# Quarterly Report on Inflation

September 2013

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Act CCVIII of 2011 on the Magyar Nemzeti Bank, defines the primary objective of Hungary's central bank as the achievement and maintenance of price stability. Low inflation allows the economy to function more effectively, contributes to better economic growth over time and helps to moderate cyclical fluctuations in output and employment.

In the inflation targeting system, since August 2005 the Bank has sought to attain price stability by ensuring an inflation rate near the 3 per cent medium-term objective. The Monetary Council, the supreme decision-making body of the Magyar Nemzeti Bank, performs a comprehensive review of the expected development of 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, money and capital market trends and risks to stability.

In order to provide the public with clear insight into the operation of monetary policy 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 Monetary Policy and Financial Market Analysis, Directorate Fiscal Analysis and Directorate Financial System Analysis, as well as the macroeconomic developments underlying these forecasts. The Report is published quarterly. The forecasts are based on 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 by staff in the MNB's Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate Fiscal Analysis, Directorate Financial System Analysis under the Executive Director Dániel Palotai. The Report was approved for publication by Dr. Ádám Balog, Deputy Governor.

The Report incorporates valuable input from the Monetary Council's comments. The projections and policy considerations, however, reflect the views of staff in the Directorate Economic Forecast and Analysis, Directorate Monetary Policy and Financial Market Analysis, Directorate Fiscal Analysis, Directorate Financial System Analysis and do not necessarily reflect those of the Monetary Council or the MNB.

*The projections are based on information available in the period to 19 September 2013.*

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# The Monetary Council's statement in the September 2013 issue of the Quarterly Report on Inflation

**Since August 2012, the Monetary Council has reduced the level of the central bank base rate in a series of cautious steps, but to a substantial extent overall.**

Over the period, the condition of the real economy, and particularly weak domestic demand, warranted a significant reduction in the base rate, while the outlook for inflation remained consistent with the achievement of the 3 per cent target over the medium term. Changes in perceptions of the risks associated with the economy were supportive throughout the period. The substantial easing in monetary policy so far and higher volatility in sentiment in global financial markets in the past month have called for increased caution.

The Council is seeking to maintain a balanced and conservative approach to monetary policy. In addition to the priority of meeting the inflation target, the Council will also take into account the condition of the real economy and pay particular regard to financial stability considerations. Marked and lasting shifts in perceptions of the risks associated with the economy may influence the room for manoeuvre in monetary policy.

**In the Council's judgement, currently there is no material inflationary pressure in the economy.**

In recent months, the Bank's measures of underlying inflation have fallen to historically low levels. Favourable developments in underlying inflation reflect the combined effect of subdued domestic demand, declining inflationary pressures in external markets and the gradual adjustment of inflation expectations. The reductions in regulated prices, implemented in a series of steps this year, have also contributed to the development of a low inflation environment.

In the longer term, the effects of government measures increasing production costs in some sectors are likely to feed through to the corporate sector. With domestic demand remaining subdued, however, the pass-through to consumer prices is likely to be gradual and partial. Looking forward, companies' efforts to rebuild profitability, loose labour market conditions and the adjustment of inflation expectations are likely to lead to moderate earnings growth, which in turn may contribute to the maintenance of the low inflation environment. Overall, inflationary pressures are likely to remain muted over the medium term.

**The global environment points to the maintenance of persistently accommodative monetary conditions.**

Global activity was driven by developed economies in the second half of the year. By contrast, economic activity in developing countries, whose share of Hungarian exports has been increasing, was weaker than expected. Looking ahead, the significant differences in growth rates across the most important economic regions are likely to narrow, with the slow expansion in external demand in the second half expected to continue next year.

Demand-side inflationary pressures remain weak as economic growth continues at a moderate pace. In response, developed country central banks have maintained loose monetary conditions. In terms of perceptions of the risks associated with the Hungarian economy, sentiment in global financial markets have been broadly supportive; however, sentiment deteriorated and risk aversion increased in markets in the past quarter. In addition to developments in the euro-area debt crisis,

expectations related to the liquidity measures by major central banks and risks facing large emerging economies were the main factors influencing investor decisions.

**Looking ahead, the Monetary Council expects the pattern of growth to be more balanced.**

Economic growth is likely to pick up gradually in the coming quarters. Both exports and domestic demand are expected to contribute to the slow improvement in underlying growth. Exports are likely to remain the main driving force behind growth: in addition to the recovery in external demand, the increase in the market share of Hungarian exports is expected to contribute to export growth, due to the instalment of new capacity in the automobile industry. Low inflation and wage increases for certain employee groups in the public sector are expected to boost the purchasing power of households' disposable income. However, household caution is only likely to diminish as debts accumulated in the past are reduced. In addition to the investment projects implemented by the Government from EU funds, private sector investment demand is likely to remain moderate, reflecting unused capacity, the uncertain outlook for growth and tight credit conditions. However, the Bank's Funding for Growth Scheme is expected to contribute to an easing in financing constraints for small and medium-sized enterprises, thereby supporting the recovery in private investment.

Overall, demand is likely to remain below the productive capacity of the economy, and therefore the real economic environment is expected to remain disinflationary looking ahead. The negative output gap may close at the end of the forecast horizon.

**External debt is likely to fall further.**

The external surplus of the Hungarian economy is likely to rise further this year, reflecting a rising surplus on goods and services partly due to the improvement in the terms of trade, the expected decline in the income deficit and the increasing use of EU transfers. In 2014, however, the surplus on goods and services is unlikely to rise further, partly reflecting higher investment and imports as a result of the Funding for Growth Scheme, while the amount of EU transfers is likely to fall, due to the new budget cycle. But with the external financing capacity remaining high, the external debt ratio is likely to fall further, which in turn will reduce the country's vulnerability.

**In the Council's judgement, the medium-term achievement of the inflation target and the condition of the real economy continue warrant further cautious easing of policy.**

In the Council's view, the economic data becoming available in the course of the year indicate that weak domestic demand and loose labour market conditions have a strong disciplinary effect on economic agents' price and wage-setting decisions. Although temporary effects have also contributed to the reduction in inflation, underlying developments point to continued moderate inflationary pressure even in the medium term. There continues to be significant spare capacity in the economy and output is likely to return to its potential level only gradually. As a result of these factors, inflation is likely to remain persistently below the 3 per cent target, before returning to it at the monetary policy horizon. The low inflation environment may help the Bank's inflation target to better anchor the nominal path of the economy. Taking into account developments in perceptions of the risks associated with the economy, the medium-term achievement of the inflation target can be ensured with policy easing which is more cautious than usual.

**The macroeconomic outlook is surrounded by a range of uncertainties.**

In the Council's judgement, the degree and disinflationary impact of spare capacity in the economy as well as uncertainty around the global financial market environment are the two most important sources of risk to monetary policy. There are both upside and downside risks to developments in investment, and consequently to the future path of the economy's potential output.

In the Council's view, the potential output of the Hungarian economy has been growing at a slow rate since the outset of the crisis, reflecting weak investment and the existing financing constraints; however, the size of available capacity that could be brought into production is surrounded by a considerable degree of uncertainty. A wider cyclical position and lower inflation expectations may lead to stronger disinflation through price and wage-setting decisions, which in turn may warrant a further

substantial easing of policy. In the Council's judgement, possible developments in the external environment, both in terms of the real economy and financial markets, may adversely affect perceptions of the risks associated with the Hungarian economy and limit the room for manoeuvre in monetary policy. Looking ahead, the recovery in investment may be faster if companies spend a greater portion of loans received under the Funding for Growth Scheme to finance additional and sustainable investment. If the decline in investment experienced during the crisis proves longer than expected, it may result in a less favourable path.

**Based on the above considerations, the Monetary Council has decided to reduce the base rate by 20 basis points.**

In the Council's judgement, there remains a significant degree of spare capacity in the economy and inflationary pressures are likely to remain moderate. Achieving the 3 per cent inflation target over the medium term provides scope for further monetary policy easing. Global financial markets are showing signs of stabilisation following a period of increased volatility. A sustained and marked shift in perceptions of the risks associated with the Hungarian economy may influence the room for manoeuvre in monetary policy. In the Council's view, considering the outlook for inflation and the real economy and taking into account perceptions of the risks associated with the economy, further cautious easing of monetary conditions may follow.

**Summary table of baseline scenario**
*(our forecast is based on endogenous monetary policy)*

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| | Fact | Projection | |
| **Inflation (annual average)** | | | |
| Core inflation[1] | 5.1 | 3.5 | 3.8 |
| Core inflation without indirect tax effects | 2.5 | 1.7 | 2.8 |
| Consumer price index | 5.7 | 2.0 | 2.4 |
| **Economic growth** | | | |
| External demand (GDP based)[2] | 0.8 | 0.6 | 1.7 |
| Household consumption expenditure | –1.4 | 0.4 | 1.2 |
| Gross fixed capital formation | –3.8 | –1.3 | 7.8 |
| Domestic absorption | –3.7 | 0.3 | 2.1 |
| Export | 2.0 | 3.4 | 5.3 |
| Import | 0.1 | 3.3 | 5.6 |
| GDP | –1.7 | 0.7 | 2.1 |
| **External balance[3]** | | | |
| Current account balance | 1.7 | 3.4 | 3.3 |
| External financing capacity | 4.5 | 6.6 | 5.5 |
| **Government balance[3, 8]** | | | |
| ESA balance (data for 2012 is preliminary data) | –2.0 | –2.6 | –2.9 |
| **Labour market** | | | |
| Whole-economy gross average earnings[4, 6] | 4.5 | 3.3 | 4.5 |
| Whole-economy employment | 1.7 | 0.8 | 0.8 |
| Private sector gross average earnings[5] | 7.2 | 3.5 | 3.0 |
| Private sector employment | 1.4 | 0.2 | 0.4 |
| Unit labour costs in the private sector[6] | 6.9 | 1.5 | 1.3 |
| Household real income[7] | –3.2 | 1.1 | 1.0 |

*[1] From May 2009 on, calculated according to the joint methodology of the CSO and MNB.*
*[2] In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.*
*[3] As a percentage of GDP.*
*[4] Calculated on a cash-flow basis.*
*[5] According to the original CSO data for full-time employees.*
*[6] Private sector unit labour costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses and domestic employees.*
*[7] MNB estimate.*
*[8] With complete cancellation of free reserves.*

# 1 Inflation and real economy outlook

In respect of the macroeconomic indicators most relevant for monetary policy, macroeconomic trends in recent months developed in accordance with the forecasts from the June inflation report. Following last year's recession, domestic GDP growth, which had started at the beginning of the year, continued in Q2 as well, although at a slower rate. At the same time, the economy is still characterised by strong nominal adjustment. The subdued demand environment continues to have a strong price-reducing effect, and in the past quarter the easing in imported inflationary pressures as well as the latest cuts in regulated prices in the middle of the year pointed to a further decline in inflation. Inflation was well below the 3 per cent target value in the summer months as well. In the moderate demand environment, companies continue to improve their profitability mainly by keeping their production costs under control, instead of raising prices.

The inflation outlook over the forecast horizon improved both over the short term and the long term, with the latter being of key importance for monetary policy. In our current forecast, the consumer price index may remain below 3 per cent over the entire forecast horizon. Another reduction in regulated energy prices is expected by the end of the year and this will result in a further decline in CPI over the short run, while the determinants of underlying inflation trends suggest that core inflation excluding tax changes will remain moderate over the entire forecast horizon. The sustainability of the low inflation environment is supported by demand and supply side effects, as well as inflation expectations. Domestic demand is only recovering slowly, and opportunities to raise consumer prices remain limited; at the same time, imported inflationary pressure stemming from global market developments – which is perceived in both processed and unprocessed products – is expected to be moderate. Due to the adjustment of inflation expectations and the persistently slack labour market conditions, wage dynamics may remain subdued over the entire horizon.

The gradual improvement in economic growth is expected to continue in the quarters ahead. Over the short run, growth will probably still be driven mainly by exports. At the same time, as domestic demand picks up, the structure of growth may gradually become more balanced. As international economic activity slowly strengthens, we expect to see increasing demand in Hungary's most important trading partners, while the rising production from new capacities in the automobile industry may add to the market share of Hungarian exports. In general, renewed growth in real household income may result from the low inflation environment, significant pay increases for some groups in the public sector and further reduction of direct tax burdens on labour incomes. In terms of households' consumption–saving decisions, the precautionary considerations due to the reduction of debts accumulated prior to the crisis and the still uncertain labour market outlook may ease only slowly, and therefore only a slow turnaround is expected in the development of consumption demand. Willingness to save may decline gradually, but will remain at a high level. Over the forecast horizon, the downward trend in gross domestic investment seen since the outbreak of the crisis is expected to reverse, and investment is expected to expand again. Dynamic expansion in public-sector investment projects financed from EU funds may continue to make a significant contribution to strengthening investment activity, while expansion of the Funding for Growth Scheme may help to mitigate the financing constraints of small and medium-sized enterprises. On the whole, in light of the existing unutilised capacities and the still uncertain demand outlook, corporate investment activity will probably only strengthen gradually, and thus major expansion in investment is only expected in 2014.

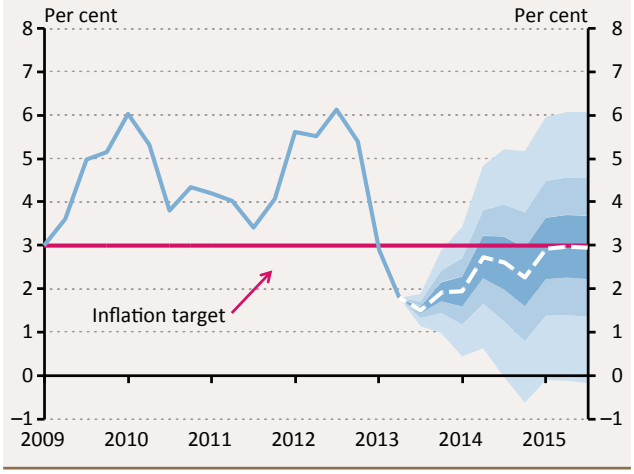
The upward trend observed in activity in recent years may continue in the labour market. The subdued demand environment disciplines pricing decisions, and consequently companies mainly attempt to improve their profitability by keeping their wage costs under control. Initially, companies may react to the gradual improvement in demand outlook mainly by increasing the number of working hours again. Consequently, private-sector employment may track the turnaround in economic activity with some delay. Wage dynamics are expected to grow more slowly than productivity over the entire forecast period, due to the loose labour market conditions and the adjustment of inflation expectations.

On the whole, the Hungarian economy may be characterised by moderate demand and cost-side inflationary pressures over the medium term as well, and by a negative output gap over the entire forecast horizon. At the same time, the risk assessment of emerging markets has been more volatile in recent months, underlining the fragile nature of money market sentiment. In our baseline scenario, we expect risk tolerance related to the emerging markets to gradually normalise, which may reduce the risk spreads of domestic assets as well. In the interest rate path consistent with our forecast, with stabilisation in the risk environment, the below-target inflation and the subdued cyclical position of the economy allow for a further, moderate easing of interest rate conditions.

# 1.1 Inflation forecast

*Consumer price inflation may remain well below the 3 per cent target this year and next year as well. The reduction of regulated energy prices in several steps this year considerably reduces inflation over the short run. At the same time, the factors that are monitored carefully by monetary policy and basically determine the medium-term inflation outlook also indicate generally moderate inflationary pressure. Subdued domestic demand continues to have a strong price-reducing effect, and imported inflationary effects may also become more moderate. The gradual adjustment of inflation expectations may generally contribute to preserving the low inflation environment.*

**Chart 1-1**
**Fan chart of the inflation forecast**




In line with the more favourable underlying developments observed in the past months and the inflation-reducing effect of the newly announced utility price cut to be carried out in the autumn, inflation is expected to be lower than our June forecast over the entire forecast horizon. Inflation may remain below the central bank's medium-term objective in 2014 as well, rising close to 3 per cent only at the end of the forecast period in mid-2015.

Domestic core inflation excluding indirect tax effects shows historically low dynamics as a result of the restrained pricing of market services observed for a longer period and low tradables inflation, in line with the slowing global market price dynamics of imported products. In the case of processed food, commodity prices, which are expected to decline due to globally favourable harvest results, may result in an easing of the inflationary pressure over the short run as well.

Overall, the determinants of underlying inflation trends may develop more favourably than assumed in our June forecast. With regard to the medium-term inflation trends in the domestic economy, both demand and supply-side factors point towards low inflationary pressure. In parallel with increasing real incomes, households' consumption demand may pick up, although the rate may remain moderate due to persistently strong precautionary considerations. The level of consumption may fall short of the values observed in the pre-crisis years even at the end of the forecast period. Against the background of subdued domestic demand, the effect of tax measures which ensure the achievement of fiscal deficit targets and add to production costs may only appear in consumer prices to a limited extent. Companies may primarily increase their profitability by keeping other production costs under control, moderating wage increases and improving their productivity. This process may be facilitated by the gradual adjustment of inflation expectations

**Chart 1-2**
**CPI with and without indirect taxes and subsidies**

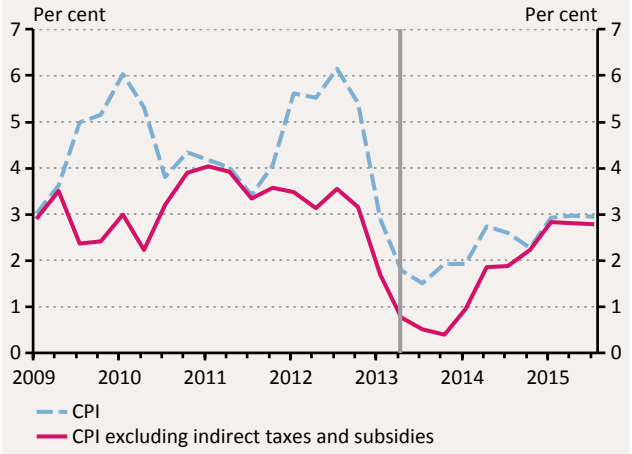
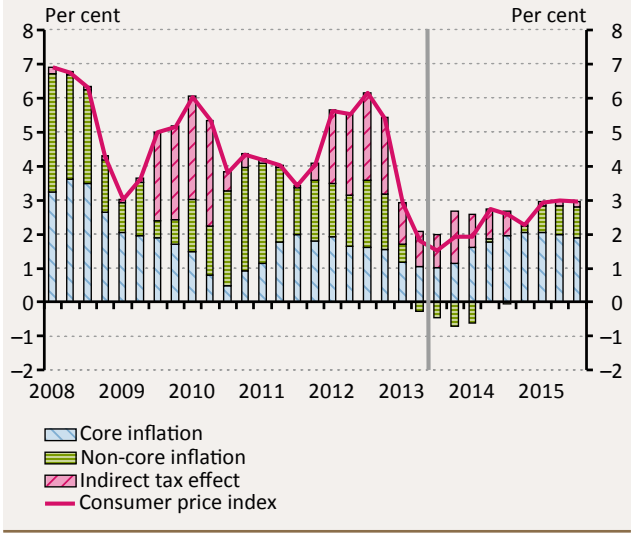



**Chart 1-3**
**Decomposition of the inflation forecast**




as well. Persistently below-target inflation may break the strong nominal inertias that have characterised the Hungarian economy for a longer time (and prevail through price and wage expectations), reinforcing the medium-term sustainability of low inflation.

Price increases of non-core items may remain subdued over the entire forecast horizon. Although fuel prices have increased in recent months due to the higher oil price attributable to the conflict in Syria, futures prices suggest that the price of crude oil may fall to around USD 100 again in the coming two years. Developments in unprocessed food prices may be governed by the globally favourable harvest results. In line with that, prices are expected to return to normal in the quarters ahead and, as suggested by futures prices, remain at moderate levels in 2014 as well.

Following the earlier reductions in administered prices, the latest, 11.1 per cent cut in regulated energy prices (gas, electricity, district heating) will result in a further decline in inflation from the end of the year. The reduction's total impact on inflation amounts to around 1 percentage point, most of which may be reflected in next year's inflation due to the peculiarities of statistical accounting. So far, the increase in the retail margin on tobacco products had any hardly perceptible impact on consumer prices. In our view, the lack of the expected inflationary effect is mainly due to timing reasons and accordingly, we continue to expect a major increase in tobacco prices over our forecast horizon. The increase in the financial transaction levy in July may also gradually be reflected in the consumer prices of the services concerned. On the whole, however, over the entire forecast horizon the direct inflationary effect of government measures may remain well below the historical average level.

Altogether, the subdued demand environment, moderate imported inflationary pressure and the government measures with an overall disinflationary effect suggest that the low inflation environment will remain in place. After this year, inflation may stay below the central bank's target in 2014 as well, and is expected to reach 3 per cent at the end of the forecast period.

**Table 1-1**
**Details of the inflation forecast**

| | | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| **Core inflation** | | 2.7 | 5.1 | 3.5 | 3.8 |
| **Non-core inflation** | Unprocessed food | 4.3 | 6.8 | 7.3 | 3.0 |
| | Gasoline and market energy | 13.8 | 11.9 | 0.3 | 5.0 |
| | Regulated prices | 4.0 | 4.7 | –3.3 | –3.5 |
| | Total | 6.4 | 6.8 | –0.7 | –0.3 |
| **Consumer price index** | | **3.9** | **5.7** | **2.0** | **2.4** |

**Box 1-1**
**Flexible inflation targeting**

At present, nearly 30 central banks around the world pursue inflation targeting. Inflation targeting (IT) is a monetary policy strategy in which the primary objective of the central bank is price stability, and the bank strives to reach this objective by achieving a publicly announced inflation target. One important element of the framework is institutional commitment to price stability. However, this does not mean that the central bank does not take account of other factors, in addition to the inflation aspects in formulating its monetary policy. This is indicated by the fact that longer or shorter episodes when inflation significantly departs from the target are observed in the case of each central bank that applies inflation targeting.

Consequently, inflation targeting is always flexible in practice.[1] Flexibility means that in the course of formulating its monetary policy, the central bank also takes into account other aspects, in addition to developments in inflation, for example, it also aims to stabilise the real economy. This means that – even though monetary policy is unable to influence the level of capacity utilisation over the long term – it attempts to stabilise it around its normal level. This flexible approach is justified by several factors. An important aspect is that monetary policy exerts its influence on the economy with some delay, monetary transmission is time-consuming, and changes in the policy rate typically exert an effect on the macroeconomy with a lag of several quarters. Accordingly, offsetting inflation shocks in the short-term would require significantly stronger monetary policy response compared to monetary policy that focuses on the medium term. In addition, monetary policy reaction also depends on the nature of the shock to inflation. In the case of a demand shock, output and inflation change in the same direction. In the case of a supply (cost) shock, however, output and inflation move in opposite directions. In the case of a supply shock, offsetting inflationary pressures results in real-economy volatility, and thus the central bank faces a trade-off between inflationary and real-economy aspects.

Flexibility takes various shapes in practice. One is when the central bank reacts to inflation over the medium term instead of responding to short-term fluctuations. Flexibility is also shown when the central bank does not react to developments in some volatile items of the price index. With regard to achieving the inflation target, central banks may formulate various 'escape clauses' as well, according to which they do not react to the direct price level-increasing effect of significant shocks that are external from a monetary policy perspective. In such cases, the central bank can avoid real economic fluctuations that are unnecessary for achieving price stability over the medium term. Central banks may directly react to measures of real economic tightness or financial imbalances. In so doing, they can slow policy response to inflationary shocks when there is slack in the economy, and increase the response when the economy is overheated.

In the majority of developed country inflation targeters, episodes of temporary target-misses are easy to find, which indicates that these central banks had other (e.g. real economic or financial stability) considerations beyond the deviation of actual inflation from the target. The more credible a central bank is and the longer it maintains a low inflation environment, the higher the probability that it is able to fdisregard the inflationary effect of a one-off price level shock in a way that inflation expectations remain anchored. For example, inflation has been persistently above 2 per cent in the United Kingdom in the past three years, and is expected to remain above the target in the coming one or one and a half years as well. Short-term expectations have risen, but there are no signs of a sustained shift. Compared to the extremely high inflation of the 1970s, the main difference in the current situation may be that as a result of the central bank's commitment to low, stable inflation, inflation expectations were anchored when cost shocks (increasing global energy prices, rising import prices due to the weakening of the exchange rate, increase in regulated prices, VAT increase) hit the economy (McCafferty, 2013).[2] This anti-inflationary credibility allowed decision-makers to be sufficiently flexible, and in order to avoid further real-economy sacrifices they tolerated the overshooting of the target for a longer time than before.

The endogenous monetary policy reaction function on which the MNB's forecasts are conditioned is consistent with the principle of flexible inflation targeting, because it reacts to forecasted inflation excluding the effects of indirect taxes and takes into account developments in the output gap.[3]

[1] Svensson, Lars E.E. (2008), "Inflation Targeting", in: *The New Palgrave Dictionary of Economics,* 2nd edition, Palgrave McMillan.
[2] McCafferty, Ian (2013), *Inflation targeting and flexibility,* speech, 14 June 2013.
[3] Krusper, Balázs and Katalin Szilágyi (2013), "How can an interest rate rule reflect real economic considerations?", *MNB Bulletin,* May, pp. 43–50.

# 1.2 Real economy forecast

*We expect a gradual improvement in economic growth over the forecast horizon. Following the Q1 correction of the one-off effects observed in 2012, economic activity has been determined by slow improvement in underlying developments since the second quarter. Over the short run, Hungary's economic growth may continue to be driven by exports. Consumption and private investment may pick up only gradually due to the reduction of debts accumulated prior to the crisis, the uncertain economic outlook and tight credit conditions The MNB's Funding for Growth Scheme may contribute significantly to the decrease in financing constraints for small and medium-sized enterprises, the stimulatory impact of which on demand may appear from next year. Domestic demand is expected to expand more strongly starting from 2014, allowing a more balanced structure of growth from next year.*

**Chart 1-4**
**Fan chart of the GDP forecast**
*(based on seasonally adjusted and reconciled data)*

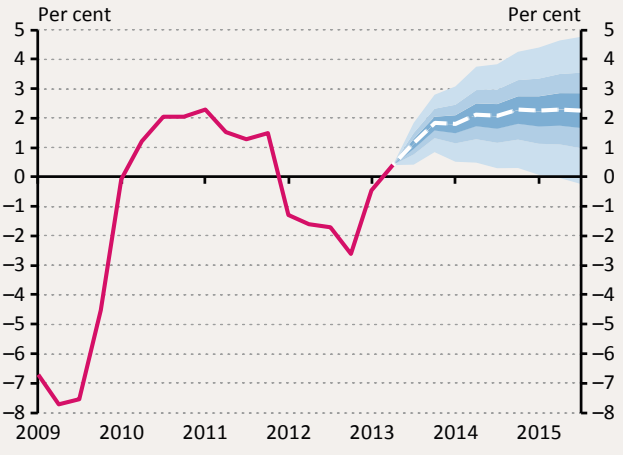
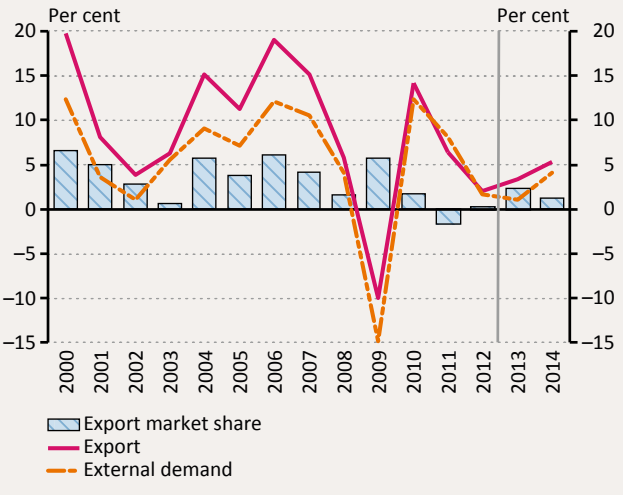



**Chart 1-5**
**Changes in export market share**



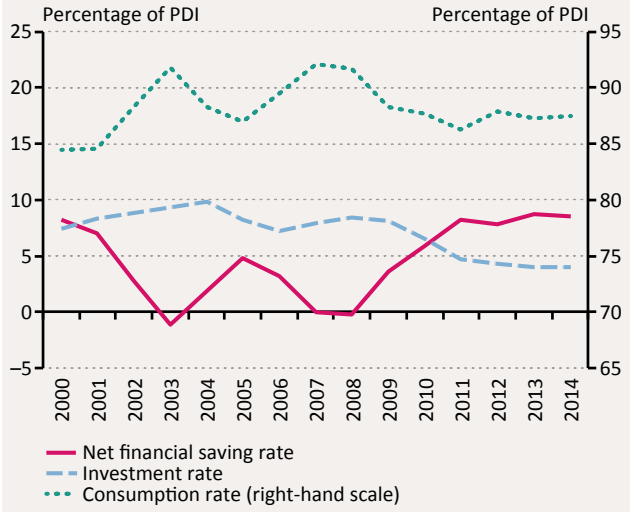

Economic growth continued in Q2. The correction of one-off effects (e.g. drought conditions, factory stoppages at the end of the year) affecting 2012 took place in early 2013, and following this, economic activity may be determined by the slowly improving underlying developments. Production figures and business cycle indicators suggest that an increasingly wide range of sectors made positive contributions to growth. Moreover, in addition to exports, domestic demand was also able to expand in Q2.

Economic growth may continue to strengthen gradually over our forecast horizon. The growth environment may be determined by the gradual upswing in global business activity, real income growth fostered by the low inflation environment and the corporate credit conditions which are easing as a result of the MNB's programme to stimulate lending.

Over the short run, exports may continue to drive Hungary's economic growth. With the euro area's recovery from recession and further improvement in global economic activity, external demand may gradually strengthen from 2013 H2. In parallel with this, the increase in production by new automotive capacities may also boost the market share of Hungarian exports.

Household consumption may be determined by the dual trend of expanding real incomes and the cautious consumer behaviour, due to debts accumulated prior to the crisis and higher unemployment. In general, the low inflation environment points to an increase in households' real incomes. In addition, over our forecast horizon, disposable income is raised by the major wage increases expected in certain public employment groups and changes in the personal income tax system (phasing out of the half super-

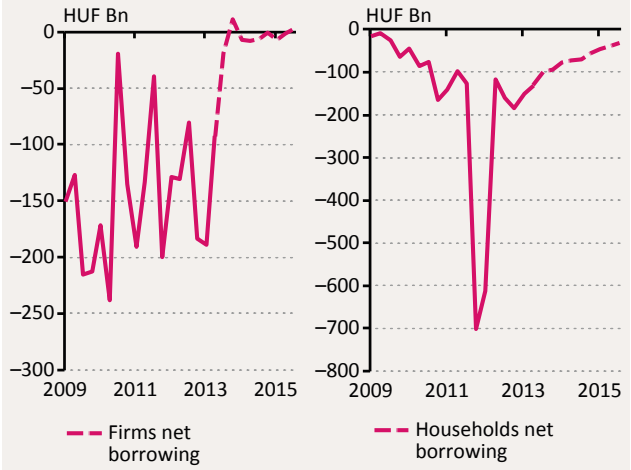
**Chart 1-6**
**The use of household income**




*Note: As percentage of disposable income. Net financial savings of households exclude mandatory contributions payable to the private pension funds.*

**Chart 1-7**
**Our forecast for household and corporate lending**

*(net changes in stocks due to transactions)*



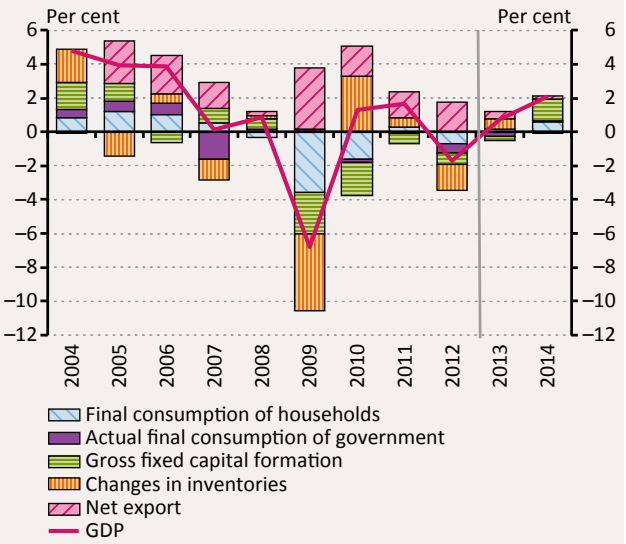

gross income tax scheme, extension of family tax allowances). Growth in real incomes may be stronger in the case of social groups with higher propensity to consume and incomes below the average wage. Precautionary considerations due to the protracted reduction of debts accumulated before the crisis and the more uncertain labour market environment are expected to ease only slowly. In line with that, households' savings rate may remain at a high level over our forecast horizon.

The dynamic expansion in public investment implemented from EU funds may continue to significantly contribute to investment growth. The Funding for Growth Scheme represents a significant contribution to easing the financing constraints of small and medium-sized enterprises.[4] Strong growth in this sector's investment demand is expected next year, in parallel with a more robust expansion in domestic demand and a decline in currently unutilised capacities. The recovery in international economic activity may result in continued growth in investment in the sectors that produce for foreign markets. Household investment has been at a historically low level this year. In view of the repayment of debts accumulated during the crisis and the persistently tight credit conditions, no major change is expected in the coming years either. Restrained household investment may continue to be a strong channel of adjustment in the future as well, facilitating the smoothing of households' consumption path and the expansion of financial savings.

Despite the gradual improvement in the demand environment, aggregate demand continues to fall short of the level of the production capacities of the economy. The economy is still characterised by a significant amount of spare capacity. In line with that, the real economic environment will continue to have a disinflationary effect. The negative output gap is expected to close at the end of the forecast period.

[4] On September 11, 2013 the Monetary Council of the central bank of Hungary decided upon extending the Funding for Growth Scheme. On our forecast horizon, the expected dynamics of economic growth is highly influenced by the final amount and type of credit firms apply for from the announced HUF 2000 billion funds. In our baseline scenario, we took into consideration the usage of the HUF 500 billion amount of loan disposable from October 1. At the same time, being aware of the uncertainty surrounding the loan demand, in concordance with the decision of the Monetary Council, the effect of extending the credit line presented in Chapter 2 discussing alternative scenarios.

**Chart 1-8**
**Changes in GDP growth**



# 1.3 Labour market forecast

*We project activity in the labour market to continue expanding. Due to the price-reducing effect of the subdued demand environment, companies are mainly attempting to improve their profitability by keeping their wage costs under control. Over the short run, it is possible that companies will primarily react to the strengthening of economic activity by increasing the number of hours worked; thus private-sector labour demand will remain moderate over the short term and the upturn in private-sector employment will only follow the turnaround in economic conditions with a time lag. Subdued wage dynamics may persist over the entire forecast horizon, supported by loose labour market conditions and declining inflation expectations.*

**Chart 1-9**
**Employment and unemployment, total economy**

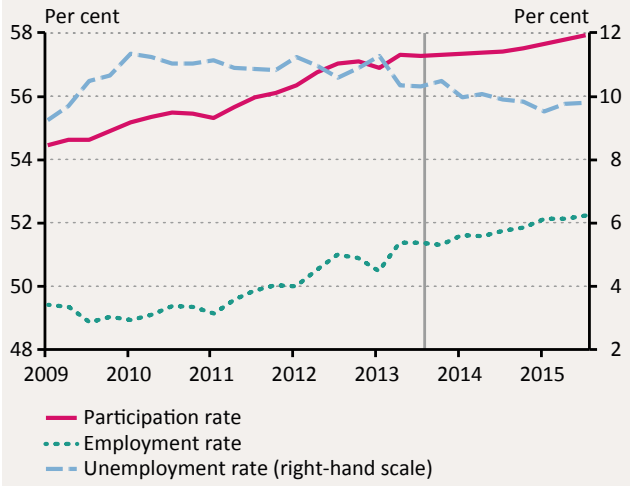
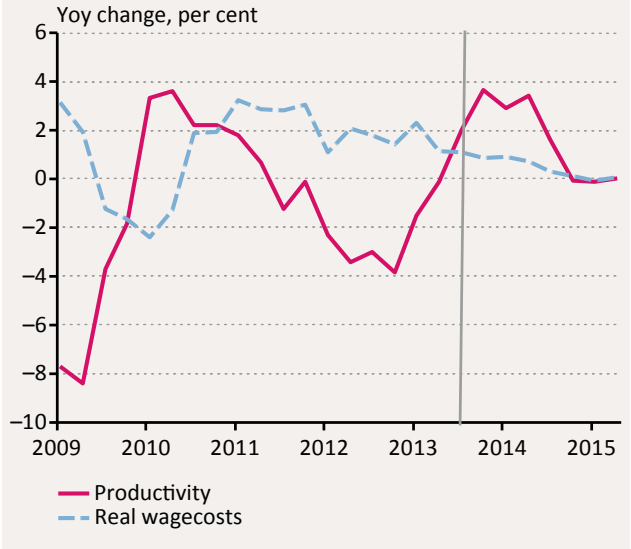



**Chart 1-10**
**Evolution of productivity and real wagecosts**



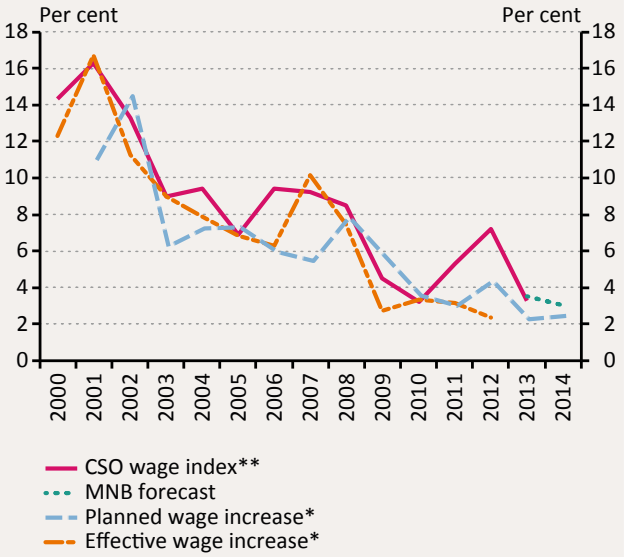

The activity rate reached a historical peak in Q2. As a result of government measures taken in earlier years and aimed at increasing activity, labour supply may continue to expand further in the quarters to come.

Labour demand in the corporate sector may be subdued in the short run. Corporate profitability was reduced by last year's recession and the tax measures that boosted companies' production costs. Slack consumer demand limits firms' opportunities to increase prices; therefore, in order to restore profitability, the corporate sector is attempting to keep wage costs under control. In particular, a decline in the number of hours worked was observed in the past quarters supported by the recent modification of the Labour Code concerning flexible types of employment, while the ratio of part-time employees rose. Accordingly, over the short run the rebound in economic growth will probably mostly result in a renewed increase in the number of hours worked. The number of employed may rise tangibly, in parallel with the strengthening of economic activity. Public employment programmes may continue to play a key role in developments in whole-economy employment.

Due to expanding labour supply and the slow increase in labour demand, the unemployment rate may fluctuate around 10 per cent over the forecast horizon. The persistently elevated level of unemployment since the crisis has a considerable wage reducing effect. Accordingly, private-sector wage dynamics may remain low next year as well. Real wages may increase more slowly than labour productivity.

The moderate wage dynamics are supported by the results of the August 2013 survey of Hay Group as well (Chart 1-11). The responding companies – mainly large firms – expect a similar, 2 percent wage rise as in the current year of 2013. On the other hand the fact that nearly half of them have not

**Chart 1-11**
**Wage dynamics expectations according to Hay survey**




** According to the Hay Group survey (weighted by number of employees).*
*** In 2013 only the H1.*

decided on the wage rise of its employees yet shows uncertainty.

The loose labour market allows companies to improve their profitability positions by restraining wage increases as well. In addition, persistently below-target inflation may facilitate a decline in inflation expectations, which may contribute to continued low wage dynamics over the medium term as well.

**Table 1-2**
**Changes in our projections compared to the previous Inflation report**

| | 2012 | 2013 | | 2014 | |
|---|---|---|---|---|---|
| | Fact | Projection | | | |
| | | June | Current | June | Current |
| **Inflation** (annual average) | | | | | |
| Core inflation[1] | **5.1** | 3.8 | **3.5** | 4.2 | **3.8** |
| Core inflation without indirect tax effects | **2.5** | 1.9 | **1.7** | 3.1 | **2.8** |
| Consumer price index | **5.7** | 2.1 | **2.0** | 3.2 | **2.4** |
| **Economic growth** | | | | | |
| External demand (GDP-based)[2] | **0.8** | 0.4 | **0.6** | 1.8 | **1.7** |
| Household consumer expenditure | **–1.4** | 0.1 | **0.4** | 0.6 | **1.2** |
| Government final consumption expenditure | **–2.3** | –1.9 | **–1.2** | 0.1 | **0.2** |
| Fixed capital formation | **–3.8** | –3.1 | **–1.3** | 5.1 | **7.8** |
| Domestic absorption | **–3.7** | –0.2 | **0.3** | 1.2 | **2.1** |
| Export | **2.0** | 2.3 | **3.4** | 5.0 | **5.3** |
| Import | **0.1** | 1.7 | **3.3** | 4.9 | **5.6** |
| GDP | **–1.7** | 0.6 | **0.7** | 1.5 | **2.1** |
| **External balance[3]** | | | | | |
| Current account balance | **1.7** | 3.3 | **3.4** | 3.7 | **3.3** |
| External financing capacity | **4.5** | 6.6 | **6.6** | 6.0 | **5.5** |
| **Government balance[3, 8]** | | | | | |
| ESA balance (data for 2012 is preliminary data) | **–2.0** | –2.7 | **–2.6** | –2.5 | **–2.9** |
| **Labour market** | | | | | |
| Whole-economy gross average earnings[4, 6] | **4.5** | 3.0 | **3.3** | 5.0 | **4.5** |
| Whole-economy employment | **1.7** | –0.2 | **0.8** | 0.3 | **0.8** |
| Private sector gross average earnings[5] | **7.2** | 3.5 | **3.5** | 3.0 | **3.0** |
| Private sector employment | **1.4** | –0.6 | **0.2** | 0.4 | **0.4** |
| Private sector unit labour cost[6] | **6.9** | 1.5 | **1.5** | 1.7 | **1.3** |
| Household real income[7] | **–3.2** | 0.4 | **1.1** | 0.3 | **1.0** |

*[1] From May 2009 on, calculated according to the joint methodology of the CSO and MNB.*
*[2] In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.*
*[3] As a percentage of GDP.*
*[4] Calculated on a cash-flow basis.*
*[5] According to the original CSO data for full-time employees.*
*[6] Private sector unit labour costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses and domestic employees.*
*[7] MNB estimate.*
*[8] With complete cancellation of free reserves.*

**Table 1-3**
**MNB baseline forecast compared to other forecasts**

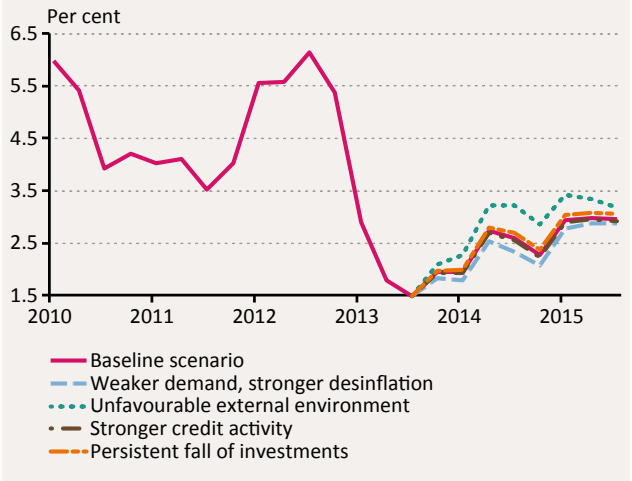
| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Consumer Price Index (annual average growth rate, %)** | | | |
| MNB (September 2013) | 5.7 | 2.0 | 2.4 |
| Consensus Economics (August 2013)[1] | 5.7 | 1.5– 2.0 – 2.5 | 2.0 – 2.7 – 3.3 |
| European Commission (May 2013) | 5.7 | 2.6 | 3.1 |
| IMF (April 2013) | 5.7 | 3.2 | 3.5 |
| OECD (May 2013) | 5.8 | 2.8 | 3.5 |
| Reuters survey (August 2013)[1] | 5.7 | 1.6 – 2.1 – 2.3 | 1.6 – 2.9 – 4.1 |
| **GDP (annual growth rate, %)** | | | |
| MNB (September 2013) | –1.7 | 0.7 | 2.1 |
| Consensus Economics (August 2013)[1] | –1.7 | 0 – 0.5 – 1.0 | 1.0 – 1.4 – 2.0 |
| European Commission (May 2013) | –1.7 | 0.2 | 1.4 |
| IMF (April 2013) | –1.7 | 0.0 | 1.2 |
| OECD (May 2013) | –1.7 | 0.5 | 1.3 |
| Reuters survey (August 2013)[1] | –1.7 | 0.0 – 0.5 – 0.8 | 0.7– 1.5 – 1.7 |
| **Current account balance[3]** | | | |
| MNB (September 2013) | 1.7 | 3.4 | 3.3 |
| European Commission (May 2013) | 2.3 | 3.3 | 3.6 |
| IMF (April 2013) | 1.7 | 2.1 | 1.8 |
| OECD (May 2013) | 1.5 | 2.4 | 3.2 |
| **Budget deficit (ESA-95 method)[3, 4]** | | | |
| MNB (September 2013) | 2.0 | 2.6 | 2.9 |
| Consensus Economics (July 2013)[1] | 1.9 | 2.4 – 2.8 – 3.5 | 2.1 – 3.0 – 4.0 |
| European Commission (May 2013) | 1.9 | 3.0 | 3.3 |
| IMF (April 2013) | 2.5 | 3.2 | 3.4 |
| OECD (May 2013) | 2.0 | 2.8 | 3.2 |
| Reuters survey (August 2013)[1] | 1.9 | 2.2 – 2.8 – 3.5 | 2.5 – 2.9 – 4.0 |
| **Forecasts on the size of Hungary's export markets (annual growth rate, %)** | | | |
| MNB (September 2013) | 1.7 | 1.5 | 4.2 |
| European Commission (May 2013)[2] | 1.7 | 1.6 | 5.2 |
| IMF (April 2013)[2] | 1.7 | 1.7 | 3.9 |
| OECD (May 2013)[2] | 0.4 | 1.2 | 4.5 |
| **Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)** | | | |
| MNB (September 2013) | 0.8 | 0.5 | 1.8 |
| European Commission (May 2013)[2] | 0.8 | 0.6 | 1.9 |
| IMF (July 2013)[2] | 0.8 | 0.6 | 1.7 |
| OECD (May 2013)[2] | 0.6 | 0.5 | 1.8 |

*[1] For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the medium 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.*
*Sources: Eastern Europe Consensus Forecasts (Consensus Economics Inc. [London], July 2013); European Commission Economic Forecasts (May 2013); IMF World Economic Outlook Database (April 2013); Reuters survey (August 2013); OECD Economic Outlook, No. 93 (May 2013).*

# 2 Effects of alternative scenarios on our forecast

*The Monetary Council has identified several risk factors in the forecast's baseline scenario. According to the Council's assessment, it is still uncertain to what extent economic production capacities economy were affected by the crisis. Additionally, compared to the assumptions in the baseline scenario, the decision-makers perceive different outcomes for the stimulatory effects on the economy of the Funding for Growth Scheme and the expected changes in the external environment. If the disinflationary effect of weak demand is stronger than assumed in the baseline scenario, the inflation target may be achieved even with a lower interest rate path. However, in the case of a scenario characterised by an unfavourable external environment, i.e. a stronger economic downturn and higher investor risk aversion, tighter monetary policy may become necessary. In the Council's judgement, it is conceivable that the impact of the Funding for Growth Scheme on lending, and thus on investment, will be stronger compared to the assumption in the baseline scenario, which in turn may result in higher growth. On the other hand, it is possible that there was a sharper decline in production capacities during the crisis, in which case economic growth may be slower in the period of recovery as well.*

**Chart 2-1**
**The impact of the risk scenarios on our inflation forecast**




Incoming macroeconomic data confirm that weak domestic demand has a strong disciplinary effect on economic agents' pricing and wage-setting decisions. At the same time, there is considerable uncertainty about the extent of the disinflationary effect of domestic demand, mainly due to the fact that the cyclical position of the economy (difference between current and potential output) is not a variable that can be observed directly and in real time. The effect of the crisis on potential output can only be estimated with high degree of uncertainty. The growth potential of the economy may be less impaired compared to the assumption in the baseline scenario, i.e. the magnitude of unused capacities may be greater.

Furthermore, nominal developments can also be significantly influenced by inflation expectations. Sharply declining and below-target inflation may result in a large downward revision in economic agents' inflation expectations. This can be manifested in both pricing and wage-setting decisions. Accordingly, disciplined pricing, restrained wage setting and the resulting low inflation environment may support one another in an endogenous manner. The more open cyclical position and lower inflation expectations also result in weaker inflationary pressure over the medium term. In this scenario, as a result of stronger disinflation, the inflation target can be achieved in the medium term even if interest rate conditions are looser than assumed in the baseline scenario, while the economy may grow faster than in the baseline scenario.

Overall, global economic activity remains subdued, despite the slight pick-up observed in Q2. A lasting solution to the debt crisis still poses a considerable risk in the euro area, while the outlook for economic activity of emerging countries, which are becoming increasingly important for the Hungarian export sector, is also surrounded by high uncertainty. Sentiment in financial markets has been fragile in recent months. Developments relating to the liquidity-increasing measures in developed countries and uncertainty about the growth prospects of major emerging countries may have a significant impact on global risk appetite.

On the whole, risks may arise both from the real economy and the financial markets. Realisation of these risks would result in a considerably less favourable external environment. In view of the above, taking account of an alternative scenario characterised by a stronger economic downturn and higher risk aversion also seems to be relevant.

In this scenario, we project a slower expansion in Hungary's external markets and a significant increase in the risk premium. Weaker external demand is mainly reflected in the deteriorating cyclical position. In terms of inflation developments, the effect of the exchange rate, which weakens due to the higher risk premium, is only partly offset by the increasingly negative output gap. In this scenario, the rise in the cost of funds and the increase in the risk premium would also restrain bank lending, and therefore credit conditions for the corporate and household sectors would become tighter. Due to the deterioration in external demand and the impact of the risk premium on the exchange rate and on lending, growth in this scenario is lower than outlined in the baseline scenario. Against the background of deteriorating risk perceptions and rising inflation, tighter monetary policy compared to the baseline scenario may ensure that inflation developments are in line with the 3 per cent target by the end of the forecast horizon.

In the Monetary Council's judgement, investment activity and thus the long-term economic growth potential of the economy are surrounded by both upside and downside risks.

The amount of loans extended under the Funding for Growth Scheme (FGS) and borrowed by companies as well as the proportion of these loans spent to finance additional investment may have a substantial impact on developments in lending. Corporate loan demand may be stronger, and thus compared to our expectations banks may lend faster and a higher proportion of the funds available under the Funding for Growth Scheme may be extended for new investment. First, stronger lending activity may result in higher GDP growth than assumed in the baseline scenario. Second, it may also improve the long-term growth potential

**Chart 2-2**
**The impact of the risk scenarios on our GDP forecast**

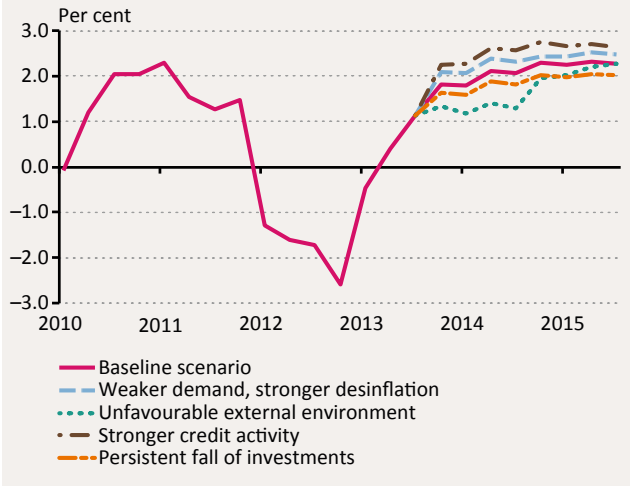
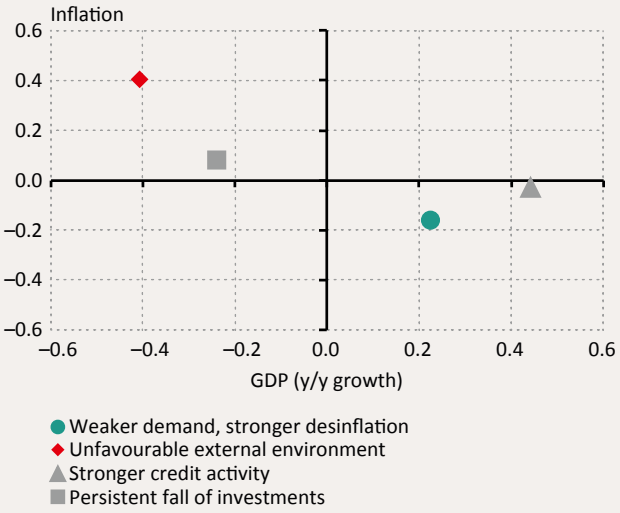


**Chart 2-3**
**Risk map: The effect of alternative scenarios on baseline forecast**




*Note: The risk map shows the average deviation of the inflation and growth paths of alternative scenarios from the baseline scenario over the entire forecast horizon. The paths marked red and green are consistent with tighter and looser monetary policy conditions, respectively, compared to the baseline scenario. There is no major difference in the interest rate path in the case of the paths marked grey.*

of the economy, and thus, on the whole, the cyclical position may remain unchanged. Considering that higher lending and investment growth may mainly stimulate the longer-term growth potential of the economy, higher growth in this scenario only entails moderate inflationary effects, and would thus not result in an interest rate policy that is much different from the baseline scenario.

As opposed to the above, one negative risk may be if the decline in production capacity during the crisis was greater than assumed, and thus a smaller portion of the low growth is attributable to unused capacities. This means that the downturn in investment observed during the crisis is a more lasting process than assumed in the baseline scenario. Accordingly, the medium-term output potential of the economy may also be lower. Compared to the baseline scenario, the expansion in both investment and GDP will be more moderate in the coming years. The impact on the cyclical position and inflation is small in this case as well, and does not result in any major deviation of monetary policy from the baseline scenario.

# 3 Macroeconomic overview

## 3.1 International environment

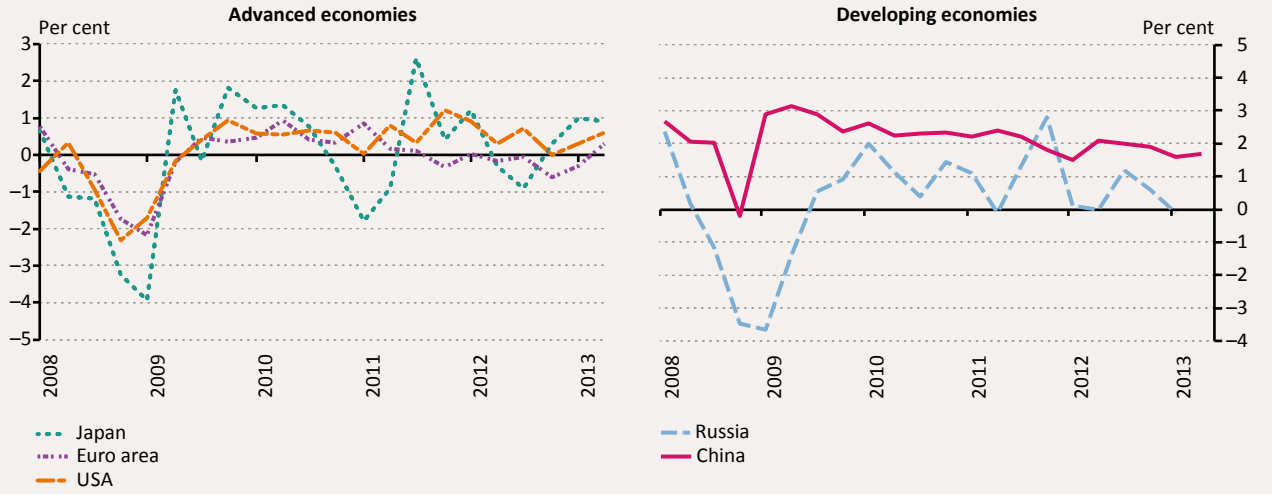
*Global economic activity was characterised by a slight upturn, but still subdued growth in 2013 Q2. There continue to be significant differences in growth across the most important economic regions, although the size of these differences has declined to some extent in recent months. Following rapid expansion during the years of the crisis, growth in the emerging markets was more moderate, and the short-term outlook for economic activity in these markets also deteriorated. By contrast, growth indicators in developed countries were somewhat above expectations. Demand-side inflationary pressure continues to be weak, and thus developed country central banks maintained loose monetary conditions. Financial markets were characterised by increasingly uncertain sentiment and mounting risk aversion in the past quarter. In addition to developments in the European debt crisis, expectations related to the liquidity-increasing measures of developed country central banks and the risks affecting major emerging economies were the main factors influencing investors' assessments. As a result of the change in sentiment affecting the emerging markets, central banks in several emerging countries were forced to resort to monetary tightening or FX market intervention.*

### 3.1.1 DEVELOPMENTS IN GLOBAL ECONOMIC ACTIVITY

Despite a slight pick-up in Q2, global economic growth remained subdued. The significant differences in growth rates that evolved across the most important economic regions in the years of the crisis can still be observed, but the stark contrast between developed and developing markets has faded somewhat in recent quarters. Economic growth in major developed economies picked up slowly in 2013 H1, albeit at varying rates. Economic recovery continued in the USA. The revised Q2 figure (+2.5 per cent annualised quarterly growth) caused a major positive surprise. Private-sector investment and consumption continue to strongly contribute to US economic growth, and the situation in the real estate and labour markets also improved gradually. The Fed continues to support growth using unconventional instruments, but fiscal consolidation reduces the efficiency of such instruments. The September decision and messages of the Fed on postponing the reduction in asset purchases indicate that the growth dynamics of the US economy are stable, but in the opinion of decision-makers, economic activity may not yet remain strong if stimulus is reduced gradually.

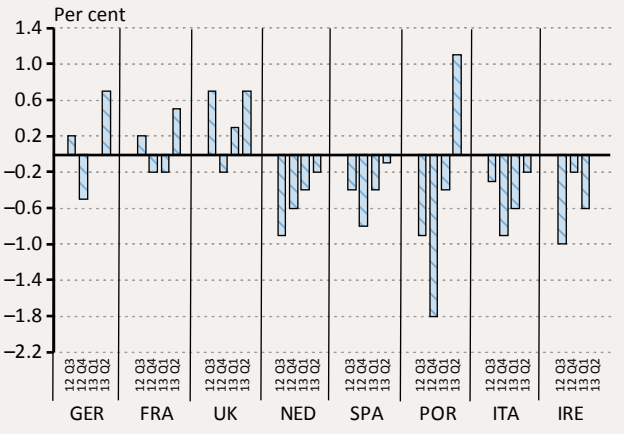
In Japan, despite the strong stimulatory fiscal and monetary measures, the growth rate fell short of expectations in Q2, but the recovery continued mainly due to public investments.

**Chart 3-1**
**GDP growth in major economies**
*(quarterly changes in seasonally adjusted data)*




Growth in emerging economies slowed. On a year-on-year basis, the Chinese economy grew by 7.5 per cent in Q2. The Chinese growth path is mainly jeopardised by increasing financial stability risks. In addition, the sustainability of the path is uncertain due to the declining effect of lending on growth. Nevertheless, government investment in infrastructure and the upturn in the real estate market continue to contribute to dynamic growth. The slight deceleration in the annual growth rate is attributable to weak external demand. Economic growth also slowed in Russia and South Africa in Q2, and Indian economic growth continued to decelerate to 4.4 per cent in Q2 as well. The macroeconomic and financial situation of India poses a risk for the economic growth of emerging regions. Significant amounts of domestic funds have been withdrawn from the country in recent months, which the authorities attempted to limit in view of the economy's financing requirement, but the interventions led to strong withdrawals of foreign funds.

**Chart 3-2**
**Quarterly growth in euro-area core and periphery countries**




The recession which lasted for one and a half years came to an end in the euro area in the middle of the year. Thanks to the expansion in domestic demand, economic activity data for Germany, Hungary's most important trading partner, reflected particularly strong growth. In addition to the core countries, the GDP of Mediterranean countries (CLUBMED), which suffered from the serious economic downturn and struggled with high debt levels in previous years, showed signs of stabilisation or a slower rate of decline. Based on last month's forward-looking confidence indicators, a gradual strengthening in business activity and thus a slow recovery from recession may continue in the coming quarters as well.

**Chart 3-3**
**Business climate indices for the euro area and Germany**
*(Eabci, Ifo)*

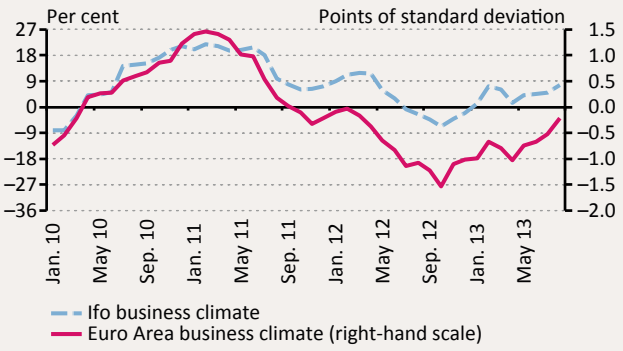



**Chart 3-4**
**Quarterly growth in Central East European countries**

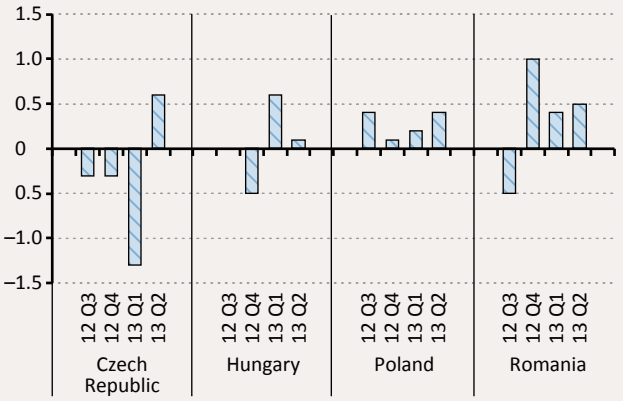
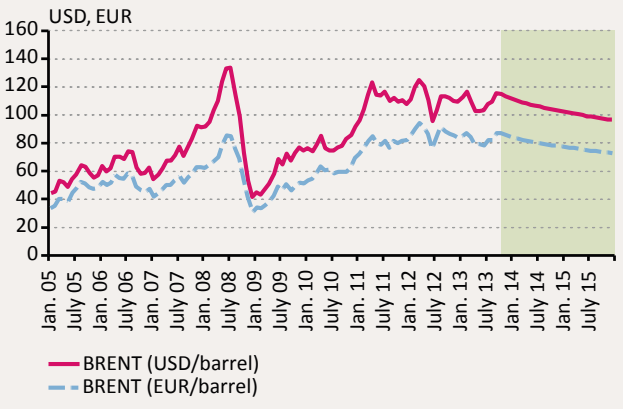



**Chart 3-5**
**Brent spot and futures prices in various currencies**




In Q2, growth in the Central and Eastern European region remained practically unchanged compared to the same period last year. Growth in Poland accelerated slightly. Following the recession in the previous quarters, the Czech economy recovered, while growth in Romania decelerated to some extent as a result of fiscal tightening. The recession in Hungary came to an end in Q1, and the Q2 growth figure reflects continued economic growth. The rise in the German Ifo index in the past three months and the dynamic economic growth in Germany in Q2 may lead to an improvement in the region's growth prospects.

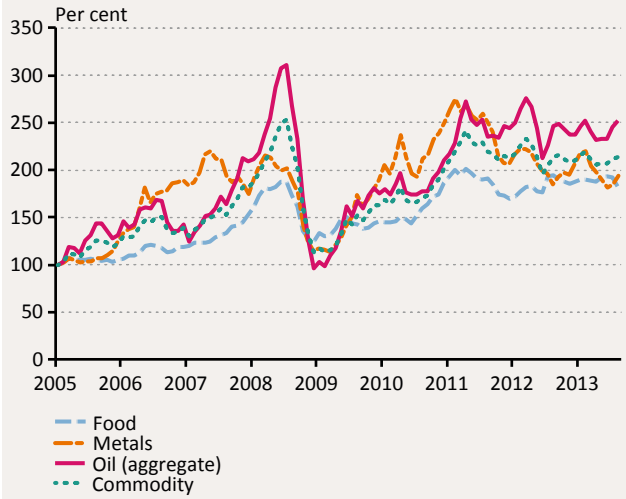
## 3.1.2 GLOBAL TRENDS IN INFLATION

In line with the subdued global economic performance, commodity prices generally stagnated in the previous quarter. The Brent oil price ranged between USD 105-108 until the end of the period, before rising to USD 112-115 in recent weeks due to the conflicts in Egypt and Syria. A protracted conflict in Syria and a possible military intervention may keep world market prices at higher levels, although futures prices point to a decline over the medium term.

In line with subdued industrial demand, prices of industrial commodities (iron ore, coal) fell considerably. Although unprocessed food prices have increased slightly in recent months, global harvest estimates for the most important crops this year may exceed considerably last year's results. In line with this, forward prices of wheat and corn have declined gradually since February.

Inflation rates rose slightly last quarter, but remained below target in the case of large central banks. Medium-term inflation risks are subdued in developed economies and therefore the central banks in these countries maintained or further eased monetary conditions. By August, inflation had eased to 1.5 per cent and 1.3 per cent in the US and the euro area, respectively, bringing the rates close to the price stability targets in both cases. As a result of increasing import prices, annual inflation returned to the positive domain in Japan by June and increased further in July. However, central bank decision-makers expect the upward trend to stop in the coming months, mainly due to base effects. Despite above-target inflation, the Bank of England announced state-contingent forward guidance, linking an increase in the Bank Rate to a decline in unemployment. Of the major emerging economies, inflation accelerated somewhat in China, but remained at a low rate. Inflation in Russia declined slightly, but continues to be high.

**Chart 3-6**
**Changes in major commodity prices**
*(USD)*




Annual inflation remained below target in every country in the CEE region, apart from Romania. The risk of deflation increased in the Czech Republic. In Poland, inflation increased slightly in July, and – in line with the forecasts – the conclusion of the easing cycle was also announced. The Romanian central bank began an easing cycle, although inflation exceeded the target and expectations as well. The lower interest rate path was primarily justified by the expected strengthening of disinflation over the forecast horizon. The price indices relevant for monetary policy (excluding commodity price shocks and indirect tax increases) still do not indicate any major inflationary pressure.

## 3.1.3 MONETARY POLICY AND FINANCIAL MARKET DEVELOPMENTS

During the past quarter, global financial market sentiment became uncertain, and markets were characterised by mounting risk aversion. In recent months, global sentiment has mainly been driven by developments related to the liquidity-providing measures of developed-country central banks and risks associated with major emerging economies. Developments related to the tapering of the Fed's asset purchase programme resulted in strong volatility in global financial markets. This turbulence started at the end of May and reached its peak in early July; some correction has taken place since then, but market sentiment remains fragile. Good macroeconomic data from the US tended to bolster expectations of a reduction in the asset purchase programme in the near future. In contrast to market expectations, however, the Fed decision-makers did not see a basis for tapering asset purchases, as downside risks related to

**Chart 3-7**
**Inflation in major economies**
*(in per cent; year-on-year)*

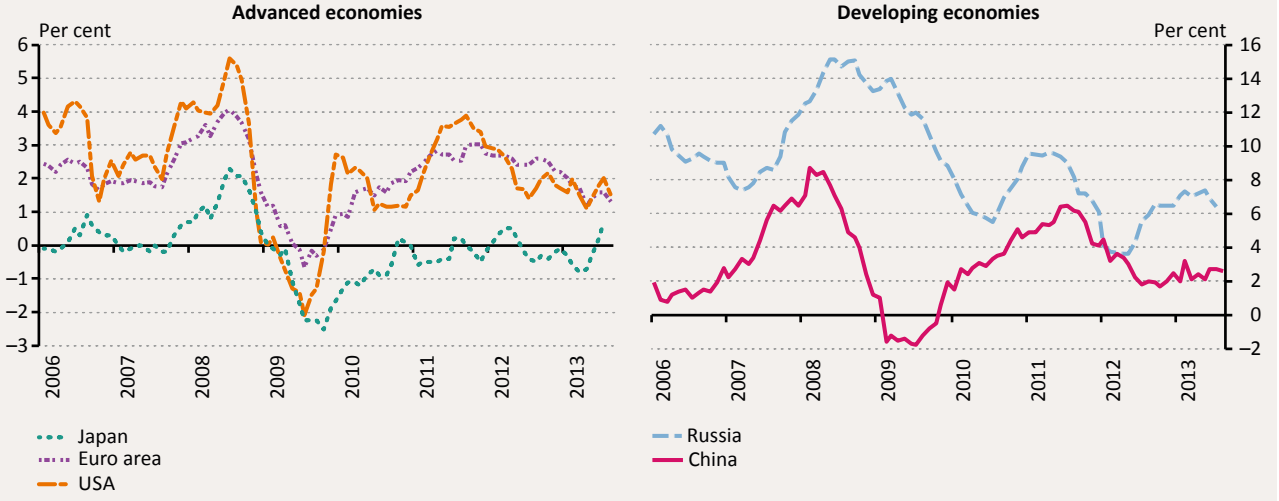


**Chart 3-8**
**Developments in major stock market indices**

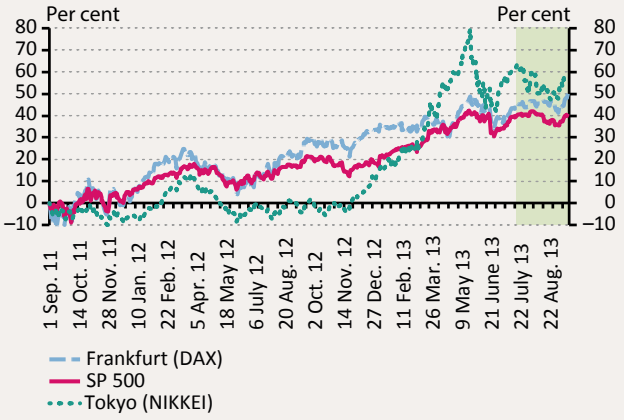



**Chart 3-9**
**Yield spread of 10-year periphery government bonds and 10-year German government securities yields**

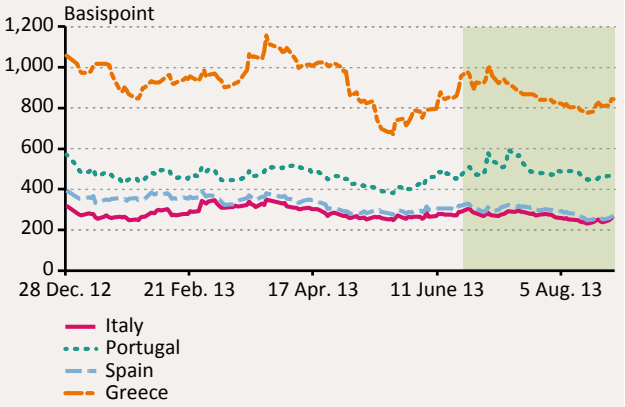
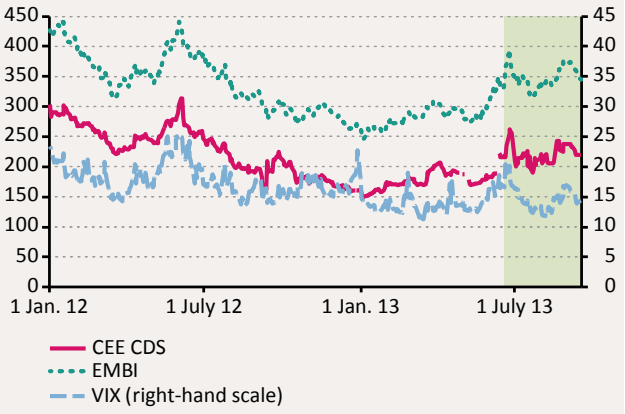



**Chart 3-10**
**Changes in risk indices**




economic growth strengthened. Simultaneously with the August forward guidance, the Monetary Policy Committee of the Bank of England announced that it may undertake further asset purchases.

The relative assessment of the euro-area periphery improved in the past period, and as a result, the spreads for most periphery countries (CLUBMED) only showed a subdued reaction to the deteriorating market sentiment. This is partly attributable to the improving outlook for economic activity as well. At the same time, potential risks remain (e.g. debates in connection with a third Greek rescue package).

The deteriorating real economic outlook and expectations of a reduction in asset purchases by the Fed led to large-scale withdrawals of capital from the emerging markets. As a result, government securities yields rose significantly and exchange rates depreciated in the region, especially in Latin American and Asian countries where performance had previously been outstanding. At the same time, the emerging European region has been relatively less affected by the wave of capital withdrawals so far. The decision of the Fed in September on the continuance of asset purchases may bring relief on the markets.

The central banks of emerging countries reacted to the weakening of exchange rates by using various instruments: initially, most of them (Turkey, India, most of the Latin American countries, South Africa, etc.) strived to stop the depreciation of the local currency by FX market interventions, but several countries also raised interest rates, and one country (India) introduced partial capital restrictions. The Reserve Bank of India announced liquidity injections amounting to USD 1.2 billion, as the local capital restriction measures by the authorities in August caused anxiety in the markets.

**Box 3-1**
**Effects of international production chains on Hungary's foreign trade**

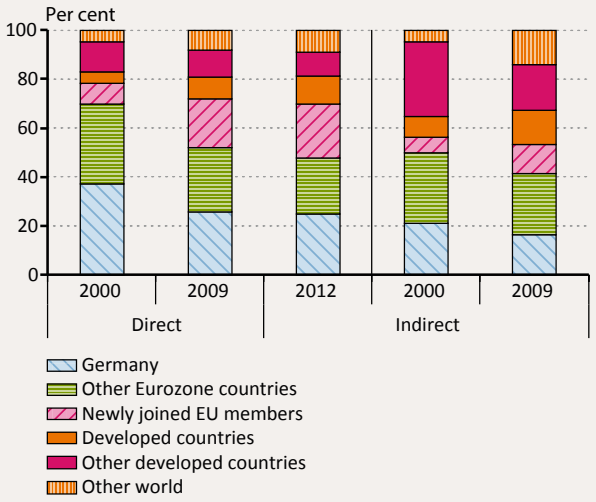
In the first half of this year, it was mainly developed countries which showed favourable growth performance in the world economy, while weaker-than-expected data were released for developing countries, which had been the major force behind economic activity in previous years. Although most of Hungary's exports are delivered to developed countries, including the euro area in particular, it is still important to understand how the slowdown in growth in developing countries affects Hungary's foreign trade outlook.

When examining the role of developing countries in Hungarian exports, it is not enough to analyse the usual export figures of foreign trade statistics. International production chains play an increasingly important role in production processes in the global economy. In these chains, certain exported products are not delivered directly to the end-user country, but reach their final destination following further processing. Together with the countries of the region, Hungary has established significant trade contacts as a supplier in the past two decades. In this respect, Hungary's most important trading partner is Germany. Hungary mainly delivers machinery, equipment and other technical articles to its German partners, who use and re-export them to the United States or to the developing, Asian markets. Accordingly, the slowdown in developing countries may affect the demand for Hungarian exports indirectly as well through these economic relations.

The examination of these indirect trade relations is allowed by the World Input Output Database, which was compiled with the co-operation of several international organisations, and the Trade in Value Added (TiVA) database of the OECD; the data of both are available up to 2009 at present.

The data suggest that there has been a gradual restructuring in Hungarian exports since 2000. A gradual increase is observed in the share of developing countries within direct exports as well, while the composition of indirect exports, which covers supplier relationships, shows a large deviation towards the developing countries. Today, developing economies already absorb more than one-third of Hungarian exports. Taking into account indirect relationships, in terms of the ultimate location of use of the exported Hungarian value added, the share of developing countries is close to 40 per cent.

**Chart 3-11**
**Geographical distribution of Hungarian exports**




There has been a considerable increase in Hungary's exports, mainly to Asian countries. Particularly notable is the increase in the weight of China, but trade relations with other countries of the region have also strengthened. Hungarian exports to Russia have also expanded considerably in the past decade. At the same time, there was a major decline in exports to the United States.

Germany is the most important of Hungary's direct trading partners. Significant supplier relationships have developed between Hungarian and German companies in the recent decade. Around one-third of Hungarian value added exported to Germany is re-exported in the form of further processed products.

Overall, traditional foreign trade statistics also highlight that the exposure of the Hungarian export sector to developing countries has increased during the recent decade. In addition, value added based foreign trade statistics allow deeper insight into the structure of Hungary's foreign trade, as the role of global product chains has grown in the increasingly globalised world of recent decades. Accordingly, Hungary's exports to Germany largely depend on the changes in international economic activity, which is also increasingly influenced by developing economies.

# 3.2 Aggregate demand

*The Hungarian economy recovered from last year's recession during the first half of the year. Growth continued in Q2, although more slowly than in Q1. The structure of growth was marked by an easing in the strong dual trend of previous years: rising export sales and net exports continue to support growth, but in recent months signs of stabilisation in domestic demand were also seen. Against the background of strongly rising imports, the contribution of net exports to growth became negative by the middle of the year. The tight credit environment, protracted deleveraging by the private sector and strong precautionary considerations continue to restrain household consumption, but the increase in real incomes in the low inflation environment resulted in a slight upturn in household demand in the past quarter.*

**Chart 3-12**
**Growth in European and major economies in Q2**

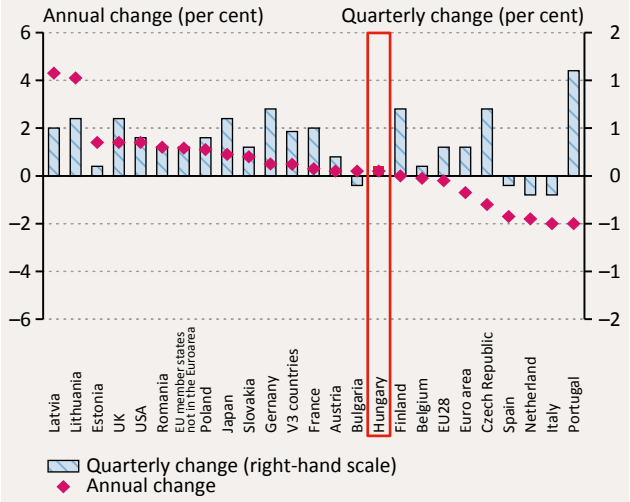
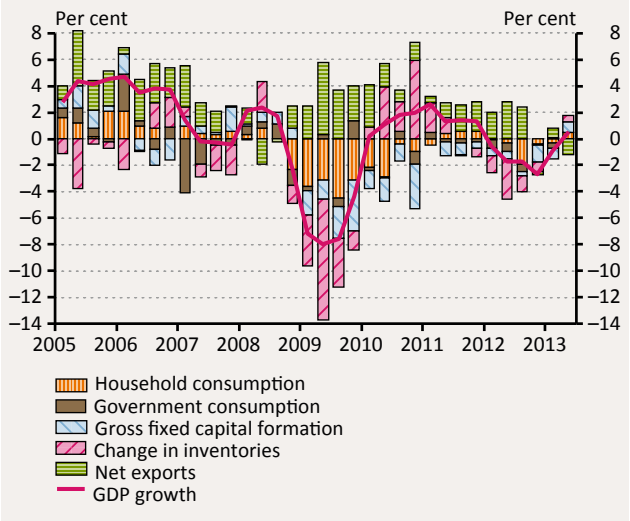



**Chart 3-13**
**Structure of annual change in domestic GDP**




The Hungarian economy continued to expand in 2013 Q2. Compared to the strong Q1 figure, which included temporary effects as well, the expansion amounted to 0.1 per cent on a quarterly basis. Looking at H1 as a whole, the performance of the economy was in line with regional developments.

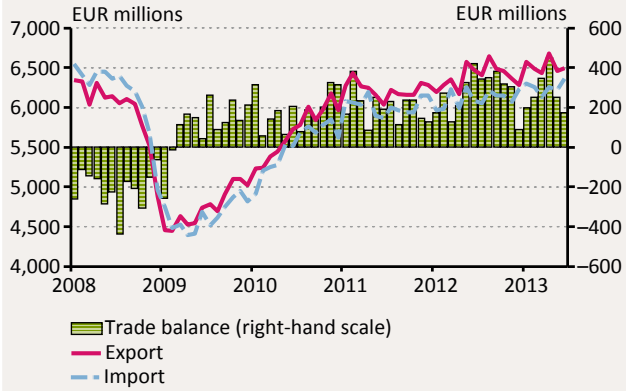
The slowly improving international environment was primarily reflected in the increase in automotive exports; accordingly, the contribution of net exports to economic growth in Hungary continued to be positive, albeit to a lesser extent than previously. Trends in domestic demand showed signs of slow stabilisation. Household consumption expanded slightly, while whole-economy investment, which had been declining almost continuously since the outbreak of the crisis, may have hit the bottom at the beginning of this year, and already displayed growth on a year-on-year basis in recent months.

## 3.2.1 FOREIGN TRADE

In Q2, economic growth in Hungary's most important trading partners was somewhat stronger than expected. The effect of the more favourable external demand environment was reflected in the increase in the volume of Hungary's goods exports as well. Expansion was primarily seen in the automotive industry, in parallel with a pick-up in the production of recently built production facilities, while the growth rate of sales tended to decelerate in other manufacturing sectors. The decline in the capacities of the electronics sector observed in recent years may have already stopped this year; the level of sales in this sector has stabilised.

The expansion of exports of services continued in Q2, although at a slower pace. The improving performance of the tourism sector may have been a determinant of growth,

**Chart 3-14**
**Value and balance of foreign trade in goods**




*Note: The export of goods was adjusted for working day, missing data effects and distortions related to VAT registration. The import of goods was corrected by the Gripen jet and the Combino tram purchases besides the activity of the VAT residents. The seasonal adjustment of the trade balance was made directly.*

**Chart 3-15**
**Change in the household sector's net financial wealth as a proportion of income**

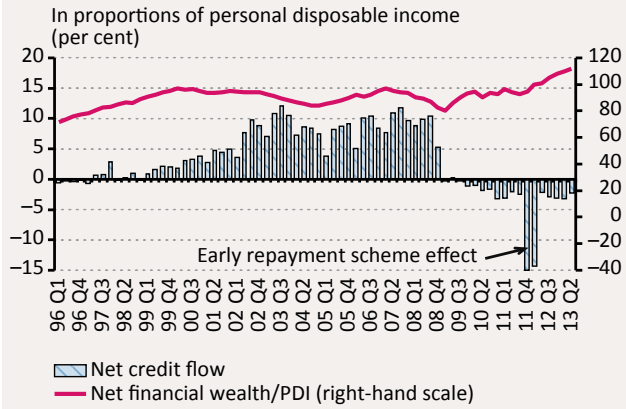
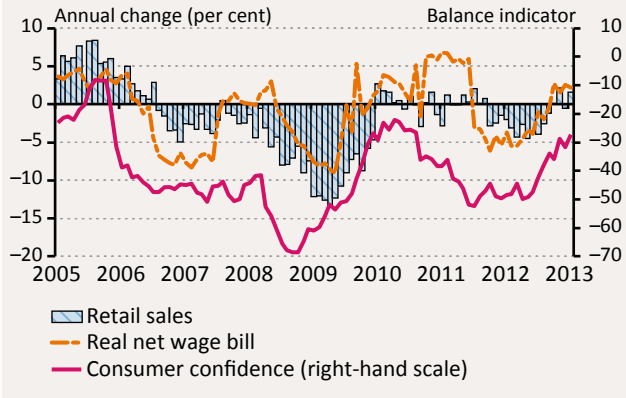



**Chart 3-16**
**Changes in retail sales, earnings and the consumer confidence index**




which, in addition to the capacity expansions of recent years, may also have been facilitated by the weaker forint exchange rate compared to the past.

Hungary's imports increased faster than exports, considerably reducing the high trade surplus registered early in the year. The strong increase in imports may primarily be attributable to the inventory needs of the new industrial capacities that were launching production, while slowly improving domestic demand may have only slightly contributed to higher imports.

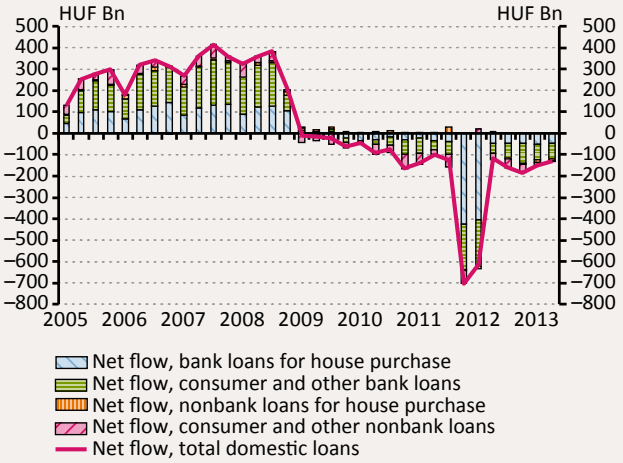
## 3.2.2 HOUSEHOLD CONSUMPTION

Underlying developments in household consumption improved slightly during Q2, but consumption demand was still subdued. Inflation, which was steadily low since the beginning of the year, improved households' income positions by way of an increase in real incomes, and the rise in employment in Q2 may have had a favourable impact on households' longer-term income expectations. This is suggested by the continued improvement in the household confidence indicator in recent months. At the same time, debt reduction by the private sector remained significant. Accordingly, the effect of more favourable income developments was mainly reflected in debt repayments and the increase in net savings. The precautionary motive typical of purchases by households continued to be a determinant in Q2 as well. As a result of the increase in real incomes and strong precautionary considerations, households' net financial wealth continued to increase in recent quarters, and is close to a historically high level.

Retail sales gradually improved during the summer months. Higher fuel sales played an important role in the increase in sales, whereas growth in other groups of products was moderate. Considering that entrepreneurs' purchases may also have been reflected in the increase in fuel sales, household consumption demand may have been characterised by a smaller expansion than that of retail trade data.

Outstanding lending to households continued to decline, mainly affecting foreign currency loans. However, new lending recovered somewhat from its earlier trough, in which the interest rate subsidy scheme played an increasing role. Banks participating in the Lending Survey also indicated an easing of credit conditions, in which the effect of the declining base rate may also have been reflected. On the demand side, households' cautious behaviour and continuous balance sheet adjustment by indebted households may continue to be obstacles; therefore, no major upturn in household lending is expected over the short run.

**Chart 3-17**
**Net quarterly change in outstanding domestic loans to households; breakdown by loan purpose**




*Note: Seasonally unadjusted net change in outstanding amounts, with rolling exchange rate adjustment.*
*Source: MNB.*

**Chart 3-18**
**Whole-economy investment**
*(annual change)*

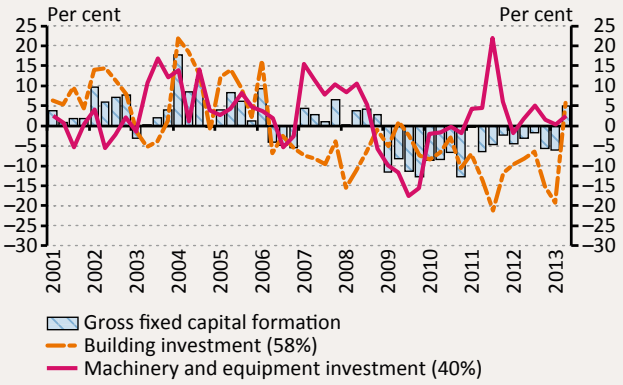
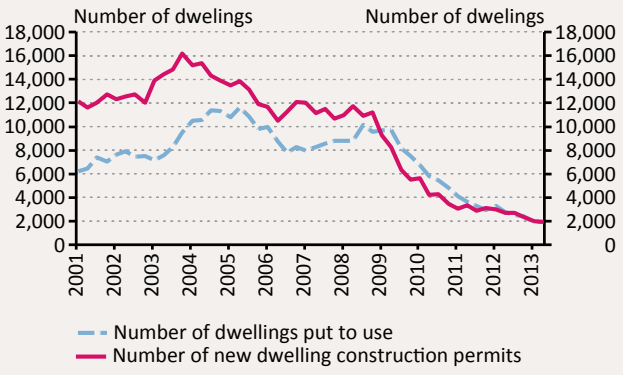



**Chart 3-19**
**Construction of new housing and the number of building permits issued**




## 3.2.3 PRIVATE INVESTMENT

On a year-on-year basis, investment increased in the second half of the year. In addition to base effects, this expansion was mainly the result of infrastructure investment related to the government sector. The investment activity of households and companies remained subdued. The investment activity of sectors producing for domestic demand remains weak. However, it is a favourable development that in the manufacturing industry the level of investment did not decline in the first half of this year either, owing to the significant new projects implemented in the automotive sector in recent years. The feed-through effect of the new production capacities appearing in the automotive industry resulted in stronger investment activity among suppliers as well.

Households' investment activity has been restrained by balance sheet adjustment, the tight credit environment as well as precautionary motives; housing market indicators are at a historical low.

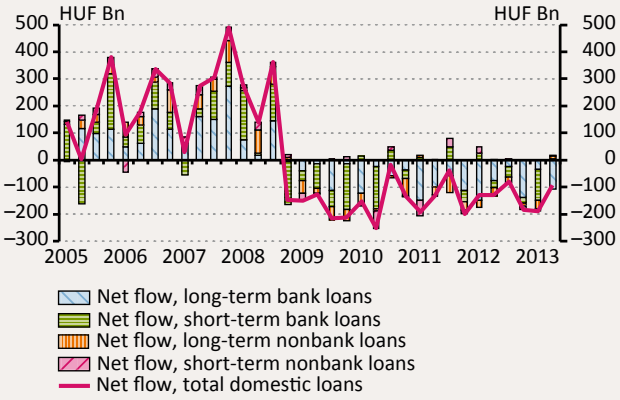
Compared to previous periods, outstanding lending by domestic financial intermediaries to the corporate sector declined at a slower pace in 2013 Q2. In this quarter, the decline took place entirely in long-term loans, while short-term loans increased, although only slightly. The decline in long-term lending may have been attributable to the wait-and-see attitude due to the Bank's Funding for Growth Scheme (FGS).

The supply factors behind the developments in lending remain basically unchanged compared to previous periods. The vast majority of banks continue to apply the tight credit conditions that evolved earlier, thus causing supply constraints in lending.[5] In the SME segment, access to loans has been made easier by the MNB's Funding for Growth Scheme since the summer months; increasing demand on the part of clients is perceived by the banks as well.

[5] Based on the MNB's publication entitled *Trends in Lending,* August 2013.

**Chaer 3-20**

**Net quarterly change in outstanding domestic loans to corporations; breakdown by maturity**




*Note: Seasonally unadjusted net change in outstanding amounts, with rolling exchange rate adjustment.*
*Source: MNB.*

**Chart 3-21**

**Changes in inventories at current prices and according to GDP, and inventory level as a proportion of nominal GDP**

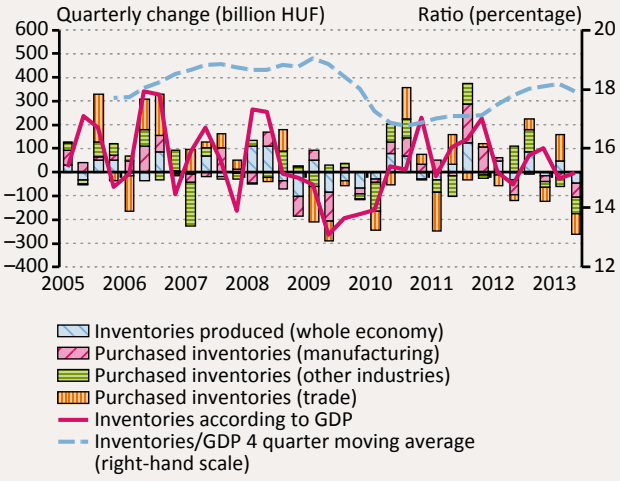
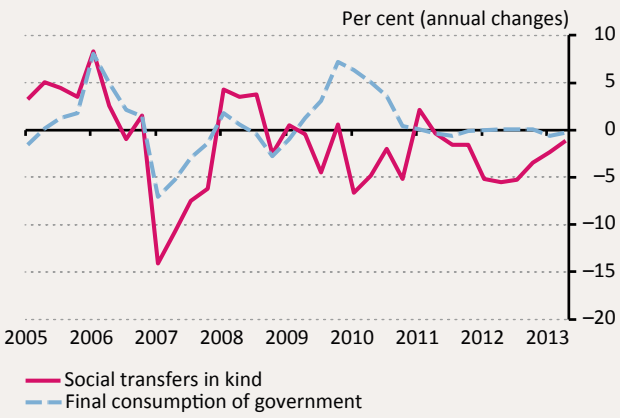



**Chart 3-22**

**Changes in government consumption**




## 3.2.4 CHANGES IN INVENTORIES

The change in inventories may have contributed positively to growth in gross domestic product in Q2. This may have been attributable mainly to two factors: first, this year's results, which were much more favourable than last year's, may have added to the inventory levels; second, the gradual launch of production by the new automotive plants also justified an expansion of inventories. This latter development was in line with the strong increase in imports seen in recent months, which may have reduced the trade surplus in Q2.

## 3.2.5 GOVERNMENT DEMAND

In Q2, government demand continued to be determined by the dual trend of fiscal policy aiming to maintain a low general government deficit and the accelerating pace of the utilisation of EU funds. The development projects related to the state sector (mainly infrastructure developments, such as road and railway upgrades) contributed significantly to the upswing in construction output and the favourable investment activity in Q2. As a one-off effect, the defence works against the flood on the Danube at the beginning of the summer also added to government investment.

# 3.3 Production and potential output

*Output rose further in 2013 Q2. While in Q1 there was a correction of the unfavourable outcome for the end of last year, the Q2 figure may better reflect underlying developments. A slight improvement was seen in development of underlying growth. Prospects for European business activity improved, but for the time being this was only modestly reflected in the indicators for the Hungarian industry. The performance of the sectors producing for domestic demand may improve gradually. State-related investment contributed to an increase in construction output, while the slight improvement in consumption demand was reflected in an increase in the level of retail trade turnover. Meanwhile, value added in agriculture recovered following last year's weak harvest results. Potential economic growth may continue to be subdued, although in the past quarter a slight improvement took place in its determining factors as the fall in corporate investment decelerated, while labour market activity and employment continued to increase.*

**Chart 3-23**
**Rate of economic growth**

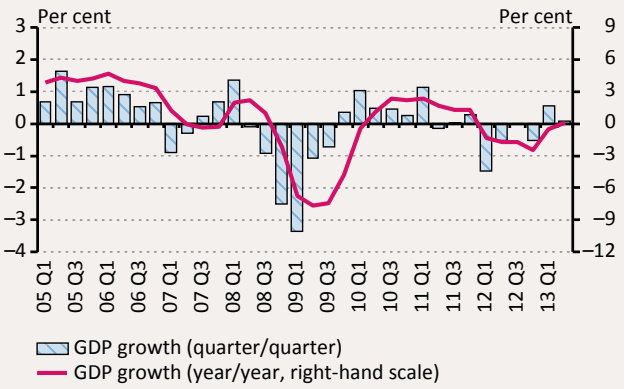
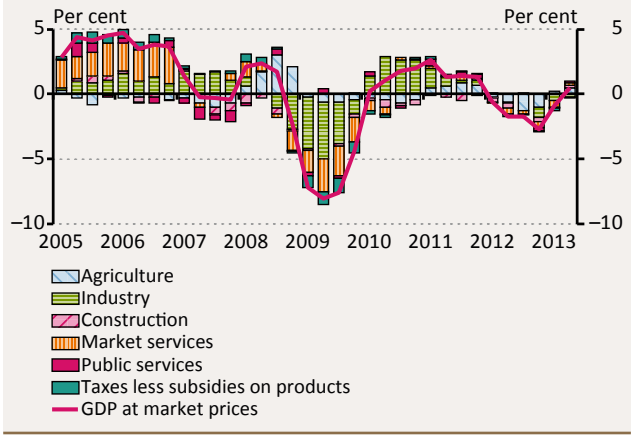



**Chart 3-24**
**Contribution of the output of the main sectors of the national economy to GDP growth**




In 2013 Q2, domestic economic output expanded by 0.5 per cent in an annual comparison and by 0.1 per cent compared to the previous quarter, excluding seasonal effects. In the first quarter of the year there was a correction of the one-off effects from the end of the previous year, and the Q2 figure may already better reflect underlying developments. The GDP figure was in line with our forecast from the June Quarterly Report on Inflation.

In Q2 the primary source of GDP-growth was agriculture. Additionally, construction also made a positive contribution to growth. At the same time, our indicators also reflected a slight overall improvement in underlying developments for several sectors.

*Industrial production* in Q2 was up 1.6 per cent on the previous quarter, with this expansion mainly attributable to the machinery industry. Within this, strong growth was observed in vehicle manufacturing, to which the new capacities in the automotive industry and the increasing performance of their suppliers may also have contributed. Output in vehicle manufacturing increased considerably in July as well. Further growth in vehicle industry output is expected until the end of the year, which may result in a significant improvement in the annual growth rate due to the strong base effects appearing in the second half of the year. The decline in the capacities of electronics companies may have stopped in H1 as the production of the sector stabilised.

Short-term business cycle indicators point to a slight improvement in European industrial business activity for Q3. In the case of the German economy, the Ifo index, which indicates developments in manufacturing expectations and

**Chart 3-25**
**Production of the main branches of the machine industry**

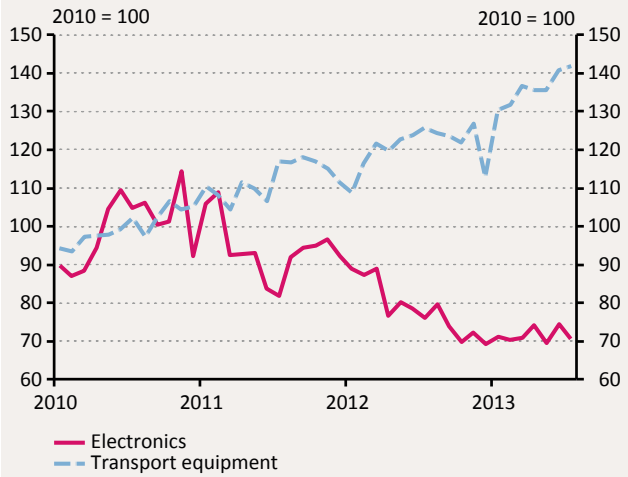



**Chart 3-26**
**New industrial orders and the confidence indices**

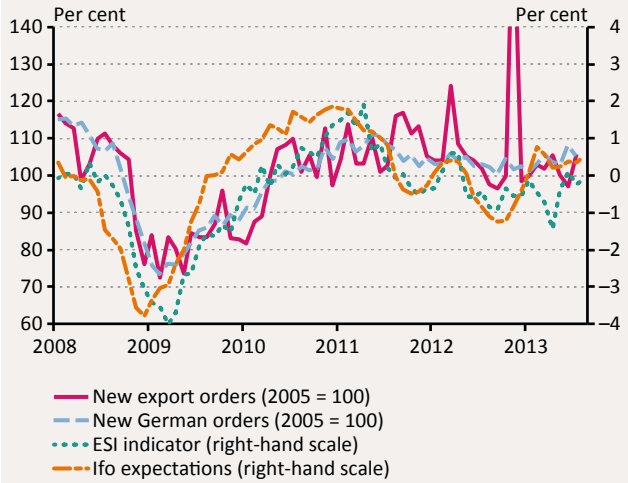
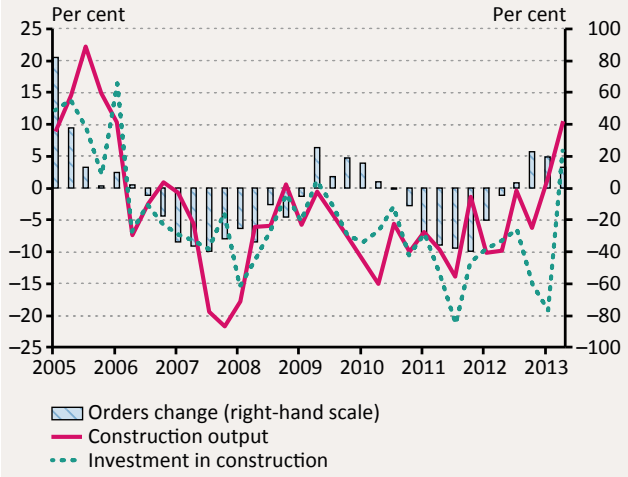



**Chart 3-27**
**Construction output, orders and investment in construction sector change**




the manufacturing climate, rose at the beginning of Q3, along with the purchasing managers' index for manufacturing. At the same time, the increase in German industrial production has been driven primarily by the expansion of domestic demand, while the prospects for exports to developing countries worsened. This may explain the fact that the improvement in international industrial business activity has only been slightly reflected in the domestic indicators to date.

The performance of the *construction industry* continued to expand in Q2, with an increase of 4 per cent relative to the previous quarter. Growth continued to be driven by the construction of other structures financed from EU funds and related to government investment. The value of contracts continues to increase, and thus a further slow improvement is expected in the performance of the construction industry in the coming quarters. Confidence indices for the construction industry also reflect improvement in expectations. However, construction of buildings related mainly to the private sector still remains subdued.

The performance of *agriculture* may have improved significantly in H1 as a result of the correction of the one-off effects experienced last year. This year's harvest results of the main cereals may exceed last year's levels, and on aggregate the grain crop is expected to be close to the average of recent years. Due to the statistical peculiarities of recording agricultural production, the improving harvest results were already reflected in the GDP figures for H1.

*Retail trade turnover* expanded slightly and was 0.5 per cent higher in Q2 than in Q1. This modest increase is in line with the stabilisation of household consumption. In view of the high indebtedness and still high unemployment, households' behaviour tends to be cautious, which is also reflected in the subdued demand for consumer durables. In respect of non-durable products, fuel sales rose considerably in Q2. However, this was mostly attributable to the rise in fuel purchases by enterprises, in which falling diesel oil prices may also have played a role. With a continued increase in households' real income, sales in this sector may rise slightly in the second half of the year as well.

**Chart 3-28**
**Average yields in agriculture**

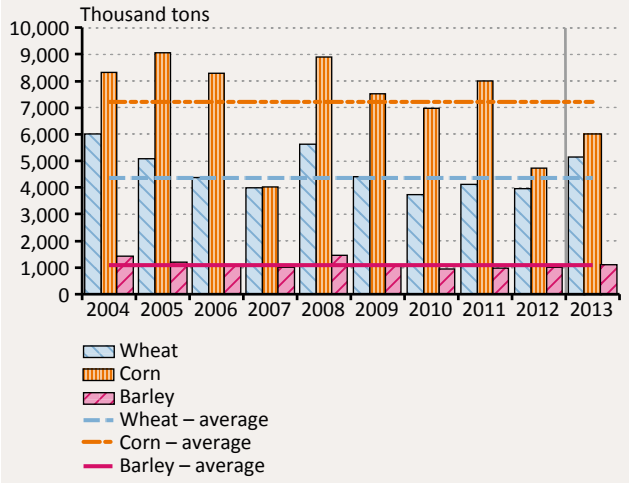



**Chart 3-29**
**Monthly trend indicators of retail sales**

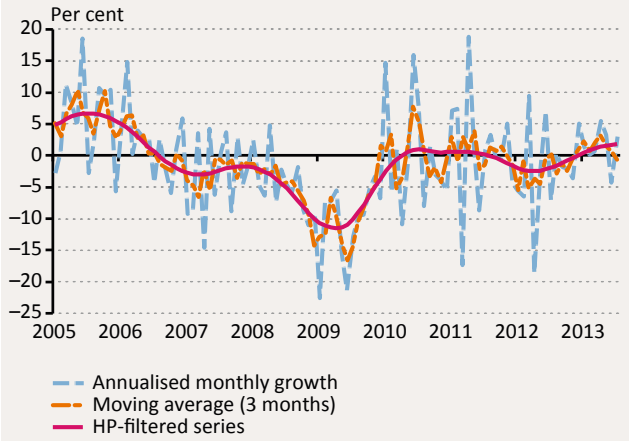
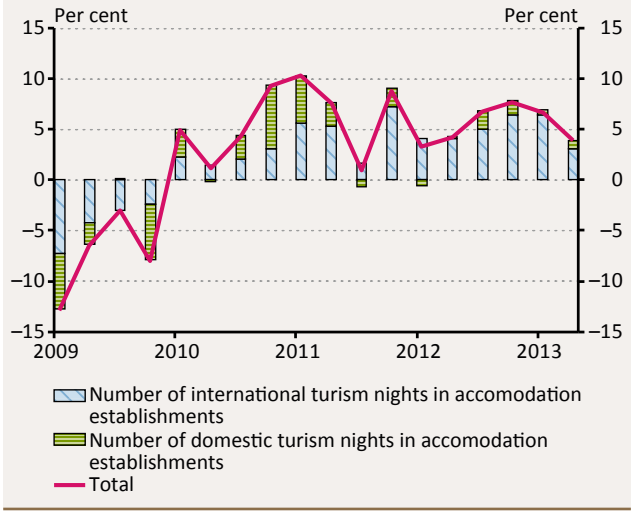



**Chart 3-30**
**Decomposition of the number of tourism nights in accommodation establishments between domestic and foreign guests**

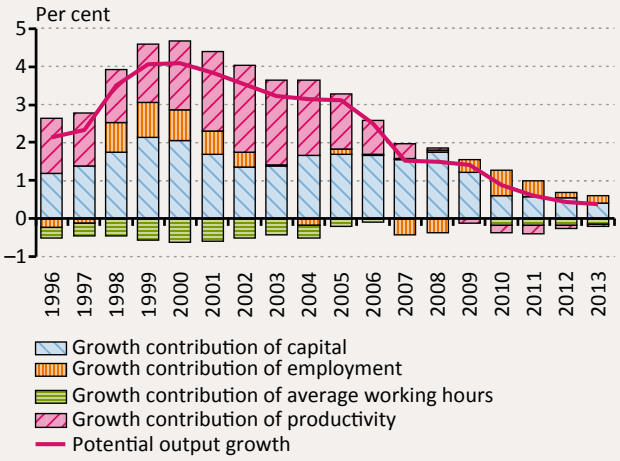



Turnover in the *catering* sector continued to increase in 2013 Q2 as well. This growth was mainly attributable to an increase in reservations by foreign guests, with the weaker exchange rate of the forint in recent quarters possibly also playing a role here.

The performance of the *financial and real estate sectors* continued to be moderate. Both household and corporate borrowing activities are subdued; loans outstanding are declining steadily. In addition, the housing market continued to contract in Q2. Following the significant drop in Q1, the number of building permits kept declining. As a result, the number of dwellings put into use may remain at historically low levels in the coming quarters.

The growth rate of *potential output* may be subdued at the moment, but changes in a favourable direction were also observed in the accumulation of the factors of production in Q2. While investment activity has declined in recent years, there are significant differences across sectors. Investment by the more productive manufacturing sectors, which typically produce for exports, was close to pre-crisis levels in recent years as well. The favourable spillover effects of the newly built automotive production capacities were felt by suppliers in H1. Labour market activity continued to increase in the past half year, and employment in the private sector is also developing more favourably than expected. If the slight increase in investment continues in the coming quarters, it may have a positive impact not only on the actual production figures but also on the supply capacities of the economy.

**Chart 3-31**
**Potential output growth and growth contributions**




**Box 3-2**
**Indicator of underlying economic developments in Hungary**

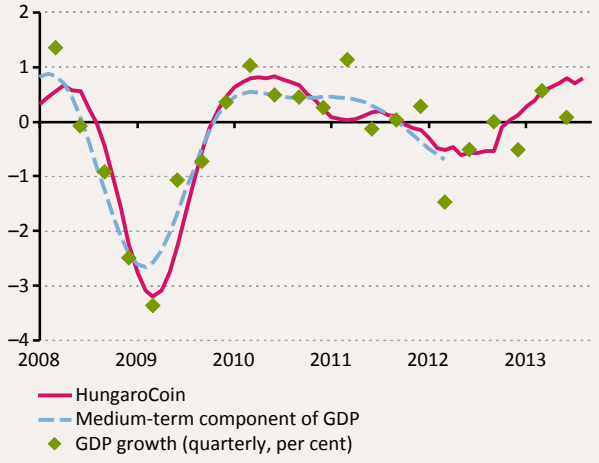
The current situation of economic activity is difficult to assess. Gross domestic product, the most important real-economy indicator, is available on a quarterly basis, one and a half months after the end of the quarter under review. In addition to significant delays in publication, revisions of the time series of GDP – especially the endpoint uncertainty of seasonally adjusted data – also make analysts' work more difficult.

Various types of indicators have been developed for the real-time evaluation of economic developments. Some of the indicators strive to estimate the GDP data for the given quarter as precisely as possible. Another group of indicators is designed for identifying underlying economic developments. According to this approach, GDP is only an imperfect, noisy indicator of economic activity. For example, this logic is followed by the National Bureau of Economic Research, which identifies the recessions and expansions in the US economy from the simultaneous changes in several time series.

The HungaroCoin indicator developed by the MNB measures underlying economic developments in real time. The indicator follows the methodology of the EuroCoin indicator released by CEPR, on the basis of the development by Altissimo et al. (2007). For preparing the indicator, short-term fluctuations are removed from the time series of GDP using a frequency filter in order to be able to identify more lasting trends. As a result of the latest incoming GDP figures, the endpoint of the trend identified with the frequency filter may change considerably. This endpoint uncertainty is handled by forecasting the changes in GDP expected in the near future using a dynamic factor model and carrying out the frequency filtering on the extended time series. The factor model uses numerous variables that are good predictors of changes in GDP.

Although the indicator is being tested at present, several favourable features of it have already been identified. A favourable feature stemming from its design is that the indicator does not require any

**Chart 3-32**
**Indicator of underlying GDP developments**



revision at all: the value of HungaroCoin for a given month shows what the best estimate for the monthly changes in underlying economic developments in the given month was on the basis of the information available in the given month. A further advantage is that the indicator is up-to-date: it can be produced every month, with little delay. Finally, examined on past years' data, the indicator showed the turning points of economic activity well in real time.

Since end-2012, the indicator has signalled gradual improvement in underlying economic developments. The fall in GDP at end-2012 may have contained significant one-off effects (downturn in agriculture, longer than usual factory stoppages at the end of the year), which became corrected in 2013 Q1. Therefore, quarterly dynamics of GDP at the turn of 2012/13 showed strong fluctuations, making the assessment of developments in growth more difficult for analysts. The HungaroCoin indicator had suggested recovery from recession already at end-2012, and showed steady improvement in the spring months. Incoming Q2 GDP data and the July production indicators seem to confirm the picture suggested by the indicator concerning the slow improvement in underlying economic developments.

On the whole, the indicator may be a useful tool in the evaluation of the real-economy situation. Utilising the experiences of the testing, we plan to finalise the indicator in the near future and describe it in more detail in a separate publication. Following that, the indicator is planned to be released regularly to make up-to-date information relating to underlying economic developments available for a wider range of analysts.

# 3.4 Employment and labour market

*Following a standstill in Q1, the activity rate continued to rise in 2013 Q2. The number of employees in the total economy exceeded the pre-crisis level in Q2. The expansion in employment was reflected in a decline in the unemployment rate as well. Rising employment continues to be attributable to public work programmes, although a slow upturn in labour demand of the private sector was also observed in recent months. At the same time, the per capita number of hours worked declined as a result of the rising trend of part-time employment and developments in business activity. The labour market environment continues to be slack, which may enable companies to improve their profitability by restraining wage costs instead of raising consumer prices.*

**Chart 3-33**
**Participation, employment and unemployment**

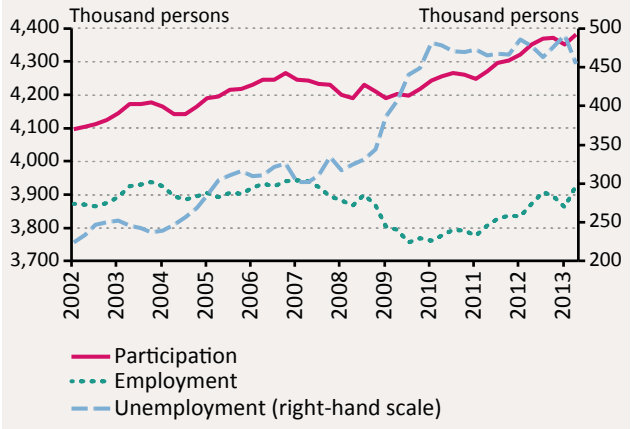



**Chart 3-34**
**Decomposition of the cumulative change in employment**


Following a standstill in Q1, the activity rate increased to 57.4 per cent in 2013 Q2. The volatility of activity in the past quarters may be explained by the timing of public work programmes, which were at a very low level in Q1, but reached their maximum to date in Q2.[6]

Compared to the same period last year, the number of employed in the total economy was 1.4 per cent and 1.7 per cent higher in 2013 Q2 and July, respectively. The number of employed exceeded the pre-crisis levels. The increase in employment in the total economy has primarily been driven by public work programmes and the growing number of people taking jobs abroad. At the same time, according to institutional statistics, employment in the private sector, which shows a closer relationship with developments in business activity, remains below its pre-crisis levels. However, labour demand in the private sector also increased slightly in Q2.

Corporate labour demand adjusts to changes in business activity not only through the number of employed, but also through hours worked. Hours worked are changed by cancellation of overtime, part-time employment or the introduction of four-day working weeks at some plants. This may be more advantageous for companies than dismissing their employees, because in the case of a later recovery they will not face recruitment and training costs. The shift towards more flexible forms of employment is supported by the amendments to the Labour Code as well. The average number of hours worked has declined considerably since the beginning of 2012. For a longer period of time, a downward trend has been observed in the working hours of those employed for at least 60 hours. This is partly attributable to

[6] Namely, when the programmes are temporarily discontinued, some of the people engaged in these programmes are considered inactive, and not unemployed, i.e. they do not seek employment in the private sector but wait for the relaunching of public employment.

**Chart 3-35**
**Number of hours worked**

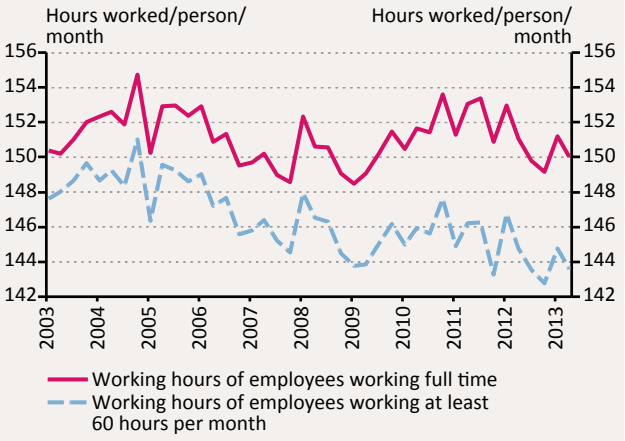
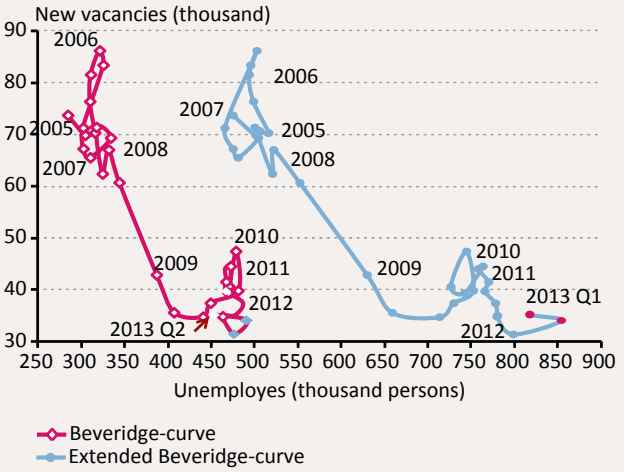



**Chart 3-36**
**The Beveridge curve**




*Note: The Beveridge curve shows the number of new (unsubsidized) private sector vacancies relative to unemployment. Extended unemployment includes LFS unemployed, underemployed and potential additional labour force.*

the fact that the proportion of part-time employees has been rising for quite a while.

Both registered unemployment and unemployment according to the labour survey declined in Q2. A larger fall was observed in the number of registered jobseekers. These developments may be attributable to various factors. First, slightly higher labour demand of the private sector reduced unemployment. This is corroborated by the slight increase in the number of unsubsidised new jobs as well. Second, the number of employed in public work programmes exceeded earlier levels in Q2, which may also explain the decline in the number of long-term unemployed within unemployment.

The labour market can still be considered slack. The number of new jobs increased slightly in 2013 Q2, while the number of registered unemployed declined. However, even with this improvement, there are many jobseekers for each job available outside the public work programmes.

**Box 3-3**
**Private sector productivity in the light of various labour market statistics**

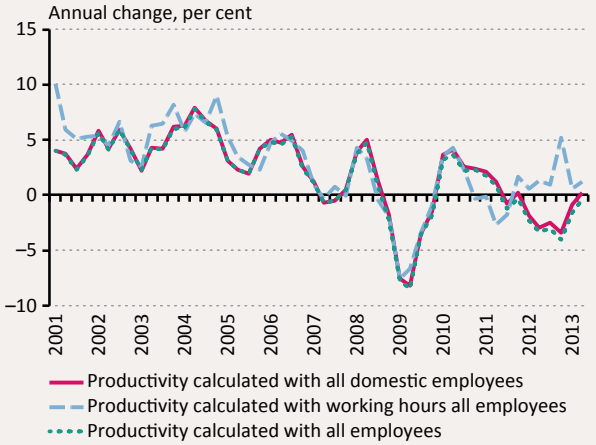
According to Labour Force Survey (LFS) data, private sector employment increased almost steadily despite last year's recession. The result of the shift in output and employment indicated a significant deterioration in productivity in this period. Declining productivity may indicate risks both in the short and long term. In the short run, the deterioration in productivity may result in an increase in unit labour costs and, consequently, in rising inflationary pressure, while over the longer term, the expansion in productivity is one of the most important factors of potential growth. Therefore, its changes influence the longer-term convergence path of the economy as well. This box provides an overview of the changes in labour productivity and its determinants in the Hungarian private sector during the crisis.

Output per employee in the Hungarian economy had been growing steadily since the mid-90s; the first major downswing took place at the time of the 2008–2009 crisis. The deterioration in productivity took place despite the fact that during the recession Hungarian private sector companies – especially in manufacturing – reacted to the decline in aggregate demand in a rather flexible manner. During the

recovery, with an increase in GDP, companies gradually increased the number of their employees as well. Employment increase did not stop during the 2012 economic downturn either. Consequently, labour productivity calculated with the number of employed in the private sector deteriorated again considerably last year. However, this indicator may have been distorted by several statistical effect.

It provides a more precise picture of productivity if we exclude those from the number of employed indicated in the Labour Force Survey who are related to a household in Hungary but work abroad. In the Labour Force Survey, the number of people working abroad has increased gradually since 2008, reaching 100 thousand in 2013 Q2. The indicator calculated this way provides a slightly more benign picture of productivity; althought the deterioration in 2012 continues to be conspicuous.

**Chart 3-37**
**Changes in productivity in the private sector calculated using various labour market statistics**




Another important factor is the number of hours actually worked by those who are employed in the production of domestic value added. Hungarian companies strived to offset a part of the fall in income stemming from the declining demand by restraining the intensity of their employees' employment instead of dismissing them (e.g. cancellation of overtime, reclassification into part-time employment or introduction of four-day working weeks at some plants). During intensive-side adjustment, a portion of the cyclical shock is reflected in the number of hours worked. Until end-2011, the dynamics of productivity calculated with man hours is very similar to the values of the above-mentioned two indicators. In 2012, however, it is much more favourable (Chart 3-36). The level of productivity calculated with man hours is also closer to the pre-crisis level than headcount-based indicators.

Both cyclical and permanent elements play a role in the developments in labour productivity. Labour hoarding is considered a cyclical factor: in order to avoid training new employees later, in times of recession they do not dismiss as many employees as it would be justified. This reduces productivity over the short run. On the other hand, however, it points to cyclical improvement in productivity if the less productive employees are dismissed in times of recession.

In a European comparison, employment in Hungary reacts to the business cycle to a lesser extent. This had already been observed in the pre-crisis years as well and also proved to be true in the years after 2008. During the crisis, employment did not decline to an extent justified by the fall in demand. Based on past years' analyses, there may be two kinds of explanations to this phenomenon. Underlying reasons may have been the sectoral realignment stemming from the restructuring of the economy and also that compared to the European average, domestic companies may have reacted to business cycle shocks more flexibly both in waging and labour intensity. Domestic labour market institutions provide greater room for manoeuvre for companies in terms of wage adjustment, and companies did take advantage of it during the crisis. The economy and or industrial level wage recommendation have got less effect on the Hungarian companies' wage decisions. Accordingly, Hungarian companies can more rapidly adapt themselves to unexpected shocks to demand. Gál et al. (2013)[7] came to the conclusion that of the 20 OECD countries under review the greatest real wage adjustment following the 2008 shock took place in Hungary, but staff number adjustment was the third smallest. In the number of hours worked, however, significant adjustment was seen during the crisis and in 2012 as well. Looking ahead, this adjustment may be facilitated by the new Labour Code as well, which entered into force in 2013. It provides more room for manoeuvre in using more flexible forms of employment (e.g. call for work, job sharing, employment by more than one employer etc.).

In addition to cyclical components, permanent factors also have an effect on labour productivity. Increase in activity reduces productivity in the medium term. Increasing labour supply brings real wages down, making labour cheaper relative to capital, this can result in a shift in production in a labour intensive direction.

[7] Gál, P., A. Hijzen and Z. Wolf (2013), "The Role of Institutions and Firm Heterogeneity for Labour Market Adjustment: Cross-Country Firm-Level Evidence", *IZA DP,* No. 7404.

Over the medium term, growth in labour productivity is decelerated by the slowdown in capital accumulation. Lasting decline in willingness to take risks as a result of the crisis raises the yield expected of capital investments. Therefore, less profitable investment projects are not implemented. Capital accumulation is also hindered by the tightening of credit supply conditions, which limits investment activity. Finally, corporate bankruptcy rates also increase due to the recession and the credit crunch. The means of liquidated companies may be missing from production for a longer period (or even for ever), especially if bankruptcy and liquidation proceedings are time-consuming and not efficient enough.

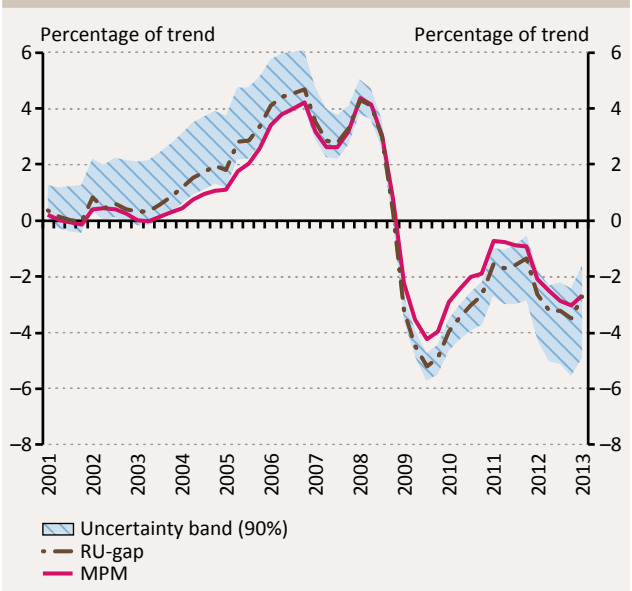
Total factor productivity (TFP) growth may also have slowed down as a result of the crisis. Although in times of recession first the least efficient firms leave the market, in times of crisis the uncertainty of the macroeconomic environment increases drastically, which may make companies that remain in the market postpone their capacity expansion investment. Accordingly, the flow of resources to more efficient firms may slow down. In addition, research and development activity may decline due to shortage of funds and uncertain medium-term growth prospects, which may also hinder productivity growth.

Overall, calculating with the simplest headcount statistics of the Labour Force Survey, domestic companies' productivity declined considerably during 2012. However, productivity measured with the number of hours worked did not decline. This may indicate that gradually growing employment in the private sector may be sustainable. Looking ahead, however, several factors suggest that productivity growth over the medium term may be slower than prior to the crisis.

# 3.5 Cyclical position of the economy

*Significant surplus capacity remains in the Hungarian economy. The output gap is still negative. Following last year's recession, in parallel with slow economic growth, the output gap may have started to close. The persistently low utilisation of production capacities continues to have a strong price- and wage-reducing impact on companies' operation.*

**Chart 3-38**
**Output gap indicators**




Hungary emerged from the recession at the beginning of this year, and growth continued in Q2 as well. Accordingly, the output gap may have narrowed in H1, but it remains negative. Low capacity utilisation has been observed in all factors of production. The lower-than-historical utilisation of the capital factor has contributed to low corporate investment activity. In recent quarters, the decline in the utilisation of labour has been reflected mainly in the more active use of more flexible forms of employment and consequently in the fall in the number of hours worked.

The structure of the output gap changed somewhat in Q2. The low foreign inflation environment points to a more open global cyclical position, which is consistent with a more open cyclical position of Hungarian exports. At the same time, improvements in underlying domestic demand justify slightly more closed consumption and investment gaps.

# 3.6 Costs and inflation

*Companies' price- and wage-setting decisions were restrained in 2013 H1. Consumer price increases were historically low in recent months, which was mainly due to subdued domestic demand and the reduction in regulated prices. Low wage indices were observed in the private sector in H1. In the case of regular average earnings, significant pay rises took place in the lower income categories (around the minimum wage) this year. Corporate wage-setting continues to be kept low by the slack labour market.*

**Chart 3-39**
**Changes in regular gross monthly average wages in the private sector**

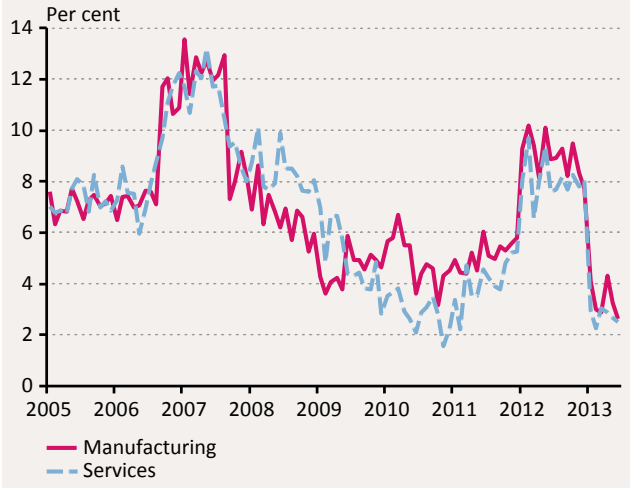



**Chart 3-40**
**The Phillips curve**


## 3.6.1 WAGES

In H1, companies raised wages only slightly, and no cost-side inflationary pressure was experienced from the labour market. Restrained wage setting was more typical of market services than of manufacturing. At the same time, regular earnings growth is at an all-time low in both sectors.

The slack labour market allows companies to restore their profitability by controlling their wage costs. In parallel with the sustained rise in unemployment since the crisis, wage dynamics declined considerably, which surged only temporarily in response to last year's minimum wage increase.

Regular average wages increased slightly at the beginning of the year, as a result of which a generally low wage index was observed in the private sector in 2013 H1. As firms pay bonuses related to the annual performance mostly in the last two months of the year, Q4 data may provide substantial new information on the annual wage index.

Significant wage increases took place only in the lower earnings categories in H1. In terms of the magnitude of earnings, wage increases continued to be significant in the low earnings categories (typically around the minimum wage), while wage dynamics remained low in groups with higher earnings. This may indicate that, following last year's minimum wage increase, there is no significant wage crowding in the higher earnings categories. The ratio of compensation of employees other than wages and salaries (e.g. cafeteria, refunding of expenses) to the gross wage bill continues to be low, which may indicate that companies are attempting to reduce their employment costs through fringe benefits as well.

**Chart 3-41**
**Changes in regular gross monthly average wages in the private sector**

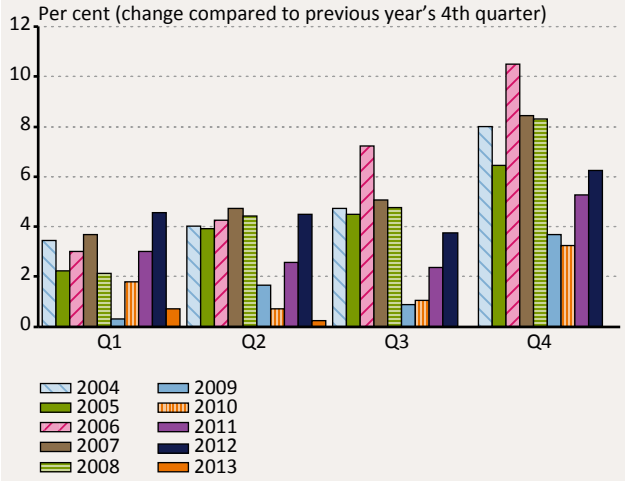



**Chart 3-42**
**Indices of regular wages of those who earn less and of those who earn more than HUF 120,000**

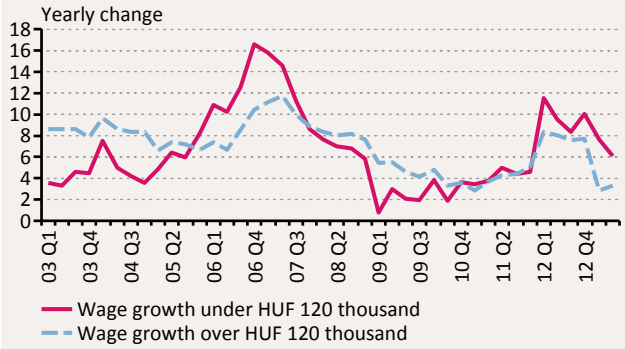
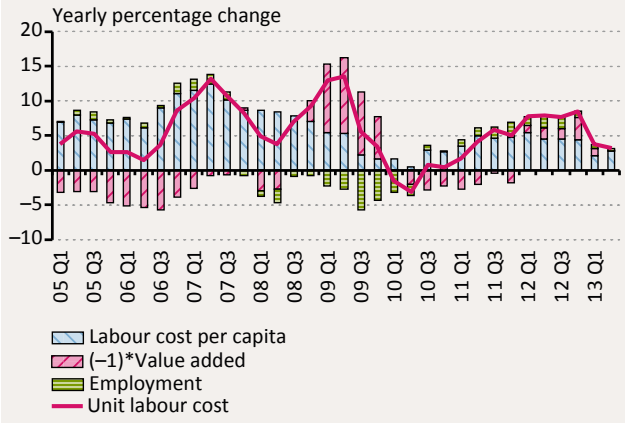



**Chart 3-43**
**Changes in and components of unit labour cost in the private sector**




Growth in unit labour cost continued to decline, which may facilitate the restoration of corporate profitability. The declining dynamics of wage costs contributed significantly to the fall in unit labour costs in the private sector. In addition, higher profitability will also require a further increase in productivity, which may be supported by a further improvement in economic activity.

## 3.6.2 PRODUCER PRICES

On the whole, inflationary pressures from commodity prices eased in recent months. The price dynamics of cereals declined in recent months, and futures prices also fell to a lower level in the past quarter. Looking ahead, favourable international harvest results may reduce price dynamics. The price index of seasonal products rose significantly in recent months, which was mainly attributable to a major increase in the price of potatoes. The price increase of products of animal origin is presumably a result of the higher fodder prices observed earlier.

Futures prices of oil rose compared to the previous quarter, which may also have reflected geopolitical uncertainties. At the same time, futures prices continue to point to subdued oil price dynamics.

Changes in the prices of processed products were moderate in the world market. The euro-area producer price level declined slightly in the past months, and consumer price dynamics of tradables also decelerated.

Domestic producer prices of the sectors producing consumer goods show declining dynamics, in line with international developments. Industrial producer prices were characterised by low dynamics in recent months. Producer price dynamics in manufacturing were restrained in the euro area as well. The price level of the energy producing sectors declined as a result of the reduction in regulated energy prices.

**Chart 3-44**
**Agricultural producer prices**

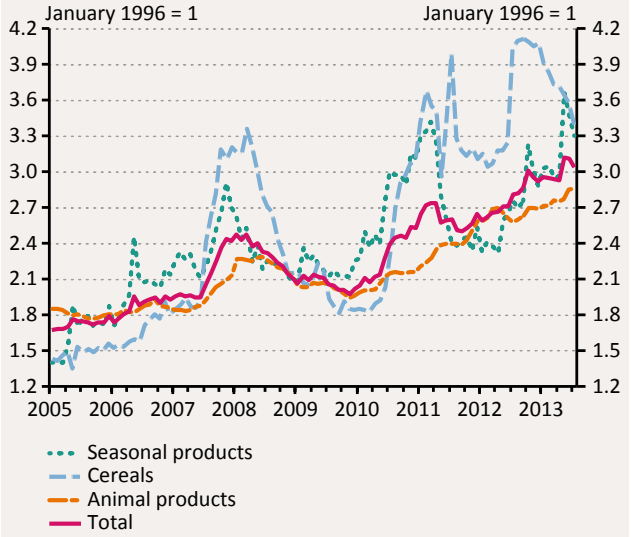



**Chart 3-45**
**International price changes of processed products**

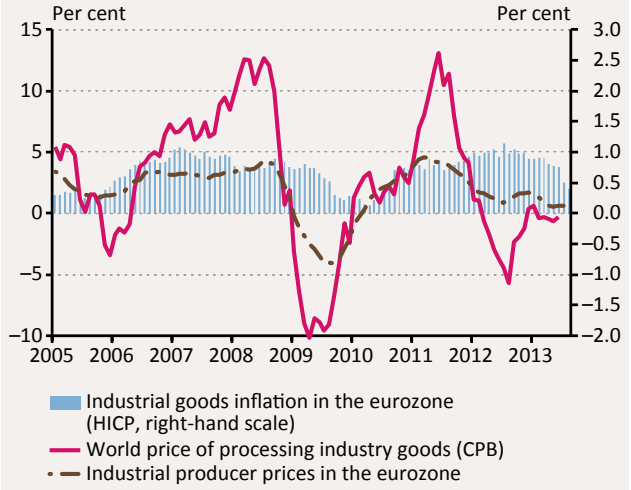
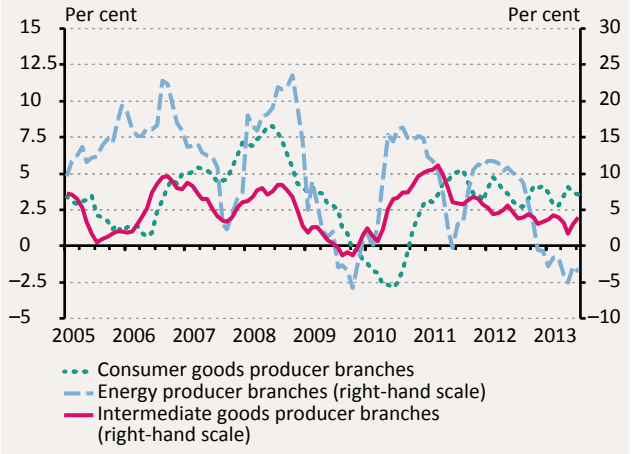



**Chart 3-46**
**Industrial producer prices**




## 3.6.3 CONSUMER PRICES

Inflation remains at a historically low level, attributable to the strong price-reducing effect of subdued domestic demand and the reduction in regulated prices. The consumer price index has continuously been below the Bank's inflation target in recent months. Underlying inflation remains low. Core inflation has declined further in recent months. Demand sensitive inflation is low, indicating the disinflationary effect of subdued domestic demand.

Tradables prices increased modestly. The low price dynamics may be attributable to the subdued demand and the low level of import prices. Within this range of products, prices of consumer durables have continued to decline in recent months. In addition, non-durable goods also show moderate dynamics. The data indicate that the feed-through of cost shocks and the weaker EUR/HUF exchange rate at end-2012 and in early 2013 into consumer prices may have been reduced by subdued domestic demand.

Price indices of market services are low in international comparison. In this group of products as well, the observed historically low inflation may reflect the strong price-reducing effect of subdued domestic demand. In this sector, due to weak demand, companies are mainly improving their profitability through wage adjustment. In the short run, the changes in the financial transaction levy entering into force in September may raise the price index.

There have been no substantial changes in food prices in recent months. The price level of unprocessed products has remained practically unchanged since the autumn of last year. Low dynamics have been observed in the case of processed food since the beginning of the year, which may be attributable to the adjustment of commodity prices as well as subdued domestic demand.

**Chart 3-47**
**Decomposition of the consumer price index**

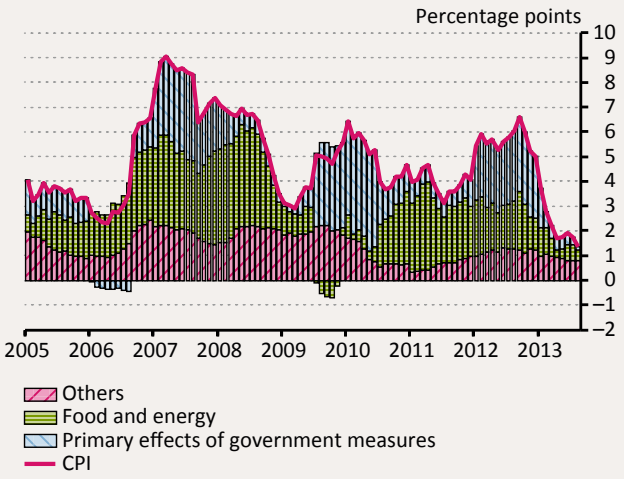



**Chart 3-48**
**Market services inflation in the region**

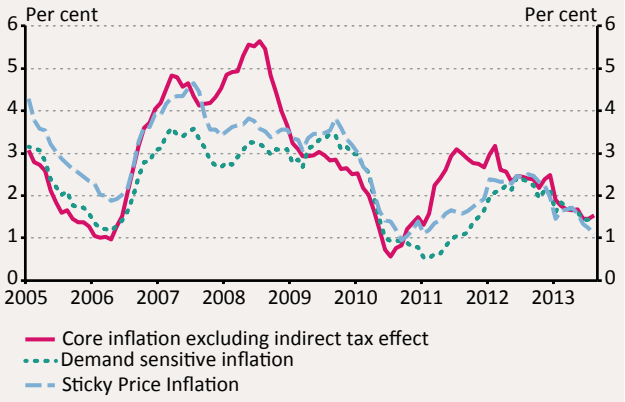
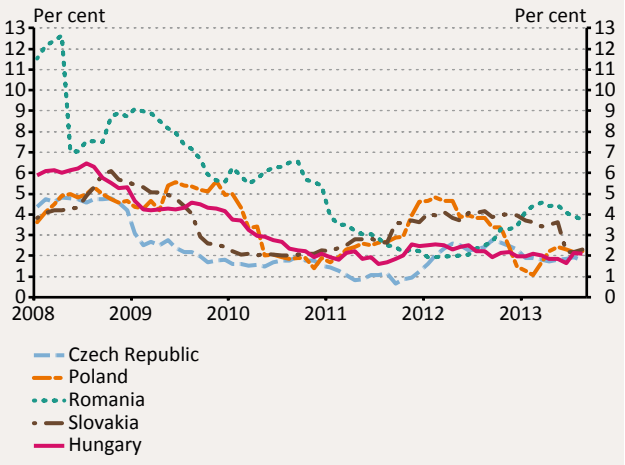



**Chart 3-49**
**Development of services HICP inflation in the region**




The increase in the retail margin may feed through into the price index of tobacco products more slowly than expected. No major price increase was observed in the August price index yet, but based on market information, the expected price increase may appear in the data for the coming months.

Fuel prices rose in past months, mainly as a result of higher international oil prices.

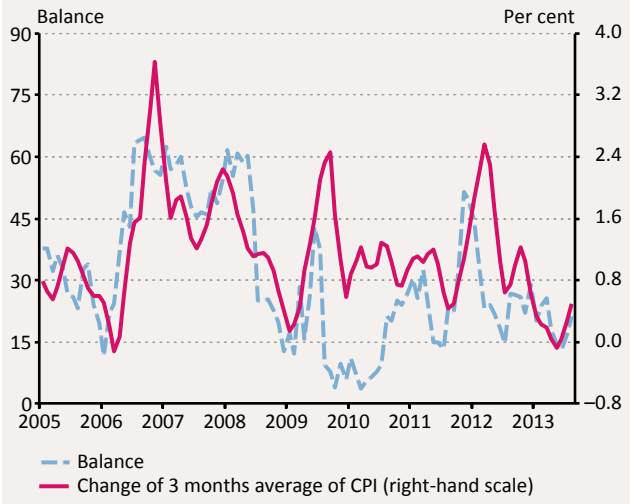
The slow dynamics of regulated prices continued to decline as a result of further price reductions in July (water, sewerage and garbage disposal charges). This effect may appear in the price indices of the coming months.

## 3.6.4 INFLATION EXPECTATIONS

Expectations in the retail trade sector concerning sales prices remain at low levels, indicating that opportunities to increase prices are still limited over the short run.

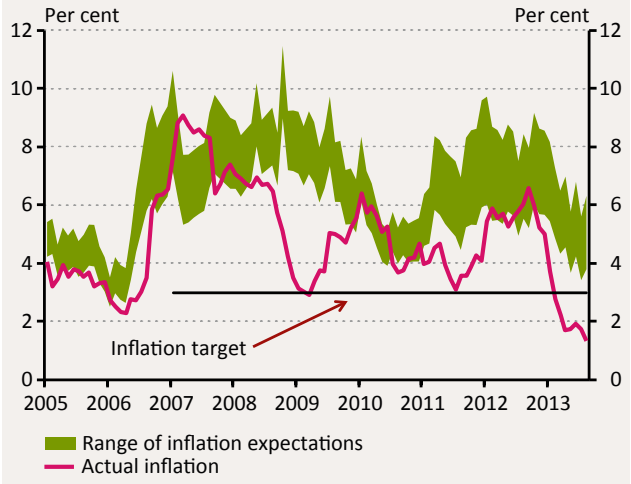
Households' inflation expectations have continued to decline in recent months, in line with the low inflation data. The fall in households' expectations may indicate that the low inflation environment will be reflected in economic agents' wage- and price-setting decisions over the medium term.

**Chart 3-50**
**Expected changes in retail sales prices in the next 3 months and actual inflation**




*Note: The balance is the difference between the proportions of corporations expecting price increase and price decrease.*

**Chart 3-51**
**Households' inflation expectations**



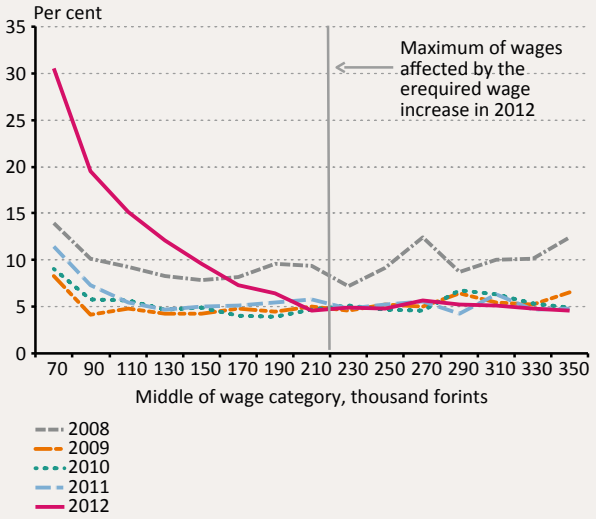

**Box 3-4**
**Effects of the 2012 administrative measures on the distribution of wages in the private sector**

Since the outset of the crisis in 2008, aggregate demand has considerably declined, to which private enterprises adjusted by moderating costs of production, among other factors. Since 2008 wage dynamics in the private sector has declined considerably, by some 4 percentage points, as a result of subdued aggregate demand and loose labour market conditions. At the same time, wage dynamics accelerated in 2012 as a result of administrative measures. As of 1 January 2012, the minimum wage and the guaranteed wage minimum (which has to be paid in jobs that require at least secondary qualifications) were increased by 19.2 per cent and 14.9 per cent, respectively. In addition, as net wages in the lower wage categories would have declined as a result of the changes in the personal income tax, the Government determined a required pay rise, stimulating its implementation in the private sector by paying wage compensation.

This box analyses the effects of the minimum-wage increase on wage dynamics at different wage levels. Theoretical models describing the effect of minimum wages suggest that increases of minimum wages influence wage dynamics at least in lower percentiles of the wage distribution.[8] The examination of this hypothesis has become possible now, with the receipt of the 2012 wage tariff data. This is important because the examination of spill-over effects could provide information on the degree of necessary wage adjustment in 2013.

Our calculations do not suggest considerable spill-over effects for the wages of those earning above the minimum wage in 2012. If there was an impact like this at all, it may have primarily appeared in the lowest wage categories. The ratio of those employed at the minimum wage increased to a small degree between 2011 and 2012, and our calculations suggest that in case of some employees earning a little above the minimum wage in 2011 enterprises increased wages so that they exceed the 2012 minimum wage as well.

**Chart 3-52**
**Wage increase by wage bands and years**




In the higher wage categories, required wage increase makes it difficult to judge the size of spill-over effects. Wage compensation could be applied for up to a monthly salary of HUF 216,806, which is around the 75th percentile of the wage distribution, i.e. it may have affected a significant number of employees (although it was not compulsory). In these wage categories wage increases were higher than in the previous crisis years. However, in the top 25 percentile of the wage distribution wage increases were not higher than in previous years, thus, we could not prove there was spill-over in case of these wages.

Overall, based on micro data, no significant influence of the 2012 minimum wage increase on the wage dynamics of those earning above the minimum wage was observed. Even if there was such an impact, it may have been weaker than the one caused by the required pay rise. This finding is also in line with the experiences of earlier minimum wage increases in Hungary.[9] By contrast, the low 2013 wage index suggests that due to the steady decline in economic activity during last year, the required pay rise may have subsequently proven higher than what would have been justified on the basis of corporate profitability. This year's wage data confirm that companies adjust themselves to the unfavourable macroeconomic situation through wages. Based on this, we do not expect further spill-over effects to be taken into account in the future in the higher earnings categories as a result of last year's administrative wage increases.

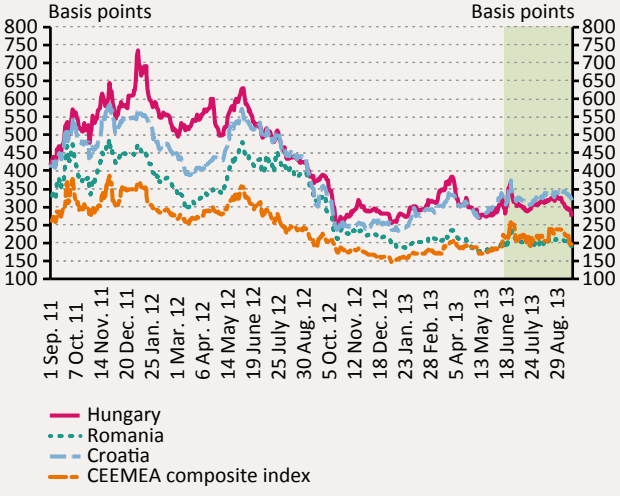
[8] Dickens, Richard, Alan Manning and Tim Butcher (2012), "Minimum Wages and Wage Inequality: Some Theory and an Application to the UK", *The Economic Journal,* March.
[9] Kertesi and Kölő (2004), "The employment consequences of the 2001 rise in the minimum wage", *Economic Review,* April, pp. 293–324.

# 4 Financial markets and lending

## 4.1 Domestic financial market developments

*During the past three months, Hungary's overall risk assessment improved. At the beginning of the period, the uncertainty relating to the future of the Fed's asset purchase programme triggered a strong negative reaction in the global markets. The deterioration in the global money market environment had a negative impact on Hungary's risk indicators as well. In parallel with the easing of the turbulent period, the situation in Hungary also consolidated. Hungary's risk indicators declined gradually until end-July, but did not return to the low levels observed in the previous quarter. Since end-July, Hungary's risk indicators have been increasing slowly but steadily, which is attributable to both international and domestic factors. Risk factors with a negative effect on international money market sentiment remained in place. Of these factors, the key ones are the uncertainty relating to the future monetary policy of the Fed, the deterioration in China's growth prospects and the escalation of the military conflict in Syria, while – for the time being – the wave of asset sales which hit the emerging markets has had a localised impact in the regions concerned. At the end of the period, the Fed decided not to cut back the scale of its asset purchase programme in contrast to market expectations, which temporarily triggered favourable global financial market developments. In addition to international events, domestic markets were affected by the news about the rescue package for foreign currency debtors and the expectations relating to the changes in the interest rate cut cycle. In connection with the continuation of the interest rate cut cycle, analysts focused their attention on the decline in the Hungarian interest premium as well as on the uncertainty relating to the bottom of the interest rate path and the size of the steps of reducing the interest rate. Apart from minor tensions attributable to banks' balance sheet adjustment, calm trading was observed in the FX swap market. The long end of the government securities market yield curve shifted upwards for most of the period, while following the Fed's rate decision meeting it corrected around its initial position. The short end of the government securities market yield curve sank and as a result, the yield curve became steeper compared to the end-June position. The yield on the ten-year benchmark government security is more than 15 basis points higher, whereas the three-month benchmark yield is nearly 50 basis points below its value on 19 June. FRA yields continued to sink (mainly as a result of central bank statements), while the yield curve also became steeper.*

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




### 4.1.1 RISK ASSESSMENT OF HUNGARY

Over the past three months, an overall improvement was observed in the risk perception of Hungary. This change, however, is the result of various developments that have contrasting effects on the Hungarian risk indicators. The intensive, nearly 60 basis point CDS spread increase that took place within a few days at the beginning of the period was triggered by the information about future changes in the Fed's asset purchase programme released at the press conference following the FOMC meeting in June. The surge proved to be temporary, and by early July the Hungarian CDS spread had declined below levels observed prior to the turbulence. Subsequently, as of early August, with the remaining of the global risk factors, a gradual rise started again, fostered by escalation of the conflict in Syria. In parallel with the declining risk of a military intervention, the

**Chart 4-2**
**Factors of the domestic 5-year sovereign CDS spread**

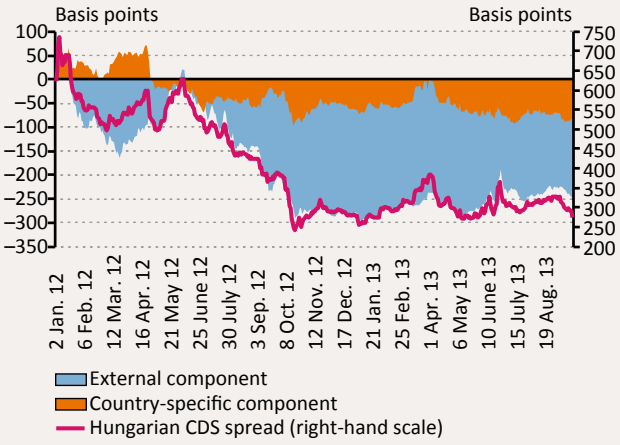



**Chart 4-3**
**5-year euro-denominated currency bond spreads in the region**

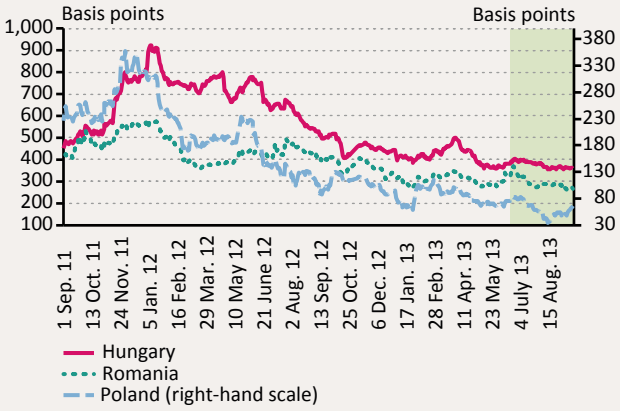
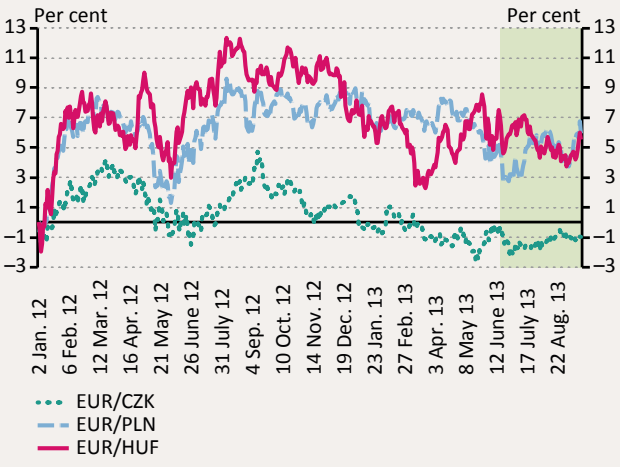



**Chart 4-4**
**Foreign-exchange rates in the region**




improvement in risk-taking sentiment at the end of the period also had a favourable impact on the changes in the spread, and thus it dropped below the June levels.

According to our CDS decomposition methodology, in the changes in the five-year Hungarian sovereign CDS spread, international factors tended to point to an increase in the spread, while country-specific components resulted in an overall reduction in the spread. In line with this assessment, the Hungarian spread was an outperformer in a regional comparison, as the sovereign CDS spread showed a decline in the case of Hungary.

The spread on Hungary's dollar-denominated shorter-term bonds narrowed, while a slight widening was observed in spreads at longer maturities. Hungary's 3-year euro-denominated currency bond spread decreased by 30 basis points in the period under review, while stagnation was observed in the case of longer-term euro bonds. Currency bond spreads in the region also tended to decline.

## 4.1.2 DEVELOPMENTS IN FOREIGN EXCHANGE MARKETS

During the period as a whole, the forint depreciated by a total 1.4 per cent against the euro. Looking at the period as whole, the volatility of the HUF/EUR cross rate can be considered significant, even if we disregard the impact of the major money and capital market turbulence at end-June on the forint exchange rate. The rate reached the level of 292, i.e. the bottom of the trading band, in mid-July. With temporary fluctuations, but rising gradually, the exchange rate then weakened to 302 on several occasions by the end of the period. The forint exchange rate fluctuated around 300 by the end of the period under review.

At the beginning of the period the forint moved together with the currencies of the region, but starting from mid-July the exchange rate of the Hungarian currency deviated from the regional trends, and became an underperformer in the past three months. According to market analysts, this could mainly be attributable to uncertainties relating to the interest rate cut cycle and the rescue package for foreign currency debtors. Nevertheless, the wave of asset sales in the emerging market observed during the period only slightly affected the region and Hungary as well, and this unfavourable effect was also only moderately reflected in the changes in the forint exchange rate.

The decline in the skewness relating to the euro/forint exchange rate observed early in the period was replaced by a considerable increase, indicating a shift in the weak

**Chart 4-5**
**Changes in the level of the EUR/HUF exchange rate and one-month negative skewness in the distribution of the exchange rate**

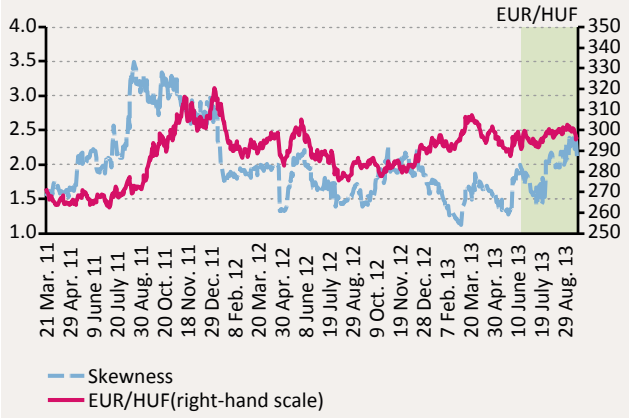



**Chart 4-6**
**Non-residents' net forint–foreign-exchange swap holdings and cumulated forint purchases**

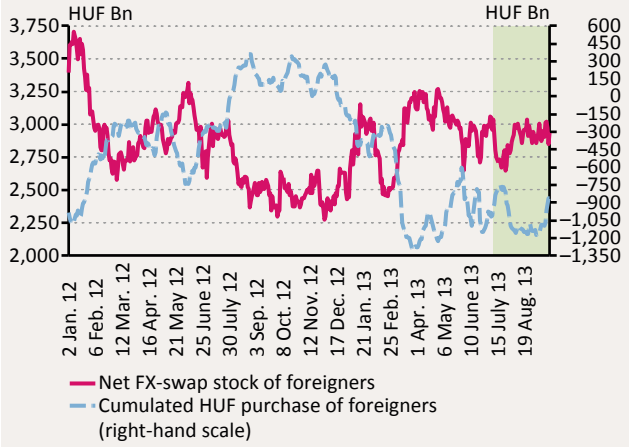
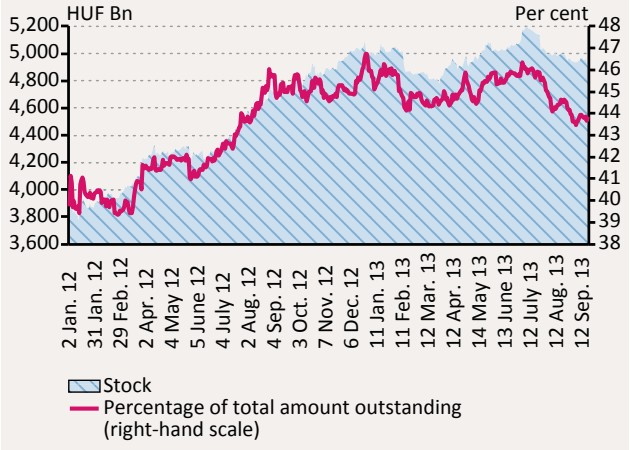



**Chart 4-7**
**Non-residents' government securities holdings**




direction of the distribution of the expected future changes in the exchange rate.

Changes in short-term FX swap market spreads were characterised by volatile movement and widening spreads during the period, but on the whole, trading in the market was free of tensions. The increase in swap spreads observed during the period can be explained by the elevated level of banking sector liquidity. By the end of the period, at the shortest overnight and tom-next maturities, the spreads sank below the initial value. Spreads moved upwards at the 3–6-month maturities, while at maturities of over one year a slight decline was observed in FX swap market spreads.

Foreigners' net FX swap holdings increased by HUF 136 billion by the end of the period, while non-residents' cumulative forint purchases declined by HUF 54 billion. The amount of two-week MNB bills held by non-residents increased during the period, while their government securities holdings fell by more than HUF 100 billion. As a result, their share within total holdings sank below 44 per cent.

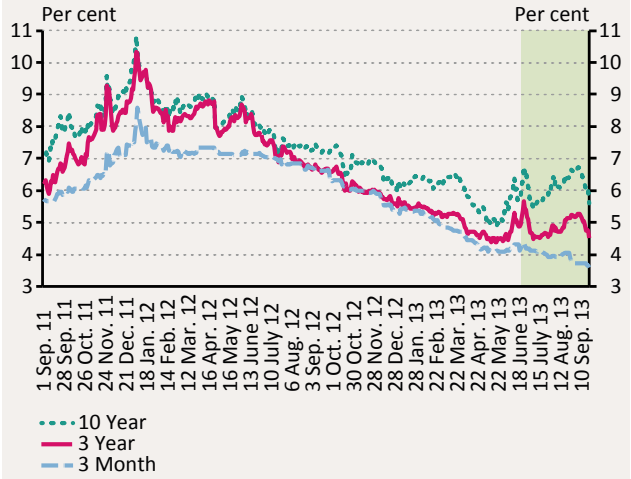
## 4.1.3 GOVERNMENT SECURITIES MARKET AND CHANGES IN YIELDS

Short-term discount treasury bill auctions were characterised by double coverage on average, and in most cases the sum of the government securities issued by the Government Debt Management Agency (ÁKK) corresponded to the amount of the announced quantity. Modifications in other cases were always upwards. The average auction yield declined in the period as a whole, which was in line with the changes observed in interest rate cut expectations.

Threefold excess demand for five- and ten-year bonds was observed in the primary market of government securities, although the extent of oversubscription changed in a volatile manner from week to week. Of the auctions carried out during the period, the end-June bond sale stood out in terms of coverage; oversubscription for the former and latter papers was eightfold and sixfold, respectively. At the same time, demand for three-year papers was continuously subdued.

In terms of government bonds, the quantity issued during the period was different from that announced in both positive and negative directions. It is worth emphasising, however, that while in the case of the three-year government bond there was only a downward change, in the case of the five-year government bond there was only an upward deviation from the plan. There were precedents for deviations in both directions at the ten-year government

**Chart 4-8**
**Changes in government securities market reference yields**




security auction. The declining trend of average auction yields reversed at the end-July auction, and rose gradually, in parallel with the increase in benchmark yields.

The government securities market yield curve became considerably steeper compared to the beginning of the period. The short end of the curve moved down nearly 30–40 basis points from the June levels, while the long end rose by 15–20 basis points. At the beginning of the period, Hungarian yields rose in parallel with global money market tensions, which was followed by considerable correction. From then on, however, for the remaining part of the quarter there was a strong rise in long-term yields again, contrary to the changes in Hungary's other risk indicators. In the case of securities denominated in domestic currency, this trend was observed in the other countries of the region as well, except Romania.

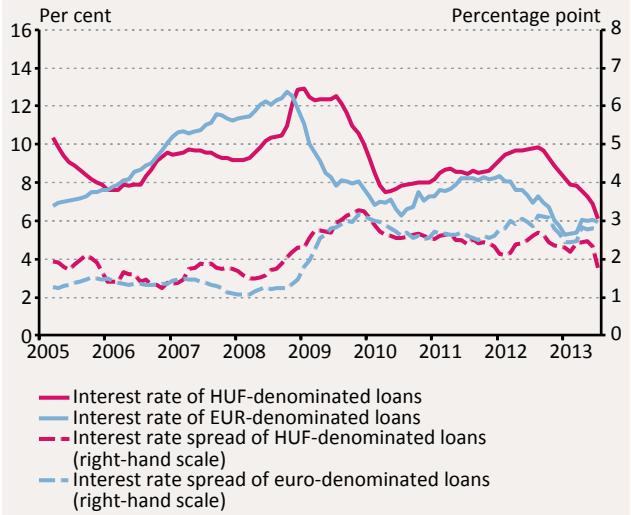
By contrast, short yields continued to decline, which was mainly attributable to the expectations regarding the changes in the interest rate path during the period. As a result of all this, the government securities market yield curve became much steeper in the past three months.

The volatility of forward rate agreements typically changed in conjunction with the deterioration in international sentiment. Accordingly, FRA yields surged with the decline in risk tolerance at the beginning of the period. Later, however, a correction took place, and they declined gradually, apart from a surge attributable to increased expectations in connection with the tapering of the Fed's asset purchase programme in August. The interest rate path was influenced by domestic factors as well: indications by Monetary Council members mainly resulted in a decline in the expected bottom of the interest rate cycle. In parallel with that, the interbank yield curve, which is the best indicator of interest rate expectations, also became steeper.

# 4.2 Credit conditions in the financial intermediary system

*Credit conditions eased in the corporate segment in 2013 Q2. The average interest rate on new forint loans tracked the policy rate cuts in Q2 and then decreased to a larger extent in July, owing to the impact of the Funding for Growth Scheme, as a result of which the spread fell by one half of a percentage point. Non-price conditions eased to some extent in Q2, but overall they still can be considered tight. Credit conditions were reported to have eased further in the household segment. In addition, the annual percentage rate (APR) on actual transactions also declined. The APR on housing loans fell below 10 per cent for the first time since 2010 H2. At the same time, the interest rate spread is still high in international comparison, and credit conditions are still considered tight in spite of the steady easing. Calculated on the basis of banking sector deposit rates, the one-year real interest rate was down considerably, with its value falling below 1 per cent. Overall, the level of the real interest rate is still considered historically low.*

**Chart 4-9**
**Interest rates and spreads on corporate loans by denomination**




*Note: Three-month moving average of monthly interest rate data. The spread on the moving average of the three-month BUBOR and EURIBOR, respectively.*
*Source: MNB.*

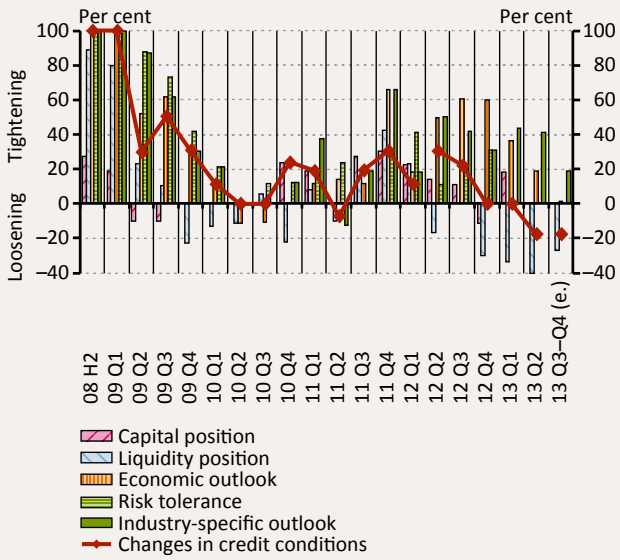
## 4.2.1 CREDIT CONDITIONS OF CORPORATE LOANS

Based on transactions, the interest rate on HUF-denominated corporate loans smoothed by the three-month moving average declined at an even pace from 7.8 per cent at the end of the previous quarter to 6.9 per cent in Q2, thereby tracking the policy rate cuts. In July, the lending rate decreased to a larger extent, by 0.8 percentage point (from 6.9 to 6.1 per cent), owing to the Funding for Growth Scheme, which considerably eases interest conditions in the SME segment. As a result, the spread on reference rate fell by half percentage point, to below 2 percentage points. Meanwhile, in the case of euro-denominated loans, both the interest rates and the spreads increased slightly in Q2, and then remained at an unchanged level in July.

Based on the Lending Survey,[10] corporate credit conditions were reported to have somewhat eased during 2013 Q2,[11] although the majority of banks reported unchanged conditions. Banks' liquidity position pointed to easing, while industry-specific problems and the economic outlook pointed to a tightening of conditions. Looking ahead, on the whole, banks expect further easing in conditions over the coming half year. However, the easing in corporate credit conditions should be evaluated in the context of past developments: in view of the previous wide-scale tightening it is still the case that at present only a limited range of companies is considered creditworthy, but they can borrow at a more favourable lending rate.

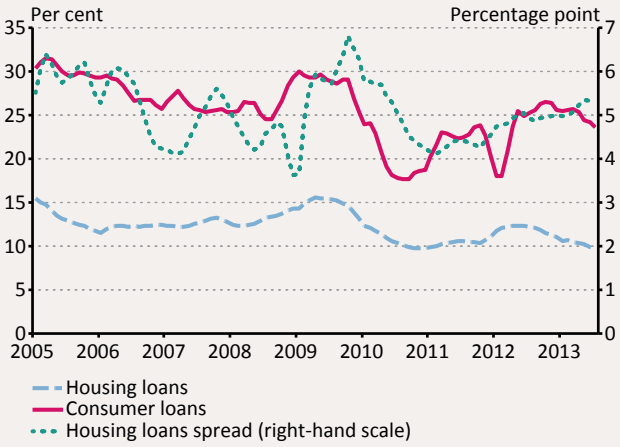
[10] More detailed analysis can be found about the lending survey in the *Trends in Lending* publication, a new publication of the MNB: http://english.mnb.hu/Root/Dokumentumtar/ENMNB/Kiadvanyok/trends-in-lending/201308/Hitelezesi_folyamatok_201308_en.pdf.
[11] Net percentage balance of respondents reporting tightening/easing credit conditions weighted by market share.

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




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

**Chart 4-11**
**Annual percentage rate (APR) and spread on forint-denominated housing and consumer loans**




*Note: Interest rates smoothed by the three-month moving average. Forint-based mortgage loans played a marginal role before 2009. Spreads smoothed by the three-month moving average.*
*Source: MNB.*

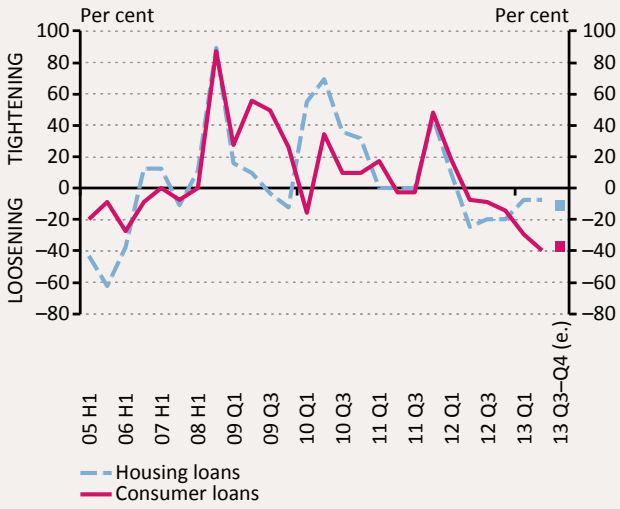
## 4.2.2 CREDIT CONDITIONS OF HOUSEHOLD LOANS

In the case of housing mortgage loan transactions, the annual percentage rate of charge (APR) smoothed by the three-month moving average decreased from 10.5 per cent at the end of Q1 to 9.9 per cent by the end of Q2, before declining by a further 0.2 percentage points in July. The fall in the lending rate only partly tracked the decline in the three-month BUBOR. Accordingly, the interest rate spread slightly increased compared to Q1. This is attributable to the fact that – in contrast to banks' loan products – lending rates determined by home savings and loan associations declined to a lesser extent.

In the case of consumer loans, the annual percentage rate of charge (APR) smoothed by the three-month moving average continued to decline similarly to the previous quarter, from 25.7 per cent in March to 24.1 per cent in June. The fall compared to the previous quarter affected home equity loans and unsecured consumer loans alike. While the APR on the former declined from 13.8 per cent to 12 per cent, the APR on unsecured consumer loans decreased from 28 per cent to 27.3 per cent. On the whole, a further decline in lending rates on consumer loans was observed in July.

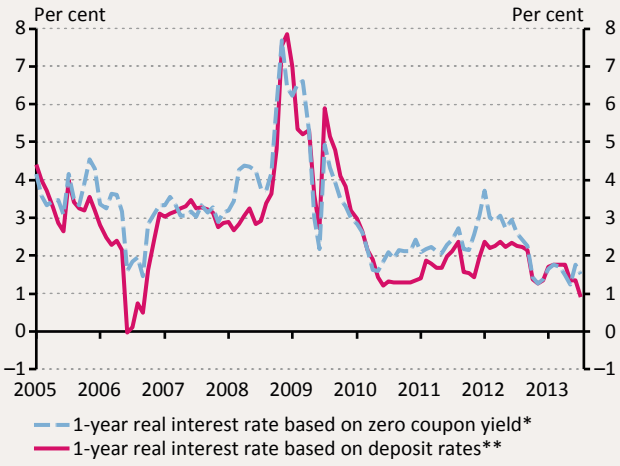
In the Lending Survey, a net 8 per cent of banks reported that they had eased conditions on housing loans and 40 per cent in the case of consumer loans in 2013 Q2. In spite of the continuous easing, credit conditions are still considered tight, which is partly attributable to the broad-based tightening at end-2011. The interest rate spread was well above 5 per cent in the case of new mortgage loans, while the loan-to-value (LTV) ratio amounted to an average 53 per cent. This latter indicator was above 60 per cent prior to the early repayment, and the regulation allows as much as 80 per cent.

**Chart 4-12**
**Changes in credit conditions in the household segment**




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

**Chart 4-13**
**Forward-looking real interest rates**




** Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using the one-year zero coupon yields and the Reuters poll.*
*** Based on one-year forward-looking inflation expectations of analysts calculated by the MNB using bank deposit rates with maturity up to one year (weighted average of corporate and household deposits) and the Reuters poll.*

## 4.2.3 DEVELOPMENTS IN REAL INTEREST RATES

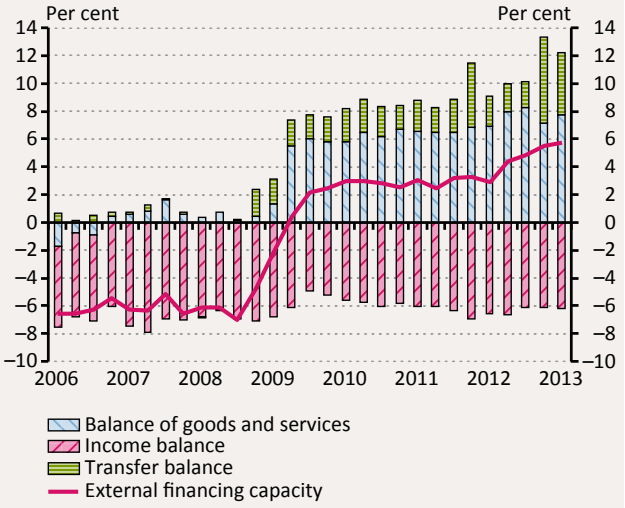
In July 2013, the one-year forward-looking real interest rate calculated on the basis of the one-year government securities yield was 1.5 per cent, roughly equalling the April value. In the meantime, however, the volatility of government securities yields triggered some fluctuations in the indicator. Calculated on the basis of banking sector deposit rates with maturities of up to one year, the real interest rate dropped considerably, falling by almost one half. Compared to 1.8 per cent in April 2013, it amounts to 0.9 per cent at present. The fall in the real interest rate is entirely attributable to the decline in deposit rates, as inflation expectations have been stable around 2.6–2.7 per cent since April. The real interest rate remains historically low.

# 5 External position of the economy

## 5.1 External balance and financing

*In 2013 Q1, the external balance position of the Hungarian economy continued to be characterised by a significant net saving position. The improvement in the trade balance – which took place as a correction of the decline in the previous quarter – was reflected in the further growth in external financing capacity. The amount of EU transfers was below the extremely high value observed at end-2012, but exceeded the figures of previous quarters. Our preliminary data suggest that the rise in the external surplus may have slowed down in 2013 Q2, in parallel with a decline in the trade surplus. In line with the still high external financing capacity, net outflows of debt-type liabilities were significant in early 2013 as well, but were lower than in the previous quarter. As a result, Hungary's net external debt ratio continued to decline.*

**Chart 5-1**
**Changes in external financing capacity**
*(seasonally adjusted values; as a proportion of GDP)*




### 5.1.1 CHANGES IN THE EXTERNAL BALANCE OF HUNGARY

The external financing capacity of the Hungarian economy continued to break historical records in 2013 Q1, amounting to some 6 per cent of GDP. The net exports-to-GDP ratio rose to 8 per cent again in Q1, which can mainly be considered as a correction of the decline at end-2012 that occurred due to one-off, temporary effects. The annual growth rate of exports stabilised at the low level of the previous quarter, but the positive increase in the trade balance was also aided by the development of the terms of trade. According to preliminary data, the increase in trade surplus may have slowed down in Q2, which is presumed to be related to rising imports due to higher domestic absorption and manufacturing firms' strong stock-building activities.

The income account deficit remained practically unchanged in Q1, although a slight shift took place in the components of the account: the net balance of interests paid on debt-type liabilities, which stagnated in the previous quarters, declined slightly in Q1.

Following a surge at end-2012, the surplus of the transfer balance declined to EUR 750 million in Q1, although its size exceeds the values observed in the same periods of previous years.

**Chart 5-2**
**Structure of external financing**
*(transactions as a proportion of GDP)*

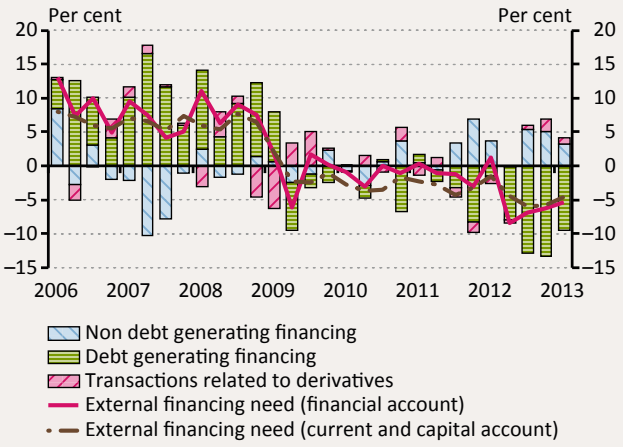



**Chart 5-3**
**Developments in foreign direct investment**
*(cumulative transactions)*

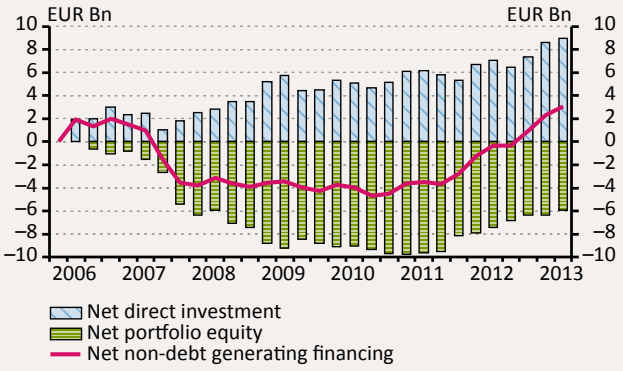
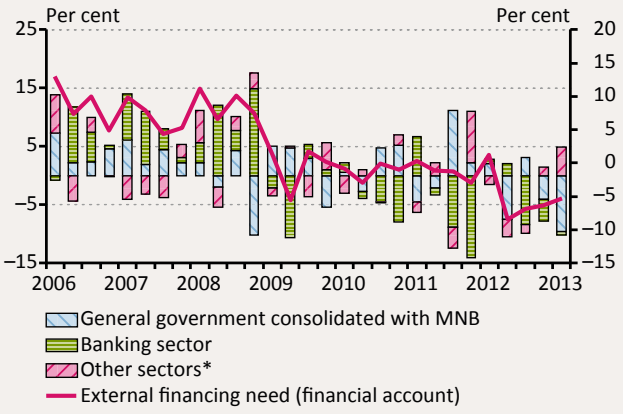



**Chart 5-4**
**External financing by sectors**
*(transactions as a proportion of GDP)*




**Non-financial corporations, other financial corporations, households.*

## 5.1.2 DEVELOPMENTS IN FINANCING

Similarly to 2012 H2, the considerably high Q1 external financing capacity evolved in parallel with an expansion in non-debt type liabilities and declining, but still significant net outflows of debt-type liabilities.

The inflow of non-debt type liabilities continued in Q1, with about half of these inflows related to net foreign direct investment, while the amount of net portfolio equity investments was also significant. Compared to the previous quarter, net foreign direct investments increased much more slowly, while the reduction in foreign liabilities also contributed to the amount of net portfolio investments.

Net outflows of debt-type liabilities exceeded EUR 2 billion in Q1, which is a historically high amount, but represents a decline compared to end-2012. In the case of the consolidated general government including the MNB, net outflows of funds amounted to nearly EUR 3 billion, which was mainly attributable to the increase in foreign exchange reserves as a result of EU transfers and the Premium Euro Government Bond issued to residents. Net outflows of funds from the banking sector slowed considerably in Q1, while the net external debt of companies increased slightly.

The four-quarter value of the external financing capacity calculated from the financing side (bottom-up approach) rose to an unprecedented level in 2013 Q1, approaching 7 per cent of GDP. Based on individual sectors' financial savings, this was attributable to the still high savings of households and the historically low financing requirement of general government, while corporate sector financing capacity increased significantly. From the revenue side, EU transfers, which had been significant in the recent quarters, played a role in the increase in corporate financial savings, with continued weak investment activity being the main contributing factors from the absorption side.

The correction of the net external debt ratio continued in Q1. At the same time, in parallel with a considerable outflow of debt-type liabilities, at end-March the forint was much weaker against the currencies important in terms of the composition of external debt than in December. As a result of the above developments, the net external debt-to-GDP ratio sank below 42 per cent. The decline was especially remarkable in the case of general government.

**Chart 5-5**
**External financing capacity according to the financing capacities of individual sectors**

*(four-quarter values as a proportion of GDP)*

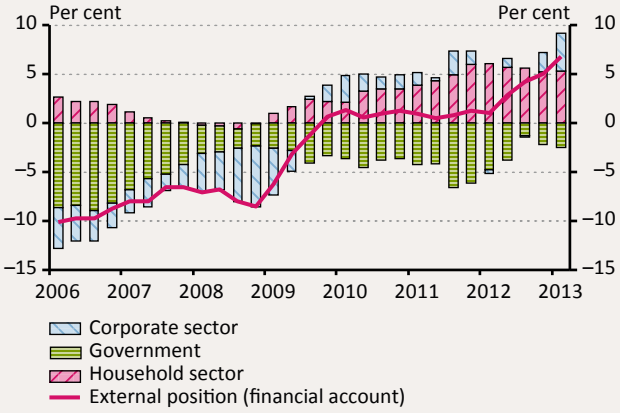



**Chart 5-6**
**Breakdown of net external debt by sectors**

*(values as a proportion of GDP)*

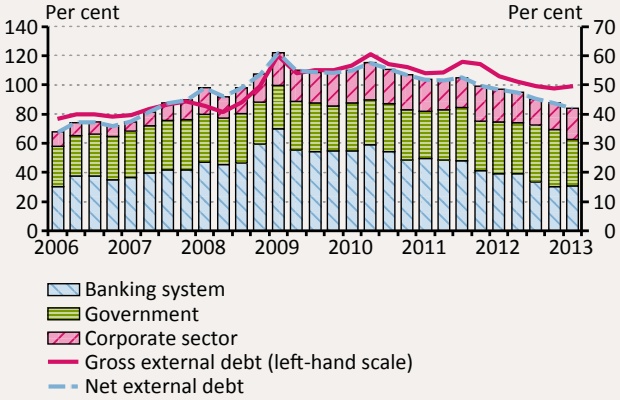
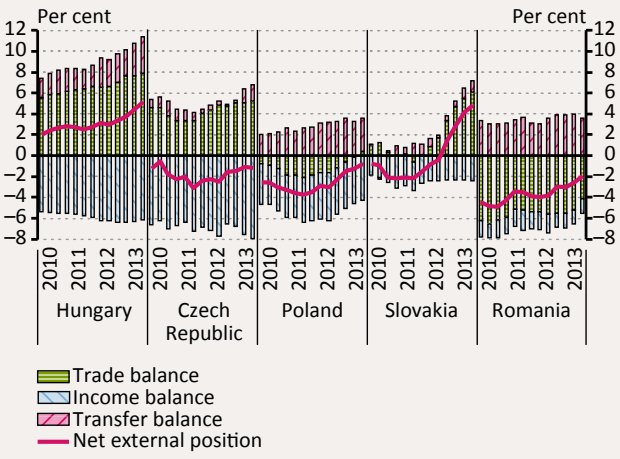



**Chart 5-7**
**Changes in external financing capacity in the region**

*(four-quarter values as a proportion of GDP)*




As opposed to the decline in the net indicator, gross external debt rose slightly, and was close to 100 per cent again at end-March. This was attributable to the fact that the fall in the net external debt of general government is mainly correlated with the increase in foreign exchange reserves, which does not affect gross debt. In addition, in the case of banks the stagnation in net external debt took place in parallel with a low inflow of funds, which also resulted in an increase in the gross debt ratio.

Hungary's external financing capacity is considered extremely high in a regional comparison. One of the most important sources of the high savings position is the trade surplus, which considerably exceeds the levels in other countries of the region. In addition, however, the transfer balance, which reflects significant amounts of EU transfers, also contributed strongly to the increase in financing capacity. In line with the relatively high external debt ratio, Hungary is one of the countries where the impact of the income account deficit on the external financing position is highly negative. However, as a result of the decline in external indebtedness in parallel with the external financing surplus, the differences seen in the income balances are expected to decline.

**Box 5-1**
**Size of EU transfers received by Hungary**

Based on balance of payments data on an accrual basis, EU grants amounting to some EUR 750 million were used in 2013 Q1,[12] significantly exceeding the value observed a year earlier. As a result, the four-quarter transfer utilisation continued to increase, reaching nearly EUR 4.5 billion. A breakdown by the types of transfers shows that some two-thirds of the grants received from the EU improve the capital balance, i.e. presumably this proportion of the transfers may have contributed to the increase in domestic capital investment and thus to investment growth. At the same time, unrequited transfers, which account for approximately one-third of transfers, are current subsidies (e.g. purchase of services, training costs). Based on information available for Q2, EU transfer inflows may have continued to rise. It is worth noting, however, that the amount of transfers declined at the beginning of the new seven-year fiscal period that started in 2007. Accordingly, following the annual amount of EUR 4.7 billion expected for 2013, transfers will presumably fall below EUR 4 billion next year, at the beginning of the new period, as funds will not yet be due to the new projects, and only the disbursement of the amounts carried over from the previous fiscal period will be taking place.

A significant amount of EU transfers has flowed into the country since Hungary's accession in 2004. Grants amounted to a total annual average of EUR 1 billion (around 1 per cent of GDP) until 2008, followed by a considerable and steady increase since 2009. As a result, the amount of grants in 2012 exceeded EUR 4 billion (4 per cent of GDP), while the total amount of grants received from the EU in the period between 2004 and 2012 was close to EUR 18 billion. The sectoral breakdown of the grants received shows that – as EU membership entails payment obligations as well – general government was a net contributor even in mid-2008. Since then, however, the amount of transfers received by the state has increased considerably. Of the other sectors, households' EU grants typically originate from agricultural subsidies, whereas non-financial corporations receive grants for development purposes and/or receive EU funds from intervention purchases.

**Chart 5-8**
**Decomposition of net EU transfers to unrequited transfers and capital type grants**
*(four-quarter value)*

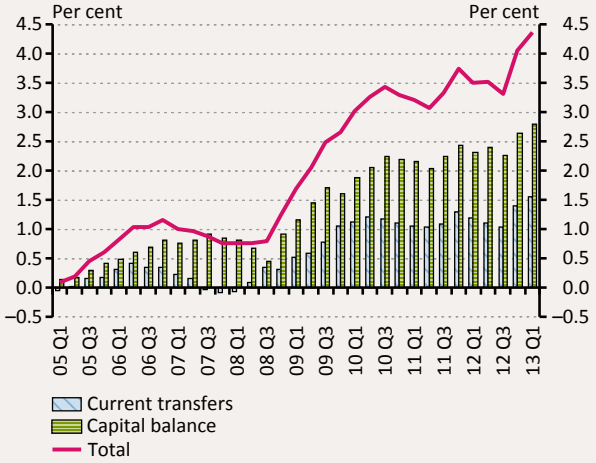
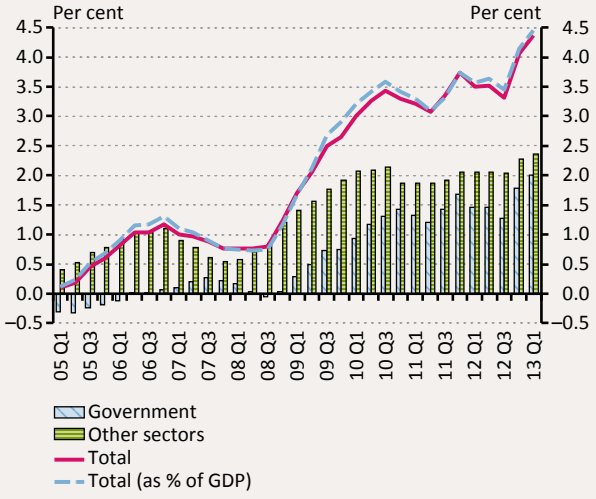



**Chart 5-9**
**Sectoral breakdown of EU transfers**
*(four-quarter value)*



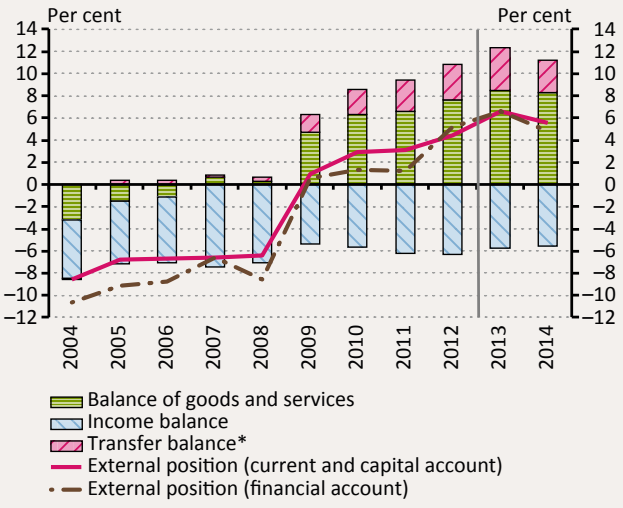

[12] The balance of payments basically contains transactions on an accrual basis, i.e. EU transfers improve Hungary's external position upon the utilisation of the grants (financed earlier or later), and not upon their transfer appearing in the foreign exchange reserves. The time difference between the transfer and the utilisation is bridged by the pre- and post-financing of EU projects by the state.

# 5.2 Forecast for Hungary's external balance position

*The external surplus of the Hungarian economy may continue to increase during 2013, before an expected slight moderation in 2014. Several factors may contribute to this year's improvement: net exports, which are rising as a result of strengthening external demand and improving terms of trade, the expected decline in the deficit on the income account and the increasing use of EU transfers all add to the country's external financing capacity. In 2014, however, the trade surplus will not continue to grow, partly as a result of the Funding for Growth Scheme, which adds to investment as well as imports. At the same time, due to the new budget period, the amount of EU transfers may decline. Looking at the saving position of individual sectors, the high net savings of the private sector continue to determine Hungary's external position, while the financing requirement of the state will remain subdued. In parallel with the remaining of the high external financing capacity, the external debt ratio may continue to decline, reducing the vulnerability of Hungary.*

**Chart 5-10**
**Changes in external financing capacity**

*(as a proportion of GDP)*



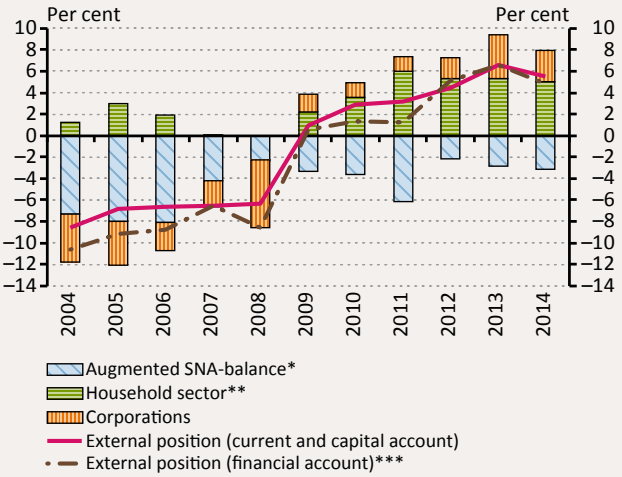

**The sum of the balance of current transfers and the capital account balance.*

The external financing capacity of the Hungarian economy may continue to increase in 2013, supported by various factors. Firstly, the trade surplus will be increased by the strengthening of external demand and rising production from new capacities in the automobile industry, along with an improvement in the terms of trade. Secondly, as a result of a decline in interest costs in parallel with the decrease in external debt, the deficit on the income account may drop. Finally, the expected increase in EU transfers may also result in a growing transfer balance. As a result of these effects, Hungary's net external financing capacity may reach 6.5 per cent of GDP in 2013.

The effects that result in improvement in 2013 are not expected to continue in 2014. As a result of gradually expanding consumption and investment growth, which is also supported by the Funding for Growth Scheme, the increase in the trade balance, which has lasted for years, may come to an end. In addition, with the new EU budget planning period starting in 2014, the use of transfers will probably decline. As a consequence of these developments, the external financing capacity of the country may slightly decline in 2014, although it may still reach a very high level.

The private sector's high net savings will continue to determine Hungary's external position in the period ahead as well. At the same time, the financing requirement of the state is expected to exceed the 2012 level, although it will remain subdued. Even looking ahead, households' net financial savings may stabilise at a high level, possibly attributable to two basic factors: continued balance sheet adjustment and the fact that in parallel with an expected

**Chart 5-11**
**Changes in the financing capacities of sectors**




** In addition to the central government, the augmented general government includes local governments, ÁPV Ltd., institutions discharging quasi-fiscal duties (MÁV, BKV) and the MNB. The augmented SNA deficit takes into account private pension savings.*
*** Net financing capacity of households consistent with the SNA deficit does not contain the pension savings of those who return to the public pension system. The official financing capacity (shown in the financial account) is different from the data in the chart.*
**** In the case of the NEO (net errors and omissions) we assume that it gradually returns to its historical level.*

above-inflation expansion in household income, households continue to save a considerable portion of their incomes, due to strong precautionary motives. The increase in real household income was facilitated by historically low inflation as well as the strong increase in the number of employed observed so far this year. Net savings may increase in the corporate sector in 2013 as a result of the continuation of profit restoration and increasing use of EU transfers. At the same time, as a result of the Funding for Growth Scheme, private sector investment may also grow considerably in 2014. Consequently, and as a result of the expected decline in EU transfers, corporate financing capacity may decline next year.

The continued high external financing capacity of the economy may lower the external debt and liabilities of the economy in the coming years as well. Accordingly, favourable developments are expected to continue in the indicators that are important in terms of Hungary's external vulnerability.

# 5.3 Fiscal developments

*In our baseline scenario, the accrual-based budget deficit will remain significantly below 3 per cent of GDP in 2013. Based on our current information available we forecast 2.9 percent deficit in 2014. Compared to June, our projection for the 2013 accrual-based balance improved by 0.1 per cent of GDP, as underlying revenue side developments in the past months were more favourable than expected. For the compilation of our forecast, we used the amendment to the 2013 Budget Act submitted in September and the first draft of the 2014 budget bill released in connection with the central bank function of supporting the work of the Fiscal Council, i.e. regarding 2014, from a forecast that had used technical assumptions we changed over to a path that better reflects the Government's intentions. Gross government debt declines steadily over the forecast horizon.*

## 5.3.1 DEVELOPMENTS IN GENERAL GOVERNMENT BALANCE INDICATORS

According to our forecast, the 2013 ESA deficit may amount to 2.6 per cent of GDP, and thus our projection improved by more than 0.1 percentage point compared to the June issue of the Quarterly Report on Inflation. As a joint result of revenue developments and other measures, our accrual-based revenue projection was increased by HUF 165 billion. This was based on the underlying fiscal developments in recent months (the favourable trend in revenues from VAT and social security contributions), government measure that added to revenues from the financial transaction levy as well as revenues from the sale of frequency rights (which was higher than the statutory target). The Government's proposal to amend the 2013 Budget Act adds some HUF 66 billion to the accrual-based budget deficit. At the same time, however, our projection for housing subsidies and early retirement expenditures declined. Our forecast takes into account the agreement with the European Union on terminating the

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

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| ESA-deficit* | –2.0 | –2.6 | –2.9 |
| Augmented (SNA) balance* | –2.1 | –2.8 | –3.1 |
| Cyclical component (MNB) | –0.4 | –0.6 | –0.3 |
| Cyclically-adjusted augmented (SNA) balance* | –1.7 | –2.2 | –2.8 |
| Fiscal impulse** | –4.4 | 0.9 | 0.5 |

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

**Table 5-2**
**Decomposition of the change in the 2013 ESA balance forecast**
*(compared to the June issue of the Quarterly Report on Inflation; HUF billion)*

| | 2013 |
|---|---|
| REVENUES | |
| 1) Payments by economic organizations | –60 |
| 2) Consumption related taxes (and financial transaction tax) | 131 |
| 3) Payments by households | –3 |
| 4) Social contributions and related taxes | 37 |
| 5) Other contributions and taxes | 5 |
| 6) Other revenues of central budget | 55 |
| *7) Total change in the revenues* | *165* |
| EXPENDITURES | |
| 8) Housing subsidies | –10 |
| 9) Family subsidies, benefits under retirement age | –11 |
| 10) Net expenditures of budgetary chapters and units | 171 |
| 11) Subsidies to local governments | 15 |
| 12) Contribution to EU budget | 75 |
| 13) Debt assumptions | 6 |
| 14) Expenditures related to public property | 71 |
| 15) Expenditures of the Social Security Funds | –9 |
| 16) Net cash-based interest payments | 21 |
| *17) Total change in the expenditures* | *330* |
| 18) Accrual-based interest correction | 44 |
| 19) Other accrual-based corrections | 170 |
| *20) Total change in ESA balance (7–17+18+19)* | *48* |

suspension of EU grants and also incorporates the ensuing one-off expenditure of HUF 75 billion (which may even be less than that).

Based on our current information available we project 2.9 per cent of GDP accrual-based deficit in 2014, assuming the complete cancellation of the National Protection Fund. Compared to the June issue of the Quarterly Report on Inflation, our updated forecast includes an 0.4 percentage point balance deterioration. The major underlying reason for this is that we took into account the estimated effect of the demographic policy programme (amounting to 0.3 per cent of GDP) which will most probably be introduced.

In 2014, the other effects offset one another on the expenditure side. On the one hand, pension and pension-type expenditures declined by 0.3 per cent of GDP compared to June, due to the lower inflation forecast and the lower-than-assumed inflow in the case of early retirement pensions. On the other hand, we raised our projection for the expenditures of budgetary chapters and institutions to a similar extent, assuming higher investment on the basis of the Government's intention. Changes on the revenue side also offset one another: consumption-related tax revenues are expected to increase by nearly 0.3 per cent of GDP, while profit taxes and economic organisations' other tax-type payments will decline to the same extent.

Compared to the June issue of the Quarterly Report on Inflation, slightly higher accrual-based net interest expenditure is forecast for 2014, which is explained by the absence of the expected decline in long-term yields and by the impact on the coming year of the currency bond issue planned for 2013. By contrast, accrual-based adjustments improve the balance by 0.2 per cent of GDP, disregarding the accounting of the EU advance.

## 5.3.2 FISCAL DEMAND EFFECT

Following a significant reduction of demand in 2012, fiscal policy already results in an expansion of aggregate demand in 2013. For 2013, our indicator measuring the fiscal demand effect signals income growth corresponding to 0.9 per cent of GDP. Basically, this targets households, while fiscal policy vis-à-vis other sectors may be neutral overall. The rise in household income is mainly due to reductions in social security contributions, the development of the truly flat rate tax system and the increase in pensions, which exceeds inflation. In 2014, fiscal policy will again implement demand expansion corresponding to 0.5 per cent of GDP, mainly vis-à-vis households (teachers' career programme, demographic policy programme).

The cyclically adjusted fiscal position (augmented SNA balance) takes into account how large a balance-improving effect it would entail if tax revenues were not diverted from their trend by the economic cycle, and also reflects the fiscal costs currently included in the accounting of state-owned companies (e.g. public transport). Theoretically, in 2013 and 2014 tax revenues corresponding to 0.6 and 0.3 per cent of GDP, respectively, could improve the balance of the general government, provided that the economy catches up to its potential level.

## 5.3.3 RISKS SURROUNDING THE BASELINE SCENARIO

Developments in both the 2013 and 2014 deficits are surrounded by risks. This year, the uncertainty surrounding the statistical classification of the capital contribution provided for the Hungarian Development Bank (MFB) in the amendment to the 2013 Budget Act submitted in September poses a risk of a higher deficit.

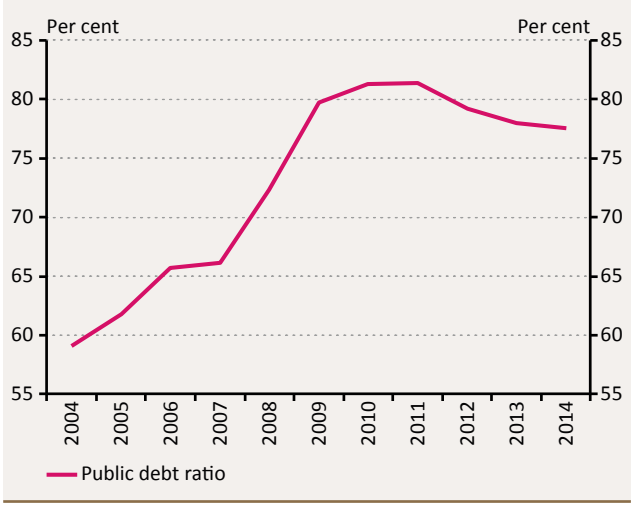
As far as 2014 is concerned, compared to the June issue of the Quarterly Report on Inflation, our assumption regarding additional revenue stemming from the efficiency improvement of tax collection has remained unchanged. The distribution of relevant risks is symmetrical; the size of the risk is around 0.2 percentage points of GDP. Another risk can be identified in connection with revenues relating to state assets. In the case of several appropriations, expenditure side tensions (estimated to jointly reach some 0.1 percentage point of GDP) can be identified. In addition to the National Protection Fund, which cannot be spent according to our forecast, the Investment Fund is intended for the management of risks. According to our estimate, it is able to manage expenditure side risks up to 0.2 percentage points of GDP, provided that they are perceived by the Government in time.

Possible unfavourable changes in international financial developments (e.g. tapering of the Fed's quantitative easing programme) may add to 2014 net interest expenditures via depreciation of the forint exchange rate and an increase in yields.

## 5.3.4 EXPECTED DEVELOPMENTS IN PUBLIC DEBT

Based on the MNB's preliminary financial accounts statistics, the gross consolidated general government debt amounted to 81.4 per cent of GDP at the end of the first half of 2013. The decline compared to the 82.4 per cent in Q1 was mainly caused by the strengthening in the forint exchange rate, but another factor was that at end-June the central budget prepaid a part of the debt assumed from local governments.

**Chart 5-12**
**Expected development of public debt at constant, end-2012 foreign-exchange rate**



According to our forecast, calculated at end-2012 exchange rates, the gross government debt-to-GDP ratio may decline to 78.3 per cent in 2013. Compared to our previous-quarter forecast, in addition to the partial prepayment of local government debt, two other factors reduce the expected debt. Firstly, the complete repayment of the debt to the IMF in August, as a portion of the loan would have fallen due in 2014, and thus the prepayment reduced the end-2013 debt ratio by 0.3 per cent of GDP. Secondly, based on economic developments, our estimation for nominal GDP in 2013 is higher than earlier, which also contributes to the reduction of the debt ratio. In 2014, both the below 3 per cent deficit and the pick-up in economic growth will contribute to a further decline in the debt ratio, which may thus sink below 78 per cent.

# 6 Special topic

## 6.1 Forward guidance in international practice

The communication of central banks has changed considerably, and transparency has become increasingly widespread in recent decades. Increasing central bank transparency was justified by the accountability of the institutions that became independent, as well as by the realisation that monetary policy is able to have an effect on economic developments not only by changing the policy instrument but also by influencing expectations. In order to be able to influence expectations efficiently, the considerations underlying central bank decisions should be known, i.e. economic agents should understand the systematic conduct of monetary policy.

In line with the above, it is a general practice at present that central banks make public the details of their monetary policy strategy, their target variables and decisions as well as the main underlying arguments and their view on expected economic developments. All of this provides guidance to economic agents regarding the systematic behaviour ('reaction function') of monetary policy, with an understanding of which they can formulate their expectations concerning future developments in monetary policy. Some central banks, however, went even beyond this in terms of increasing transparency, and started to give explicit indications about the future stance of monetary policy. During the financial crisis seen in recent years, several central banks face the (close-to-)zero lower bound (ZLB) of the policy rate. Therefore, the role of forward-looking communication has appreciated even further, as in this situation the only remaining instrument of conventional monetary policy to implement further easing justified by the economic situation is influencing expectations.

### 6.1.1 CONCEPTUAL CONSIDERATIONS UNDERLYING FORWARD GUIDANCE

Efforts to increase transparency are made to influence inflation expectations more effectively (e.g. anchoring inflation around the target) and to increase the efficiency of monetary policy (e.g. offsetting inflation shocks should entail smaller real-economy sacrifices). The management of expectations is an important transmission channel, as consumption and investment decisions typically depend on longer-term (real) interest rates, over which the current level of the central bank base rate in itself has little influence. Expectations regarding the path of the central bank base rate and the medium-term inflation outlook play a key role in the movements in longer-term yields. If the central bank is able to influence such expectations, then — in the case of at least partly forward-looking agents — it can also have an impact on real economic and inflation developments.

The *operation of developed country central banks is typically transparent;* as a result, market participants can form a more precise opinion about the expected behaviour of monetary policy. In the case of a central bank that focuses on price stability, market participants' interest rate expectations will be determined by the path of the central bank base rate at which they believe that the inflation target will be achieved over the monetary policy time horizon. The central bank can contribute significantly to the formulation of these expectations by publishing its forecasts and presenting the considerations serving as a basis for its monetary policy decisions. Although operational transparency makes central bank behaviour more predictable, it does not always ensure that market participants' expectations will develop in line with the intentions of the central bank. In addition to the credibility of the central bank, this also requires that market participants have an opinion similar to that of the central bank on the macroeconomic conditions and prospects determining the conduct of monetary policy as well as on the relevant reactions of central bank decision-makers. If these conditions are not met, market

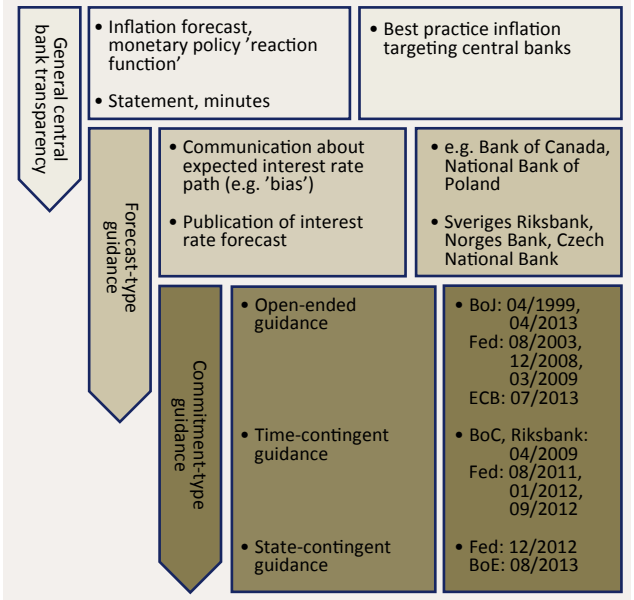
participants' expectations and the central bank's intentions may be brought closer to one another if the central bank gives explicit signals concerning the expected future path of the base rate.

In the case of best practice inflation targeting central banks *forecast-type guidance* is the generally used form of the forward-looking signal. Forecast-type guidance gives a signal as to what the most probable monetary policy response is on the basis of the information actually available. Thus, in an ideal case, even the long end of the yield curve moves in line with the intentions of the central bank.

Forecast-type guidance may take the form of only a verbal indication of the expected interest rate path (e.g. direction of further steps or the expected slope of the interest rate path), but it may also include publication of the interest rate path consistent with the central bank's macroeconomic forecast (the latter is feasible if the forecast is prepared with an assumption of an endogenous monetary policy reaction). The central banks that make the complete interest rate path public (e.g. in Sweden, Norway or New Zealand) consider it important to emphasise that the published interest rate path is merely a forecast based on the currently available information base, and cannot therefore be considered a promise or commitment. By this they create the opportunity of a later deviation from the forecasted interest rate path without losing credibility if they have to face unexpected shocks. In some special cases, however, it may become necessary that forward guidance entail a certain degree of commitment as well.

Such a special case is when the given economic conditions and the earlier applied reaction function would justify further monetary easing, but the base rate has already reached or is close to its zero lower bound, and thus there is no room for a further reduction of the policy rate. Under such circumstances, in parallel with low inflation (or deflation), an excessively high real interest rate may evolve, leading to a further decline in aggregate demand and further opening of the negative output gap. The central bank may counter this by providing *commitment-type guidance,* i.e. by announcing that it will keep the policy rate at a low level even when it would raise it on the basis of its earlier behaviour, by which it may generate increasing inflation expectations, thereby reducing the level of the real interest rate. A lower interest rate, in turn, stimulates the economy by bringing consumption expenditures forward and encouraging investment.

**Chart 6-1**
**Types of forward guidance**




Namely, the main difference between forecast-type guidance and commitment-type guidance is that while with the former the central bank provides information on the expected consequences of its usual strategy, the latter targets an effect via a temporary suspension of the usual strategy. Commitment-type guidance typically contains some conditionality, as no central bank wants to commit itself for a longer term to a strategy that it would not consider optimal under normal circumstances. Central banks that apply commitment-type guidance have typically drawn up time-related conditions (open-ended or linked to a specific time horizon) or conditions related to the state of the economy (state-contingent commitment). It is important to mention here that with the time-related condition it is not clear whether the central bank is providing forecast-type guidance or commitment-type guidance, as the indication of an interest rate level remaining until a given point in time does not in itself contain information as to whether the central bank is acting in line with its usual strategy or it is trying to increase its effectiveness through a temporary deviation from the usual strategy. It is important to emphasise that a central bank that deviates from its usual strategy faces a trade-off: first, the effectiveness of its steps depends on whether in this exceptional situation market participants believe that the commitment to temporarily give up the strategy is true. Second, a central bank's deviation from its earlier announced strategy to an excessive extent or for a too long period of time can easily jeopardise long-term inflation expectations, thus aggravating its own situation following normalisation of the economic situation.

## 6.1.2 CHALLENGES RELATED TO THE PRACTICAL IMPLEMENTATION OF FORWARD GUIDANCE

As mentioned above, one of the main challenges in applying forward guidance is to distinguish between forecast-type guidance and commitment-type guidance. The consequences may be different, depending on economic agents' assessment regarding which category the central bank's indication belongs to. The indication that the base rate will remain close to the zero lower bound for a longer period may in itself send the message that the central bank expects persistent economic weakness and also that the interest rate level may remain low after the beginning of the recovery as well. The first message may restrain economic activity, whereas the second may have a stimulating effect. This problem can be eased if the central bank indicates that it will keep the policy rate at a low level for a specific time horizon, while its forecast conditioned on this interest rate path credibly reflects a recovery and the temporary nature of the deviation from the usual behaviour.

Even if the central bank succeeds in convincing economic agents that it intends to provide commitment-type guidance, by defining the time horizon it does not become completely clear which variables may develop in a way that could render the central bank's guidance superfluous. Although an unconditional commitment regarding the given time horizon is theoretically possible, it is not applied by central banks in practice, because unexpected events may take place (e.g. accelerating recovery and increasing inflationary pressure as a result of a demand shock), as a result of which maintaining the commitment becomes strongly suboptimal.

Accordingly, commitment raises the problem of time inconsistency, i.e. the central bank promises a behaviour that is optimal at the present, but as time goes by and economic circumstances change, it may easily feel tempted to deviate from the announced strategy.

This problem may partly be solved by state-contingent guidance, in which case the central bank ties the maintenance of commitment to developments in certain macroeconomic variables. For example, the central bank can announce that it will not change the close-to-zero level of the base rate until unemployment sinks below a certain level or output reaches a given level. State-contingent commitment may provide guidance regarding changes in the 'reaction function' of monetary policy, thus allowing the central bank to clearly indicate the temporary deviation from its usual behaviour. In addition, the central bank may draw up certain conditions, upon the occurrence of which the guidance becomes void. Although this results in a decline in the effectiveness of the commitment, the risk of losing credibility stemming from the subsequent deviation from the promised behaviour also declines.

In the case of state-contingent guidance one possible challenge that measurement of the long-term equilibrium level of the key variable of commitment is uncertain. If serious structural changes are taking place in the economy, by applying the commitment related to reaching a given level of unemployment or output, economic activity may deviate considerably from the level that is in line with its long-term equilibrium path. Management of this risk may also be facilitated by the central bank if it ties the validity of the guidance to additional conditions. For example, a major increase in inflation or the appearance of financial stability risks may indicate that the central bank was too optimistic regarding potential economic output or the level of structural unemployment when it formulated the forward guidance. However, if the conditions of the guidance are too complex, its clarity and thus its efficiency may decline.

Finally, another challenge for monetary policy is to temporarily change inflation expectations with the help of forward guidance in a way which does not jeopardise the long-term anchoring of inflation expectations and its long-term strategic commitment to price stability. In the latter case, boosting the effectiveness of the economic stimulation in an extraordinary situation would impair the ability of monetary policy to stabilise the economy over the long term.

## 6.1.3 FORWARD GUIDANCE IN PRACTICE

The following is a presentation of the practical application of forward guidance, using the examples of developed country central banks. As noted above, the generally applied central bank practice is the publication of forecasts and the considerations underlying monetary policy decisions. In addition, several central banks give regular qualitative signals regarding the expected monetary policy stance ('bias') and other features of the interest rate path (e.g. direction of further

steps or the expected slope of the interest rate path etc.). Some central banks publish the entire interest rate path which is consistent with their forecast.

In the case of indicating the bias, typically the statement following the interest rate decision contains some hint as to the next decision or the steps expected in the near term. This may be considered the softest forward guidance, as it is of qualitative nature, relates to a short period of time and ties the indicated steps to the meeting of some condition (e.g. developments in the inflation outlook). Publishing the interest rate path which is in line with the central bank's forecast contains much more information than an indication of the bias, as it is valid for a longer period of time and is quantitative in nature. However, the common feature is that both the indication of the bias and the publication of the interest rate path can be considered conditional forecasts, which are valid depending on the information base available upon publication. Therefore, if economic circumstances change in an unforeseeable manner, the central bank may deviate from the earlier indicated interest rate path without suffering any reputation loss.

During the crisis, in the case of the central banks that reached the zero lower bound of the base rate, the role of forward guidance appreciated and the role of commitment came to the fore. In this special situation, central banks not only share their interest rate forecast that is based on the currently available information and can be considered the best, but also promise that they will maintain the accommodative monetary policy for a certain period of time and until certain macroeconomic conditions are met.

This promise can be an open-ended one, when the central bank does not assign a particular time horizon to its commitment, or it can refer to a specific time horizon, or it can be tied to developments in certain macroeconomic variables (state-contingent).

Below is a presentation of In the following, we present the forward guidance practices of best practice inflation targeting central banks that are considered to be the best examples. First, the practices of the Bank of Canada and the European Central Bank are described; they apply (conditional) open-ended forecast-type guidance. They are followed by central banks that are more transparent and publish their respective interest rate path forecasts as well (Reserve Bank of New Zealand, Norges Bank, Sveriges Riksbank, Česká národní banka). Finally, those two central banks (Fed, Bank of England) are presented that apply the strongest type of forward guidance, i.e. state-contingent commitment as well.

### Bank of Canada

The Bank of Canada used to be traditionally very cautious in communicating forward-looking interest rate messages. Since the onset of the crisis, however, the decision-making body has been verbally referring to the expected stance of monetary policy and outlining the expected interest rate path in the statements related to interest rate decisions. During the first phase of the crisis, in connection with the interest rate cut steps, they continuously indicated that further monetary easing was also necessary. In October 2009, upon reaching the close-to-zero interest rate level they announced that achieving their inflation target would require the maintenance of the interest rate level until mid-2010. However, keeping the base rate at a low level depended on the inflation outlook. Overall, this guidance regarding a specific time horizon was more of a conditional than commitment-type, as the central bank presented the interest rate path more clearly than before, stemming from its usual strategy and the given macroeconomic prospects. In mid-2010, upon the restart of interest rate increases they indicated that they still considered it necessary to keep the interest rate level low, and therefore only slow and gradual tightening could be expected. By September 2010, the policy rate was raised to 1 per cent, and starting from then, until early 2012 they indicated that no further tightening would take place for the time being. As of April 2012, while keeping the interest rate level at 1 per cent, they also started to communicate that looking forward the withdrawal of the monetary stimulus was foreseen, but cautious action was necessary, taking account of the economic developments globally and in Canada. Accordingly, the Bank of Canada decided on a more transparent use of the conditional, forecast-type guidance.

### European Central Bank

In May 2013, the ECB's interest rate on the main refinancing operations declined to 0.5 per cent, practically reaching the zero lower bound. The press conference on 4 July was the first occasion when President Mario Draghi gave explicit forward guidance. He had said on several occasions since March that monetary policy stance would remain accommodative for as

long as necessary. At the press conference, he added that the Governing Council expected the key ECB interest rates to remain at the prevailing level or lower levels 'for an extended period'.[13] This guidance can be considered open-ended forecast-type guidance, as it relies on the Governing Council's forecasts and expectations based on current information. By this, the ECB did not change its strategy, but rather used this mild form of guidance to calm the markets (to ease the bond market tensions that evolved due to fears related to a possible withdrawal of the Fed's asset purchases). As it is based on current information, it is not binding, and changes in the decision-makers' forecast may overwrite the announcement.

### Reserve Bank of New Zealand

The Reserve Bank of New Zealand was a pioneer in introducing the numerical publication of the interest rate path. The main reason for the publication was to support the justification of interest rate decisions. Since mid-1997, forecasts have been prepared with a so-called endogenous interest rate path and not with a fixed one, i.e. an interest rate path forecast that ensures the achievement of the inflation target is prepared on the basis of the information available in the given period. At that time, the management of the central bank had to decide how they intended to communicate the monetary policy rule, and finally they came to the decision that they would make the entire forecast interest rate path public. The published path is model-based, but the calibration and the assumptions contain the opinions of the decision-makers as well. Accordingly, the Reserve Bank of New Zealand follows the practice of forecast-type guidance.

### Norges Bank

Since November 2005, Norges Bank has published interest rate path forecasts as well, together with its forecasts. The interest rate path, determined in the forecast in an endogenous manner and reflecting the preferences of the decision-makers, is made public on a quarterly basis, in the Monetary Policy Report of the Bank. As a result of the publication of the interest rate path, compared to the period between 2001 and 2006, the volatility of one-year interest rates declined considerably, which may indicate the anchoring role of central bank forecasts. Thus, overall, monetary policy has become more predictable as a result of the publication of the interest rate path forecast, and the surprise impact of interest rate decisions has declined. This guidance is an example of forecast-type, conditional guidance.

### Sveriges Riksbank

The Riksbank also started to apply forward guidance prior to the crisis, by publishing the entire interest rate path that is consistent with the forecast. They observed that during the crisis the published interest rate path indicated to the market that the interest rate might remain at a low level for a longer period of time, which was an important advantage compared to central banks that conduct less transparent practices. For example, with the September 2009 interest rate decision they communicated the interest rate path as follows:

*'The Riksbank has therefore decided to hold the repo rate unchanged at 0.25 per cent. The repo rate is expected to remain at this low level until autumn 2010.'*[14]

Although the guidance of the Riksbank applied to a specific time horizon, it was conditioned to the information base of the forecast, and thus it was not a commitment; it only described the published interest rate path in more detail. Their experience also showed that the alternative scenarios that depict decision-makers' different assessments of the situation can be better described with the explicitly described interest rate path. Accordingly, these scenarios may also include how monetary policy reacts to developments deviating from the assumptions of the baseline scenario. It was also mentioned as an advantage that in the case of an open interest rate path forecast, monetary policy dialogue inevitably focuses more sharply on the medium-term stance, and the current interest rate decision is not the only subject of the ongoing debate.

[13] http://www.ecb.europa.eu/press/pressconf/2013/html/is130704.en.html
[14] http://www.riksbank.se/en/Press-and-published/Press-Releases/2009/Repo-rate-held-unchanged-at-025-per-cent2/

### Czech National Bank

Since 2008, the Czech National Bank has published its interest rate path forecast in the form of a fan chart, instead of textual indication. At end-2012, the Czech policy rate practically reached the zero lower bound. In the past half year, following decisions it was emphasised that the interest rate might remain at the prevailing zero level 'over a longer horizon, until there was a significant rise in inflationary pressure.[15] This is in line with the baseline scenario of the forecast, which indicates a perceptible increase in market rates only for 2015, as inflation is gradually approaching the target on the horizon of monetary policy and the output gap is also closing. The short-term picture of the August forecast as well as a possible increase in the risk of deflation may justify further monetary easing, which the Bank would implement through FX market intervention. However, no decision has yet been taken about its commencement.

### Federal Reserve

The Fed has applied all types of forward guidance in the past ten years. In August 2003, as a response to the perceived risks of deflation at that time, the FOMC (the main decision-making body of the Fed) declared that 'highly accommodative monetary policy could be maintained for a considerable period'. A decline in the risk of deflation by January 2004 also resulted in a change in guidance, as the statement already noted that 'the Committee believes that it can be patient in removing its policy accommodation'. A press release in May 2004 stated that 'the Committee believes that policy accommodation can be removed at a pace that is likely to be measured'. This message referred to the expected rise of the interest rate path, i.e. it meant that the steps in the cycle of interest rate hikes would remain small. The cycle of interest rate hikes commenced at the next meeting. During the cycle, the policy rate was raised in continuous 25 basis point steps from 1 per cent to 5.25 per cent until June 2006.

During the crisis, the Fed already reduced the policy rate to the 0–0.25 per cent band by December 2008. Therefore, having reached the effective lower bound, there was no room for further reduction. Then – in parallel with resorting to unconventional instruments – it attempted to implement further monetary easing by strengthening forward-looking communication and shifting towards commitment. Initially, forward guidance was for an indefinite period of time, while later a specific time horizon was designated, followed by the introduction of state-contingent, commitment-type guidance.

In early 2009, the Open Market Committee communicated the maintenance of the close-to-zero interest rate band 'for some time'. From March 2009, the press releases already projected an exceptionally low interest rate level 'for extended period'. This communication prevailed until mid-2011. In August 2011, open-ended guidance was replaced by time-dependent guidance; accordingly, instead of 'for extended period' the press release said that the interest rate would be maintained 'at least through mid-2013'. Subsequently, in January 2012, commitment to the close-to-zero rate was extended 'at least through late 2014', and then 'at least through mid-2015' as of September 2012.

Time guidance was replaced by state-contingent commitment in December 2012, tying the maintenance of the close-to-zero interest rate level to the reaching of explicit macroeconomic thresholds. Under the commitment, extremely loose monetary policy will remain in place at least as long as unemployment remains above 6.5 per cent, inflation does not exceed 2.5 per cent and long-term inflation expectations remain anchored. However, the threshold of 6.5 per cent does not necessarily trigger an interest rate hike. If justified by the inflation expectations or inflation outlook, accommodative monetary policy may continue to be maintained. Although guidance tied to the unemployment rate threshold is in line with the Fed's double mandate, the quantified inflation condition indicates that the Fed is willing to deviate from its usual earlier strategy of targeting 2-per cent inflation. At the same time, the message transmitted by the condition of anchored inflation expectations is that this deviation can only be temporary.

### Bank of England

The Bank of England formulated forward guidance in connection with the publication of its Inflation Report in August 2013, shortly after the new Governor took office. It was the Chancellor of the Exchequer who requested the BoE during the

[15] http://www.cnb.cz/en/monetary_policy/bank_board_minutes/2013/tk_02sz2013_aj.html

renewal of its mandate to perform a comprehensive analysis of the application of forward guidance and to consider the introduction of the latter. Similarly to the Fed, the BoE also provided state-contingent guidance, according to which it intends not to raise the Bank Rate at least until the unemployment rate has fallen to a threshold of 7 per cent. When the threshold is reached, the MPC (Monetary Policy Committee) will revise the necessity of the maintenance of forward guidance. In addition, the news release underlined that the decision-makers were ready to expand the amount of asset purchases if they considered it justified, and were not planning to reduce the value of asset purchases while the unemployment rate remained above 7 per cent.

This commitment to future monetary policy will become void if any of the following three risks seem to be realised (the MPC calls them 'knockouts'):

- it is more likely than not that CPI inflation 18 to 24 months ahead will be above 2.5 per cent;
- medium-term inflation expectations no longer remain sufficiently well anchored;
- the Financial Policy Committee (FPC) judges that the stance of monetary policy poses a significant threat to financial stability which cannot be contained by the substantial range of mitigating policy actions available to financial and regulatory authorities.

Accordingly, the guidance of the BoE is very similar to the one applied by the Fed. One important difference, however, is that the suspension of the guidance of the BoE is tied to financial stability conditions as well, and an explicit time horizon also belongs to the inflation condition. The latter makes it clear that the Bank of England is willing to tolerate some additional inflation even over a horizon where it used to prefer to see inflation in the immediate vicinity of its 2 per cent target.

Overall, developed country central banks used some forms of forward guidance even far from the zero lower bound, although this guidance always remained forecast-type. Following the crisis, there was a shift towards commitment-type guidance, but of the central banks reaching the zero lower bound only the Fed and the BoE have formulated state-contingent guidance in which they indicated temporary deviation from their routine behaviour.

## SOURCES

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# 7 Technical annex: Decomposition of 2013 average inflation

**Table 7-1**
**Decomposition of the inflation into overlapping and incoming effects (2013)**

| | Effect on CPI in 2013 | | | Effect on CPI in 2014 | | |
|---|---|---|---|---|---|---|
| | Overlapping effect | Incoming effect | Yearly index | Overlapping effect | Incoming effect | Yearly index |
| Administered prices | 0.1 | –0.8 | –0.7 | –1.0 | 0.4 | –0.7 |
| Market prices | 0.4 | 1.2 | 1.5 | 0.7 | 1.7 | 2.4 |
| Indirect taxes and government measures | 0.3 | 0.9 | 1.2 | 0.6 | 0.0 | 0.6 |
| **CPI** | **0.7** | **1.3** | **2.0** | **0.3** | **2.0** | **2.4** |

*Note: The table shows the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of the so-called overlapping and incoming effects. The overlapping effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects changes in the current year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated the inflationary effects of the changes in indirect taxes, administered prices, and market prices (not administered prices excluding indirect tax effects). The indirect taxes and government measures also include the effect of increase in the retail margin on cigarettes.*

**Table 7-2**
**Detailed decomposition of our inflation forecast to overlapping and incoming effects (2013)**

| | 2013 | | | | | 2014 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Average overlapping effect | Overlapping indirect tax effect | Average incoming effect | Incoming indirect tax effect | Yearly index | Average overlapping effect | Overlapping indirect tax effect | Average incoming effect | Incoming indirect tax effect | Yearly index |
| Food | 1.4 | 0.0 | 2.2 | 0.0 | 3.6 | 0.3 | 0.0 | 3.0 | 0.0 | 3.3 |
| non-processed | 1.7 | 0.0 | 5.5 | 0.0 | 7.3 | –1.2 | 0.0 | 4.3 | 0.0 | 3.0 |
| processed | 1.2 | 0.0 | 0.7 | 0.0 | 1.8 | 1.1 | 0.0 | 2.4 | 0.0 | 3.5 |
| Traded goods | 0.4 | 0.0 | 0.1 | 0.0 | 0.6 | 0.8 | 0.0 | 1.0 | 0.0 | 1.8 |
| durables | –0.9 | 0.0 | –1.0 | 0.0 | –1.9 | –0.6 | 0.0 | 0.8 | 0.0 | 0.1 |
| non-durables | 1.0 | 0.0 | 0.6 | 0.0 | 1.6 | 1.4 | 0.0 | 1.1 | 0.0 | 2.5 |
| Market services | 0.6 | 0.3 | 1.2 | 2.0 | 4.2 | 0.8 | 0.8 | 2.5 | 0.0 | 4.2 |
| Market energy | 3.7 | 0.0 | –2.0 | 0.0 | 1.7 | –2.4 | 0.0 | 0.0 | 0.0 | –2.4 |
| Alcohol and tobacco | 1.9 | 1.9 | 1.6 | 5.7 | 11.5 | 0.9 | 5.3 | 2.0 | 0.0 | 8.3 |
| Fuel | –4.4 | 0.0 | 4.1 | 0.0 | –0.4 | 1.6 | 0.0 | 4.5 | 0.0 | 6.1 |
| Administered prices | 0.6 | 0.1 | –4.2 | 0.0 | –3.6 | –5.3 | 0.0 | 1.9 | 0.0 | –3.4 |
| Consumer Price Index | 0.5 | 0.3 | 0.4 | 0.9 | 2.0 | –0.3 | 0.6 | 2.0 | 0.0 | 2.4 |
| Core inflation | 0.8 | 0.4 | 0.8 | 1.4 | 3.5 | 0.9 | 1.0 | 1.8 | 0.0 | 3.8 |

*Note: The table shows the decomposition of the yearly average change of the consumer price index. The yearly change is the sum of the so-called overlapping and incoming effects. The overlapping effect is the part of the yearly index, which can be explained by the preceding year's price changes, while the incoming effect reflects changes in the current year. We decomposed these indices to the sub-aggregates of the consumer price index and calculated the inflationary effects of the changes in indirect taxes, administered prices, and market prices (not administered prices excluding indirect tax effects). The indirect taxes and government measures also include the effect of increase in the retail margin on cigarettes.*

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