respectively, due to the decreasing risk of inflation and the decelerating economy.**

Central banks in the Central and Eastern European region maintained loose monetary conditions (Chart 3-14). In line with its announcement on the end of the easing cycle made after its decision in March, the Polish central bank decided to maintain the policy rate in April, May, and June as well. The Romanian central bank reduced the base rate in two steps from 2.25 per cent to 1.75 per cent, citing the more moderate-than-expected development of inflation. In recent months, the Czech central bank has maintained its key policy rate at 0.05 per cent and indicated that it remained committed to this level even longer than previously anticipated, presumably until the second half of 2016 in order to maintain accommodative monetary conditions. The decision-makers signalled that, if necessary, they were ready to modify the exchange rate threshold towards a weaker exchange rate.

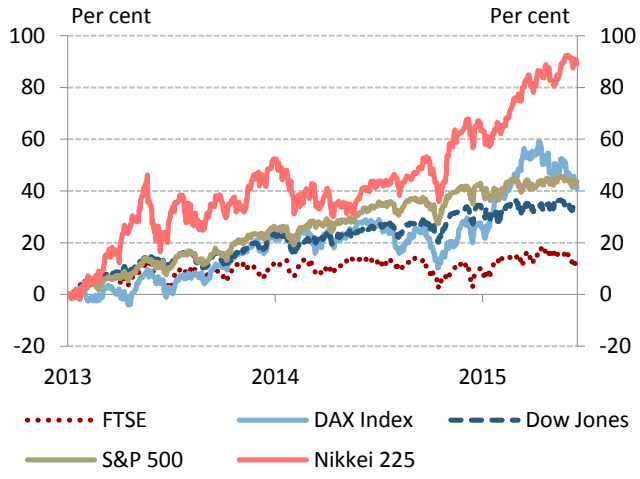
Chart 3-14: Central bank rates in CEE economies



Source: Databases of central banks

Global market sentiment in the previous period deteriorated, which was reflected in the decrease in equity prices and the soaring of the bond yields in general. The major stock market indicesdecreased notably in Europe and slightly in the US (Chart 3-15), while in the second half of the period a bond sell-off, accompanied by a sudden yield increase, swept through the developed and emerging bond markets, albeit by the end of the period yields slightly adjusted. The dollar still stands stronger to the euro compared to the beginning of the year, although the euro was recently able to appreciate against the US currency. The market paid special attention to Fed's communication during the period under review. While the date of the first US interest rate hike is still rather uncertain, expectations now point towards a rate increase in September. Based on the incoming data (improvement in the labour market and inflation), the Fed may decide on the interest rate increase, but in recent periods these figures did not present a clear-cut picture, and thus increased volatility in the markets is probable in the coming months as well.

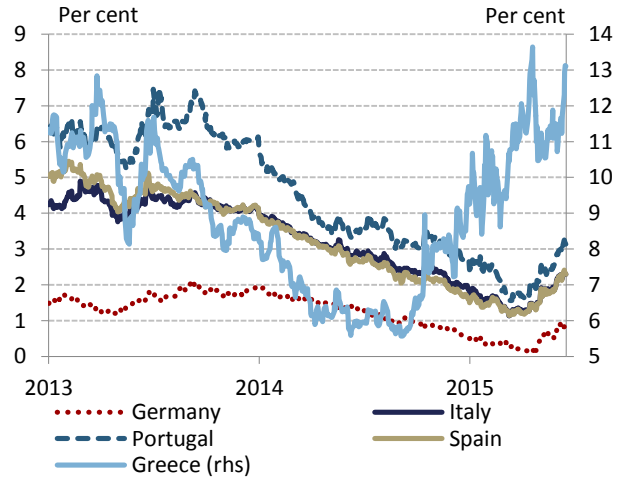
Chart 3-15: Leading stock exchange indicators



Note: 1st January 2013 = 0.
Source: Bloomberg

In the euro area, apart from the unfavourable impact of the prolonged Greek tensions, the most important development in the second half of the period was the sudden yield increase in the core countries (and in parallel with that in the periphery countries) (Chart 3-16), which was in part attributable to technical factors (adjustment of

Chart 3-16: 10-year periphery and German bond yields



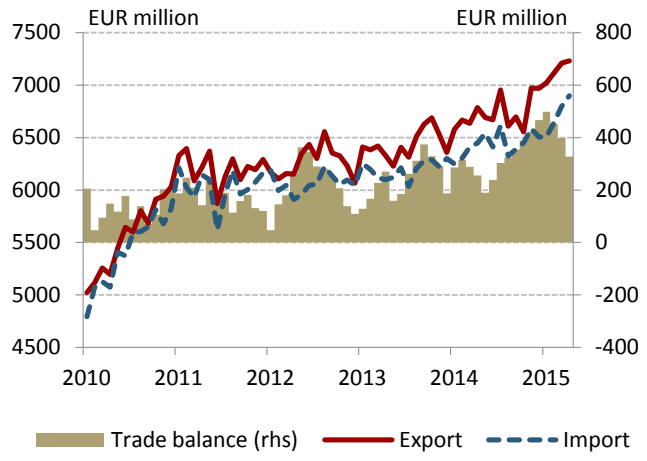
Source: Bloomberg

the previous market "overshoot") and in part to the pricing-out of deflationary concerns, and the improving growth prospects.

3.2. Aggregate demand

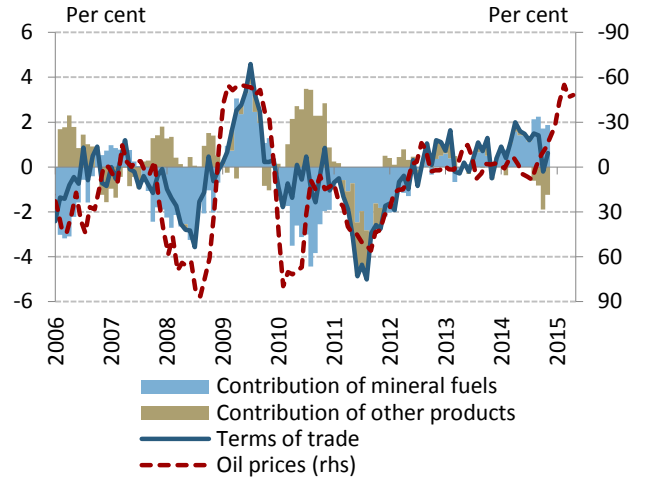
In the first quarter of 2015, Hungary's GDP expanded at a rate of 3.5 per cent year-on-year. The structure of the growth was balanced, as observed in the previous quarters. The recovery in domestic demand was driven by consumption growth. Net exports also made a positive contribution to growth, as a result of strengthening exports.

Chart 3-17: External trade in goods



Source: HCSO

Chart 3-18: Evolution of terms of trade and oil prices



Note: Chart shows the six-month delay of oil prices on reverse scale. Annual change.
Source: HCSO, IMF

In the first quarter of 2015, Hungary's gross domestic product expanded by 3.5 per cent. The structure of growth continued to be balanced, similar to previous quarters. Domestic demand was driven by consumption, while the growth contribution of net exports was also positive. Compared to the fourth quarter of 2015, GDP expanded by 0.8 per cent.

3.2.1. External trade

Net exports continued to grow strongly in the first quarter. Exports of both goods and services increased in year-on-year terms. The growth in goods exports was primarily explained by the run-up of a significant car manufacturer's production, as well as the recovery in international economic activity (Chart 3-17). The recovery in tourism demand and growth in transportation and other business services both contributed to the expansion of services exports. In the first quarter of 2015, imports grew slower than exports, which may be explained by the slowdown in investments with high import content. Based on the incoming data, Hungary's trade surplus continued to increase.

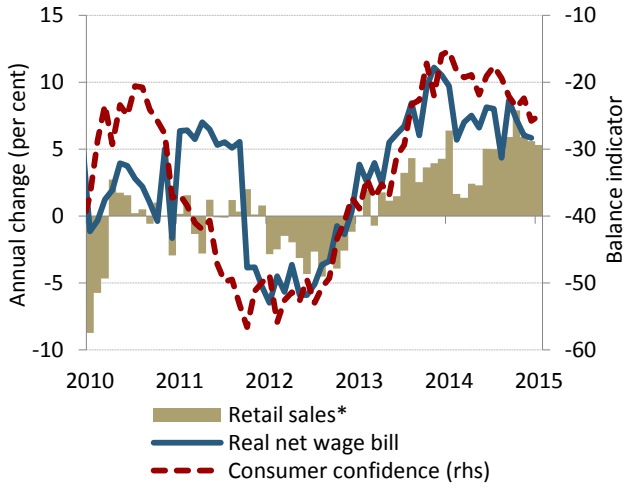
In the first quarter of 2015, there was no significant change in Hungary's terms of trade (Chart 3-18). Since Hungary's net energy imports are substantial, world fuel prices play a key role in the development of the terms of trade. In it own right, the decrease in the oil price in the recent period would suggest an improvement in the terms of trade, but the machinery industry's export prices decreased. As a result, the terms of trade did not change.

3.2.2. Household consumption

After last year, the growth of the household consumption expenditures continued in the first quarter of 2015 as well, which is explained primarily by the improving labour market situation and dynamically increasing real wages in the low inflation environment (Chart 3-19). In addition, the volume of retail sales showed stable growth, but with slowing dynamics.

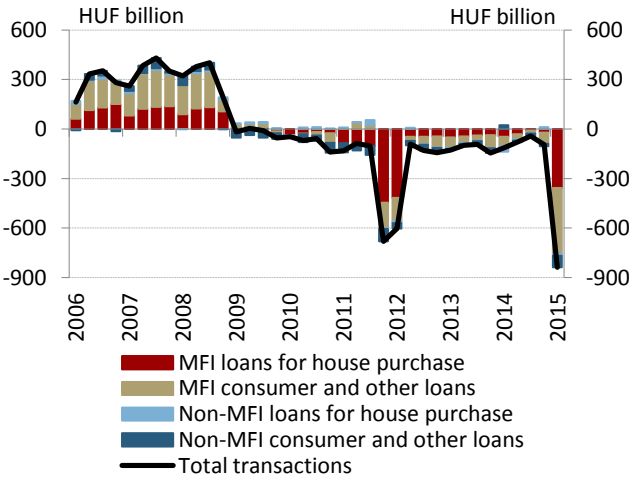
The saving rate remains high similar to the end of last year, but precautionary savings may begin to decline gradually. This is supported by falling unemployment and the declining exchange rate risk as a result of the conversion of households' foreign currency loans into forints. The recovery in consumption intentions may be

Chart 3-19: Developments in retail sales, income, and the consumer confidence index



Note: *April 2015 based on preliminary data.
Source: GKI, HCSO

Chart 3-20: Quarterly transactions in loans to households from domestic financial intermediaries by credit purpose



Note: Loans granted by credit institutions and other financial intermediaries. Seasonally unadjusted transactions.
Source: MNB

reflected by stabilisation of the consumer confidence index at a high level.

Settlement and conversion into forints has considerably reduced household indebtedness. In the first quarter of 2015, the total outstanding credit claims of the entire financial intermediary system, calculated at the current exchange rate, fell by about HUF 838 billion on a transaction basis (this equals about HUF 488 billion at the exchange rate used for conversion into forints) (Chart 3-20). At the same time, the structure of the outstanding loan portfolio has also been completely transformed: the ratio of foreign currency loans within outstanding loans to households fell to below 7 per cent by the end of the first quarter, from over 50 per cent in the fourth quarter of 2014. With the decline in outstanding debt and the resetting of the fair interest rates, the debt service burden of households has decreased significantly, which – looking ahead – may boost the sector's demand for loans through consumption. Based on the household lending survey of MNB performed in August 2014, with a 15 per cent[1] decrease in the instalment, about half of the performing foreign currency loan-holders would spend a minimum of 80 per cent of the income thus released on consumption.

Households' housing loan demand remained roughly the same quarter-on-quarter, while in the case of consumer credit banks reported a decline in demand (this is explained in part by the entry into force of the debt cap rules, and in part by postponements due to settlement). However, on an annual basis new loan issuance increased, primarily in the case of housing loans. The rising trend in new lending may have been supported by decreasing loan costs, increasing house prices, growth in the net wage bill, and households' rising net financial worth.

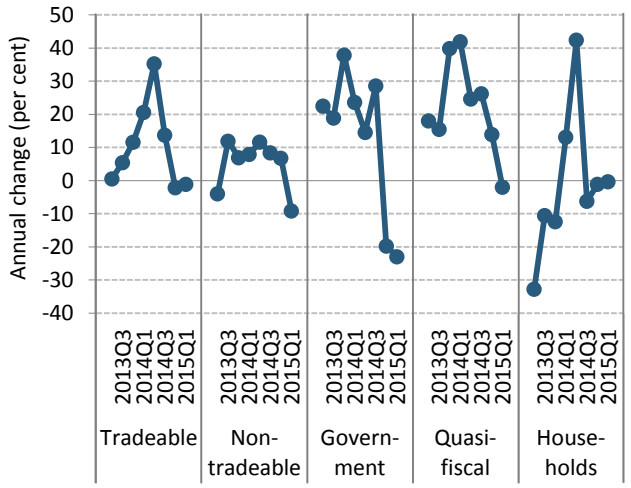
3.2.3. Private investment

The volume of whole-economy fixed investment decreased in the first quarter. This slowdown was primarily explained by the decreasing investments of the public sector caused by the peak in the utilisation of the EU funds at the end of last year. Moderate growth was seen in a wide range of industries.

The decline in corporate sector investments in the first quarter of 2015 was mainly caused by industries producing for the domestic market, and to a lesser extent by export-oriented companies (Chart 3-21). The

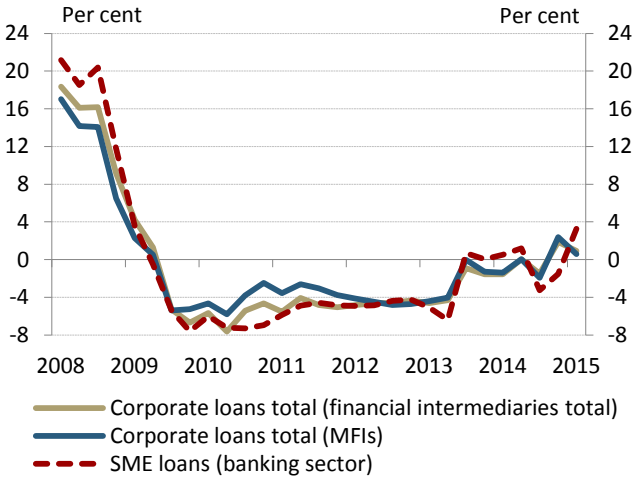
[1] The instalment burden of a debtor who previously had a foreign currency mortgage loan decreased by about 20-25 per cent, with a high level of heterogeneity, as a result of the decreased principal debt due to the refunding of the exchange rate spread and the unilateral interest rate increases, and the resetting of fair interest rates.

Chart 3-21: Development of sectoral investments



Source: HCSO

Chart 3-22: 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

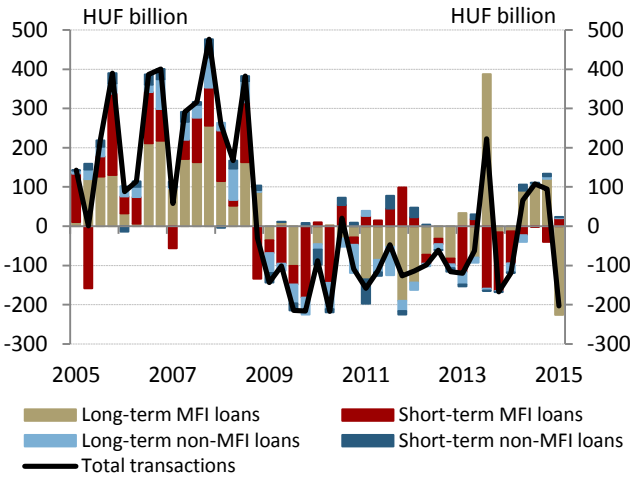
slight decrease in the investment performance of export-oriented sectors was attributable to sectors with lower weight (agriculture, mining), while the investment activity of the manufacturing sector stagnated. Within the manufacturing sector, investment in the sectors of tyre manufacturing (in part caused by the base effect), plastic product manufacturing, and textiles and electronics decreased, which was offset by the increase in investment by vehicle manufacturing, chemical industry and pharmaceutical companies.

Investment activity by industries related to the public sector was driven by the acceleration in the utilisation of EU funds in 2013. By the end of 2014, the drawdown of EU funds was close to its peak and thus public investment decreased in the beginning of the year. In addition, the investment activity of the quasi-fiscal sector also fell. The decline in the case of these sectors is primarily explained by the base effect: due to the increasing utilisation of EU funds and the mild winter weather, investment activity was high in the beginning of 2014.

The gradual growth in household investment activity continued in the first quarter, in line with the slow recovery in housing market figures. Housing investments may have been supported, in addition to rising real incomes, by the low interest rate environment through several channels. On the one hand, falling loan costs may have facilitated quality improvement in the existing housing stock, and thus the implementation of renovations postponed during the years of the crisis may have contributed to the upswing in household investments. On the other hand, the low interest rate environment may have contributed, through the rise in housing loans, to the recovery of the used home market experienced in the previous quarters and also to the gradual increase in new home construction.

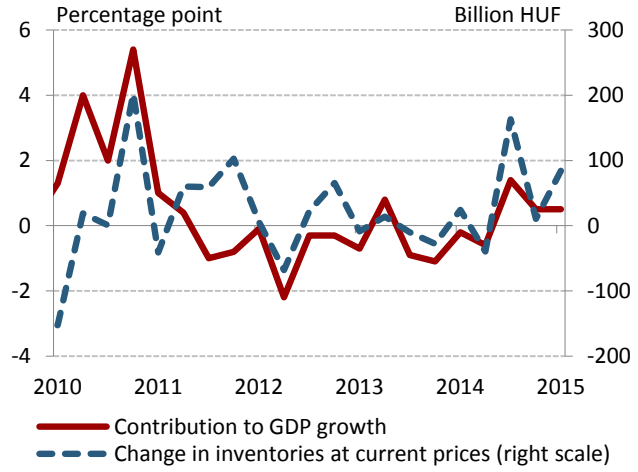
The dynamics of lending to small and medium-sized enterprises improved in the first quarter of 2015. As a result of the repayment of an individual syndicated loan and the larger decline in foreign currency loans, the corporate credit portfolio of the overall financial intermediary sector fell by HUF 203 billion. In annual terms, the total corporate credit portfolio increased by 0.9 per cent on the whole, while the transaction-based portfolio growth rate of the banking sector's SME loans rose to 3.3 per cent (Chart 3-22). Based on the Lending Survey, demand increased primarily for long-term loans, mainly due to the scarcity of other sources of finance and rising demand for tangible asset investment (Chart 3-23). Financing with favourable conditions is still available for

Chart 3-23: Quarterly transactions in loans to non-financial corporations from domestic financial intermediaries



Note: Loans granted by credit institutions and other financial intermediaries. Seasonally unadjusted transactions.
Source: MNB

Chart 3-24: Changes in inventories and their contribution to GDP growth



Note: National Accounts data.
Source: HCSO

SMEs through the Funding for Growth Scheme which was prolonged until the end of the year, while the FGS+ provides favourable financing opportunities to riskier SMEs. On the supply side, 30 per cent of the banks participating in the Lending Survey eased their credit conditions. The level of interest rates and spreads of new high-amount corporate forint loans decreased as well as in the case of euro-denominated loans, but on the whole – bearing in mind the former wide-scale tightening of conditions – credit conditions are still relatively strict.

3.2.4. Government demand

Government demand in the first quarter was determined by the fiscal policy focusing on the low general government deficit. The investment demand of the government-related industries declined, mainly as a result of the base effect. The increase in government transfers measured at current prices was typically linked to wage raises in the education and healthcare sectors, while with the EU budget cycle nearing its end, the decrease in public consumption is explained by the material expenditures which were more moderate than before and by the decline in services used by the government.

3.2.5. Changes in inventories

In the first quarter, the changes in the inventories of the national economy also made a positive contribution to growth, which was primarily attributable to the increase in the inventories of the manufacturing and commercial sectors (Chart 3-24).

Box 3-1: The trend of Hungarian external trade in goods with Russia and Ukraine

Escalation of the Russian-Ukrainian conflict and the battles in eastern Ukraine have had serious negative consequences for both the Ukrainian and the Russian economies, which, through external trade relations, may have had a negative impact on economic developments in Hungary. In addition to direct demand effects, a considerable depreciation of exchange rates and a substantial drop in oil prices last year also had a significant adverse impact on the pattern of trade. This Box provides an overview of the trend in Hungarian exports and imports with regard to these countries in recent quarters.

During the previous year, a number of factors affected external trade flows, with impacts in different directions on Hungarian external trade.

- On account of the Russian-Ukrainian conflict, the economies of both countries have contracted, and declining demand reduced demand for Hungarian export products.
- Sanctions against Russia imposed by the international community and the import restrictions introduced by Russia in response may have also reduced Hungarian exports further.
- The sharp decline in oil prices in particular may have decreased the value of Russian energy imports.
- Both the Ukrainian and the Russian currencies depreciated in the second half of the year. On the one hand, this reduced the revenues of Hungarian exporters in forints. The US dollar strengthened significantly, while the euro weakened during the same period.

Trade activity experienced in the main sectors resulting from all these impacts can be explained by different components. **Falling export sales are attributable partly to declining Russian and Ukrainian demand, and partly to falling revenues calculated in forints, while the reduced import value of energy was primarily caused by the sharp decline in oil prices.**

Table 3-1: Development of the commercial weight and turnover of trade of goods with Russia and Ukraine

Russia		2013	2014	2015 Q1
Export	weight within total exports (per cent)	3.1	2.5	1.7
	HUF billions	750	656	119
	trade value (annual change, per cent)	1.3	–12.5	–30.4
	trade volume (annual change, per cent)	0.6	–4.0	–28.0
Import	weight within total imports (per cent)	8.6	7.0	3.9
	HUF billions	1895	1680	238
	trade value (annual change, per cent)	1.9	–11.4	–44.8
	trade volume (annual change, per cent)	5.9	–0.8	–25.5
Balance	HUF billions	–1145	–1024	–119

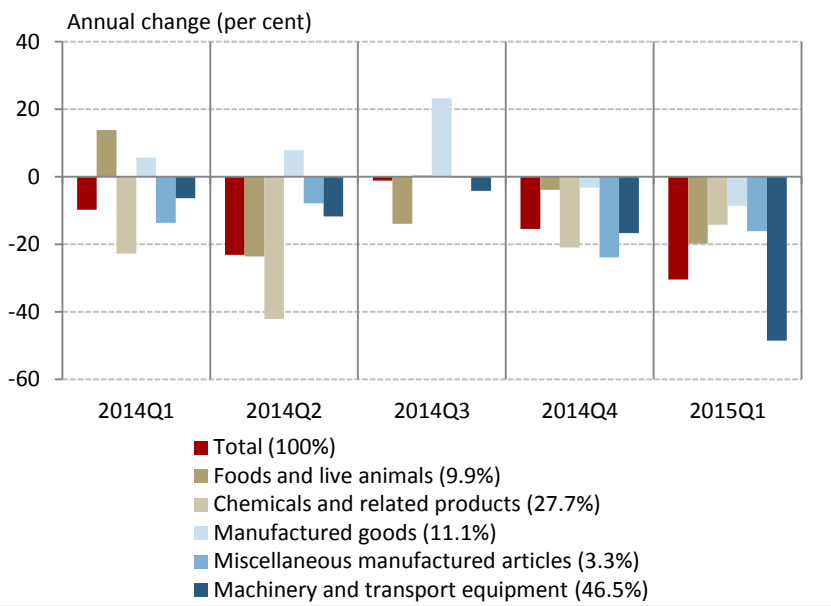
Ukraine		2013	2014	2015 Q1
Export	weight within total exports (per cent)	2.4	2.0	1.8
	HUF billions	575	524	123
	trade value (annual change, per cent)	11.8	–8.9	–1.3
	trade volume (annual change, per cent)	115.2	15.4	94.5
Import	weight within total imports (per cent)	1.6	1.6	1.1
	HUF billions	366	393	65
	trade value (annual change, per cent)	3.9	7.4	–37.6
	trade volume (annual change, per cent)	8.9	18.1	–53.7
Balance	HUF billions	210	131	58

Source: HCSO

Out of the two countries, Russia is the larger commercial partner, primarily due to Hungary's substantial energy imports. Comparing export figures, exports to Russia are approximately one-third higher, while Hungarian imports from Russia are almost five times higher than from Ukraine.

Hungarian exports have declined mainly to Russia, as exports last year decreased by 12.5 per cent, with this decline accelerating in the first quarter of this year, as exports were 30 per cent lower than in the first quarter of 2014. During the same period, import volumes also declined by 11 per cent. However, the bigger part of this decline is the price-effect due to the depreciation of the hryvnia and rouble and the decline in oil prices, while in the traded volumes we can see a much smaller drop in exports and stagnation in imports.[2] In the first quarter of 2015, this price effect disappeared in exports, but was still significant in imports. Hungarian exports to Ukraine were 9 per cent lower, and the volumes in the first three months of this year only declined by 1.3 per cent.

Chart 3-25: Evolution of Hungarian exports of goods to Russia by sectoral breakdown



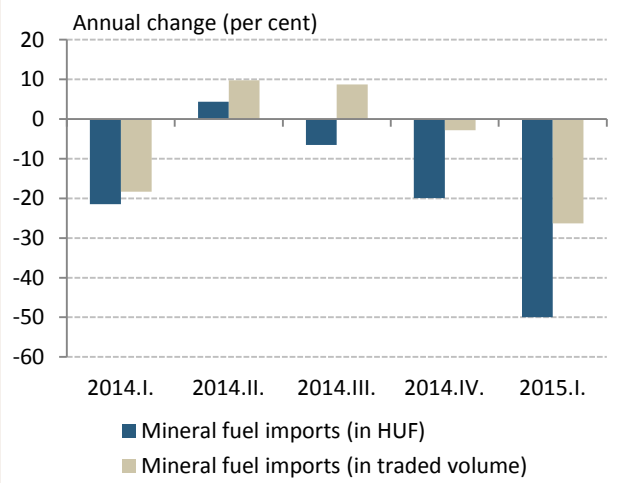
Note: Foreign trade in goods, annual change.
Source: HCSO

Looking at the detailed export flows, it can be seen that in the previous year exports slowed down in almost all product groups, but the rate of decline was moderate and was partly caused by exchange rate depreciation (Chart 3-25). Revenues of Hungarian exporting corporations declined significantly (financial sector, chemical industry), because of the depreciation of the Russian and Ukrainian currencies. Following the mild decrease last year, in the first three months of this year the decline accelerated in all sub-sectors of external trade. Exports of machinery and transport equipment fell by one half in the span of one year, and export figures of the beginning of the year reflect the exchange rate impact to a lesser extent, and the quantities sold declined at a similar rate. In the case of imports, the value of imports from Russia declined considerably last year, of which 90% is made up of energy imports. The significantly falling imports shrank further in the first months of this year, but most of this drop can be explained by changing oil prices[3] (Chart 3-26) and not by falling volumes. At the same time, imports from Ukraine declined less last year, but in the first quarter of this year a more significant reduction was observed. Apart from declining oil prices, the depreciation of the Russian and Ukrainian currencies has also had a negative impact on Hungarian companies; exports of chemical corporations (Chart 3-27) increased in volume last year, while their revenues converted to forint declined considerably.

[2] We analysed the trade data in forints and traded weight. In the second approach, in the case of Russia, the relative weight of the traded product groups compared to each other did not change significantly. In the case of exports to Ukraine, the composition effect makes it difficult to assess the data.

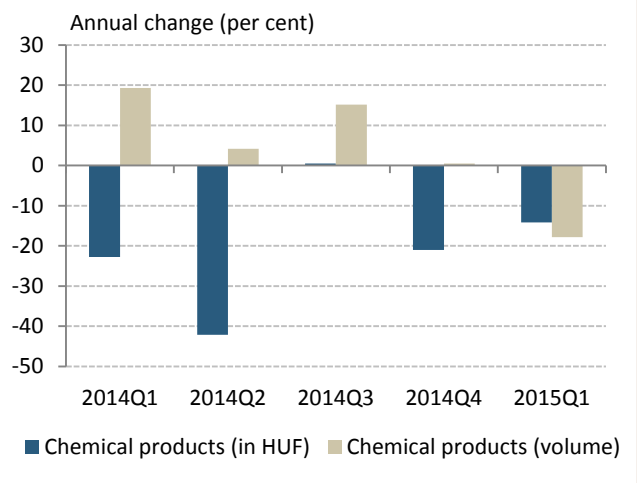
[3] In the case of Russian energy imports, traded volumes are settled in US dollars. Therefore, the substantial weakening of the rouble did not modify prices, as opposed to the sharp decline in oil prices. Although the exact mechanism is not disclosed, the decrease in oil prices could be included into the price of crude oil imported within one-two months, while in case of gas, it could be included with a delay corresponding to the gas price formula.

Chart 3-26: Development of mineral fuel imports from Russia



Source: HCSO

Chart 3-27: Development of Hungarian exports of chemical products to Russia



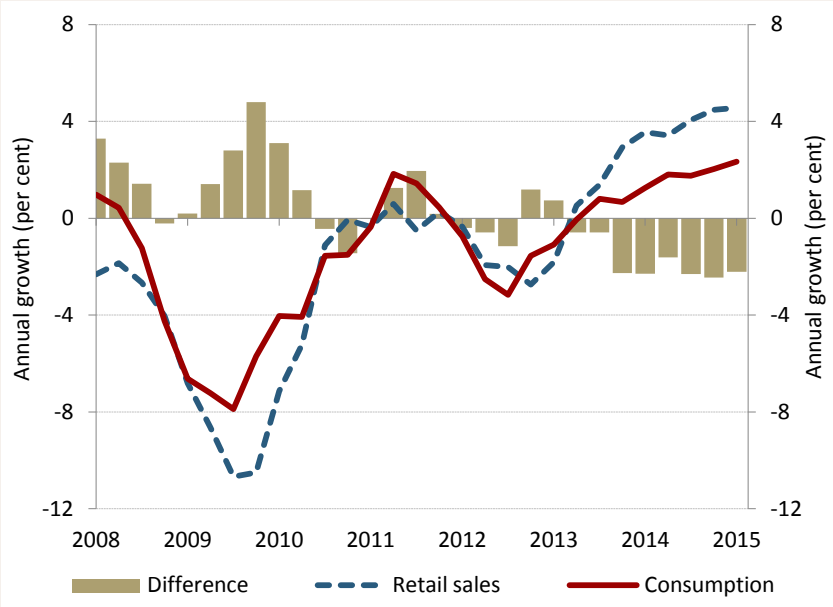
Source: HCSO

To summarise, following escalation of the Russian-Ukrainian conflict, external trade activities with the countries concerned declined, which was simultaneously caused by several factors. The direct demand impact in the course of the previous year may have been more moderate; however, in the first three months of this year it might have become more robust. The decline in oil prices and the partly related considerable exchange rate depreciation had a dual effect. Revenues of Hungarian exporters denominated in hryvnia and rouble have declined after calculation in forints, causing Hungarian export performance to deteriorate. The fall in oil prices, however, reduced the price of Hungarian imports primarily through crude oil imports, detectable in the decline in fuel prices, and, looking ahead, it might also play a role in the price developments of imported natural gas in the future.

Box 3-2: Reasons behind the difference between household consumption and retail trade dynamics

In the March forecast, we expected that domestic demand may remain the main driver of growth in the coming years as well. According to our forecast, consumption in this year may gradually pick up – in line with improving income processes and the easing of precautionary considerations. However, **the development of retail sales volume observed in the past quarters – the macroeconomic indicator which is relevant in terms of households' consumption demand – has departed substantially from the underlying consumption developments** (Chart 3-28). In the following, we review the factors influencing the dynamics of consumption and retail sales, and the statistical and economic reasons for the aforementioned gap.

Chart 3-28: Changes in consumption and retail sales



Source: MNB calculation based on HCSO data

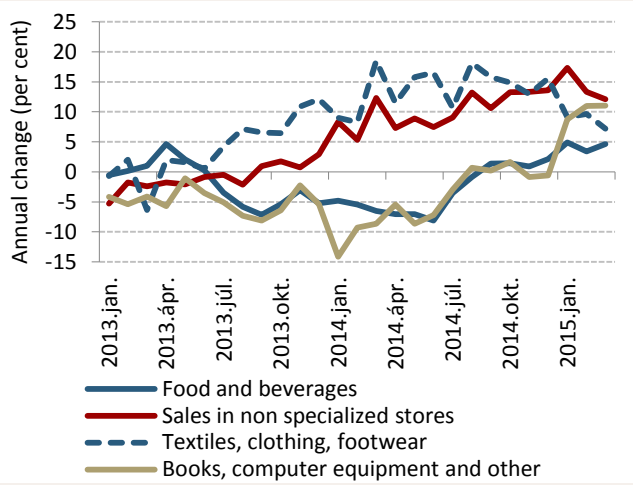
Households' consumption expenditure is the sum of purchased consumption (products and services), self-produced consumption (agricultural production and housing services provided by owners), and wages in kind (products and services provided by the employer to the employee free of charge or at a reduced price). Since the data sources used for the calculation of consumption measure the consumption of participants observed in the domestic economy rather than that of residents, the HCSO adjusts this sum by the difference of the purchases made by residents abroad and purchases made by non-residents in Hungary. According to the national accounts, the consumption of households consists of 57 per cent goods, 32 per cent consumption of services and 11 per cent imputed house rent, in the form of housing service. In the course of the quarterly estimation, the two main sources of data are the quarterly data of the Household Budget and Living Survey (hereinafter: HBLS) and the retail sales volume. The retail sales volume data are used primarily for the approximation of demand for durable consumer goods, while the information gained from HBLS is used for the estimation of households' demands for other goods. In the case of services, the availability of higher frequency full statistics is limited, and thus only the statistics of the individual sub-segments can be used (e.g. tourism data, data provided by the National Health Insurance Fund about healthcare provision, etc.), part of which is available only with a frequency longer than one month.

Since the retail sales volumes covers just about one half of total consumption expenditure, it is possible that retail sales dynamics depart substantially from underlying household consumption developments. At the moment, the main explanatory factors of this difference are as follows:

- **Whitening of the economy**: In 2014, revenue from value-added tax increased and came in well above economists' expectations. Last year, VAT revenues increased by 12 per cent, while the tax base related to the

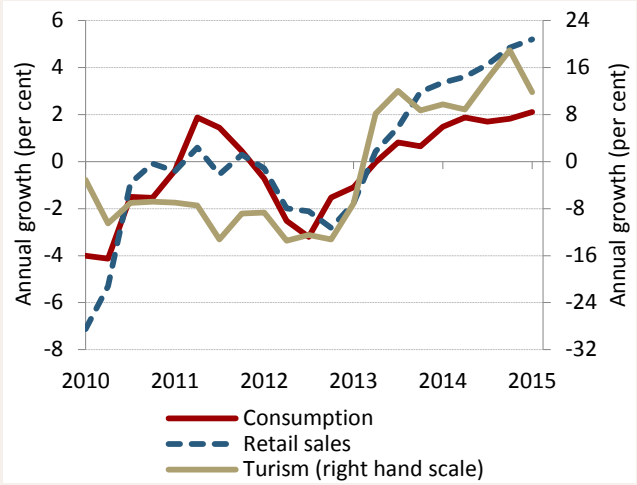
turnover tax expanded by 3 per cent (previously such change occurred only when the VAT rate was increased).[4] The whitening effect of the introduction of the online cash registers may have made a major contribution to this growth. The increase in VAT revenue was most spectacular in those segments of retail trade, where the black economy used to be substantial (Chart 3-29). In the first half of last year, grocery and clothes stores, as well as retailers of second-hand articles paid 26 per cent more VAT than before. Based on the foregoing, it is quite likely that the introduction of the online cash registers substantially increased the retail sales volume. The whitening effect mainly observed in retail sale sectors (retail sales of food), which trading volumes does not constitute the base of consumption estimation, because the consumption estimation use the HBLS data sets for these type of expenditures.

Chart 3-29: Evolution of retail sales in major commodity groups



Source: MNB calculation based on HCSO data

Chart 3-30: Consumption expenditure, retail sales and tourism demand of non-residents



Source: MNB calculation based on HCSO data

- **Tourism demand**: The retail sales volume also includes tourism demand, which accounts for about 6 per cent of total retail sales and has increased substantially in recent years. However, the accelerating tourism demand may soften the dynamics of household consumption demand due the aforementioned reasons, and as such it may contribute to the gap between the retail sales volume and household consumption (Chart 3-30).

- **Fuel demand of businesses**: The volume of motor vehicle fuel sold in the territory of the country forms part of the retail sales volume, but a significant part of the total fuel sales volume is for use by businesses. In the past period, the fuel sales volume, and thereby also the retail sales volume, was substantially increased by the significant, lasting expansion of the volume of diesel sales[5] – driven by the decreasing fuel prices – mostly for business purposes, which may have also contributed to the gap between households' consumption expenditure and retail sales volume growth.

On the whole, the development of the retail sales volume observed in the past has departed substantially from underlying consumption developments, but the retail sales continue to be the most relevant indicator in terms of households' consumption demand. In recent months, the volume of retail sales has shown further increase. Looking ahead, the difference between these two indicators may decline, primarily through the slowing dynamics of retail sales.

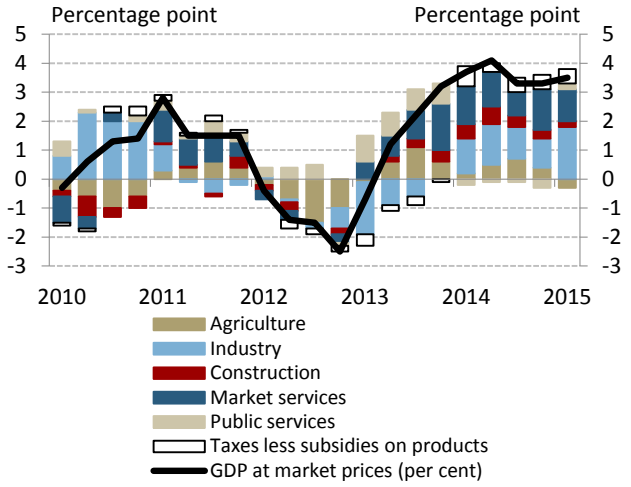
[4] Budget report, Analysis of the 2016 budget bill (May 2015) Magyar Nemzeti Bank, *http://english.mnb.hu/Root/Dokumentumtar/ENMNB/Kiadvanyok/mnben_public_finance_review/Koltsegvetesi_jelentes_2015_ENG_digitalis.pdf*

[5] In the first quarter of 2015, retail sales of petrol increased by 4.2 per cent, while the retail sales of gasoline increased by 15.6 per cent on a yearly basis.

3.3. Production and potential output

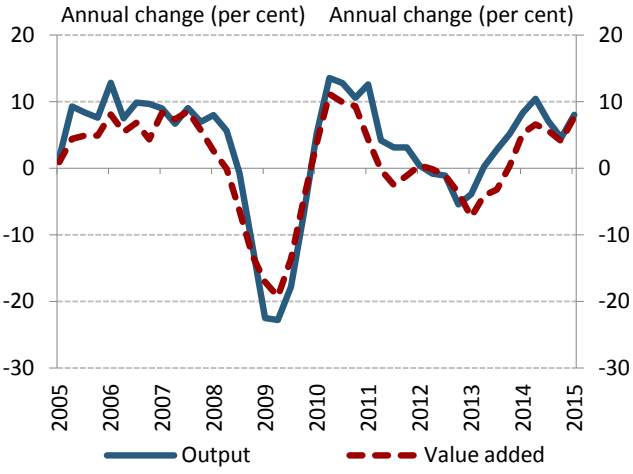
In the first quarter of 2015, the domestic economy continued to expand significantly, supported by a wide range of industries. Growth in industry was mainly due to vehicle manufacturing, while the performance of mining and the energy sector also improved. The increase in services was supported by the gradually pick-up in domestic demand, while the estimated contribution of agriculture was negative in the first quarter due to the high base arising from last year's outstanding harvest results.

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 industrial output and value added



Source: HCSO

In the first quarter of 2015, domestic output continued to expand in a wide range of industries in annual terms (Chart 3-31). Industrial production data from April also suggest continued growth in the second quarter of 2015. In addition, new export orders in industry were also at a high level in April 2015.

Value added in industry continued to increase in the first quarter. This expansion was supported primarily by the manufacturing sector, but the performance of the mining and the energy sector also improved. The gap experienced in the past years between the industry output and the dynamics of value added[6] decreased in the first quarter of 2015 (Chart 3-32).

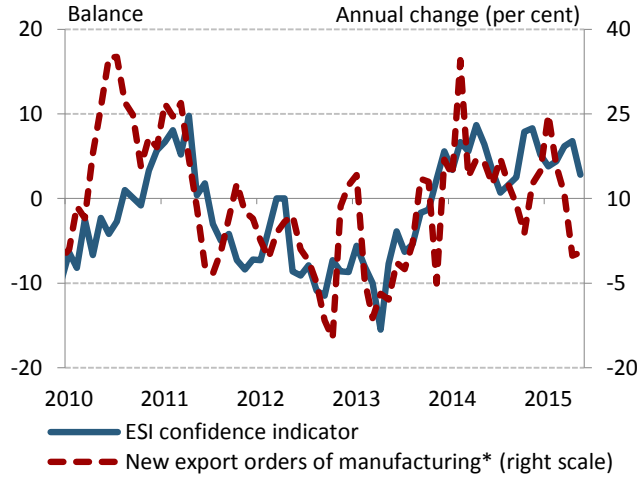
The vehicle manufacturing sector played a dominant role in the performance of industry in the first quarter. In early 2015, with the introduction of a new model at a significant car manufacturer, there was once again a significant upswing in the output of the automotive industry. In recent months, in addition to vehicle manufacturing, output increased in a wide range of industries.

On the whole, forward-looking indicators point to improving prospects. The value of the Ifo index, reflecting the prospects of the German economy, as well as confidence indicators for the Hungarian industry were above the historical average (Chart 3-33). The new export orders in hungarian industry contiuned to rise slightly.

The robust growth seen in construction output last year has decelerated somewhat, but even in the beginning of 2015 a robust increase was observed, despite the fact that outstanding orders have been contracting since the second half of last year. The growth in industry may be explained primarily by the increase in state infrastructure investments financed from EU funds. As a result of the decreasing volume of outstanding orders and the gradual exhaustion of funds provided in the 2007-2013 EU budget cycle, a decline in the sector's output can be expected this year (Chart 3-34).

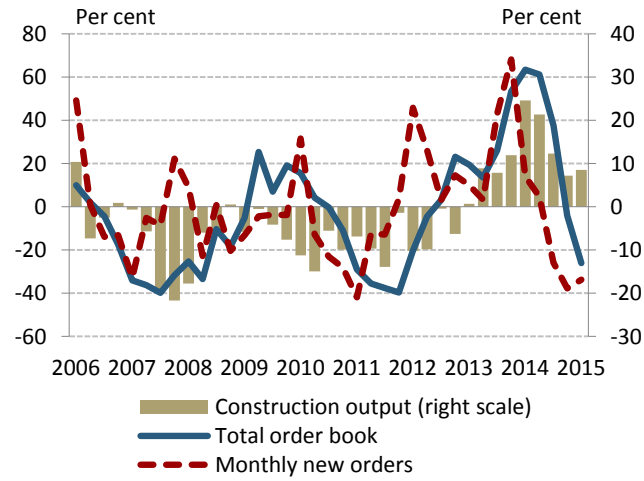
[6] We discussed the different dynamics of industrial output and value added, and with the causes thereof in Box 3-1 of the *Inflation Report* of March 2015.

Chart 3-33: Industrial business climate indicators



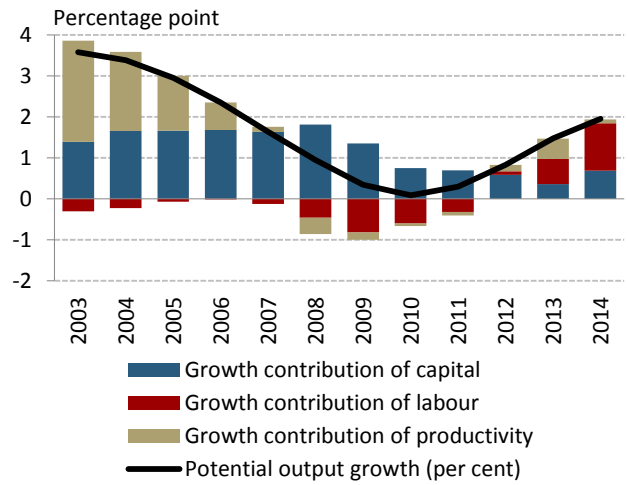
Note: *Three-month backward-looking moving average.
Source: European Commission, HCSO

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



Source: HCSO

Chart 3-35: Annual changes in potential output



Source: MNB

The estimated contribution of agriculture was negative in the first quarter, due to the high base arising from last year's outstanding harvest result. The HCSO estimates the value added of the sector in the first quarter based on technical assumptions; the final data will be determined depending on the harvest results of the next quarter. The first expectations related to this year suggest that the prospects are slightly lower for the harvest results than last year.

Value added in the service sector continued to increase in the first quarter in annual terms, which was typical in the majority of industries. The volume of retail sales recorded stable growth, with the expansion of sales affecting a broad range of products. Robust growth continued in April as well: turnover in foodstuffs and other non-food consumer durables increased significantly, in addition to fuels.

Value added in the catering and tourism sectors continued to grow substantially in the first quarter as well; the number of overnight stays increased by 9 per cent in annual terms. The upturn in tourism was supported by the improving income position of households and the wider utilisation of fringe benefits aimed at promoting domestic tourism. The turnover of accommodation establishments continued to increase strongly in April 2015 as well.

The performance of the financial sector remained moderate, in line with the declining credit portfolio. The modest increase in the real estate sector may be attributable to the increase in home construction, accompanied by the recovery in used home turnover.

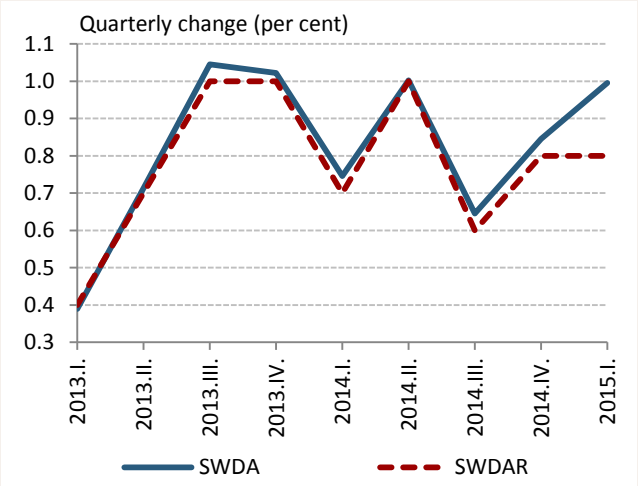
In parallel with rising demand, potential growth may have also recovered in 2014, and it has been around 2 per cent at the beginning of 2015 (Chart 3-35). Owing to the improving demand prospects, the strong expansion in investments contributed substantially to the increase in the economy's production capacity. In addition, improving employment prospects may have encouraged the return of the discouraged unemployed to the labour market, which may have contributed to the decline in long-term unemployment and eased the tensions between the labour demand and supply structure. The improvement of productivity may have also been supported by rising investments and easing financing constraints.

Box 3-3: Interpretation of the seasonally adjusted GDP time series

The examination of seasonally adjusted data is essential to identify and handle various noises hampering the interpretation of current economic processes. The primary objective of seasonal adjustment is to divide the information content of time series into different non-observable components, thereby visualising the extent of seasonal fluctuations and allowing the comparison of data between different quarters. However, a number of methodological features may complicate the interpretation of Hungary's seasonally adjusted GDP series.

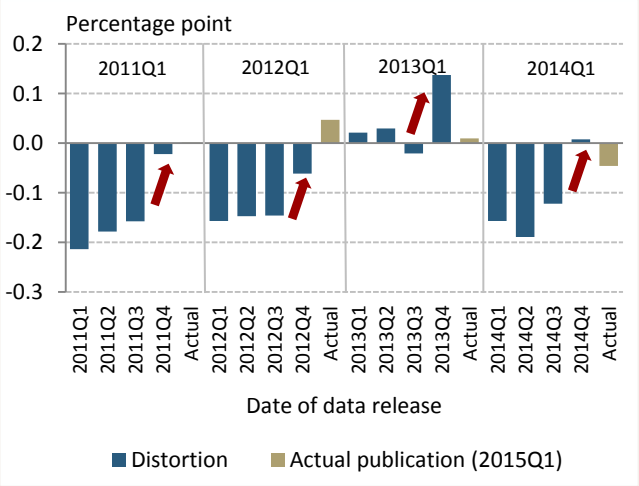
When the Hungarian Central Statistical Office (HCSO) publishes the gross domestic product series, in addition to the raw data it also publishes the calendar effects adjusted data (WDA) and the seasonally and calendar effects adjusted series (SWDA) as well. Although seasonal effects usually appear within the year, calendar effects may change between individual years due to the difference in the number of working days and holidays in each year, and thus a correction must be performed in order to ensure the comparability of the seasonally adjusted quarterly data with the annual data. The reconciled time series are the seasonally and calendar effects adjusted and reconciled data (SWDAR).

Chart 3-36: Quarterly changes in GDP series



Note: Data from 2015Q1 publication.
Source: HCSO

Chart 3-37: Distortion of quarterly change in Q1 GDP[7]



Note: The chart shows the difference between the seasonally adjusted (SWDA) and the seasonally adjusted and reconciled (SWDAR) GDP growth rates in the last four years, in different data releases.
Source: HCSO

Reconciliation typically does not distort the quarterly growth rates, but the case of the **first quarter data** is an important **exception** (Chart 3-36, Chart 3-37). Reconciliation can only be performed when data are available for all quarters of the respective year. In our case, the SWDAR time series can be prepared until the fourth quarter of 2014. Regarding the first quarter, SWDA data point of Q1 2015 is added to the SWDAR series, and thus the quarterly profile may change. The reconciliation of the full time series will be possible after the publication of Q4 2015 data; until then the series will be expanded by SWDA data points for 2015.

Based on the official seasonal adjustment performed by the HCSO, the quarterly SWDA growth for the first quarter of 2015 is 1.0 per cent, while the published quarterly SWDAR growth rate is 0.8 per cent. The degree of difference corresponds to that experienced in previous years, that the quarterly change in the SWDAR data for the first quarters is typically 0.1-0.2 percentage points lower than the quarterly change of SWDA time series (Chart 3-37). As a result of the reconciliation possible in the fourth quarter, the differences have typically corrected. **Regarding the first quarter, the SWDA series may provide a more accurate view of the current stance of the economy.**

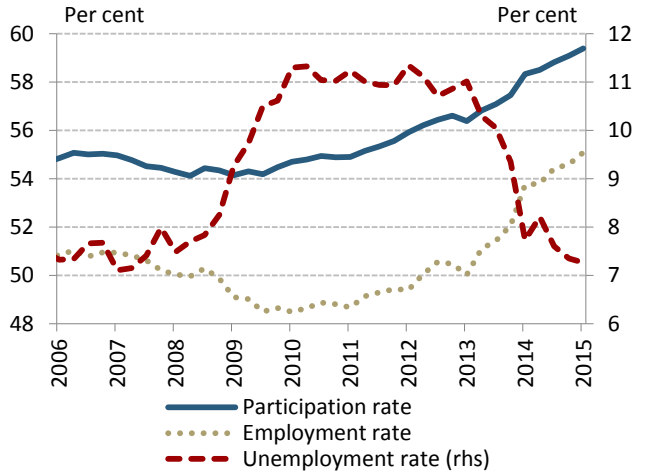
[7] The horizontal axis of Chart 3-37 shows the different publications, while the vertical axis shows the degree of distortion. The distortion of Q1 data dynamics captures the differences of SWDAR and SWDA time series in different publications. According to the chart, the relatively high distortion in the first quarters of the respective years has gradually been corrected by the end of the year. The difference of Q1 SWDAR and SWDA dynamics typically has stabilised in the next publications after the fourth quarter.

At the same time, the seasonally adjusted **time series of the gross domestic product are characterised by substantial end-point uncertainty**, thus the incoming new data points may have a material impact on the quarterly growth rates, even retrospectively. It is expedient to use the raw series as well to treat this problem, because they are the base of subsequent seasonal adjustments.

3.4. Employment and unemployment

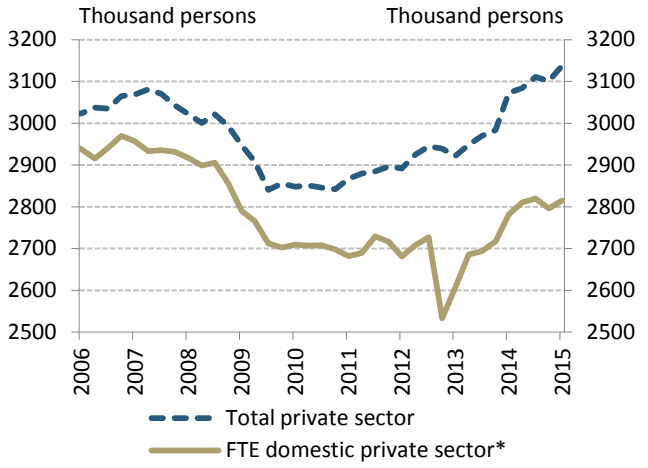
Total employment increased in the first quarter, which was primarily due to the increase in the private sector workforce. The unemployment rate decreased further in early 2015. Labour market tightness stabilised at the level experienced in the previous quarters.

Chart 3-38: Participation, employment, and unemployment rate in the total economy



Source: HCSO

Chart 3-39: Evolution of employment in the private sector



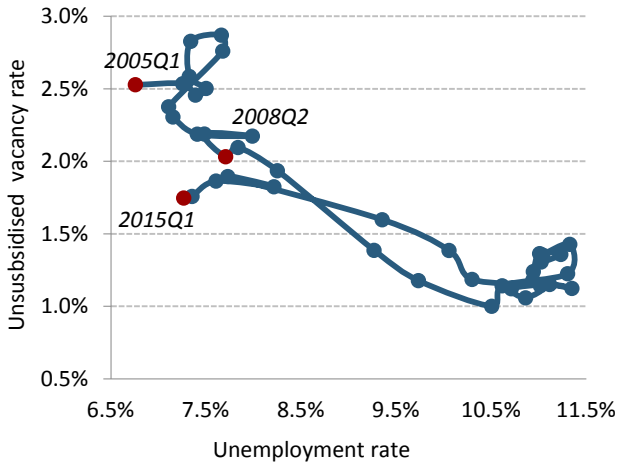
Note: * Full-time equivalent without workers employed abroad.
Source: HCSO

Labour market participation increased in the first quarter of 2015. In the fourth quarter, the participation rate for the 15–74 age group was 59.4 per cent (Chart 3-38). Groups which are loosely linked to the labour market, but potentially willing to work (the discouraged workers) continued to flow into the labour market. This may have been attributable to the improving employment prospects and public work programmes.

At the beginning of the year, the number of employees in the national economy continued to increase further, mostly attributable to the rebound in private sector labour demand. The increase in the number of private sector employees was primarily related to market services, where the reversal of the decrease in the previous quarter could be seen in the first quarter of 2015. Based on the seasonally adjusted data, the number of employees in the manufacturing sector has not changed significantly. The per capita number of hours worked by full-time and part-time employees increased, and thus full-time equivalent private sector employment also rose (Chart 3-39).

The unemployment rate decreased slightly in the first quarter of 2015. After a steady decrease since 2013, the number of the long-term unemployed stabilised at the level of the previous quarter. The stock of non-subsidised vacancies remained at a similar level as in the fourth quarter of 2014. The number of non-subsidised new jobs increased slightly in the beginning of the year, but it still has not reached its pre-crisis level. The labour market has gradually become tighter since 2013. There was no substantial change in the tightness in the previous quarters (Chart 3-40).

Chart 3-40: Development of the Beveridge curve

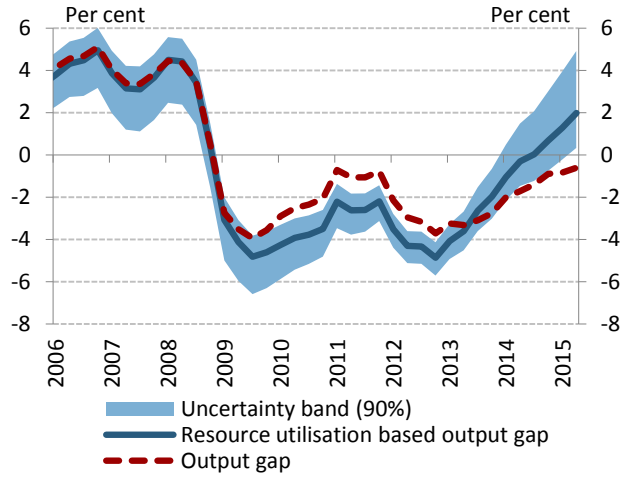


Note: The non-supported vacancy ratio indicates the ratio of non-supported vacancies to active workers in the quarter.
Source: MNB calculation based on National Employment Service and HCSO data

3.5. The cyclical position of the economy

As the Hungarian economy is still likely to be characterised by substantial unused capacities, inflationary pressure from the real economy could remain moderate in the first quarter of 2015. At the same time, the increase in capacity utilisation indicators may suggest that the output gap is gradually closing.

Chart 3-41: 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 uncertainty band reflects the uncertainty of that estimate. For a detailed description of the methodology, see: Rácz O. M. (2012): Using confidence indicators for the assessment of the cyclical position of the economy, MNB Bulletin, June 2012.

Source: MNB

In line with the moderate underlying inflation developments, **our estimation of the output gap** – which captures domestic inflationary pressure – **continues to be negative** (Chart 3–41).

Several confidence indicators reached their pre-crisis levels and the unemployment rate came close to its pre-crisis level, which may suggest a gradual decrease in unused capacities. The continuous increase in confidence indicators based on company surveys may point to a more intensive capacity utilisation via the pick-up in demand (we deal with the difference between the capacity utilisation ratios and the output gap in more detail in Box 3-4).

Based on company surveys, the demand shortfall curbed the expansion of production to a decreasing degree in recent months. By contrast, since 2013 there was a significant rise in the number of companies citing labour shortage as a constraint to production. The higher level of the output gap indicator based on the utilisation of resources is justified by the fact that the improving capacity utilisation is mainly typical for those sectors that are less important in terms of aggregate inflationary pressure.

The assessment of the cyclical position of the Hungarian economy has not changed materially since the March *Inflation Report*. GDP growth was slightly higher than expected. Inflation, which is slightly higher than forecast in March, is mostly the result of the higher short-term oil prices, while the underlying inflation processes were in line with our expectations. Household consumption – the most relevant factor in terms of inflationary pressure from the demand side – developed in line with expectations.

Box 3-4: What is the reason for the difference between MNB's output gap estimate and the capacity utilisation indicator?

The resource utilisation gap is an indicator which helps to assess the cyclical position of the economy (Chart 3-41). It aggregates the information content of several macroeconomic variables and confidence indicators related to companies' capacity utilisation. Accordingly, the capacity utilisation indicator signals the degree of unused capacities available in the economy (the output gap) and the magnitude of the domestic inflationary pressure.[8]

The capacity utilisation gap has developed around its historical average for several quarters. By contrast, core inflation and wages remained moderate and MNB judges the output gap to remain negative. This box aims to identify the reason why the capacity utilisation gap may give a different signal about inflationary pressures in the economy.

The capacity utilisation gap is calculated by principal component analysis from 41 time series. To obtain the common component of the time series, various indicators must be brought to a common scale (i.e. standardised): the historical average is deducted from the individual time series and they are then divided by their own variance. **Standardisation involves the implicit assumption that the historical average of the time series used is consistent with precisely zero output gap. However, this assumption may raise several problems:**

- **On the one hand, structural breaks may occur in the series of confidence indicators.** These indicators are based on the subjective assessment of corporate managers. However, during the sample period of roughly 20 years – used for the calculation of the capacity utilisation indicator – both the companies participating in the survey and the respondent managers may be replaced. A manager responding today, and his predecessor asked several years ago may assess the same macroeconomic environment differently.
- **On the other hand, the "normal" capacity utilisation rate of companies need not remain stable over time.** Short-term fluctuations in capacity utilisation are primarily attributable changes in demand conditions. This is why these indicators are useful for the assessment of the cyclical position of the economy. However, **the level of capacity utilisation is also influenced by supply factors.** For example optimal capacity utilisation may be increased by the acceleration of technological progress embodied in capital goods, the rise in uncertainty related to economic prospects, or the strengthening of corporate borrowing constraints.[9]

Uncertain demand prospects and stronger financing constraints in the post-crisis years may both have led companies to exploit their production capacities more intensively than before. **Since other factors apart from the pick-up in demand may have contributed to the rise in capacity utilisation, these indicators may currently overestimate the degree of demand-side inflationary pressure.**

The aforementioned methodological difficulties and economic considerations **suggest caution when assessing the capacity utilisation gap. The level of the indicator may give a misleading signal about the strength of demand-side inflationary pressure. On the other hand, changes in the indicator may still properly reflect the direction of shifts in inflationary pressure.**

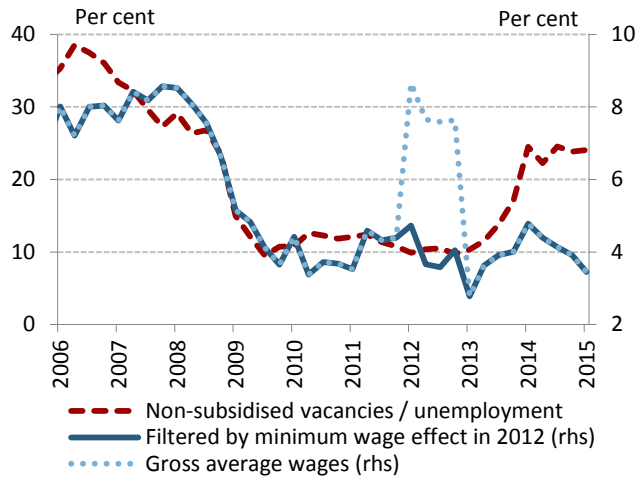
[8] For the details of the calculation of the indicator see: O. M. Rácz (2012): Using confidence indicators for the assessment of the cyclical position of the economy, MNB Bulletin, June 2012.

[9] If technological progress accelerates, it is worth exhausting older and less productive assets earlier. See Greenwood, J. – Hercowitz, Z. – Huffman, G. W. (1988): Investment, Capacity Utilization, and the Real Business Cycle, American Economic Review, 78(3), 402-417. If uncertainty is larger, then it is worth halting investments and satisfying the recovering demand through the more intensive use of the existing assets. See: Pindyck, R. S. (1988): Irreversible Investment, Capacity Choice, and the Value of the Firm, American Economic Review, 78(5), 969-985. Finally, under the borrowing constraints enterprises may also postpone their investments and may be forced to use their existing assets more intensively. See: Gertler, M. – Gilchrist, S. – Natalucci, F. M. (2007): External Constraints on Monetary Policy and the Financial Accelerator, Journal of Money, Credit and Banking, 39(2-3), 295-330.

3.6. Costs and inflation

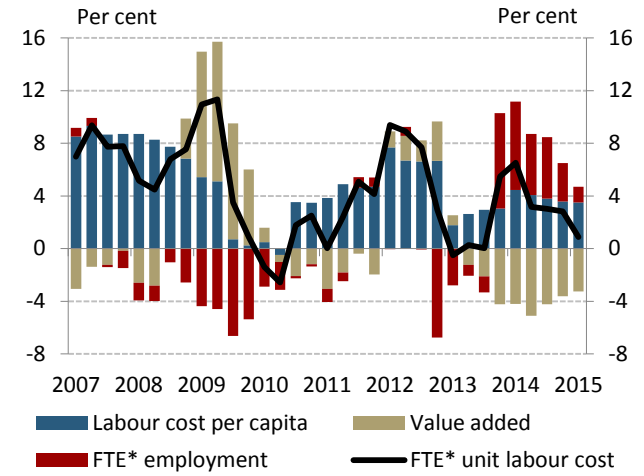
Inflation is still well below the central bank's target of 3 per cent, but recently rose above 0 per cent, departing from its historic low. The rise in inflation was primarily attributable to the increase in fuel prices. Wage growth dynamics in the private sector remained moderate in the first quarter.

Chart 3-42: Annual changes in gross average wages and development of labour market tightness



Source: HCSO, MNB calculation based on National Employment Service data

Chart 3-43: 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

3.6.1. Wages

In the first quarter of 2015, gross average wages in the private sector increased by 3.5 per cent year-on-year, which still represents moderate wage dynamics (Chart 3-42). The magnitude of bonus payments did not deviate substantially from the usual degree seen in previous years. Within the private sector, wage growth in the manufacturing sector was higher than in market services. Wages in the private sector were determined by the aggregate effect of the low inflation environment, the recovering economic activity. and the fall in free labour market capacities.

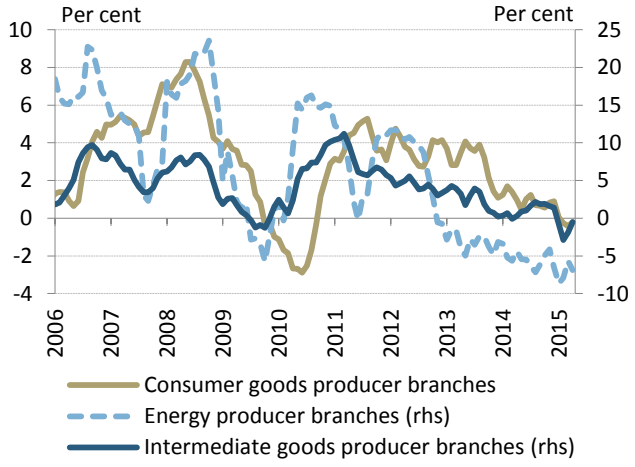
Unit labour cost dynamics calculated with full-time equivalent employment decelerated in quarter-on-quarter terms (Chart 3-43). The development of the unit labour cost was primarily influenced by the decrease in the annual dynamics of full-time equivalent employment. The annual change in the per capita labour cost decelerated compared to the previous quarters. By contrast, the rise in value added pointed to an increase in unit labour cost.

3.6.2. Producer prices

In recent months, inflationary pressure from agricultural commodity prices was generally moderate. Agricultural producer prices were moderate in the past period, primarily due to the outstanding harvest results of last year and the ample stocks. With the cancellation of the dairy produce quota, which used to control the milk production of the EU member states centrally, market competition may strengthen, which may bring milk prices downs.

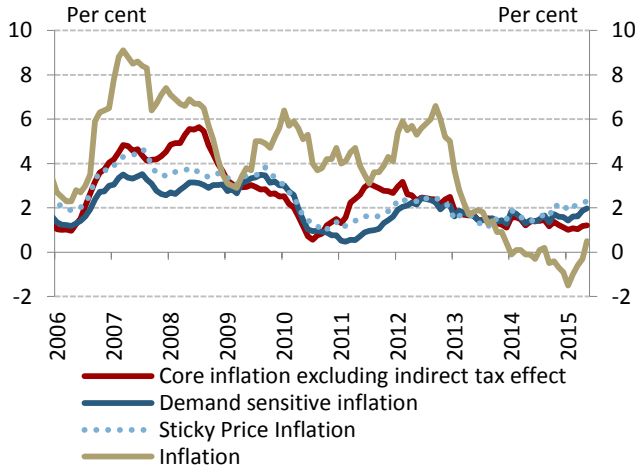
Industrial production prices were moderate in the past period (Chart 3-44). While the producer prices of the sectors producing consumer goods practically has not changed, the price dynamics of the sectors producing goods for further processing have increased slightly. Domestic producer prices were in line with the developments observed in the euro area. The moderate price developments in processed goods may be due to the still modest demand pressure and low raw material prices.

Chart 3-44: Annual change in industrial producer prices



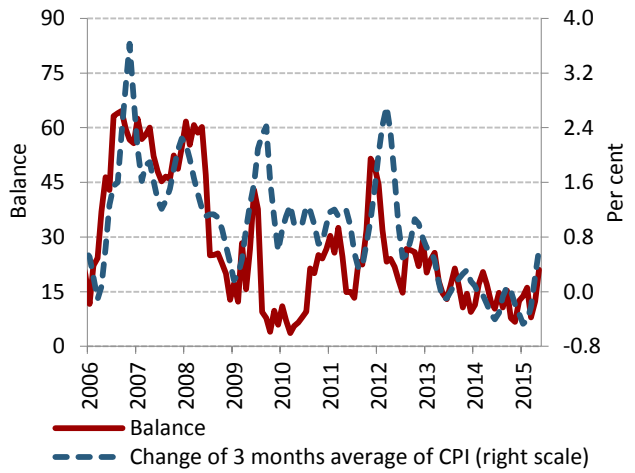
Source: MNB calculation based on HCSO data

Chart 3-45: Development of inflation and underlying inflation indicators



Source: MNB calculation based on HCSO data

Chart 3-46: 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

3.6.3. Consumer prices

In May, inflation rose above 0 per cent, leaving its historic low recorded in the past months. The moderate inflation in the previous period was due to the modest cost side pressure (moderate oil and food prices), low regulated prices as well as the low inflation expectations of households.

In the past period, **underlying inflation indicators** have also increased slightly, but they still remained moderate. The increase in the indices may be attributable to the gradual pick-up in demand (Chart 3-45).

Prices of industrial goods continued to be moderate, which was likely due to the price-depressing effect of imported inflation. Within industrial goods, the prices of durable products increased. Non-durable tradable inflation continued to be restrained.

Prices of market services remained moderate, despite the gradual recovery in domestic demand. Within this product group, in a wide range of services, similar price developments could be observed as in the previous years. However, its annual index increased due to the base effect of last year's price decrease of financial services.

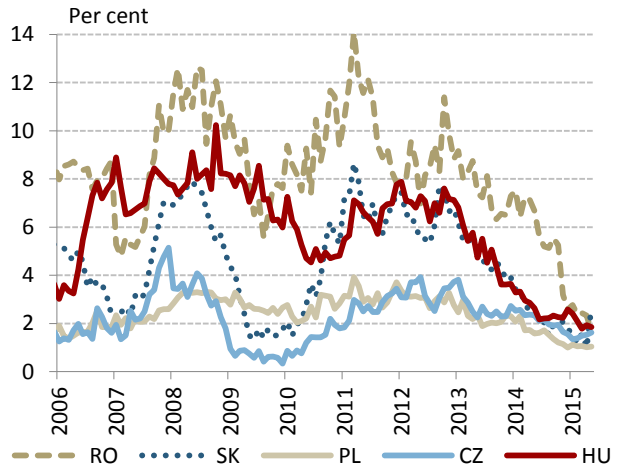
As regards the consumer prices, processed and unprocessed food were still characterised by moderate growth. The decrease in the price level of processed food may have been attributable to the higher supply as a result of the Russian embargo and cancellation of the EU dairy produce quota. By contrast, the price level of unprocessed food increased.

The increase in oil prices at the beginning of second quarter, expressed in Hungarian currency, entailed a rise in fuel prices. The annual decline in fuel prices is attributable to the substantial decrease in oil prices at the end of last year, which was primarily due to the increased supply and modest demand. Nevertheless, price quotes for Brent crude oil were still depressed.

The inflation of regulated prices remained moderate in the past months. The substantial decrease in regulated energy prices last year had a significant effect on inflation in this product group. In addition to all this, price developments were moderate in the case of other regulated items as well.

Inflation data for the latest period were slightly higher than the expectations of the central bank. The value exceeding the March forecast is primarily explained by the higher oil prices. At the same time, the underlying processes developed in accordance with the expectations.

Chart 3-47: Inflation expectations in the region



Source: MNB calculations based on data of the European Commission

3.6.4. Inflation expectations

Inflation expectation for retail sales prices – determining the short-term development of consumer prices – **slightly increased, but still remained at a low level.** This may indicate that cost and demand-side factors still do not signal any significant price increase in the coming months (Chart 3-46).

In recent months, Hungarian households' inflation expectations settled at the level of countries that were earlier characterised by steadily low inflation expectations (Czech Republic, Poland). Expectations in Slovakia increased, while Romania experienced a decrease (Chart 3-47).

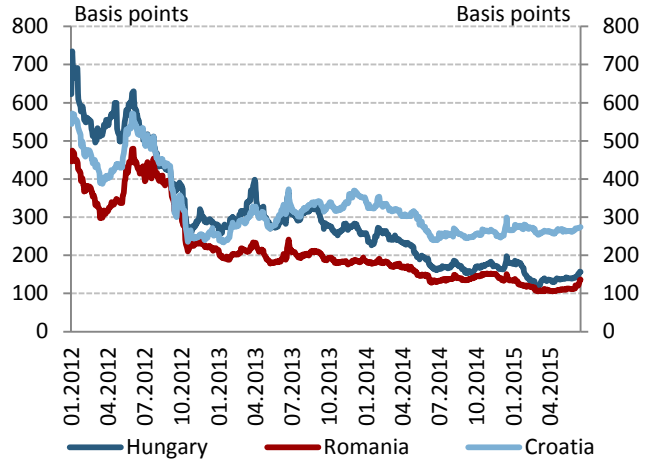
4. FINANCIAL MARKETS AND INTERES RATES

4.1. International and national financial market developments

The typically positive global market sentiment in the first half of the period turned negative in the second half of the quarter. The positive mood in April was due to favourable macroeconomic figures and the increasing oil price. In addition to unfavourable macroeconomic figures and uncertainties regarding the interest policy of Fed in the second half of the period, concerns over the situation in Greece became more pronounced again. Apart from the rising yields, the deterioration in sentiment was reflected partly in risk indicators, as both developed stock market indices and emerging market spreads pointed to a decline in risk appetite in the second half of the period.

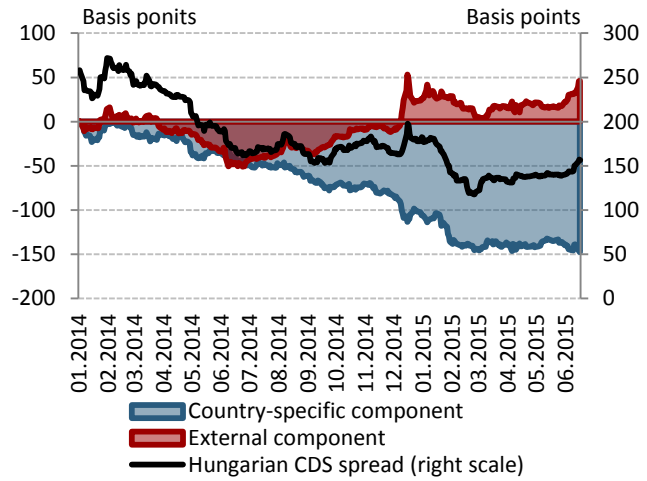
Domestic financial market processes showed a negative picture, tracking international sentiment. The risk perception of Hungary did not change significantly, and the slight increase in CDS spreads was partially due to international effects. The HUF exchange rate weakened by 2.5 percent versus EUR, slightly underperforming in the region, while the appreciation versus USD fell a bit short of the regional average. Short-term yields declined on the government bond market, while long-term yields rose, primarily due to developments in euro-area yields, although to a lesser extent.

Chart 4-1: 5-year sovereign CDS spreads in the region



Source: Bloomberg

Chart 4-2: 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

4.1.1. Risk assessment of Hungary

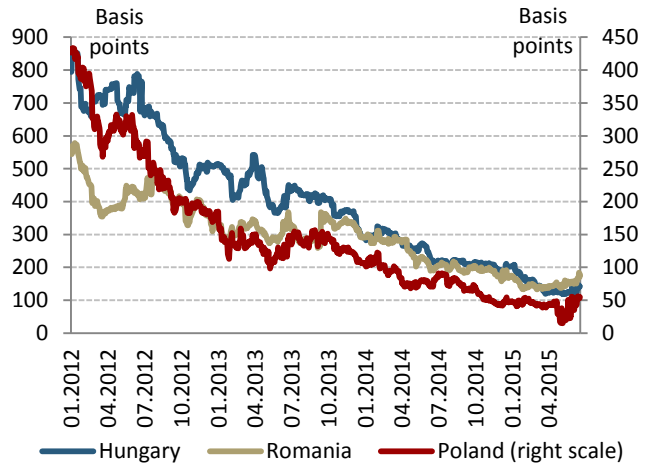
Hungarian risk indicators have developed favourably since the March *Inflation Report*. Compared to the beginning of the period under review, the Hungarian 5-year sovereign CDS spread increased by approximately 17 basis points, but for most of the period it remained near the historical low seen following 2008 and fluctuated in a range of 130-145 basis points. Yields on the government bond market fell in the short-term segment, while yields increased overall for longer maturities. The risk indicators of CEE countries moved in the same direction.

Hungary's 5-year CDS spread increased compared to the mid-March level. The fluctuations in global market sentiment were also reflected in regional CDS spreads. The Hungarian spread briefly fell to 131 basis points and then bounced back to almost 155 basis points by the end of the period. Taking the period as a whole, the regional spreads moved similarly (Chart 4-1).

According to our CDS decomposition methodology, the increase in the Hungarian risk premium was due to international factors, while domestic factors continued to work towards a lower spread (Chart 4-2).

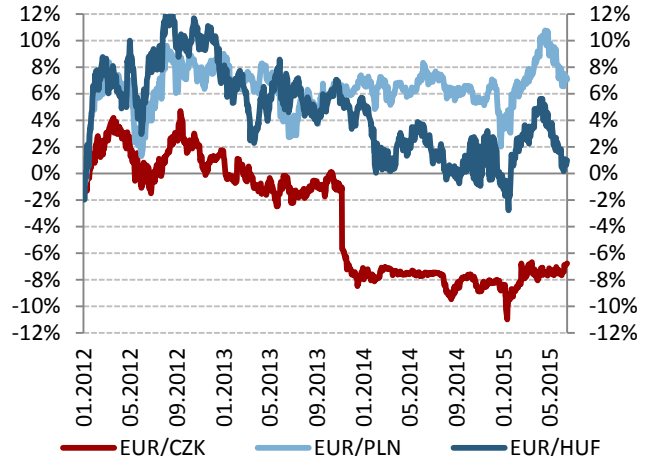
Yields on EUR-denominated Hungarian bonds increased by around 14 basis points during the past three months. Among the other countries in the region, a 40-basis point increase in yields was seen in Romania, while in Poland the foreign currency bond spread changed to a similar extent as in Hungary overall, as a result of a correction following the initial fall in yields (Chart 4-3).

Chart 4-3: Spreads of CEE sovereign euro bonds maturing in 2020 over German benchmark yields



Source: Bloomberg

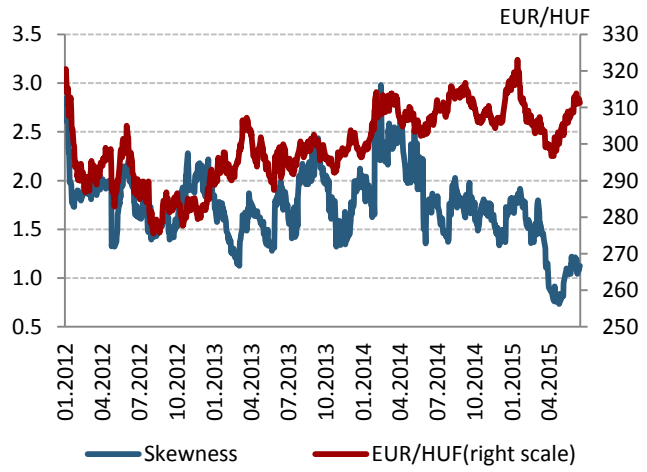
Chart 4-4: Exchange rates in the region



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

Source: Thomson Reuters

Chart 4-5: 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 moved in a slightly broader band than in the previous quarter (EUR/HUF 297-314). On the whole, the forint exchange rate weakened by approximately 2.5 per cent against the euro during the period. The forint exchange rate was mostly impacted by international factors, along with some country-specific effects. The lack of a solution to the Greek financial crisis and uncertainties about the interest policy of the Fed were the main international factors. In respect of forward-looking indicators, skewness increased somewhat with the weakening of HUF, while volatility did not change to a significant degree.

The forint exchange rate underperformed slightly compared to the exchange rates of other CEE currencies. The exchange rates of the Romanian leu and Polish zloty weakened less than the forint against the euro, while the Czech koruna appreciated by around half per cent (Chart 4-4). As a result of USD weakening, the forint appreciated by 4 per cent, while the Czech, Polish and Romanian currencies strengthened by 5 to 7 per cent against the US dollar since mid-March.

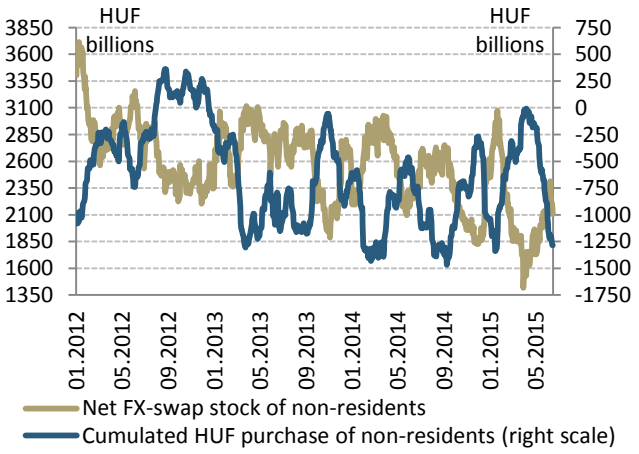
Swap spreads showed some volatility during the period for short-term maturities (up to a month); and typically increased more strongly only during the more tense, quarter-end period. As in earlier periods, swap movements for medium-term maturities, i.e. 1, 3, and 6 months, were volatile, with spreads increasing by 10-20 basis points by the end of the period. For longer terms, the tension typical of the end of quarter did not occur, and swap spreads did not show any substantial movements during the period.

Non-residents' position against the forint, as well as the forward holdings of resident actors rose, in parallel with the decline in the exchange rate. The net FX swap holdings of non-residents rose by approximately HUF 200 billion by the end of the period, while their cumulated forint purchases fell considerably, declining by HUF 900 billion (Chart 4-6). Disregarding temporary volatility, the HUF government paper holdings of non-residents fell to HUF 4,450 billion by the end of the period. All in all, compared to mid-March there was a slight decrease in the portfolio, i.e. by HUF 500 billion, while non-residents' share in forint-denominated securities fluctuated at around 41-47 per cent (Chart 4-7).

4.1.3. Government securities market and changes in yields

Demand in the primary market of government securities basically rose, and in general the cover ratio at the

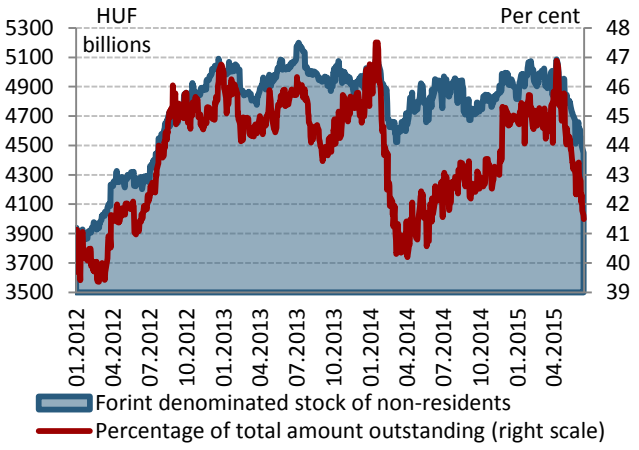
Chart 4-6: HUF FX Swap stock, and cumulated HUF purchases of non-residents



Note: Cumulated HUF purchases of non-residents: 4 January 2010=0.

Source: MNB

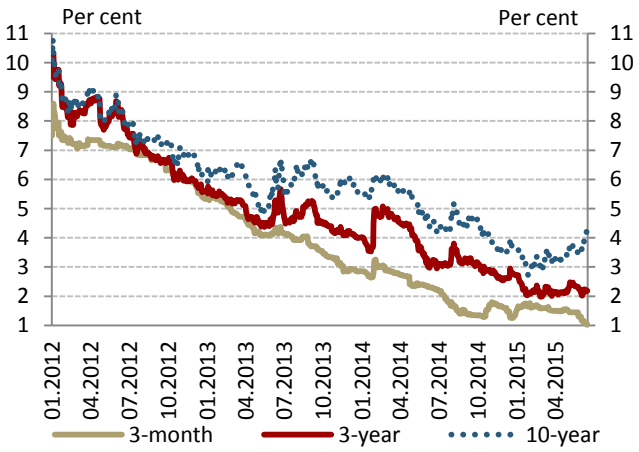
Chart 4-7: HUF-denominated government securities held by non-residents



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

Source: MNB

Chart 4-8: Yields of benchmark government securities



Source: ÁKK

auctions is still strong. Auctions for short-term bonds were characterised by more than double coverage on average. In case of long-term bonds, healthy demand was also observed during the period: the average demand for 5-year and 10-year government securities was 3.5 to 4 times the offered volume, and the long-term bond auctions at the end of the period were marked by particularly robust demand.

Secondary market government bond yields fell for short maturities and rose for long maturities, which increased the steepness of the yield curve compared to the start of the period. The development of short-term yields was mixed in the first half of the period, and then at the end of the period they fell considerably. Long-term yields declined in the first half of the period and then stagnated, which was followed from mid-April by a substantial rise in yields, broadly similar to the region (Chart 4-8).

4.2. Credit conditions in the financial intermediary system

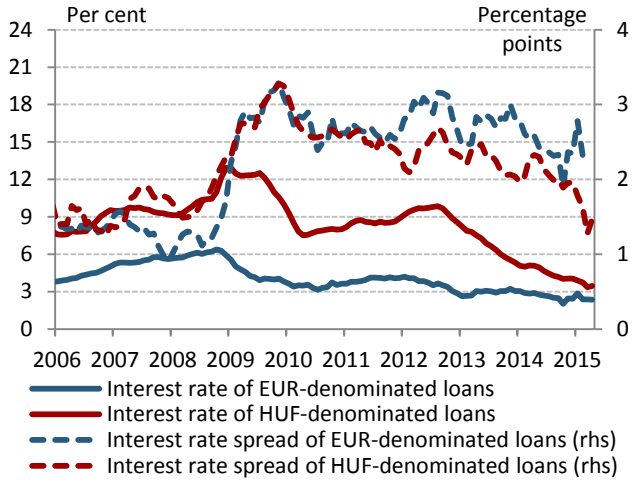
The cost of financing decreased in both the corporate and household segments in the first quarter of 2015. The level of forint interest rates on corporate loans was close to that of euro interest rates, and in both cases it was typical that the interest rates on high-amount loans declined, while interest rates on small-amount loans increased during the quarter under review. Except for the premium on riskier loans, a wide range of corporate credit conditions eased, and one third of the responding banks reported an overall easing of conditions in the Lending Survey. In the case of household loans, price conditions eased, while consumer credit conditions became somewhat tighter. The one-year forward-looking real interest rate declined in the review period, mainly due to an increase in inflation expectations.

4.2.1. Corporate credit conditions

Interest rates on HUF-denominated corporate loans approached the level of euro interest rates in the first quarter of 2015. Based on contracts realised, interest rates on forint loans (with floating interest rates or with up to 1-year initial rate fixation[10] smoothed by the three-month moving average) declined to 3.3 per cent by the end of March (Chart 4-9). In terms of loan size, the interest rates changed in an asymmetrical manner: the interest rate on loans above one million euros declined by 0.8 percentage point, while an increase of 0.4 percentage point was observed in the case of small-amount loans. At the same time, the average interest rate level of euro loans remained unchanged, although there is a dual trend as in the case of forint loans: the interest rate on high-amount loans fell by 0.1 percentage point, while that on small-amount loans rose by 0.4 percentage point. The change can be primarily attributed to a change in spreads, both in the case of forint and euro-denominated loans. For creditworthy SMEs, the extended second phase of the FGS grants favourable financing. In addition, the FGS+ programme is creating conditions for riskier SMEs that are more favourable than those on the market.

According to the Lending Survey[11] in net terms,[12] 30 per cent of banks eased credit conditions in the first quarter of 2015. The main underlying reasons are to be found in market share targets and increasing market competition, but economic prospects and the improvement in the liquidity position were also mentioned as factors behind easing. Looking ahead, banks' responses show a heterogeneous picture: 16 per cent of the respondents indicated that they would continue to ease their credit conditions, while 14 per cent said they would tighten them during the next half year. Most of the factors, however,

Chart 4-9: Smoothed interest rates and spreads on corporate loans by denomination



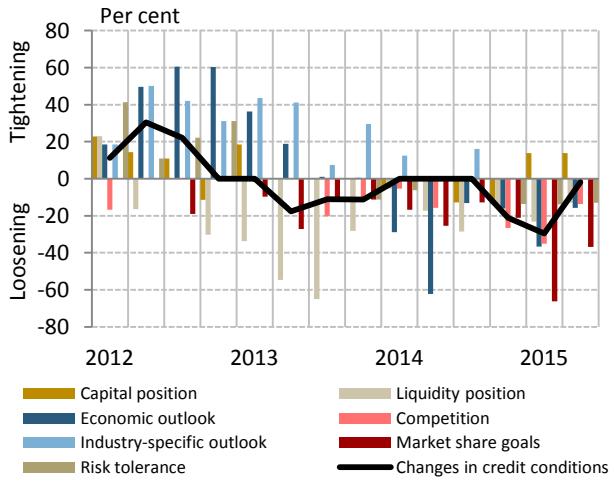
Note: Interest rates smoothed by the 3-month moving average. The spread on the moving average of the 3-month BUBOR and EURIBOR, respectively. Loans with floating interest rates or with up to 1-year initial rate fixation.
Source: MNB

[10] 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.

[11] For a detailed analysis of the findings of the Lending Survey, please refer to the MNB's 'Trends in Lending' publication, available at: *http://english.mnb.hu/Root/Dokumentumtar/ENMNB/Kiadvanyok/trends-in-lending/201506/Hitelezesi_folyamatok_201506_EN.pdf*

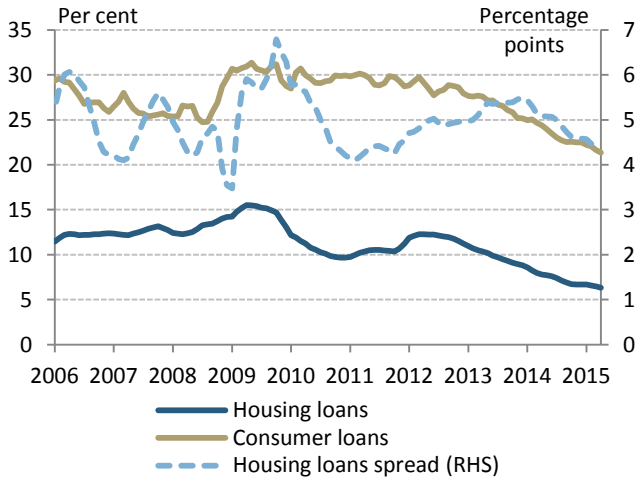
[12] Net percentage balance of respondents tightening and easing credit conditions, weighted by market share.

Chart 4-10: Changes in credit conditions and factors contributing to the changes in the corporate segment



Note: Net percentage balance of respondents tightening/easing credit conditions weighted by market share.
Source: MNB lending survey

Chart 4-11: Smoothed annual percentage rate of charge (APR) 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

point to easing in the future; among the reasons given by the respondent institutions, increasing competition had the highest share (Chart 4-10). In parallel with real GDP growth, banks cited the economic outlook as a further contributing factor in easing credit conditions, as in the previous four quarters.

4.2.2. Household credit conditions

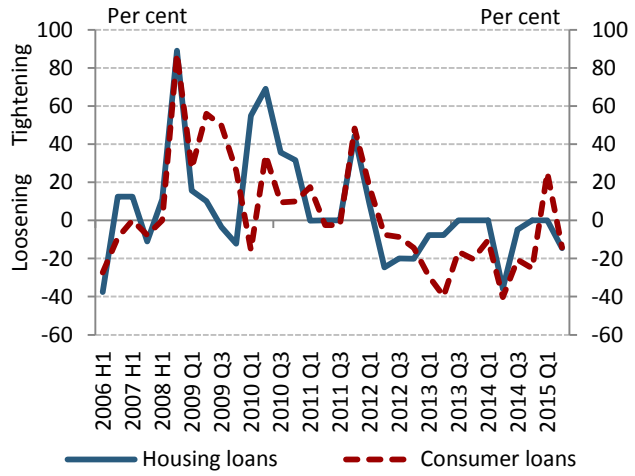
In the case of both consumer and housing loans, the annual percentage rate of charge (APR) on new loans smoothed by the three-month moving average continued to decline (Chart 4-11). The decline observed in the APR is due to the decline in the spreads applied and also the reference rate in the case of both product types. In the case of housing loans, the average decline in interest rates on newly extended floating rate schemes was larger than that of fixed-interest ones. Within consumer credit, the strongest decline in interest rates was observed in the case of personal and vehicle loans, while the average interest rate on hire purchase loans increased to some extent. In addition to the decline in the average interest rate level, in parallel with the introduction of fair pricing, the fees charged for disbursement also declined during the first quarter according to the responses to the Lending Survey.

Based on the responses to the Lending Survey, housing loan conditions remained unchanged, while those of consumer credit tightened to some extent. Concerning the latter, however, the share of institutions which tightened was smaller than the share of those which indicated tightening for this period in the fourth quarter (Chart 4-12). With regard to consumer credit, a net 37 per cent of respondents indicated tightening of the maximum payment-to-income ratio, while 31 per cent reported tightening of the loan-to-value ratio. However, this did not result in any fall in first-quarter new loan extensions, so the aggregate effect may have been practically marginal. Nevertheless, looking ahead, the implementation of debt cap rules may contribute to the maintenance of sound lending to households, i.e. to preventing households' future excessive indebtedness. In addition, on the whole, in housing loan standards the introduction of the debt cap rules did not result in tightening. Looking ahead, nearly 15 per cent of respondents indicated that they plan to ease the conditions of both consumer and housing loans.

4.2.3. Changes in real interest rates

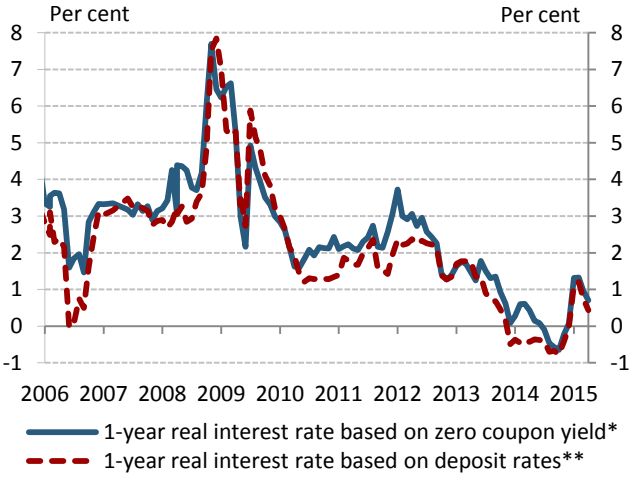
The one-year forward-looking real interest rate declined in the first quarter of 2015. The downward trend that started in February 2014 was interrupted in October, and

Chart 4-12: Changes in credit conditions in the household sector



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

Chart 4-13: 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

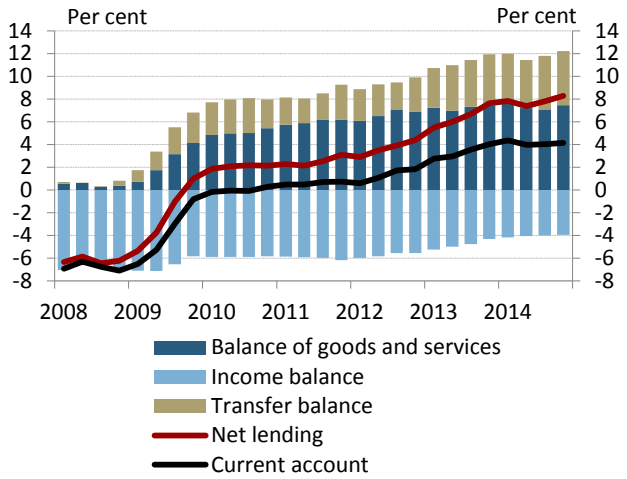
then the forward-looking real interest rate increased due to declining inflation expectations. In the first quarter of 2015, however, another change took place. As a result, in April 2015, the real interest rate level reduced by inflation expectations amounted to 0.7 per cent on the basis of the yield estimated from government securities market yields, and to 0.4 per cent on the basis of deposit rates (Chart 4-13). The fall in the real interest rate in the past three months is primarily the consequence of an increase in inflation expectations amid moderate deposit rates and the decline in the market yields of government securities. The declining trend in one-year forward-looking inflation expectations came to an end in March, which was followed by a strong rise to 0.9 per cent by end-April.

5. THE BALANCE POSITION OF THE ECONOMY

5.1. External balance and financing

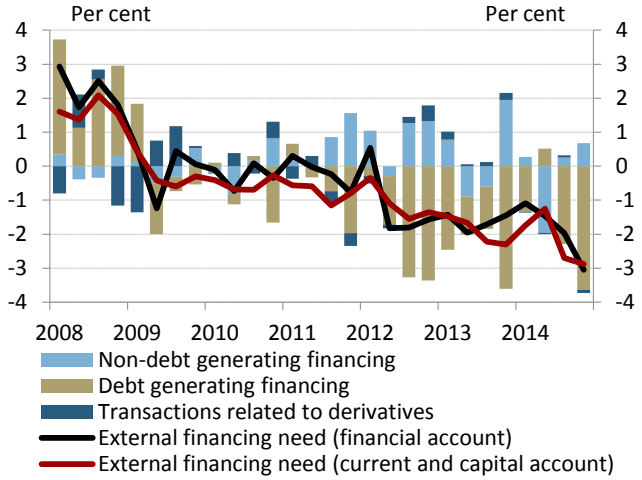
In the last quarter of 2014, the four-quarter net lending of the Hungarian economy increased further to 8.3 per cent of GDP, supported by the rising surplus on both the current account and the capital account. On the financing side, the FDI inflow experienced in the previous quarter intensified, while there was a considerable drop in debt-type funds. As a result of this, the net external debt of the economy decreased, which was also supported by the growth in GDP. From the sectors' side, the increase in the economy's net saving position was attributable to the decreasing borrowing requirement of the general government, the high savings of companies, and households' continued adjustment.

Chart 5-1: Changes in external net lending (as a percentage of GDP)



Note: Cumulated four-quarter values.
Source: MNB

Chart 5-2: Structure of external financing (transactions as a percentage of GDP)



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

5.1.1. Developments in Hungary's external balance position

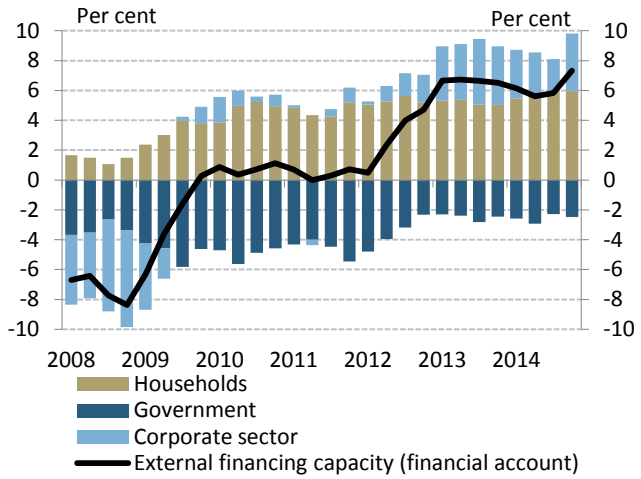
In the fourth quarter, net lending under the real economy approach rose to a historical high of 8.3 per cent of GDP (Chart 5-1). The **trade surplus** once again increased after one year, primarily as a result of the increase in the services balance and secondly due to the stabilisation of the goods surplus. In respect of 2014 as a whole, the contribution of net trade to GDP growth decreased slightly, due to the substantial expansion of domestic use, import-intensive investments, and the more moderate development of external demand. The increase in the **transfer balance** surplus was still primarily attributable to the stronger utilisation of EU transfers, which amounted to more than EUR 2.4 billion in the fourth quarter, and thus moderately exceeded the already high level recorded one year ago. The modest decrease in the **income balance** deficit continued in the fourth quarter, similarly to the previous periods. This was primarily attributable to the fall in the interest balance paid on foreign borrowings and inter-company loans. Based on the preliminary monthly data, the savings position of the economy may have further increased, which may be due to the increasing trade surplus and the high utilisation of EU transfers.

5.1.2. Developments in financing

The net lending position calculated from the financing data increased in the fourth quarter of 2014, and almost corresponded to the value calculated from the real economy side (Chart 5-2). Debt-type funds significantly decreased during the quarter, with the net outflow reaching EUR 3.6 billion, while the inflow of non-debt liabilities amounted to almost EUR 1 billion.

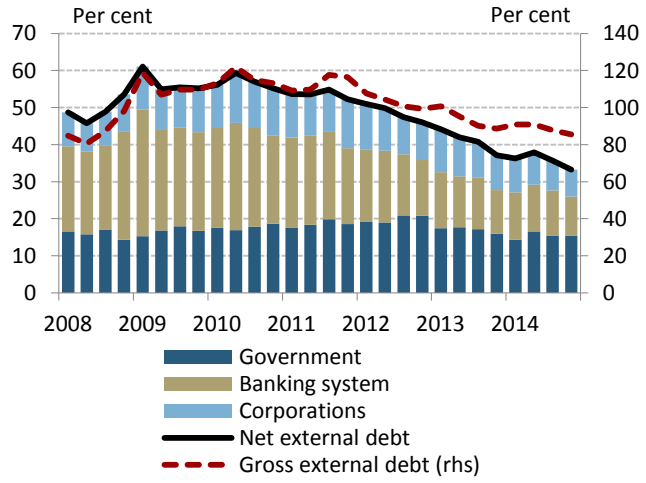
In the fourth quarter, net foreign direct investment (FDI) increased by almost EUR 1.5 billion, the impact of which was mitigated by the decrease in portfolio equity funds. In 2014, the net FDI inflow amounted to EUR 0.5 billion on aggregate, which is a slight decrease in year-on-year terms. Based on the preliminary monthly data, there was a slight FDI outflow in the first quarter, which is attributable

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



Note: Four-quarter cumulation.
Source: MNB

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



Note: Excluding intercompany loans.
Source: MNB

to the increase in the foreign investments of domestic actors.

In the fourth quarter, the net external debt of the economy decreased by more than EUR 3 billion, as a result of the reduction in external debt in all sectors. The high repayment of external debt in the last quarter was primarily supported by banks' loan repayment, which is presumably related to the usual balance sheet adjustment of foreign actors at the end of the year. The debt of the government, consolidated with the MNB, dropped by almost EUR 1 billion in the last quarter of 2014, mainly due to the utilisation of EU transfers. Corporations continued to reduce their external debts in the fourth quarter, which was primarily due to the decrease in foreign bank and commercial loans. Based on preliminary monthly data, the outflow of debt-type funds continued in the first quarter of 2015 as well, primarily as a result of the falling net external debt of the general government.

The substantial increase in net lending observed in the fourth quarter is related to the strengthening of corporations' net saving position (Chart 5-3). The low borrowing requirement of the general government results from the favourable development of revenues – due to the higher-than-expected GDP growth and the improved efficiency of tax collection – and the substantial decrease in interest expenses. The improvement in the external position was supported by the rise in the net lending of the corporate sector, accompanied by growth in investments, which may signal an increase in corporate income. Although households' net financial savings dropped marginally in the fourth quarter, their level of almost 6 per cent of GDP can still be deemed high. Based on preliminary first-quarter data, the financial savings of households stabilised at a high level and the improvement of the saving position was also supported by the drop in the borrowing requirement of the state.

In the fourth quarter, the net external debt of the economy continued to fall at the same rate as in the previous quarter, and thus at the end of 2014 it amounted to 33.3 per cent of GDP (Chart 5-4). As a result of the substantial outflow of debt-type liabilities and the higher-than-expected increase in GDP, external debt indicators continued to fall in the fourth quarter. In line with the sectoral transactions, all sectors contributed to the reduction of in external debt throughout 2014.

Box 5-1: Impact of the investment service provider abuses on Hungarian capital and financial markets

With regard to the series of abuses referred to as brokerage scandals by the media, the question arises as to their impact on the Hungarian financial markets and developments in investor behaviour. Overall it can be concluded that although the broker cases adversely affected the market of investment service providers, the negative impact, for the time being, can be considered temporary, and no significant divestiture occurred in the sector.

In the first quarter of 2015, in the course of comprehensive investigations by the MNB as the supervisory authority, several abuses were revealed which may have a negative impact on the financial and capital markets. In February and March 2015, cases of frauds were detected at one banking group (DRB Banking Group[13]), as well as at two major investment service providers (Buda-Cash Brókerház Zrt., Quaestor Értékpapírkereskedelmi és Befektetési Zrt.) and one minor investment service provider (Hungária Értékpapír Zrt.). The three investment service providers managed considerable assets of clients among the investment service provider firms, but compared to the total Hungarian market of investment service providers, this amount was marginal. At the same time, however, it may have adverse effects on the financial and capital markets through the loss of confidence among the large number of small and retail investors which are fundamentally more sensitive to losses incurred.

Developments in the stock of assets managed by investment service providers indicates restructuring of savings towards safer assets from instruments with higher risks. Since the beginning of the year, a decrease, though not considered to be outstandingly high, has been observed with regard to the stock of securities in the custody of investment service provider firms, which has emerged primarily with the decline in the stock of mutual fund shares and shares as well as with the increase of the stock of Treasury Savings Bills.[14] The higher demand for mutual funds observed in previous years had already tapered off in the first months of 2015, and thus the decrease in the stock is not clearly the result of the turning away from investment service provider firms. Decisions may have also been influenced by price factors, higher yields on alternative investments, as well as the risks associated with the various instruments.

The development of assets managed by credit institutions also shows signs of slight restructuring towards safer assets and safer institutions as well. Observing the stock of securities held on external accounts of credit institutions as compared to that of investment service provider firms, it is assumed that market participants have allocated part of their assets to credit institutions deemed to be safer, and to safer instruments. As a result of the brokerage scandals a kind of risk aversion emerged, directing investors towards credit institutions and instruments deemed safer; at the same time, however, since the beginning of April, the decline in the stock of assets managed by investment service providers has slowed down, and a slight correction has been observed.

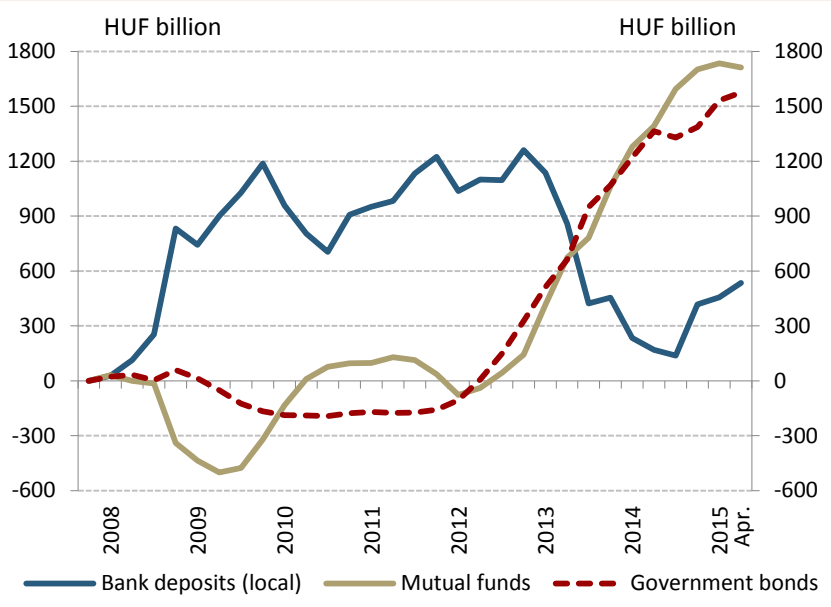
The sectoral investigation reveals that the broker cases did not significantly influence the investment behaviour of corporations, while the broker cases may have only moderately affected the investment decisions of households. In March, non-financial corporations reduced their stock of mutual fund shares, but this phenomenon had already been seen on several occasions last year. During the period, the stock of government securities and deposits held by corporations, which may show increasing volatility due to investment-production decisions and seasonal impacts, fits into the past transaction pattern of the sector. In March and April, households reduced their savings held in mutual fund shares, while their demand for government securities increased (Chart 5-5). Since the beginning of the year a slowdown had already been observed in the rise in households' assets managed by mutual funds, due to the withdrawal of household savings from money market funds, lasting for over one year, together with the fact that since March assets held in bond funds have also declined; nevertheless this continues to be the type of fund representing the largest weight. Withdrawal of households' assets observed at funds has been offset by the increase in deposits since the end of 2014 together with the booming demand for government securities, which may indicate that households have a preference for directly held government securities rather than holding government securities indirectly through investment service providers. One possible factor in relation to the foregoing was that in February the Government Debt Management Agency raised the interest rate of Interest-Bearing Treasury Bills and the premium on the new series of premium

[13] Members of the DRB Banking Group: BRB BUDA Regionális Bank, DRB Dél-Dunántúli Regionális Bank, Dél-Dunántúli Takarék Bank and ÉRB Észak-Magyarországi Regionális Bank.

[14] This type of government security may exclusively be purchased through the branch network of the Hungarian Post Company.

Hungarian government bonds, thereby making retail government securities more attractive as compared to market securities. At the same time, however, the increased purchases of government securities might have also been facilitated by the fact that the damages suffered by the victims of DRB Banking Group was paid by NDIF in March, and cash payments due to settlement of foreign currency loans could have taken place in part.

Chart 5-5: Developments in certain financial assets of households



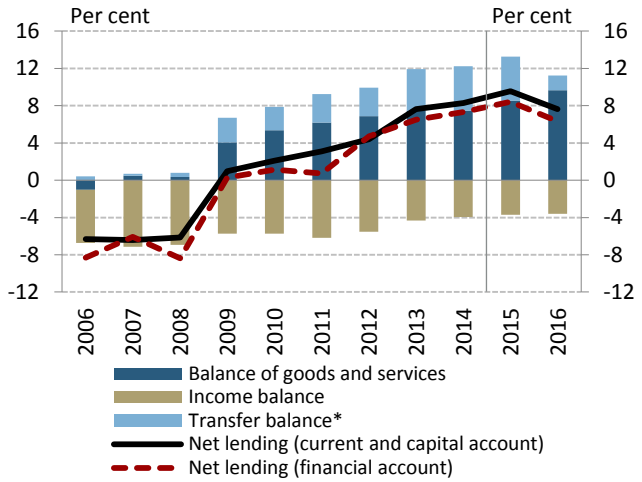
Note: Accumulated transactions.
Source: MNB

Overall, it can be concluded that there are no signs of panic-driven withdrawals of funds from brokerage firms. Nevertheless, it can also be said that household savings are undergoing a modest restructuring towards investment instruments and investment service providers which are deemed safer. Nonetheless, these processes might have been influenced by several other factors, such as the increase in the interest rates by the Government Debt Management Agency in February, the NDIF's reimbursement of damages with regard to the DRB Banking Group, as well as settlement of foreign currency loans.

5.2. Forecast for Hungary's net lending position

The external vulnerability of the Hungarian economy may continue to decline in the coming years as well. In 2015, as a result of a further improvement in the trade balance, the net lending position of the economy may exceed 9 per cent of GDP, whereas in 2016, after the end of the previous EU budget period it may decline to a slightly lower level of 8 per cent of GDP. In the main, the improvement in the terms of trade resulting from lower oil prices and a pick-up in external demand may contribute to the improvement in the trade balance. After remaining at an unchanged level this year, the transfer balance, which mostly consists of funds from the EU, may decline in 2016. The deficit of the income balance is expected to become stable in the coming years; the decline in interest expenditures will be broadly offset by an increase in corporate profits. Looking at individual sectors' savings positions, the borrowing requirement of the general government may continue to decrease, while with the weakening of the precautionary motive, households' fundamental net savings may decline slightly, and corporate net financial savings may also be lower (due to the settlement in 2015 and due to the fall in EU funding in 2016). Overall, in parallel with the still very significant net lending, the gradual adjustment in external debt indicators, which are especially important in terms of external vulnerability, may continue, with a possible contribution from the MNB's self-financing programme.

Chart 5-6: Evolution of net lending (as a percentage of GDP)



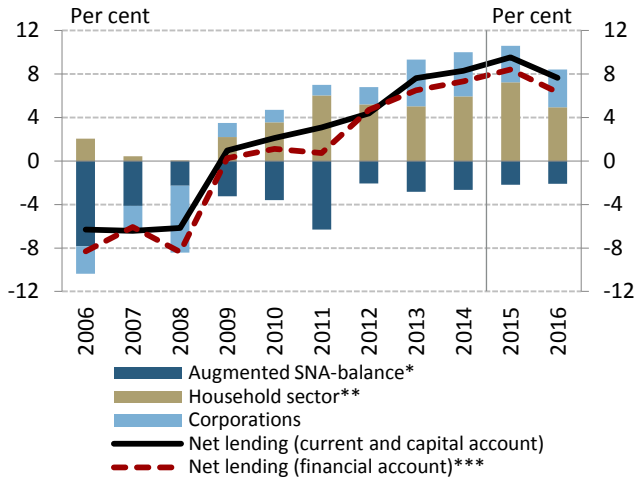
Note: * The sum of the balance of the current transfers and the capital account balance.
Source: MNB

Following an increase this year, the net lending of the Hungarian economy may decline somewhat, but will remain high in 2016 (Chart 5-6). This year, the net lending position of the economy may continue to increase slightly, supported primarily by a further improvement in the trade balance. Improvement in the terms of trade and the pick-up in external demand point to a higher surplus of goods and services. The amount of EU transfers in 2015 may be around the level observed in 2014: the historically high transfer utilisation is attributable to the drawdown of the remaining amount of the previous 2007–2013 budget period and to the initial drawdowns of the funds of the new cycle. However, in 2016, with the end of the previous period, the transfer balance may decline considerably, which may only be offset partly by the increasing surplus on the trade balance. Over the forecast horizon, the deficit on the income balance may stabilise at below 4 per cent of GDP: profit outflows increasing as a result of presumably improving corporate profitability may be offset by the lower interest expenditure paid on the declining external debt. Accordingly, following an increase this year, the net lending position of Hungary in 2016 may be around the level observed in 2013 and 2014.

Looking at developments in the net lending from the savings side, the historically high net lending expected this year may materialise as a result of the declining borrowing requirement of the general government and the further increase in private sector savings. On the other hand, the expected decline in net lending in 2016 may primarily be explained by lower financial savings of the private sector (Chart 5-7).

As a result of the settlement, households' net savings may continue to rise this year, but may decline slightly in the coming years due to fundamental developments. The settlement due to the unilateral interest rate hikes

Chart 5-7: Changes in savings of sectors (as a percentage of GDP)



Note: * In addition to the central government, the augmented general government includes local governments, MNV Inc., institutions discharging quasi-fiscal duties (MÁV, BKK), and the MNB. The augmented SNA deficit takes into account private pension savings. ** Net financial saving of households consistent with the SNA deficit does not contain the pension savings of those who return to the public pension system. The official net saving (shown in the financial account) is different from the data in the chart. *** We expect that 'Net errors and omissions' (NEO) will return to the historical average.

Source: MNB

and the exchange rate margin will result in a considerable but temporary rise in households' net financial savings in 2015. At the same time, a decline in the underlying development of savings is expected: as a result of the conversion into forints, the precautionary motive, which has been very strong since the crisis, may weaken. In 2016, the reduction of households' tax burdens (cutting the personal income tax rate, expansion of tax allowances for families) may also facilitate savings remaining at a high level, as this measure may also add to households' savings and contribute to a pick-up in consumption.

Corporate financial savings in net terms may decline, due to the settlement this year and due to a fall in EU funding in 2016. Corporate financial savings may decline slightly this year due to the one-off bank losses related to the unilateral interest rate hikes and the exchange rate margin as well as due to slowing, but still growing investment. Following the drop-out of the one-off effect of the settlement, the fall in EU transfers in 2016 may reduce not only investment but the sector's financial savings as well, through the decrease in corporate profitability.

As a result of disciplined fiscal policy, the general government borrowing requirement may continue to decline in the coming years: the decrease on the revenue side (due to tax measures) will be more than offset by declining government expenditures as a proportion of GDP. A decline in public expenditures is suggested, *inter alia*, by the lower interest expenditures, which is due to a major drop in government securities yields, as well as the lower material expenditures and financial transfers.

In parallel with the historically high net lending, the adjustment of debt indicators may also continue, which may be supported by the MNB's self-financing programme as well. The central bank instruments, which are changing as a result of the expansion of the MNB's self-financing programme, may contribute to the decline in gross external debt by boosting domestic players' demand for government securities. In addition, the programme may also reduce the FX ratio of the external debt, which may also be favourable in terms external vulnerability.

5.3. Fiscal developments

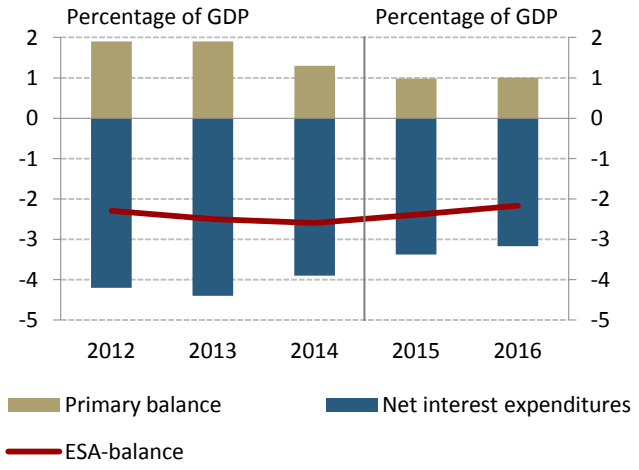
According to our forecast, this year and next year the ESA deficit of the general government is expected to remain within a range of 2 to 2.5 per cent of GDP, which is close to the government's deficit target. With the cancellation of the available free reserves, we project a deficit of 2.4 per cent in 2015. According to the forecast we prepared based on the budget bill, in 2016 the deficit is likely to be around 2.2 percent of GDP, again assuming the cancellation of available free reserves. Based on the above, in 2014 fiscal policy may have increased aggregated demand by 0.3 percent of GDP, but will fundamentally have no such impact in 2015 and 2016. The gross consolidated debt of general government as a percentage of GDP decreased by 0.4 percentage points to 76.9 per cent in 2014. We forecast a further decrease in the 2014 end-of-year debt ratio calculated using an unchanged exchange rate, the extent of which may, in overall terms, exceed 3 percentage points over the two-year period.

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

	2014	2015	2016
ESA balance*	–2.6	–2.4	–2.2
Primary ESA balance	1.3	1.0	1.0
Fiscal impulse**	0.3	0.0	0.2

Note: * Complete cancellation of the available free reserves (National Protection Fund) was assumed in the calculation of the balance indicators. ** Change in the augmented (SNA) primary balance.
Source: MNB

Chart 5-8: General government balance and interest expenditure



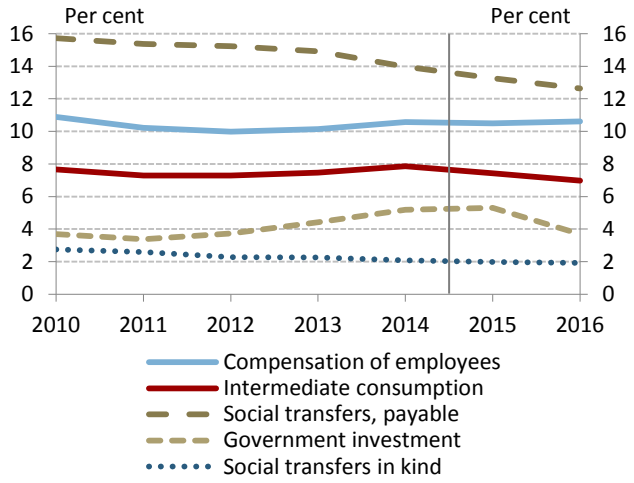
Note: From 2012, due to the ESA 2010 methodology, the interest expenditure includes the imputed interest expenditures related to the reform of the pension system.
Source: MNB

5.3.1. Main balance indicators and the fiscal impulse

According to our forecast, with the cancellation of the available free reserves (National Protection Fund), the ESA deficit of the government sector may amount to 2.4 per cent of GDP in 2015 and 2.2 per cent of GDP in 2016 (Table 5-1). The decrease in GDP-proportionate interest expenses contributes significantly to the low ESA deficit (Chart 5-8). This stems from the decline in yields in recent years which, due to the structure of government debt, will only exert an impact gradually. Besides the falling interest expenses, the surplus of the primary balance will decline in 2015, and will remain unchanged in 2016, which will, in overall terms, lead to a slight decrease in the ESA deficit over the forecast horizon.

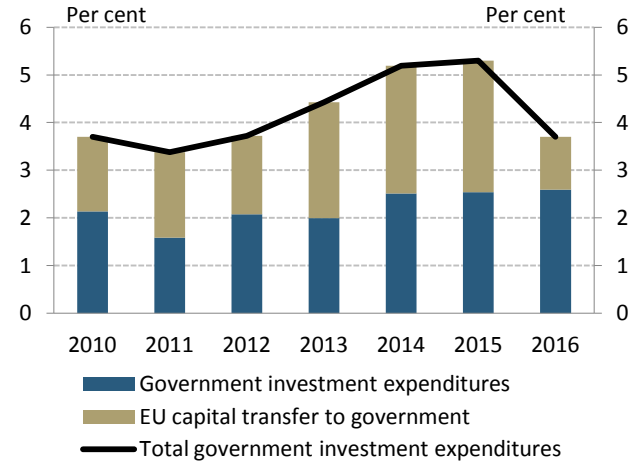
The unchanged GDP-proportionate primary ESA balance results from falling GDP-proportionate revenues and expenses during the forecast period. On the revenue side, the items most significantly impacted by this decrease are turnover-based taxes, corporate and household income tax, and EU transfers, while on the expenditure side these items are social transfers, government intermediate consumption, and government investments (Chart 5-9). The GDP-proportionate reduction in social transfers is caused primarily by expenses that are nominally fixed or are indexed to inflation which is significantly lower than the nominal GDP (primarily pensions). Furthermore, a number of government measures contribute also to this reduction, such as the gradual increase in the retirement age, the tightening of disability and rehabilitation benefits, and falling unemployment and social benefits due to expansion of the public work scheme. The GDP-proportionate government wages expenditure may not change during 2016, which results from a number of factors. The bill on the 2016 central budget outlined the expansion of the public work scheme and a general freeze on public wages, with the exception of the increases included in career path models. The lower inflow of EU funds, which is attributable to the beginning of the new

Chart 5-9: Government expenditures (as a percentage of GDP)



Source: HCSO, MNB

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



Source: HCSO, MNB

EU budget cycle, will reduce the government intermediate consumption and the government investments in 2016 (Chart 5-10). With respect to 2016 government investment expenses, our March forecast was based on the assumption that government investments will decrease to a lesser extent than EU funds, since they will be partly replaced by investments financed from own sources. The planned public road development expenses included in the budget bill confirmed this assumption.

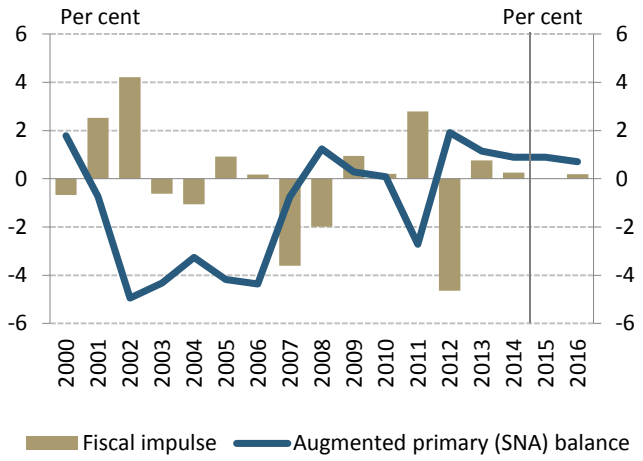
Following the modest expansion of demand in 2014, fiscal policy will have no impact on aggregate demand over the forecast horizon (Chart 5-11).[15] The increase in demand was caused by a minor reduction in the primary surplus in 2014, but the change in the primary surplus will not be significant in 2015 and 2016 and will be caused by factors that do not impact aggregate demand (e.g. assumption of the debts of the Budapest Transport Company). With respect to the distribution between the different sectors of the impact on demand, the GDP-proportionate reduction in financial transfers will result in a negative impulse to households, half of which will be offset by the 2016 reduction in personal income tax. The fall in EU transfers will result in a reduction in government purchases in 2016, which will be partially offset by increasing government-financed investment expenses.

5.3.2. Budget balance in 2015

According to our forecast, the ESA deficit of the general government may be 2.4 per cent of GDP, if free reserves are fully cancelled (National Protection Fund). The deficit projection is the same as in March, although with a different revenue/expenditure structure (Table 5-2). Based on monthly budgetary data and on certain macroeconomic developments that are more favourable than expected, we project tax revenues that are higher by 0.2 per cent of GDP and net interest expenditure that are lower by 0.1 percent of GDP, which will be offset by the expenditure-increasing measures outlined in the amendment of the Budget Act. Within consumption taxes, it was primarily the projection of excise duties which was increased, which is explained by the higher-than-expected rise in fuel consumption. More revenues are expected from labour taxes and contributions owing to faster-than-expected growth in employment. The decline in net interest expenditures is explained by a

[15] 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 financial position of the other sectors.

Chart 5-11: 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 cancellation of the available free reserves in 2015–2016.
Source: MNB

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

	Macro data	Measure	Other
I. Central government revenues	0.2	0.0	0.0
Consumption-type tax revenues	0.1		
PIT, SSC, fees, duties	0.1		
II. Central government expenditures	0.0	–0.3	0.0
Net own expenditures of budgetary organisations		–0.1	
Debt takeover from BKV		–0.2	
III. Other effects	0.1	0.0	0.0
Net interest expenditures	0.1		
Other items			0.0
Total (I.+II.+III.)	0.3	–0.3	0.0

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

continued decrease in short and medium-term yields. Based on the bill amendment, the central government will assume debts from the Budapest Transport Company in the value of HUF 52 billion, while other expenditures will increase by another HUF 41 billion. Based on higher-than-expected expenditure related to EU projects during the past few months, we somewhat increased (thus nearing respective government plans) our projection for EU transfers for 2015 and 2016, which however, only slightly modified the projection for net expenditure related to EU projects in this year.

The 2015 ESA deficit target outlined in the Budget Act is 2.4 per cent of GDP, which is identical to our projection (Table 5-3). Compared to the appropriations higher expected revenues from taxes on consumption and labour income are justified by the fact that the appropriations are based on a previous macroeconomic forecast which does not include tax base rising developments that have occurred since the beginning of the year. The appropriation for "revenues from other asset sales and utilisation" amounts to HUF 169 billion, but we are, to date, not aware of any specific measures taken for achieving this revenue, and therefore we project no revenues under this appropriation in our baseline scenario. Our forecast assumes the cancellation of the total amount of the National Protection Fund, which alone would improve the balance by 0.1 per cent of GDP.

5.3.3. Budget balance in 2016

Our forecast taking into consideration the bill (unified proposal) on the 2016 central budget includes a GDP-proportionate ESA deficit of 2.2 per cent, in the case of full cancellation of free reserves (National Protection Fund), which results in a balance of an identical amount, but of a different structure, as compared to that outlined in the March *Inflation Report* (Table 5-4). On the revenue side, macroeconomic developments resulted in higher-than-expected revenues, which are offset by the measures outlined in the Budget Bill. Regarding taxes on consumption, the favourable incoming data relating to fuel use in 2015 lead an increase in the excise tax forecast for 2016, while the reduction of the VAT rate for pork from 27 per cent to 5 per cent reduces VAT revenues. Next year, labour taxes may generate 0.2 percentage higher GDP-proportionate revenues, owing to the faster-than-expected increase in the rate of employment in 2015. On the other hand, the reduction of the personal income tax rate from 16 to 15 per cent will cause a tax shortfall equal to 0.3 per cent of GDP.

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	0.0
Consumption-type tax revenues	0.3
PIT, SSC	0.1
Revenues from state property and expenditures of the Investment Fund	–0.4
II. Central government expenditures	0.0
Net expenditures related to EU transfers	–0.1
Housing subsidies and pension related expenditures	0.1
III. Other effects	0.1
Net interest expenditures	0.1
Cancellation of the reserves	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

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

	Macro data	Measure	Other
I. Central government revenues	0.3	–0.4	0.0
Consumption-type tax revenues	0.1	–0.1	
PIT, SSC, fees, duties	0.2	–0.3	
II. Central government expenditures	0.0	–0.1	0.0
Net own expenditures of budgetary organisations		–0.1	0.3
Net expenditures related to EU transfers			–0.2
Net expenditures related to state property			–0.3
Public work programme			0.1
Expenditures of social security funds			0.1
III. Other effects	0.0	0.0	0.1
Net interest expenditures	0.0		
Other items			0.1
Total (I.+II.+III.)	0.4	–0.5	0.1

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

On the expenditure side, our forecast was primarily modified on account of the more precise government plans becoming visible from the bill on the central budget. A new measure is the launch of the government official career programme from the second half of 2016 which increases the government wage bill by 0.1 per cent of GDP. Based on the bill, we project the general freezing of wages and intermediate consumption instead of their increase in line with inflation, which results in a GDP-proportionate reduction of expenditures of 0.3 per cent. The bill hints that a negative statistical adjustment is expected in the case of EU transfers, with a magnitude of 0.2 to 0.3 per cent of GDP. This was partially offset, since based on the bill we reduced our forecast for share of own financing necessary for EU funds. The expected value of net expenses related to government property was increased by 0.3 per cent of GDP, due to the capital increase at Paks II Atomerőmű Fejlesztő Zrt. outlined in the bill. Also in line with the bill, we reduced the expected expenses of the public employment programme and healthcare expenses.

The ESA deficit objective for 2016 outlined in the bill is 2.0 per cent of GDP, which is 0.2 percentage points lower than our forecast (Table 5-5). The appropriation for "revenues from other asset sales and utilisation" amounts to HUF 133 billion. Similarly to 2015, we are not aware of any actual government plans, and therefore we project no revenues from this source. In our opinion, a more concentrated utilisation of the EU sources available during the 2014-2020 cycle is realistically to be expected for the end of the cycle. Therefore the government contribution related to EU transfers may be lower, which may reduce GDP-proportionate expenditures by 0.1 per cent. Pension expenditures are likely to exceed the appropriation by 0.1 per cent of GDP, which is based on our higher inflation expectation for next year. Our forecast assumes the cancellation of the total amount of the National Protection Fund, which alone would improve the balance by 0.2 per cent of GDP.

5.3.4. Risks surrounding the baseline scenario

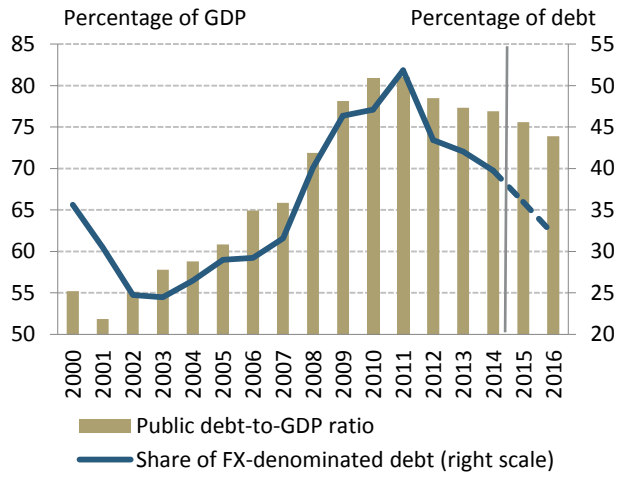
Fulfilment of the appropriation of "revenues from other asset sales and utilisation" might result in a positive risk equivalent to 0.4 per cent of GDP for both years, considering also that in this case the partial blocking of the Investment Fund will not become necessary. Over the entire forecasting horizon, the effective operation of the so-called Electronic Public Road Trade Control System (EKÁER) might result in a positive risk amounting to 0.2 per cent of GDP. The utilisation of EU sources presents a

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	–0.4
Payment by economic units and consumption-type tax revenues	–0.1
Revenues from state property and expenditures of the Investment Fund	–0.4
II. Central government expenditures	0.0
Net expenditures related to EU transfers	0.1
Pension related expenditures	–0.1
III. Other effects	0.2
Cancellation of the reserves	0.2
Other items	0.0
Total (I.+II.+III.)	–0.2

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

Chart 5-12: Gross public debt forecast from 2015 calculated with unchanged (end-2014) exchange rate



Source: MNB

two-sided risk. On the one hand, the non-realisation of the negative adjustments supposed for next year would improve the balance. However, on the other hand, the balance would deteriorate if the government over-insures the full utilisation of the 2007-2013 financial allowance, and ultimately some of the launched projects had to be self-financed. The third consideration is that via higher state co-financing, it can also increase budget deficit if in 2016, in line with the government's plans, more EU sources can be used from the 2014-2020 allowance. This impact may be dampened by higher rate of economic growth induced by more EU sources, which would result in higher budgetary revenues. With respect to next year's deficit, the potential reproduction of healthcare institutions' debt (which already reaches high level) may pose a negative risk amounting to 0.1-0.2 per cent of GDP, in line with our forecast of a moderate increase in healthcare expenditures.

5.3.5. Expected developments in public debt

Based on preliminary MNB data relating to financial accounts, the gross consolidated public debt-to-GDP ratio was 77.2 per cent at the end of the first quarter of 2015. This is significantly more favourable than the figure for the corresponding period of last year (82.3 per cent), but slightly exceeds the end-2014 level of 76.9 per cent. The increase in the first quarter is a temporary phenomenon caused by two main factors. On the one hand, larger than proportional part of the expected annual cash flow deficit was realised, in line with the practice of previous years, and on the other hand the liquid government deposits also increased. In the first quarter, the debt ratio increased to a lesser extent – by more than 3.5 percentage points – than the average of the corresponding periods in last two years. This was primarily due to the fact that the net financing need of the government sector and the volume of government bond issuance was significantly smaller in the first quarter of this year. Additionally, the faster-than-expected economic growth and the significant appreciation of forint against the euro also reduced the increase in the debt ratio.

This year and next year, we expect a further reduction in the end-of-year debt ratios, assuming an unchanged end-of-2014 forint exchange rate, and thus we expect the debt rule of the Fundamental Law to be fulfilled over the forecast horizon (Chart 5-12). According to our forecast, the gross public debt-to-GDP ratio may fall to 75.6 per cent by the end of 2015 and decrease to 73.9 per cent by the end of 2016. Economic growth, the low deficit

of the general government, and decreasing financing costs all contribute to the long-term reduction of the debt ratio. Negative foreign currency denominated net debt issuance is expected over the forecast horizon, which is also supported by the self-financing programme of the MNB. In this manner, the share of foreign exchange debt may fall to close to 32 per cent by the end of 2016.

The gross public debt-to-GDP ratio calculated using the prevailing end-of-year exchange rate may be even lower than the debt trajectory we have forecast, if the forint appreciates against the euro, as compared to the end of last year (EUR/HUF 314.9). The revaluation effect may be offset by the stronger-than-expected appreciation of the US dollar against the euro, which may increase gross public debt by increasing the margin deposits placed by the Government Debt Management Agency.

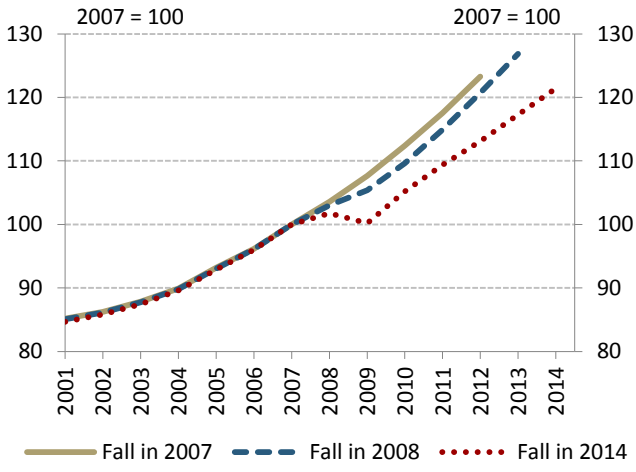
6. SPECIAL TOPICS

6.1. Explanations for the globally low inflation environment: balance sheet recession or secular stagnation?

6.1.1. Introduction

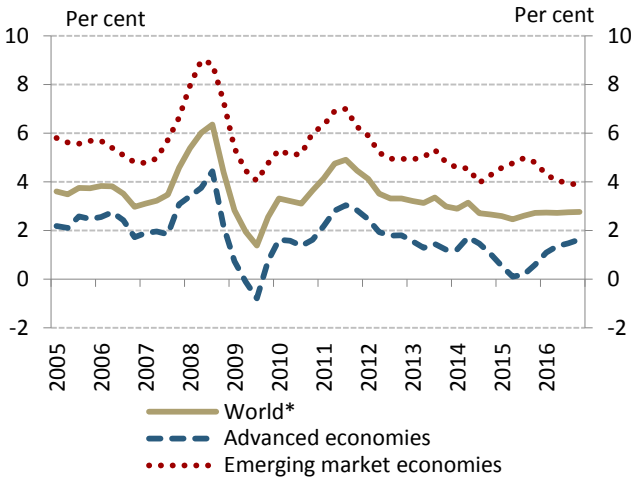
As a result of the crisis that escalated in 2008, economic activity and inflation remained permanently low in the developed countries, and signs of slowdown can be seen in the emerging countries as well (Chart 6-1). Inflation rates have recently fallen short of the central bank targets in a number of countries, and often steadily negative price changes can be observed (Chart 6-2). Due to the slow economic growth rate and the low inflation, interest rates are low, and due to this the effectiveness of the traditional monetary policy tool – that is the key interest rate – is decreasing. This new environment generates new challenges for monetary policy, which can address these challenges only if it is able to properly diagnose the reason for low inflation and slow growth, and find the appropriate tools for raising inflation to the target. In the following, we describe the explanations of the phenomenon discussed in the most important economic debates and the related possibilities for response by economic policy. This study deals with a global phenomenon, which has recently come into focus for a number of leading economists and international organisations. The objective is to collect these diverse aspects and opinions, which – due to the international nature of the issue – are relevant primarily for the developed countries.

Chart 6-1: Output compared to pre-crisis expectations



Source: IMF (2015)

Chart 6-2: Global inflation



Note: Annual change. * Excluding Venezuela.
Source: IMF (2015)

6.1.2. Balance sheet recession

One potential explanation for the current low inflation environment coupled with moderate growth is the balance sheet recession and the balance sheet adjustment phenomenon. **The underlying reason for the balance sheet recession[16] is that in the years preceding the financial crisis, during the lasting upturn coupled with low and stable inflation, economic agents became highly indebted.** After the bursting of the asset price bubble, economic agents realised that while they had to repay their accumulated debts, the value of the assets underlying their debts (e.g. properties) had decreased substantially. Experiences show that balance sheet recessions are much more costly than a usual recession: they are deeper, followed by weaker recovery and they generate lasting losses in the output level, while the financial sector is also substantially damaged (Koo, 2014).

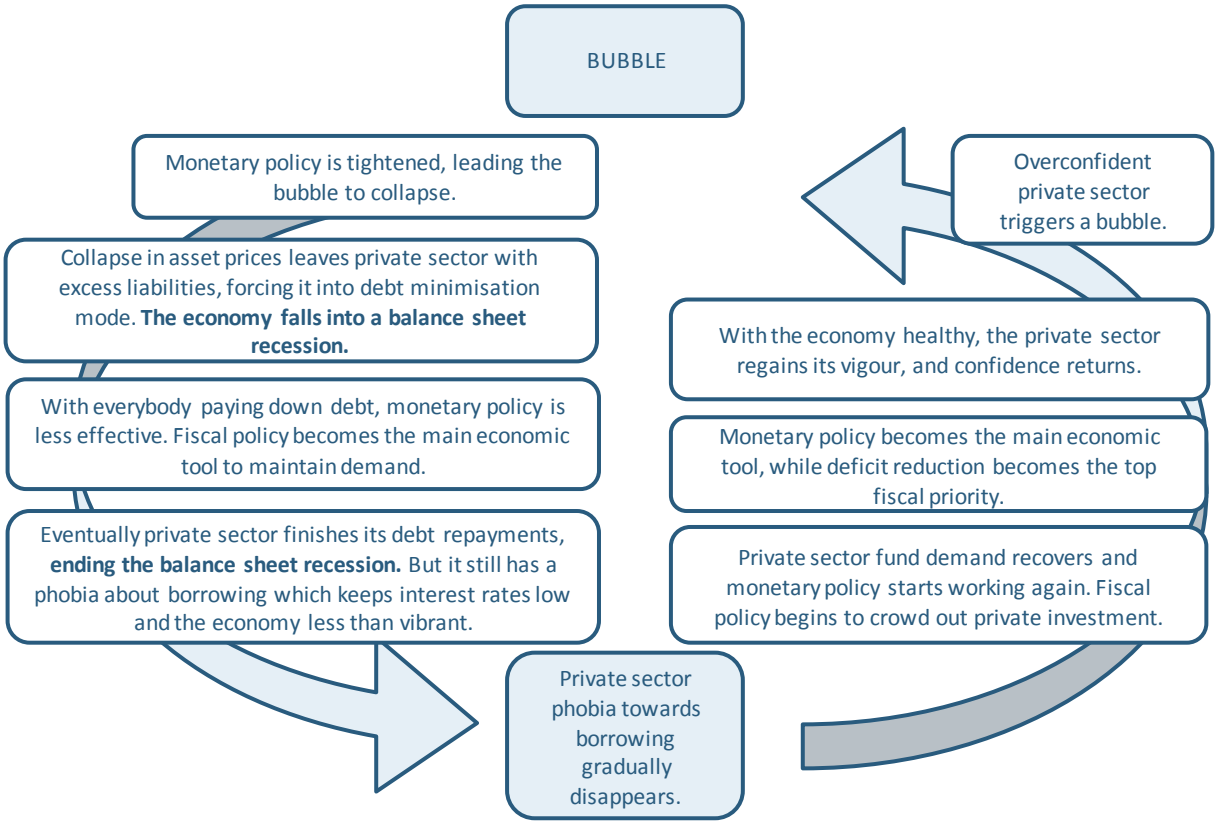
[16] The term 'balance sheet recession' was first used by Richard Koo for the Japanese recession in the 1990s, the underlying reason for which was the corporate debt overhang, during which instead of the maximisation of their profit corporations focus on the minimisation of their debts, and as such they use their revenues for reducing their existing debt. Since then, the balance sheet recession term is used for all recessions where after an unsustainable financial boom resulting in the accumulation of high debts, economic agents drastically increase their savings and cut their consumption and investments expenses.

Role of fiscal policy

According to Koo, in this type of recession the **demand-boosting effect of an interest rate reduction is weaker**, since the actors struggling with balance sheet problems will focus on the reduction of their debts and as such they will not be interested in borrowing even at low interest rates. Due to this, Koo deems the general government more efficient in the management of the risk of deflation by transferring the funds accumulated during the balance sheet adjustment to the private sector through **fiscal stimulus** achieved by increasing the deficit. At the same time, Koo recognises that during the balance sheet adjustment, households and enterprises will use their surplus revenue for the faster reduction of their debts instead of new borrowing or implementing new investments. As a result of the foregoing, the higher the damage to the balance sheets is the longer the cleaning lasts.

Having recognised this, Koo believes that the **fiscal stimulus must be maintained for several years even after completion of the balance sheet adjustment**, as the sudden withdrawal thereof may revive deflationary risks. This is attributable to the fact that those actors who had to adjust their balance sheet will be under the psychological effect thereof even after completing the process and they are reluctant to become indebted again.[17] The dynamics of balance sheet recession and adjustment are summarised by Chart 3. On the whole, according to Koo, **the balance sheet recession can be addressed by boosting demand through fiscal stimulus of appropriate degree and length; however, he also acknowledges that modern democracies meet obstacles in this area in several respects**.[18]

Chart 6-3: Dynamics of the balances sheet recession and readjustment



Source: Richard Koo, The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession. John Wiley & Sons, Singapore, April 2008, p. 160.

[17] This is confirmed by previous experiences; for example, following the crisis in 1929 the actors who adjusted their balance sheet typically never borrowed once again during their life; or, after the completion of the Japanese companies' balance sheet adjustment around 2005, there are still no signs of higher willingness to borrow, even at the current, historically low interest rates.

[18] This is in part attributable to the fact that the majority of economic agents are not familiar with the phenomenon of balance sheet recession, and therefore they do not understand that balance sheet adjustment is a proper response in a crisis of this type.

Role of macroprudential policy

Borio accepts the diagnosis of Koo, but sees the solution not in the fiscal expansion, because – if maintained beyond its temporary useful stabilisation function – it may only prepare even larger future bubbles and financial crises.[19] He believes that in an ideal case a much more symmetric **macroprudential framework** should work, where after the burst of an asset price bubble the release of the formerly accumulated capital and liquidity buffers could mitigate the damage to the financial institutions and the economic losses. However, if during the boom no such buffers were integrated in the system, then the recovery of financial institutions' balance sheet is more difficult. Borio agrees with Koo in the sense that during the balance sheet recession **the demand-boosting effect of an interest rate cut is more moderate**. However, this does not mean that accommodative monetary policy has no role in stimulating the post-balance sheet recession recovery; simply, over time it is less and less efficient and it becomes increasingly evident that it is unable to handle such basic problems as the cleaning of balance sheets (Borio, 2012).

Borio believes that, in relation to the balance sheet recession phenomenon, Koo ignores the debt reduction compulsion, i.e. the fact that when economic agents are excessively indebted they will use their surplus income for repaying their debts rather than for increasing their expenditures, and as such fiscal policy cannot be as effective as in a standard recession. Borio believes that fiscal policy may be effective in the case of stock problems as well, if the existing room for fiscal manoeuvre is **used in a targeted manner, directly for the improvement and strengthening of the private sector's balance sheet**. In the case of the financial sector, this means that the existing room for fiscal manoeuvre should be used for the cleaning and reorganisation of the banks' balance sheet, and then the banks should be re-privatised, in the end closing the reorganisation hopefully with a profit. This can be also applied to the non-financial sector; for example in the case of households several forms of debt relief could be implemented. However, this is not purely a fiscal policy task, but the management of the conflicts and disputes between the lenders and borrowers, as well as the managers, shareholders, and debtors, also requires additional firm interventions. Apart from Borio, Rogoff (2015) also emphasises that economic policymakers should have paid more attention to debt write-off, as well as to the restructuring and recapitalisation of the banks.

6.1.3. Secular stagnation

In his study that generated keen interest, Lawrence Summers[20] recalled a hypothesis from the period before World War II, referred to by Hansen as "secular stagnation". He also acknowledges the importance of the explanation related to the balance sheet recession, described in the first section, but he believes that it only partially explains the current processes. **In his view, the economic dynamism of the advanced regions already broke before the crisis and with the passing of the crisis low growth should be expected even over the horizon of a decade.[21] This secular slowdown occurs due to the structural and real economic changes**; however, the real economy problems underlying the decelerating growth in the pre-crisis years was concealed by the fact that the growth took place in parallel with the building of the financial bubble and imbalance, while on the basis of the low inflation there were no signs of overheating. The decelerating potential output entails the decrease in the equilibrium real interest rate. The low interest rate, coupled with low inflation, complicates the work of the central banks, which – in addition to trying to attain the inflation target – aim at facilitating growth and increasing employment without jeopardising financial stability. To put it differently, the objective is to ensure that savings and investments are balanced under an interest rate that ensures full employment.

According to Summers, the following changes may explain the secular slowdown and the low real interest rate in the developed countries:

[19] According to Claudio Borio, the economic policy responses given to the earlier smaller bubbles, for example the policy pursued during the dot.com crisis, contributed to the present crisis.

[20] Former Secretary of the Treasury of the United States and chief economic advisor, President of Harvard University, and Chief Economist of the World Bank.

[21] In order to the illustrate the problem, he cites the estimate prepared by the Government Accountability Office (GOA) before the crisis, in 2007, according to which the output of the USA by 2014 should be at a level higher by 10 per cent. About half of the shortfall may be blamed on the crisis, while the other half of it is attributable primarily to the unrealised investment, and only a small part of it to the decrease in the "total factor productivity" interpreted as technical progress.

- decelerating population growth;
- slowing capital accumulation and investments;
- technological innovation and change in relative prices;
- increasing income inequality;
- ageing of the society;
- uncertain macro policy.

Due to the factors listed by Summers, savings in the developed countries are structurally higher than investments, which results in low neutral (real) interest. Coupled with low inflation, this substantially narrows the monetary policy's room for manoeuvre, which ultimately leads to negative real interest rates (and eventually also to negative nominal key interest rates). According to Summers this explains that, for example, the present accommodating monetary policy of the Fed entails financial stability problems, while on the real economy side the economy still has not reached its potential output level. According to Summers, the problem of secular slow growth can be remedied basically by the stimulation of aggregate demand.

As opposed to Summers, Bernanke – former Chair of the Federal Reserve – does not deem the initial issue, i.e. the problem of too low interest rates, as being convincing (Bernanke, 2015a and 2015b). Logically, it can be excluded that the real interest rate remains negative in the long run, because in that case even extremely low-yielding investment projects break even and as such credit demand will be infinite. In addition, Bernanke mentions that if there is no sufficient investment opportunity in the USA, the companies could look for investment opportunities abroad, especially at the extremely low interest rates. Accordingly, one of the key difference is that the explanations of Summers' thesis are basically limited to the USA and the developed countries, and ignore global considerations. Thus, according to Bernanke, the present low interest rate should be regarded as the temporary backwash of the balance sheet recession rather than secular stagnation.

According to Bernanke, the imbalance of savings and investments is attributable to the global savings glut. Accordingly, if excessive savings can be reduced, the problem of too low interest rates will be resolved. Bernanke believes that one of the main reasons of the savings glut is the excessive current account surplus of certain countries. Before the crisis, China had the highest export surplus, while now it is Germany accompanied by a number of smaller European countries. Bernanke is already inclined to see signs of adjustment. The surplus of China has already decreased significantly, and in parallel with that demand for securities issued in US dollar also dropped. The increased external surplus of the euro area may be deemed cyclical: it rose mostly due to the involuntary adjustment of the countries under market pressure, which will decrease as a result of the recovery.

6.1.4. Summary

As a result of the crisis that escalated in 2008, economic activity and inflation remained low in the developed countries, but signs of slowdown can be seen in the emerging countries as well. This new environment creates new challenges for monetary policy, and depending on the cause of the aforementioned processes the proper economic policy responses vary.

If this is attributable to the **balance sheet recession phenomenon**, it can be managed by fiscal stimulus of a proper magnitude and maintained for the required period (Koo) or by the targeted use of the room for fiscal manoeuvre, e.g. for the cleaning of the balance sheets of the private sector (Borio). If the slowdown in growth already started before the crisis, secular stagnation may be remedied by the stimulation of aggregate demand through the increase of the budget deficit (Summers). According to Bernanke, the imbalance of savings and investments **stems from the savings glut**, which will be resolved by the decrease in excessively high balance of payments surpluses. Based on these considerations, it appears that in addition to central bank intervention the resolution of the problem also necessitates other, additional targeted economic policy measures, regarding which however, no consensus has been reached so far in the macroeconomic academic debates and in economic policy practice. If no proper economic policy response is given, the balance sheet recession may stay in the long run or become a recurring phenomenon.

On the basis of the analysis of global developments it becomes obviously clear that after the 2008/2009 crisis in terms of growth those economic policies may be successful which have aimed at a faster adjustment of balance sheet problems

stemming from excessive indebtedness and at the relief of the structural weaknesses of the economy. **In recent years, Hungarian economic policy focused on numerous measures related to this area, which may have contributed to increasingly dynamic growth of the Hungarian economy even in international comparison.**

LITERATURE:

Bernanke, B. (2015a): Why are interest rates so low, part 2: Secular stagnation, March. *http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/31-why-interest-rates-low-secular-stagnation*

Bernanke, B. (2015b): Why are interest rates so low, part 3: The Global Savings Glut. *http://www.brookings.edu/blogs/ben-bernanke/posts/2015/04/01-why-interest-rates-low-global-savings-glut*

BIS (2014): 84th Annual Report. *http://www.bis.org/publ/arpdf/ar2014e.pdf*

Blanchard, O. (2015): An assessment of the state of the world economy, WEO Press Conference, May. *http://www.voxeu.org/print/58898*

Borio, C. (2012): The financial cycle and macroeconomics: What have we learnt? BIS Working Papers No 395.

IMF (2015): Lower Potential Growth: A New Reality, World Economic Outlook, Ch. 3. *http://www.imf.org/external/pubs/ft/survey/so/2015/new040715a.htm*, *http://www.imf.org/external/pubs/ft/weo/2015/01/pdf/c3.pdf*

Koo, R. (2014): Balance sheet recession is the reason for secular stagnation. In Secular Stagnation: Facts, Causes and Cures, VOX.EU.org ebook. *http://www.voxeu.org/sites/default/files/Vox_secular_stagnation.pdf*

Rogoff, K. (2015): Debt supercycle, not secular stagnation, *http://www.voxeu.org/article/debt-supercycle-not-secular-stagnation*

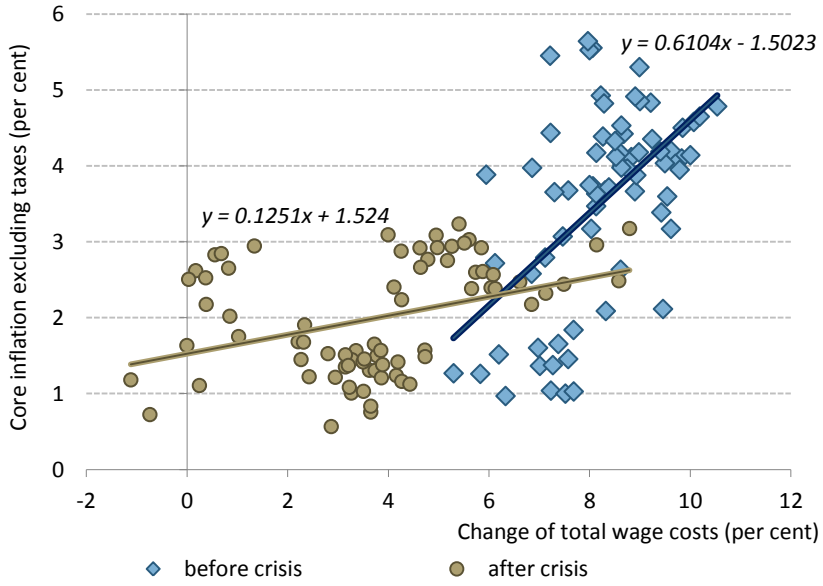
Summers, L. H. (2014): "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound", Business Economics, Vol. 49. No. 2., February. *http://larrysummers.com/wp-content/uploads/2014/06/NABE-speech-Lawrence-H.-Summers1.pdf*

6.2. Prices and wages – reasons behind the changing economic relationship

In Hungary, the primary objective of monetary policy is to achieve and maintain price stability; therefore, the analysis of inflation and its determining factors are of high priority. Inflation is affected by various direct and indirect factors. Among these, **in the course of evaluating nominal developments, wages are of special relevance as they may induce excess aggregate demand and cost push factors which cause inflation**. Following the crisis, the strength of several economic relationships may have changed. For example, this may be the case with the relationship between the cyclical position of the economy and inflation (Phillips curve), the relationship between money supply and the consumer price index, and the level of exchange rate pass-through into prices. Similarly to the previous links, the strength of the relationship between wages and inflation might have also changed in the course of the crisis.

In our forecast, we anticipate moderate but rising remuneration in the private sector, the inflation impact of which, however, may be moderate. **The rationale behind this is that, in the wake of the crisis, the relationship between wages and inflation may have changed, the relationship as compared to pre-crisis years might have flattened, in other words, the inflationary impact of a unit increase in wages may be smaller** (Chart 6-4). This study investigates the inflation impacts of wages and thereby consumption, comparing pre-crisis and current trends, and provides an overview of the possible reasons for changes in the relationship.

Chart 6-4: Changing relationship between inflation and wages



Source: HCSO, MNB

6.2.1. Factors affecting the development of wages

Several factors may affect wage developments, and depending on which factor leads to wage increases, their inflationary impact may differ. **Developments in real wages are fundamentally determined by productivity changes and, besides labour market conditions, the profitability of the corporate sector and inflation expectations.**

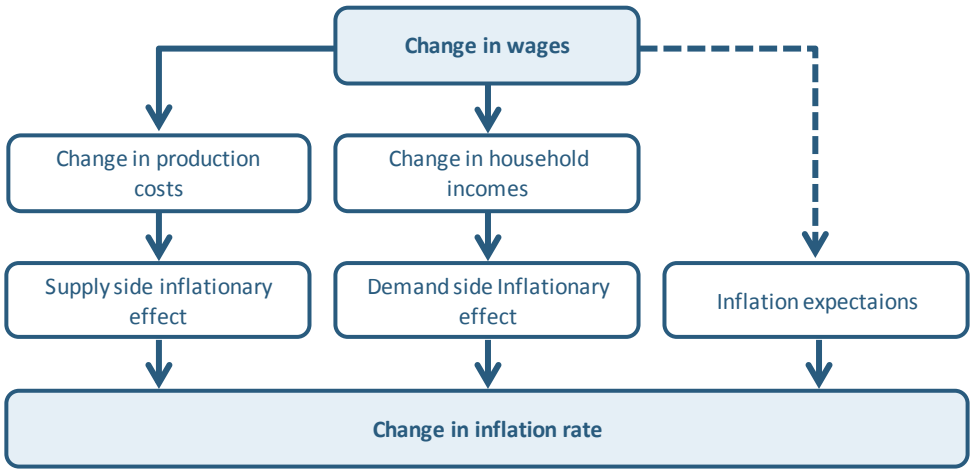
- Improved profitability of the corporate sector may open up the possibility for wage increases. As profits rise, firms can manage to pay for wage increases, and therefore there is no necessity to adjust prices. For example, if the rise is due to productivity gains, which then induces wage increases then this does not have any additional inflationary effects. This is because wage increases are offset by the value of the extra production, in other words, it does not change unit costs. By contrast, wage changes surpassing productivity may have inflationary consequences given that the production cost per unit of output increases.
- The relationship between the demand for and supply of work, which is best captured by the tightness of the labour market, may also influence developments in wages. In the case of a tighter labour market the share of job seekers as compared to vacancies is smaller, eventually leading to wage increases.
- In addition to all of the above, inflation expectations may also influence wages in the course of wage negotiations. Inflation expectations consistent with the inflation target may contribute to avoiding wage

increases, if such increases develop in accordance with productivity, resulting in an inflation level higher than price stability. By contrast, in the case of elevated inflation expectations employees seek higher nominal wages to avoid a decrease in their real wages.

6.2.2. The relationship between wages and inflation

Wage increases may influence inflation fundamentally through three channels (Chart 6-5)**. Nominal developments may be influenced by the supply and demand side, as well as in general through expectations.**

Chart 6-5: Impact of wages on inflation



Source: MNB

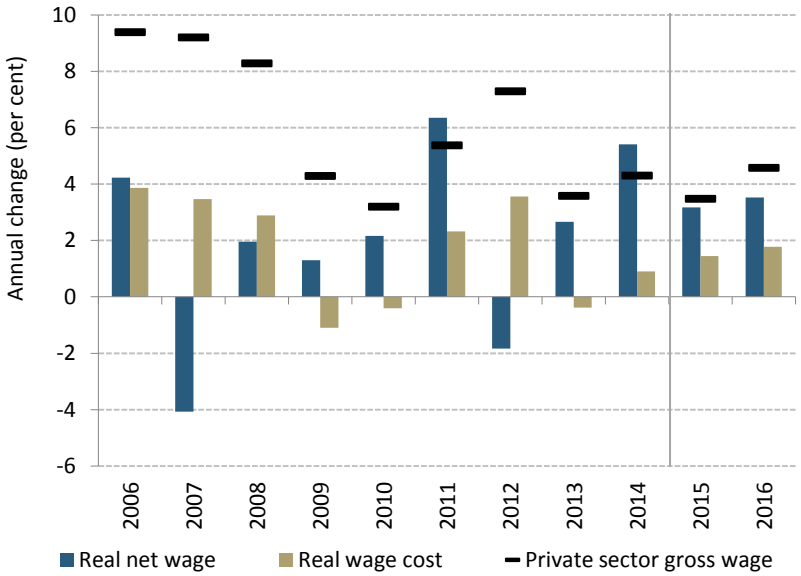
- **Rising corporate costs**: Wage increases may become incorporated in the prices of products and services through the rise in production costs, thus leading to cost-side inflationary pressure.
- **Rising household income**: Changes in wages influence nominal developments not only with direct impacts arising with regard to firms, but also with regard to demand through changes in the income situation of households. Any wage increase by itself increases the disposable income of households, giving rise to demand-side inflationary pressure as a result of spending additional income.
- **Inflation expectations**: Wages may be significantly influenced by the inflation expectations of economic agents during wage negotiations. In a low inflation environment, the price-setting behaviour of firms changes, small price changes are less profitable (menu costs); therefore, their frequency and rate may decline. Anchoring inflation expectations also leads to smaller changes in inflation due to shocks from the real economy, since the orientation of the inflation target encourages companies to increase prices consistently with the inflation target. Apart from that, in the course of wage negotiations employees will also seek lower nominal wages in accordance with a lower level of expected inflation.

6.2.3. Possible explanations for the changing relationship between prices and wages

Recently, the following factors may have contributed to the relationship:

- During wage negotiations, employers and employees agree on gross wages. Due to price changes and changes to the tax system, firms and workers face different real wages. Different real wage perceptions of firms and consumers may have contributed to the change in the relationship between wages and inflation. **Real wages perceived by consumers have increased considerably in the persistently low inflationary environment, the real wages relevant for firms calculated using producer prices have grown at a low rate in recent years** (Chart 6-6).

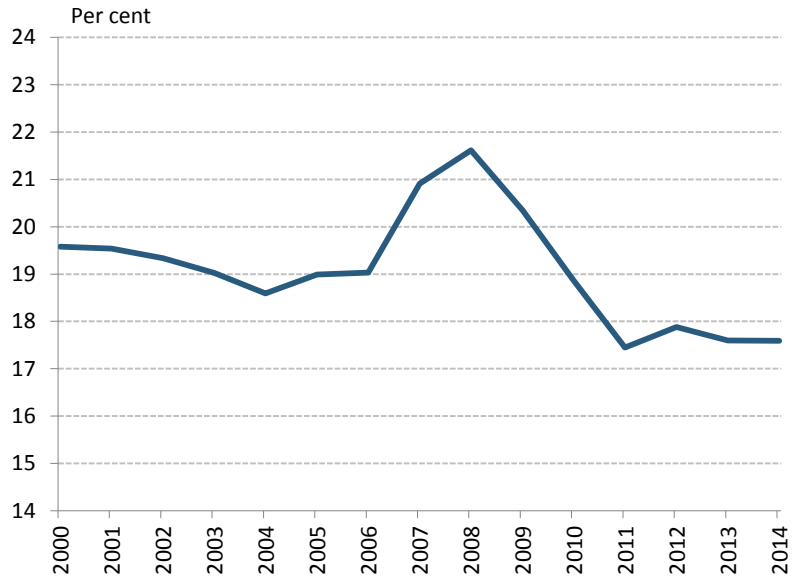
Chart 6-6: Development of real wages relevant for households and firms



Note: Real net wages: deflated with CPI, real wage cost: total labour cost deflated with GDP deflator.
Source: HCSO

- In the course of wage negotiations, companies and employees agree on gross wages; therefore, the tax system may meaningfully influence wage developments. Following the crisis, reduced taxes on labour also had favourable impacts. Decreasing taxes on labour (Chart 6-7) facilitated a more effective response of companies to shocks in the economy; at the same time, the total wage cost declined, positively influencing profitability of firms and thus increasing the leeway of companies with regard to changing wages and prices.

Chart 6-7: Taxes on labour as a percentage of GDP

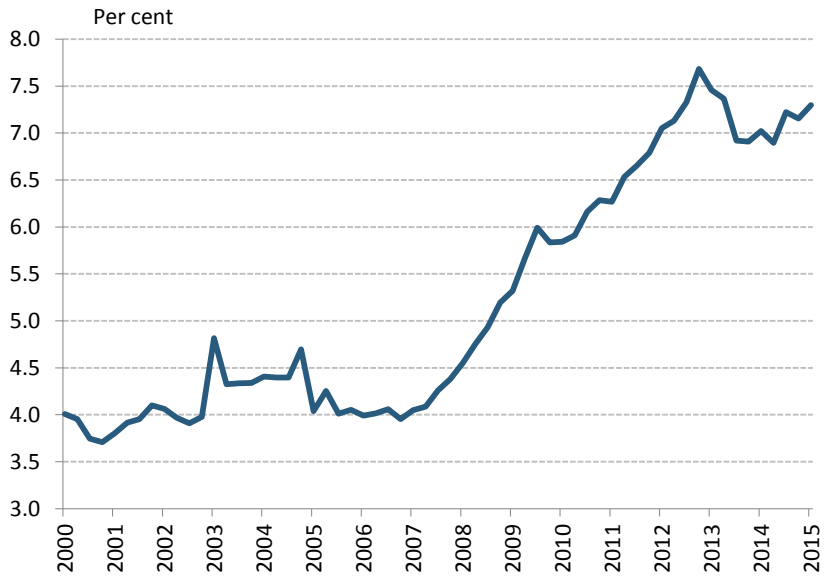


Note: Private pension payments is considered before 2011. In 2013 and 2014, annual data are based on the change in personal income tax and contributions cash flow proportional to GDP.
Source: OECD

- **The labour market has become more flexible in recent years**, which may have been supported by the spread of flexible work arrangements. It may well be that companies adjusted to reduced aggregate demand during the crisis by changing working hours per employee. They achieved this by employing previously full-time employees

as part-time staff (Chart 6-8). As the economy recovers firms can respond more effectively by increasing the number of hours worked by part-time employees. In this case, in the course of its adjustment, the firm does not bear extra costs which would arise from recruitment and training expenses.

Chart 6-8: Proportion of part-time employees in the private sector



Source: HCSO

- If other costs decline, the leeway available for companies rises both with regard to wage and pricing decisions; wage increases may be offset by the decline in other costs, thus reducing price increase pressures. Prior to the crisis, commodity prices had trended upward, while following the crisis a persistently low cost environment emerged. This led to lower pressure on firms to increase their prices. **The low cost environment was further supported by a significant drop in interest-related costs as a result of declining interest rates.**

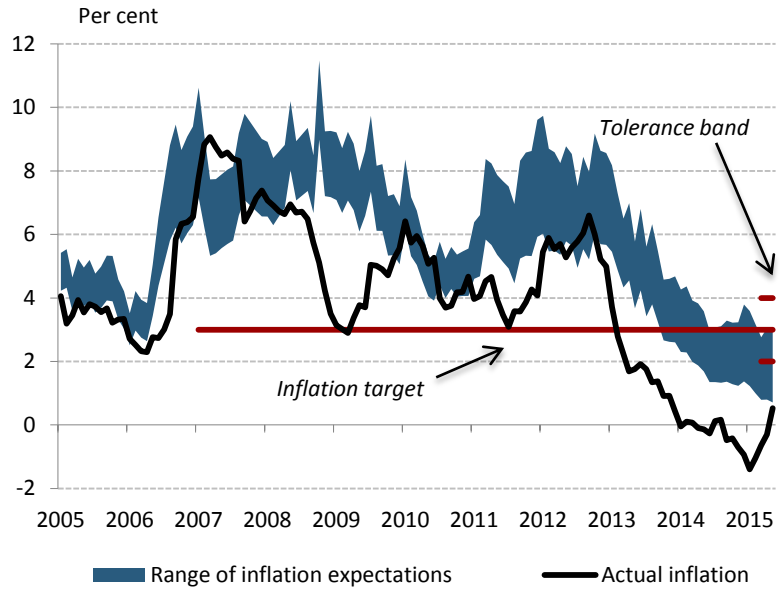
- The protracted deleveraging following the crisis may have fundamentally affected the relationship between inflation and the economic cycle. Due to the slow deleveraging of debt acquired before the crisis, household consumption has decreased significantly in recent years. The low level of consumer demand has a disinflationary impact, however the size of this relationship may have changed following the crisis. International experiences seem to indicate that, following the crisis, the size of the inflationary effect due to one unit of consumption may have changed. **According to some studies, the inflationary impact has declined, that is to say following the crisis the so called Phillips curve may have become flatter** (several factors may have contributed, for example, the downward rigidity of nominal wages, increasing structural unemployment, anchored inflation explanations, menu costs, globalisation).[22] However, other papers have argued that the Phillips curve has actually become steeper. In Hungary, statistical identification based on the data available up to now is difficult, and although the flattening of the Phillips curve is not significant, several factors may indicate that the relationship between the real sector and nominal developments might have declined.[23]

- **In the recent period, inflation expectations have decreased in parallel with the decline in actual inflation** (Chart 6-9). In the case of lower inflation expectations, during wage negotiations employees are less interested in achieving high nominal wages consistent with the expectations. Therefore, the decline in inflation expectations may have also contributed to the change in the relationship between wages and inflation.

[22] See for example, Marco Del Negro, et al.: Inflation in the Great Recession and New Keynesian models, 2014, Federal Reserve Bank of New York, Staff Reports; Mary C Daly: Downward nominal Wage Rigidities Bend the Phillips Curve, 2014, Federal Reserve Bank of San Francisco, Working Paper Series.

[23] For more details on the evolution of the Philips curve and possible explanations, see the September 2014 *Inflation Report*, Chapter 6.1.

Chart 6-9: Households' inflation expectations



Source: HCSO, MNB calculations based on European Commission data

All in all, several factors point to the fact that recently there has been a decreasing inflation impact per unit of wage increase as compared to the period prior to the crisis. On the one hand, the low cost environment characterising recent years may have moderated nominal wage increases, and the labour market becoming more flexible have also weakened the relationship, along with decreasing taxes on labour. With regard to demand side, due to precautionary savings and the slow reduction of accumulated debt, the extra consumption of households per unit of disposable income may be smaller, and the inflation impact may be less per unit of extra consumption. Finally, declining inflation expectations may have also contributed to the adjustment of nominal developments.

7. BREAKDOWN OF THE AVERAGE CONSUMER PRICE INDEX FOR 2015

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

	Effect on CPI in 2015		
	Carry-over effect	Incoming effect	Yearly index
Administered prices	–0.2	0.1	–0.1
Market prices	–1.0	1.4	0.4
Indirect taxes and government measures	0.0	0.1	0.1
CPI	–1.3	1.6	0.3

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.
Source: MNB

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

	2015				
	Average carry-over effect	Carry-over indirect tax effect	Average incoming effect	Incoming indirect tax effect	Yearly index
Food	–2.3	0.0	2.8	0.0	0.5
non-processed	–4.5	0.0	8.6	0.0	3.7
processed	–1.2	0.0	0.2	0.0	–1.0
Traded goods	0.0	0.0	0.7	0.0	0.7
durables	–0.2	0.0	0.3	0.0	0.1
non-durables	0.1	0.0	0.8	0.0	0.9
Market services	1.3	–0.1	1.4	0.0	2.6
Market energy	0.3	0.0	–1.6	0.0	–1.3
Alcohol and Tobacco	–0.1	0.0	2.7	1.3	4.0
Fuel	–10.0	0.0	1.2	0.0	–8.9
Administered prices	–1.4	0.0	0.6	0.0	–0.8
Inflation	–1.3	0.0	1.5	0.1	0.3
Core inflation	0.2	0.0	1.1	0.2	1.5

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

LIST OF CHARTS AND TABLES

List of charts

List of tables

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.

INFLATION REPORT

June 2015

Print: Prospektus–SPL consortium

H-8200 Veszprém, Tartu u. 6.

H-1054 BUDAPEST, SZABADSÁG TÉR 9.

mnb.hu