



MAGYAR NEMZETI BANK

**QUARTERLY  
REPORT  
ON INFLATION**

**AUGUST 2009**



**Quarterly Report  
on Inflation**

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*Act LVIII of 2001 on the Magyar Nemzeti Bank, which entered into effect on 13 July 2001, 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% 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 Monetary Strategy and Economic Analysis and Financial Analysis Departments, as well as the macroeconomic developments underlying these forecasts. The forecasts are based on certain assumptions. Hence, in producing its forecasts, the staff assumes an unchanged monetary and fiscal 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 Monetary Strategy and Economic Analysis and Financial Analysis Departments under the general direction of Ágnes Csermely, Director. The project was managed by Mihály András Kovács, Deputy Head of Monetary Strategy and Economic Analysis, with the help of Judit Antal, Mihály Hoffman, Gergely Kiss and Barnabás Virág. The *Report* was approved for publication by Ferenc Karvalits, Deputy Governor.

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The *Report* incorporates valuable input from the Monetary Council's comments and suggestions following its meetings on 10 August and 24 August 2009. The projections and policy considerations, however, reflect the views of staff in the Monetary Strategy and Economic Analysis and the Financial Analysis Departments and do not necessarily reflect those of the Monetary Council or the MNB.



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# Summary

## **The deep recession triggered a sharp adjustment by economic agents**

Over the past quarter, the rapid adjustment of the Hungarian economy to the changed global economic environment in the wake of the financial crisis continued. The decline in GDP was in line with the forecast in the *May Report*. However, the fall in output was associated with a larger drop in domestic demand and, consequently, a stronger improvement in external balance than projected in May. The domestic disinflation trend, observed since the middle of last year, stalled in 2009 Q2, and inflation began trending up again. However, this is likely to have been the result of transient factors, such as the depreciation of the exchange rate and increases in indirect taxes, with the disinflationary effects of the decline in domestic demand becoming increasingly evident.

## **The current projection is similar to the May projection, despite the significant changes in the key assumptions**

The projection in the *August Report* is based on the key assumptions that i) the central bank base rate is held constant at 8.50%, ii) the forint exchange rate remains at EUR/HUF 272, and iii) the price of crude oil moves around EUR 50 per barrel. Provided that these assumptions hold, the Hungarian economy is likely to remain in recession for a protracted period. In the current projection, the pace of decline in the economy slows over the period to the middle of 2010, then growth picks up from the second half of the year. Inflation is expected to remain below the target on the horizon relevant for monetary policy. However, the consumer price index is likely to be significantly above the level consistent with price stability over the next year, due to the increase in indirect taxes. Though the risk assessment became more balanced compared to May, we still perceive upside risks to inflation, and downside risks to growth around the baseline projection.

Despite the significant appreciation of the forint vis-à-vis the euro, the projection for inflation has not been altered substantially relative to May for two reasons. Both, the sharp rise in oil prices and the revision of the potential output of the Hungarian economy, implying weaker disinflationary impact of falling domestic demand, offset the effects of the stronger exchange rate.

## **Investors' willingness to take risks in international financial markets has increased significantly, although the investment climate remains much more volatile compared with previous years**

There have been shifts in global investor sentiment over the period since the *May Report*; however, it has improved overall. In the early part of the period, i.e. in June, developed markets were characterised by uncertainty, a wait-and-see attitude and moderate movements in asset prices. From July, however, investor appetite for risk increased again, as a number of positive macroeconomic data were released. Equity indices rose and implied securities market volatilities fell. Several indicators climbed back to levels witnessed during the period before the failure of Lehman Brothers in the autumn of 2008.

## **There has been a significant reduction in risks associated with the external financing of the Hungarian economy**

The risks associated with the external financing of the Hungarian economy have diminished significantly since May, as reflected in falls in country risk premia and the appreciation of the exchange rate. The major factors behind this were the government's measures aiming at achieving fiscal sustainability and an improvement in external balance as a result of the adjustment of the real economy, in addition to improvements in sentiment in international financial markets.

**Banks' lending activity moderated further**

In 2009 Q2, private sector borrowing was driven mainly by moderating macroeconomic activity and banks' falling appetite for risk. The banking sector's liquidity position was adequate over the period. Outstanding bank lending to the corporate sector fell, while household credit stagnated. Overall, borrowing by the private sector was broadly in line with the forecast in the *May Report*.

**The corporate sector responded to the rapid deterioration in economic activity by running down stocks and reducing capital spending on the output side and by curtailing wage growth and employment on the input side**

According to data available for the first half of the year, the contraction of the economy was most markedly reflected in the decline in industrial exports closely determined by the weakness of global economic activity. However, there was a generalised decline across the entire private sector. In response to the deterioration in sales prospects and financing, the corporate sector reduced stocks sharply and cut back investment spending. However, one-off factors observed in the energy and automobile industries are a cause for concern in terms of the pace of de-stocking by firms.

Corporate adjustment in the labour market continued at a moderating pace. Although earnings growth was sharply lower than in the previous year, the moderation in the rate of growth slowed down considerably in Q2. In addition, the decline in employment in the private sector also moderated, with the decline in whole-economy employment coming to a halt, due to an increase in public sector jobs. Labour market data suggest a less sharp adjustment in employment and wages compared with the forecast in the *May Report*. This, however, is surrounded by a greater degree of uncertainty. Statistical and methodological differences across the various data sources make it more difficult to assess labour market developments over the past months.

**Household financial position improved sharply**

Net financial savings of households rose markedly over the past few quarters. The improvement in the sector's financing position was caused by a significant decline in borrowing, while the accumulation of financial assets eased slightly compared with previous quarters. On the demand side, the former was closely related to households' more cautious borrowing decisions due to increased income uncertainty and falling employment, which was complemented, on the supply side, by a tightening in credit conditions due to banks' falling appetite for risk. The slowdown in financial asset accumulation by households may have been the result of consumption smoothing behaviour offsetting the effects of falling real incomes and tightening credit conditions.

**The consumer price inflation started to increase in Q2, however the pick-up in trend inflation turned out to be temporary**

Annual consumer price inflation rose in Q2, due in large part to stronger-than-expected increases in the prices of seasonal foods and vehicle fuel. However, the earlier decline in core inflation also stalled, explained by the effects of the rapid depreciation of the forint up to the first quarter of the year. The lower-than-expected July data however, refer to a continuous effect of low demand on prices, and in connection with this, trend inflation declined slowly in the latest few months.

**Economic activity in Europe is stabilising; lending may remain constrained over a prolonged period; the recession is expected to be protracted**

In the current projection, the Hungarian economy continues to decline up to the middle of 2010, on account of two factors. First, according to international forecasts, the recession in Europe may be more prolonged: economic growth is unlikely to recover considerably in the developed regions of Europe until the second half of 2010. Second, the pro-cyclical behaviour of the banking sector and fiscal policy may aggravate the contraction and may cause the recession of

the domestic economy to be more protracted. From 2011, however, economic growth is expected to recover sharply. On the one hand, the Hungarian economy, with considerable amounts of spare capacity, may respond vigorously to a quickening in the pace of global economic activity and, on the other, the positive effects of the government's measures on competitiveness are likely to be felt more widely across the economy as a whole. However, one factor representing a downside risk to growth is that, while the projection reflects the likely impact of the tax measures already adopted for 2011, it does not take into account the effects of actions necessary to make up the shortfall in revenue in the absence of an approved government budget.

**Provided that the baseline assumptions hold, inflation may remain below target on the horizon relevant for monetary policy**

Provided that the baseline assumptions hold, inflation may rise above 6% by the end of the year, due to the indirect tax increase. Inflation is expected to fall gradually from the beginning of 2010, followed by a very low inflation environment from the middle of the year. One explanation for this is that, as the effects on prices of the increase in indirect taxes fade, the general macroeconomic environment will be strongly disinflationary: the negative output gap will slow attempts to raise prices.

There are slight upside risks to the outlook for inflation. One is the persistence of inflation expectations, the second being the possibility that, as part of the necessary adjustment measures, the government in 2011 will raise administered prices by more than assumed in the baseline projection to achieve a further reduction in deficit. However, potentially stronger adjustment in the corporate sector than assumed in the baseline projection represents a downside risk to inflation.

**Slower-than-expected labour market adjustment acts to improve the fiscal position. However, further, significant measures will be required to reduce the deficit**

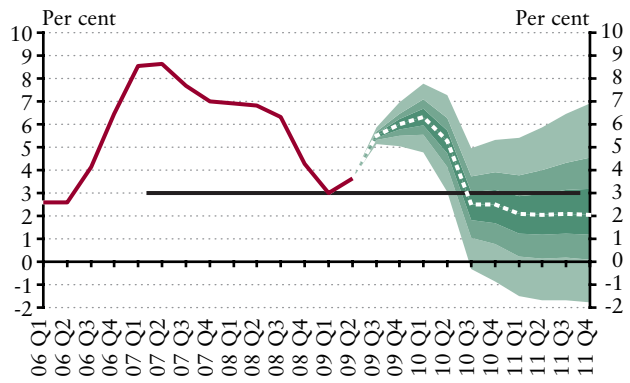
According to the August baseline projection the below 4% deficit target could be achieved if stability reserves in the budget are not fully spent. In 2010, the higher wage bill projection compared to May improves the budgetary position, and the deficit target agreed to with international organisations seems likely to be met in the baseline scenario. In the conditional forecast, the government deficit rises sharply in 2011, mainly as a result of the tax reductions already approved but not yet offset by measures to improve the fiscal balance. The risks to the government deficit lie to the downside in the short term and upside from 2010. Larger risks are perceived in the feasibility of tight expenditure control plans.

**The external balance may improve more sharply over the short term than assumed in May**

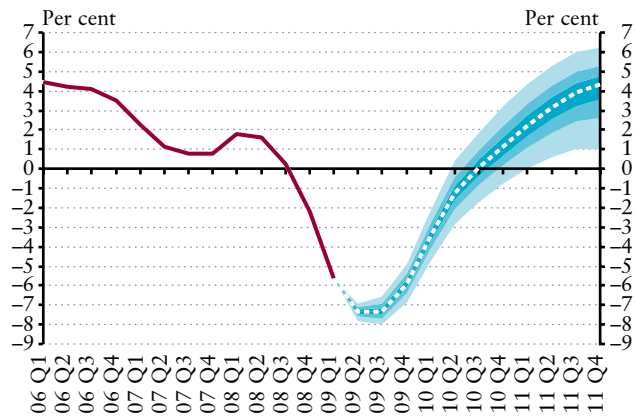
Stronger improvements in the real economic balance and a deeper fall in risk spreads compared with earlier expectations are likely to result in a sharper reduction in the external imbalance in 2009 than projected in May. The main reason for this development may have been faster-than-expected corporate sector adjustment, which, in turn, was caused by falling inventory holdings and the postponement of corporate investment projects, in addition to gradually consolidating sales data.

In 2010–2011 Hungary's external financing requirement is expected to fall slightly further. This, however, is mainly related to an expected increase in EU transfers, as the effect of stronger export growth in response to a tentative recovery in external activity may be offset by rising import demand due to higher domestic demand. A slight drop in external debt may lead to lower interest expense; however, this is likely to be offset in part by the negative impact on the income balance of an increase in earnings of foreign-owned companies.

**Inflation projection fan chart**



**GDP projection fan chart\***



\* Based on seasonally adjusted and reconciled data.

# Summary table of the baseline scenario

(The forecasts are conditional: the baseline scenario represents the most probable scenario, which applies only if the assumptions presented in Chapter 3 materialise; unless otherwise indicated, it represents percentage changes on the previous year.)

	2008	2009	2010	2011
	Actual	Projection		
<b>Inflation (annual average)</b>				
Core inflation <sup>1</sup>	5.2	4.3	3.6	1.5
Consumer price index	6.1	4.5	4.1	2.1
<b>Economic growth</b>				
External demand (GDP based)	2.0	-5.1	0.3	2.1
Household consumption expenditure	-0.5	-8.3	-2.7	3.4
Gross fixed capital formation	-2.6	-9.2	1.0	3.8
Domestic absorption	0.4	-8.5	-1.6	2.9
Export	4.8	-14.5	2.6	8.6
Import <sup>2</sup>	4.7	-17.0	1.8	8.4
GDP*	0.6	-6.7	-0.9	3.4
<b>External balance<sup>2</sup></b>				
Current account deficit	8.4	2.9	3.0	2.6
External financing requirement	7.3	0.9	0.6	-0.3
<b>Government balance<sup>2</sup></b>				
ESA deficit	3.4	4.1 (3.9)	3.7	4.3
<b>Labour market</b>				
Whole-economy gross average earnings <sup>3</sup>	7.6	0.4	2.7	3.9
Whole-economy employment <sup>4</sup>	-1.2	-2.6	-0.9	0.7
Private sector gross average earnings <sup>5</sup>	8.5 (8.0)	4.2	3.9	3.9
Private sector employment <sup>4</sup>	-1.1	-3.6	-1.7	0.9
Unit labour costs in the private sector <sup>4,6</sup>	6.0	7.9	-0.6	1.0
Household real income**	-2.1	-4.3	-1.3	2.3

<sup>1</sup> From May 2009 on, calculated according to the joint methodology of the CSO and MNB.

<sup>2</sup> As a percentage of GDP, in case of the ESA deficit for 2009, in parenthesis the deficit forecast is presented under the assumption that budget reserves are partly blocked.

<sup>3</sup> Calculated on a cash-flow basis.

<sup>4</sup> According to the CSO LFS data.

<sup>5</sup> According to the original CSO data for full-time employees. The numbers in brackets refer to wages excluding the effect of whitening and the changed seasonality of bonuses.

<sup>6</sup> Private sector unit labour cost calculated with a wage index excluding the effect of whitening and the changed seasonality of bonuses.

\* Data are not adjusted for calendar effects.

\*\* MNB estimate.



# **1 Evaluation of received macro-economic data**



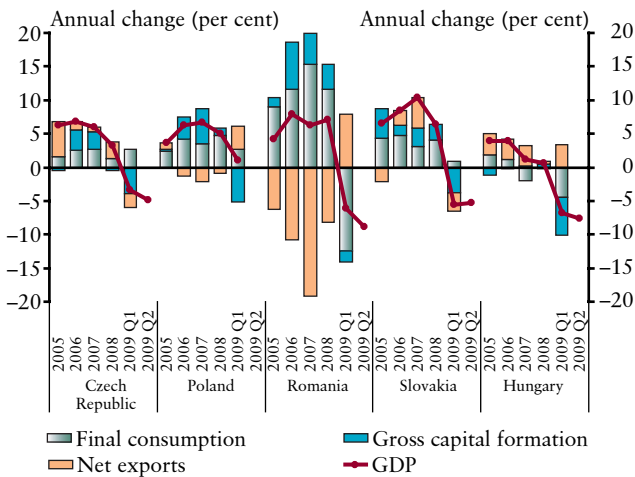




Gross domestic product fell by 6.7% in Q1 and – according to the less reliable flash estimate – by 7.6% in Q2. Although these decreases are unprecedented in the past 15 years, the shrinking of GDP is in line with the path drawn up in our *May Report*.

The Hungarian economy has been falling into an increasingly deeper recession since mid-2008, mainly due to the global recession and the simultaneous pro-cyclicality of the financial system and the budget. The global financial and economic crisis hit the entire region severely. With the exception of Poland, the countries of the region experienced a sharp drop in their GDP in Q1. This is all the more noteworthy because at the onset of the financial crisis, growth and the cyclical positions of the region’s countries were much better than in Hungary. This suggests that the decrease was due mostly to the global recession in all of these countries. Furthermore, domestic consumption responded relatively fast and with great sensitivity to changes in global activity and the financial crisis, except in Poland.

**Chart 1-1**  
**Economic growth and its components in the region\***

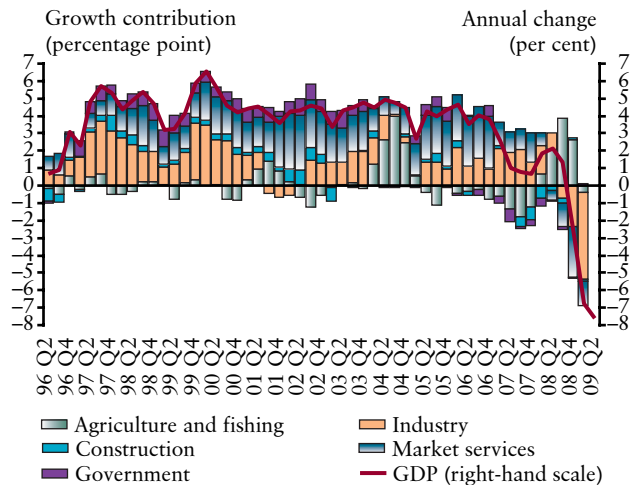


\* Flash estimate for 2009 Q2.

The extent of the decrease in Q1 was in line with our expectations, although its structure was slightly different. On the production side the industrial sector slumped markedly; its underlying reasons were a strong contraction in external demand and the downsizing of unsold inventories. The depreciation of the forint was able to dampen their impact, though. The economic downturn affected market services to a smaller extent in Q1: the performance of financial services and transport in particular surpassed expectations.

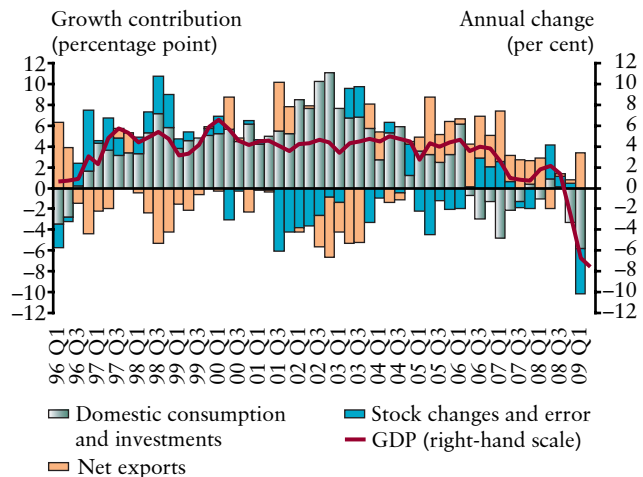
Regarding the final uses of GDP, domestic consumption and investment demand continued to fall sharply. Net exports

**Chart 1-2**  
**Contribution of the major sectors of national economy to total output\***



\* Considering that time series with chain-type indices are not additive, aggregation errors were distributed between the individual items according to their weight. The dynamics calculated from the resulting adjusted time series are less informative from a quantitative perspective (they differ from the original data). Nevertheless, the chart may still reflect prevailing trends appropriately. 2009 Q2 estimates of actual data.

**Chart 1-3**  
**The contributions of the main final uses to GDP growth\***



\* Considering that time series with chain-type indices are not additive, aggregation errors were distributed between the individual items according to their weight. The dynamics calculated from the resulting adjusted time series are less informative from a quantitative perspective (they differ from the original data), nevertheless, the chart may still reflect prevailing trends appropriately.

improved significantly, which, in addition to dwindling domestic demand, was attributable to the forint’s depreciation, which helped exporters. The reduction in

exports was especially marked in the export of goods; the value of exported services remained unchanged from a year earlier. Falling exports were only in part due to a fall in

domestic demand; part of the better-than-expected net export performance was attributable to one-off effects<sup>1</sup> related to vehicle exports and gas imports.

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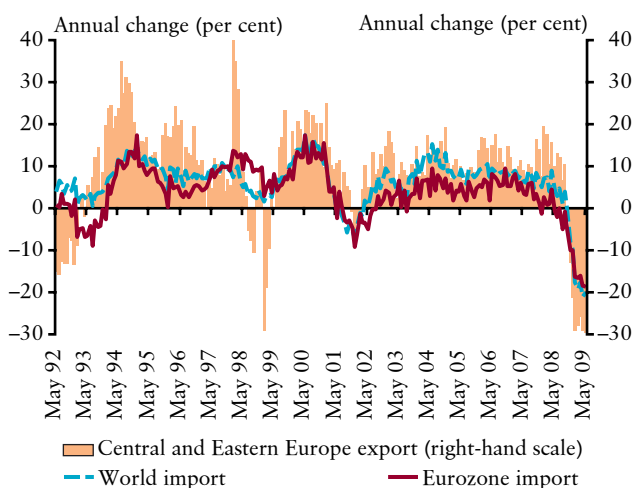
<sup>1</sup>These one-off effects will be discussed later in this chapter.

# 1.1 Economic recovery is expected to take a long time in Europe, despite more encouraging signs

Global output continued to fall sharply in 2009 Q1, which was also reflected in subdued global demand for imports. This affected small, open CEE economies integrated in international trade, such as Hungary, especially adversely. The most recent forecasts of international organisations (IMF and OECD) reveal that the recession is likely to slow down in 2009 Q2; growth is likely to pick up in H2 or in 2010 depending on the region. The domestic outlook is made somewhat grimmer by the fact that according to these forecasts Europe is expected to be the last to recover. In the past few months a number of promising developments have materialised (e.g. confidence indices, data on industrial orders and production), which suggest the approach of a turning point in economic activity. These factors also contributed to improving investor sentiment. The flash estimate of German GDP growth in Q2 also brought a positive surprise. The picture becomes somewhat subtler when considering that economic recovery typically follows confidence indices with a longer time lag during times of recession. Based on this, a turning point in sentiment indicators in early 2009 may point to an expected moderate pick-up in the real economy in 2010 H1.

**Chart 1-4**

**Growth of world trade\***

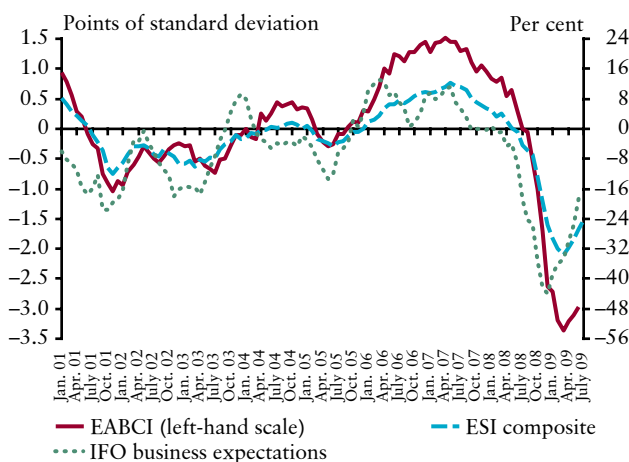


\* Seasonally adjusted data.

Source: CPB Netherlands.

**Chart 1-5**

**Changes in the EABCI, ESI composite and IFO confidence indicators\***



\* EABCI is a business climate indicator published by the European Commission for the euro area countries. The ESI composite indicator is the average of the values of the Economic Sentiment Indicator published by the European Commission computed for the 18 largest EU Member States, excluding Hungary, weighted with their share in Hungary's export structure - 100.

Source: European Commission, CESifo.

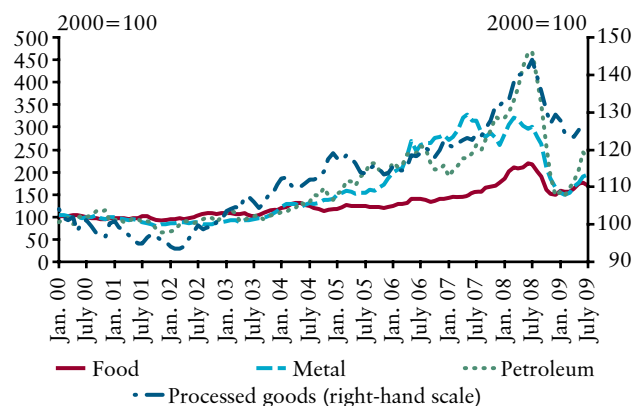
However, a number of factors warrant caution regarding the robustness of the recovery. As vigorous anti-cyclical fiscal policy measures played an important role in the favourable developments of recent months, it is still to be seen how permanent the growth of the private sector will be once the effect of these measures fades away. Furthermore, several analyses point out that the woes of the banking sector and rising unemployment. If these downside risks materialise, another sharp downturn (a W-shaped recession) might also occur in the global economy.

The spike in commodity prices is fading as the price of several commodities started to fall in July. The reason for this is that demand for commodities may decline once stocks have been replenished; and excellent expected crop yields are driving down the prices of agricultural commodities. The price of processed goods is also kept in check by falling global demand besides moderating commodity prices. Thus, the

inflationary pressure of the global economy is currently moderate. However, there is much uncertainty surrounding commodity market trends after a gradual economic recovery, which may carry an upside risk to inflation.

**Chart 1-6**

**Developments in global prices of commodities and manufactured goods\***



\* Expressed in USD. Food, oil and metals account for nearly 80% of the IMF's commodities index. The PI of manufactured goods is the average of the export price indices (USA, Japan, EU-15 and industrialised countries in Asia). Source: IMF (IFS database), CPB Netherlands.

## 1.2 The Hungarian economy may be beyond the steepest fall

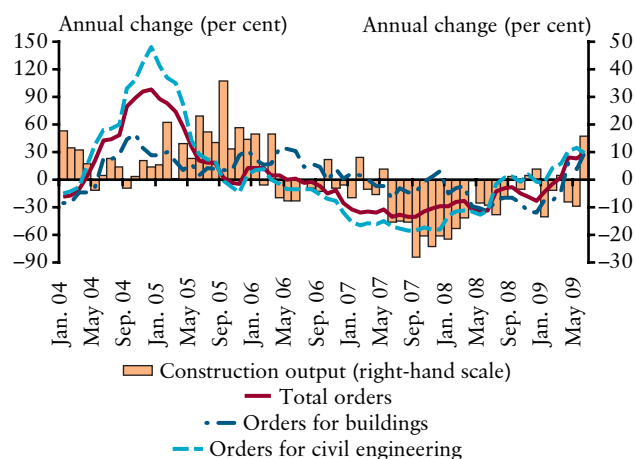
Economic data received over the past few months corroborate the picture suggesting that following a serious recession at the turn of 2008 and 2009, production has stabilised at a lower level. The narrowing of the gap between the dynamics of industrial production and those of sales suggests a decrease in unsold industrial inventories. Data on industrial orders also seem to have stabilised, although there is no sign of a marked pick-up yet.

Some positive signs have appeared regarding the Q2 performance of market services. The profitability of financial service providers was better than expected in 2009 H1. In addition, the forint's depreciation and falling fuel prices from a year earlier may mitigate the annual decline in travel and transport services.

Among smaller sectors, agriculture is set to experience some adjustment after last year's record crop yields. This is already visible in preliminary data on crop yields. Decline in construction industry production has continued well into this year, although construction orders developed better than expected. The construction of buildings fell particularly;<sup>2</sup> in contrast, there were positive developments in infrastructural investments financed from EU funds. Regarding infrastructural investments financed typically from EU funds, data on orders suggest further positive shifts in the quarters to come; however, the number of construction permits issued for the construction of new homes suggests that significant adjustments will occur in housing construction in the short run.

Previously observable trends in the final uses of GDP continued or deepened. The fall in household consumption stems from numerous factors such as the deteriorating labour market and income positions, reduction in government transfers, losses on financial assets held by households, tight credit and the increase in VAT and excise duties in July. As rising unemployment and the expected long recovery negatively affect households' permanent income

**Chart 1-7** Developments in construction industry production and orders



expectations, precautionary saving could have played a role in falling consumption. We do not expect that higher indirect taxes bring about significant changes in the time pattern (cf. Q2 and Q3) of consumption and retail sales, mainly due to households' weak income position. The recession may turn out to be the most persistent in household consumption because of the government's tax measures, as well as the unfavourable macro-economic and financial environment.

Corporate investments remain constrained by the unfavourable production and profitability outlook. Furthermore, financing problems may also spur firms to accumulate liquid assets and postpone investments. On the other hand, infrastructural investments co-financed from EU funds<sup>3</sup> may mitigate the slump in investments.

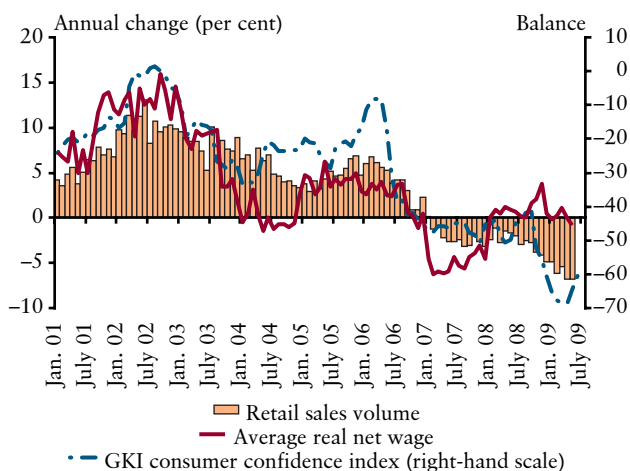
Trade and balance of payments data indicate that the external balance of the economy improved further in Q2. After hitting a low early this year, export sales have picked up slightly over the past few months, mostly thanks to rising agricultural exports. Meanwhile, import demand remained

<sup>2</sup> The fact that permits for the use of new apartments rose by 16 per cent in H1 seems to contradict the shrinking of the housing market. However, other sources (stocks of unfinished buildings, saving, consumption and income data) suggest that this rise is mostly due to residential projects completed by entrepreneurs which eventually were not sold to customers. Therefore, in accordance with construction output data, we believe that housing investments could have fallen early this year. On the other hand, the tightening of the housing subsidy scheme could have brought forward some housing investments. This also suggests that the decline in housing investments can accelerate in the remaining months of the year.

<sup>3</sup> Based on the data of the National Development Agency in charge of EU tenders, the number of contracts for projects co-financed by the EU has grown dynamically over the past few years. This is substantiated by the monthly statistics of the Ministry of Finance about the EU funds disbursed. The overall picture is modified to a certain extent by the fact that conclusions about investment developments can be made only with a high degree of uncertainty from these data sources.

**Chart 1-8**

**Developments in retail sales, net wages and consumer confidence\***

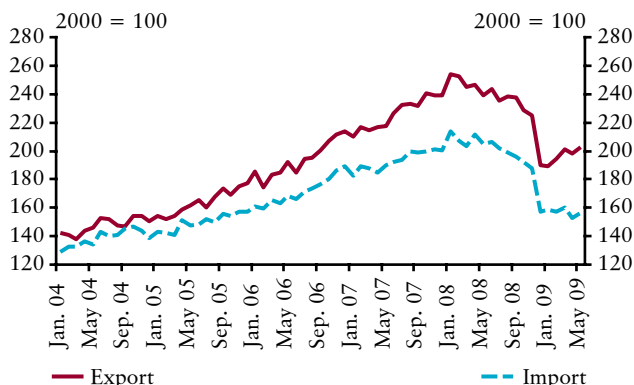


\* Seasonally adjusted data; average net wages deflated with the consumer price index.

broadly flat at the low level experienced in the first months of the year. The main underlying reason for the improvement in the external balance is lower domestic demand and real depreciation early this year. A couple of considerable one-off effects also emerged. First, the demand for passenger cars generated by the scrappage schemes in

**Chart 1-9**

**Volume of external trade of goods\***



\* Seasonally adjusted data. Based on foreign trade data, adjusted for the national accounts methodology.

some countries of the region was satisfied partly by the purchase of the inventories of Hungarian car dealers. This was also boosted by a weaker forint. Second, the import price of natural gas fell significantly by early summer,<sup>4</sup> therefore importers tapped upon their inventories to a larger-than-usual extent, and are likely wait with the replenishment of storage facilities until Q3.<sup>5</sup> Postponed gas purchases may improve the trade balance at an annual level in the form of improved terms of trade.

<sup>4</sup> The import price of natural gas is fixed in long-term contracts, and it follows crude oil price developments with a lag of approx. 9 months. As a result, the decrease in the price of crude oil at end- 2008 will be reflected in the import price of natural gas in Summer 2009.

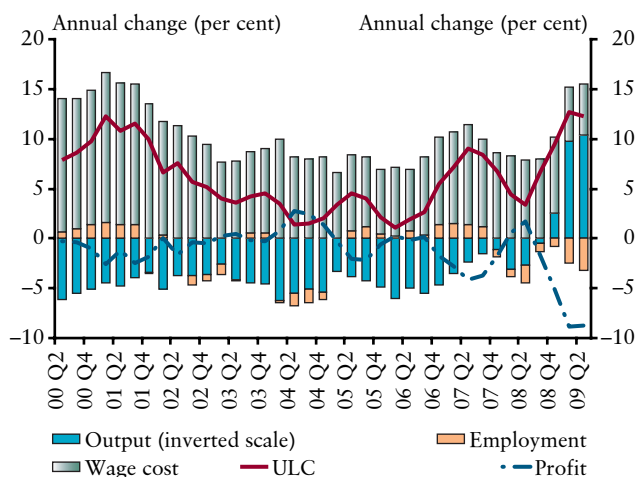
<sup>5</sup> Media sources reveal that new storage facilities will also be stocked up in 2009 H2, raising gas imports persistently further.

## 1.3 Uncertainties surrounding the perception of labour market adjustments

Although incoming labour market data suggest that layoffs and wage adjustments have been less severe than what was forecast in our May *Report*, they are surrounded by a higher degree of uncertainty than before. Differences between the coverage and methodology of different data sources and the spread of part-time employment render the evaluation of the recent months' labour market trends difficult.

First, the profitability of the corporate sector may have been more favourable before the onset of the crisis than previously thought.<sup>6</sup> Furthermore, the depreciation of the forint since last year also affected the profitability of the manufacturing sector and agriculture favourably. These factors may mitigate, but do not cancel corporations' need for labour market adjustments; therefore, our fundamental perception of expected further layoffs and wage restraint in the private sector remains unchanged.

**Chart 1-10**  
Changes in unit labour costs in the private sector\*

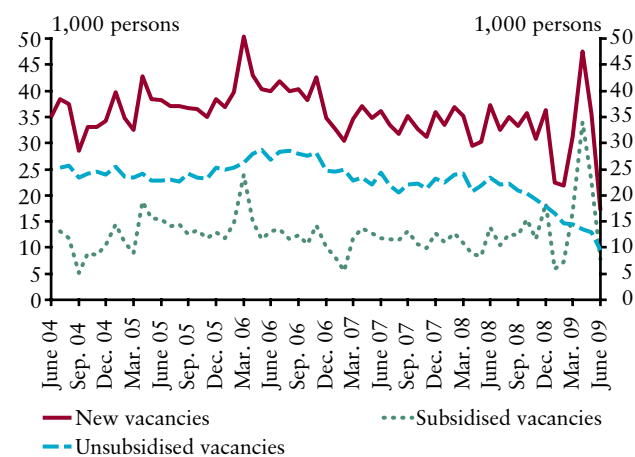


\* 2009 Q2 nowcast.

Regarding employment, the rate of downsizing has slowed over the past few months. However, unemployment flow data and the structure of recently reported vacancies reveal the discrepancy between private and public sector trends. New vacancies are mainly thanks to municipalities'

community work projects receiving financial support from the 'Pathway to Work' programme.<sup>7</sup> In June, however, the number of subsidised new vacancies fell markedly, which suggests that this impact may be weaker in future. On the other hand, non-subsidised new vacancies reported by companies continued to shrink, pointing to further adjustments.

**Chart 1-11**  
Reported new vacancies in the national economy\*



\* Seasonally adjusted data.

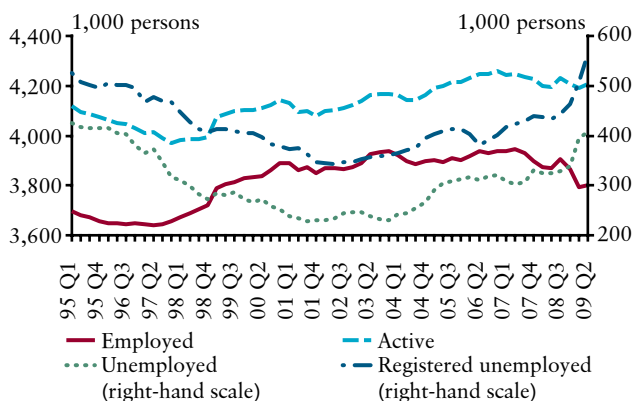
Contradictions between labour market data from various sources also render the evaluation of employment trends difficult. According to the labour force survey, the number of employed and the labour force stagnated after March, while unemployment rose moderately. On the other hand, employment data obtained from firms point to continuing layoffs and the number of registered unemployed suggests a steeper rise in unemployment. The favourable labour force survey data can be attributed to a number of phenomena. One is that employment data from firms do not include enterprises with fewer than 5 employees. Furthermore, a stronger presence of part-time employment makes the interpretation of employment according to the labour force survey more difficult. Finally, a rise in the number of those employed in the shadow economy might also explain the difference between the two sources of data.

<sup>6</sup> This is suggested by our revised potential GDP estimation (see Box 3-2).

<sup>7</sup> Social benefit recipients, being capable of work and performing public work for local authorities, may participate in the 'Pathway to Work' programme. The central government provides significant financial support (95%) to the programme. Since its inception, the programme has helped increase the number of public employees; however, this does not represent significant extra government expenditure, as three-fourth of the minimum wage is paid, replacing the earlier social benefit, at the same time as local authorities are performing their tasks more efficiently.

**Chart 1-12**

**Employment and unemployment in the national economy\***

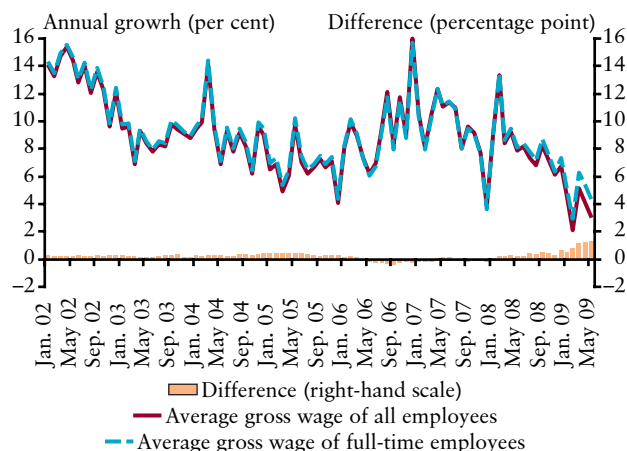


\* Seasonally adjusted data according to the labour force survey.

Following a substantial slowdown in Q1, wage dynamics of full-time private sector employees stopped decelerating. However, uncertainty surrounding wage dynamics is higher than previously, largely because of a higher share of part-time employment. If wages paid to those in part-time employment are taken into consideration, wage growth slowed further in Q2; however, it is uncertain how persistent part-time employment will prove. Individual employees may also find wage increases lower than what official statistics show because employees with lower profitability (and hence lower pay) were the first to lose their jobs. Finally, restrained bonuses also suggest the continuation of wage adjustment: compared with last year,

**Chart 1-13**

**Evolution of average gross wages in the private sector**



the amount of bonuses disbursed in H1 fell by approx. 10%. As companies pay the bulk of bonuses at the end of the calendar year, they still have room for further reductions in wages.

There have been further restrictions in the public sector on both the headcount and the wage side over the past few months. The amount of the compensation replacing the so-called 13th month salary was significantly cut back. Furthermore, as of 1 July vacancies are not allowed to be filled. At the same time, those employed in the community work programme in the context of the 'Pathway to Work' project add to the public sector headcount.



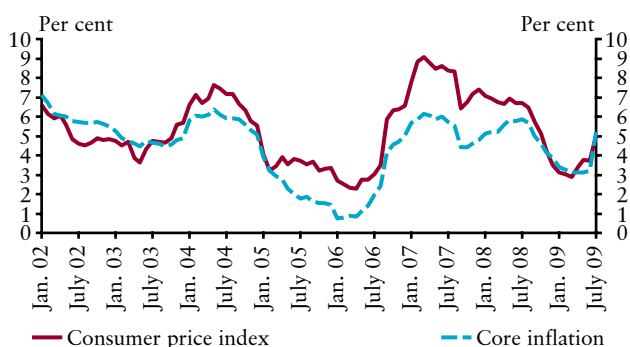
# 1.4 Higher than expected Q2 inflation was largely due to one-off factors

Recent months witnessed rather volatile inflationary trends. Two fundamental macroeconomic factors acted in opposing directions over this period: the weakening forint early this year raised, while the negative output gap reduced prices. Some major one-off impacts emerged in the area of unprocessed food, originating from changes in the weighting of the goods examined. This raised inflation to an unexpectedly high level in May, but the effect mostly faded out by June. Compared to our expectations in May, higher crude oil prices also increased inflation. Notwithstanding these factors, inflation was in line with our expectations.

Of the components of core inflation, the accelerating inflation of tradables originated from the pass-through of currency depreciation early this year. There is uncertainty regarding the extent to which weak domestic demand can offset this and whether further inflationary pressures persist in the price of tradables, given that the nominal exchange rate has been strengthening over the past few months.

Following a slowdown early this year, inflation was stable in the market services sector in Q2. This may be due to the fact that, based on survey information, companies typically change prices twice a year (in January and September).

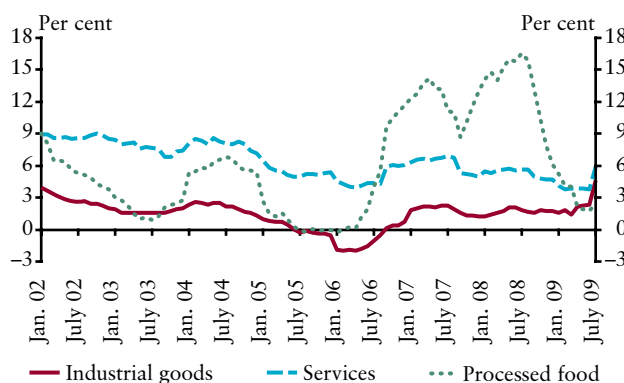
**Chart 1-14**  
Inflation developments\*



\* Annual changes in monthly data.

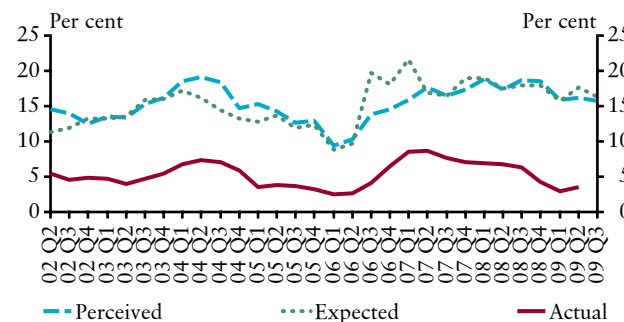
It would be expected that almost the full effect of the increase in VAT would be passed on, due to firms' weak profitability and the VAT changes affecting a broad range of components in the consumption basket. However, unfavourable demand conditions reduce the probability of, and the extent to which, higher VAT could be passed on into prices. The *May Report* assumed that retailers would pass 90% of the VAT increase on to consumers. July data suggest that firms pass VAT increases on to consumers to a lesser extent than envisaged in our previous forecast. (With high estimation uncertainty we see a maximum 50% pass-through) Previous analyses<sup>8</sup> suggest that the majority of price rises due to VAT increases take place in the first month following the tax hike. This suggests that the total VAT effect will be smaller than our expectations, pointing to the strengthening disinflationary effect of falling demand.

**Chart 1-15**  
Changes in certain core inflation components\*



\* Annual changes in monthly data.

**Chart 1-16**  
Inflation perceptions and expectations of households – Median survey\*



\* For the past month and the next 12 months.

<sup>8</sup> See: Gábel, P.–Reiff, Á. (2008): 'Az áfakulcsok hatása a fogyasztóiár-indexre', *MNB Szemle* 2006/12.

Consequently, further disinflation is expected to materialise in waves.

A further risk over the medium term is that inflation expectations have remained consistently high since 2006. International experience shows that the disinflation

accompanying deep economic recession may help dampen inflation expectations, which, in turn, helps create a stable low inflation environment. In the current environment, the increase in indirect taxes is a shock that makes the moderation of expectations difficult, and as a result may put a brake on disinflation.<sup>9</sup>

### Box 1-1 Quantification of perceived and expected inflation<sup>10</sup>

Market participants' inflation expectations are a key factor in inflation developments. Therefore, any data source that provides information on inflation expectations is of importance to monetary policy. In the following we present what the results of a survey of households, commissioned by the European Commission, reveals about inflation and inflation expectations.<sup>11</sup> The survey asked the following two questions in connection with perceived and expected inflation:

*'How do you think consumer prices have changed over the last 12 months? They have (1) risen significantly, (2) risen moderately, (3) risen slightly, (4) stayed about the same, (5) fallen, (6) don't know.'*

*'By comparison with the past 12 months, how do you think consumer prices will develop over the next 12 months? Consumer prices will (1) increase more rapidly, (2) increase at a the same rate, (3) increase at a slower rate, (4) stay about the same, (5) fall, (6) don't know.'*

The most important characteristic of the survey is its qualitative nature. An advantage of qualitative surveys over their quantitative counterparts is that, in principle, their questions are easier to answer. An obvious drawback is that no direct conclusions can be drawn from answers as to the exact percentage amount of the inflation that households perceive or expect. In order for inflation expectations to be quantified, the Carlson-Parkin method is used. The method assumes that there exist continuous distributions for both perceived and

expected inflation, and determines the manner in which the parameters of the distribution can be defined. The expected values of the distributions are considered to be the inflation perceived or expected by households.<sup>12</sup>

In July 2009, regarding perceived inflation, 33.1, 39.5, 22.3, 4.4, 0.2 and 0.6 per cent of the respondents respectively chose one of the categories from 1 to 6. The answers themselves did not provide enough information for perceived inflation to be quantified. In order for the average rate of inflation to be determined, what households consider as a moderate rate of inflation must be defined. We assumed that, on average, perceived inflation and expected inflation were identical over a longer period of time. Based on this assumption, moderate inflation was 7%. Responses to the questionnaire and the known rate of moderate inflation help determine all parameters and, hence, the expected value of the distribution of perceived inflation, which is 7.3%, i.e. the average household thought that inflation stood at this level in July 2009.

When calculating expected inflation, we assumed that households responding to questions about their expectations rely on the above-calculated perceived inflation as their benchmark. In July 2009, regarding expected inflation, 50.4, 36.7, 9.7, 1, 0.3 and 2 per cent of the respondents respectively chose one of the categories from 1 to 6. Based on this, the average inflation expectation was 9.7%.

<sup>9</sup> For a trial quantification of the time series of inflation expectations, see the box below.

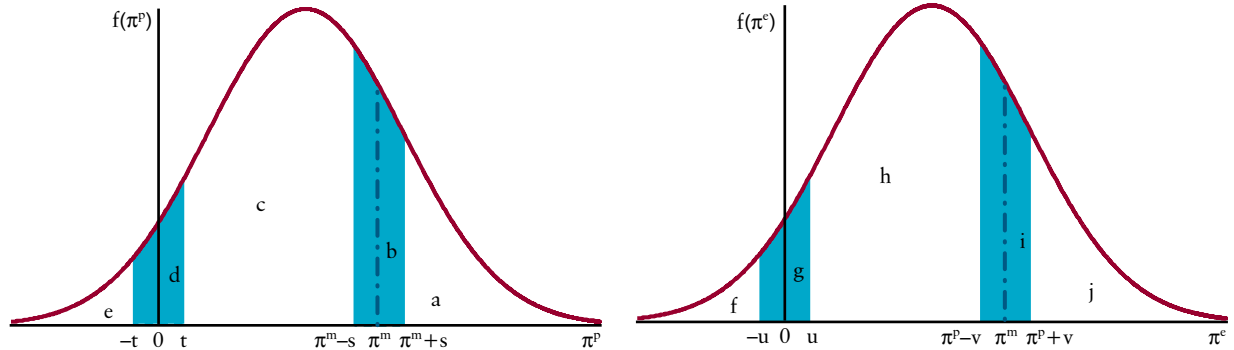
<sup>10</sup> The box is based on Péter Gábor's 'The Impact of Inflation Expectations on Prices and Wages' to be published in the MNB Working Papers series.

<sup>11</sup> The result of the survey is available on the web site of the European Commission.

<sup>12</sup> For a detailed description of the method, see Carlson, John A & Parkin, J Michael (1975): 'Inflation Expectations', *Economica*, London School of Economics and Political Science, vol. 42. For this version, see Benkovskis, Konstantins (2008): 'The Role of Inflation Expectations in the New EU Member States: Consumer Survey Based Results', *Czech Journal of Economics and Finance*, vol. 58.

**Chart 1-17**

**Distribution of perceived and expected inflation**

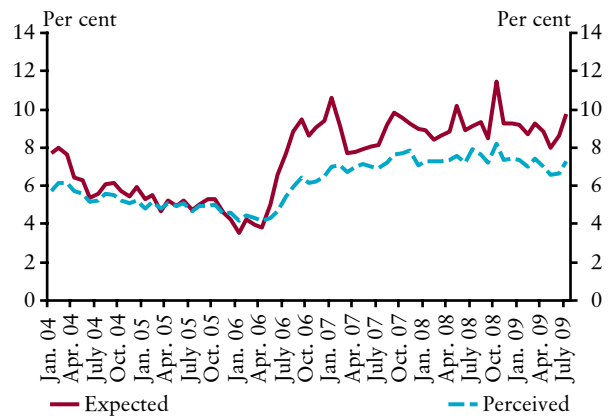


Note:  $\pi^p$  denotes the perceived rate of inflation,  $\pi^e$  the expected one, and  $\pi^m$  what households consider as a moderate rate of inflation. Areas  $a$ ,  $b$ ,  $c$ ,  $d$  and  $e$ ,  $f$ ,  $g$ ,  $h$ ,  $i$  and  $j$  denote the proportion of respondents whose perceived and expected rate of inflation fell into the appropriate interval. Respondents consider perceived or expected rate of inflation falling into intervals between  $-t$  and  $t$  or  $-u$  and  $u$  as zero. Households interpret the values falling into the  $\pi^m-s$  or  $\pi^m+s$  intervals as a moderate rate of inflation; values falling into the  $\pi^p-v$  or  $\pi^p+v$  intervals were thought to suggest that prices in the next 12 months would increase at the same rate as they did in the previous 12 months.

Based on the results of the survey, both perceived and expected inflation can be calculated each month. The chart below shows these time series. When interpreting the results, it must be borne in mind that the assumption used as the basis for the determination of a moderate rate of inflation can be challenged. Therefore, although the value of both perceived and expected inflation is uncertain, the dynamics of the time series offer important information.

**Chart 1-18**

**Perceived and expected inflation**





## **2 Financial markets and lending**





## 2.1 Unsteady global investor sentiment

Though global investor sentiment was quite volatile, on the whole it has improved markedly since the publication of the last *Report*. During the first part of the period, i.e. in June, developed markets were characterised by uncertainty, a wait-and-see attitude and balanced asset price developments. There seemed to be general consensus among market participants that anticipatory optimism in the financial markets is exaggerated and unjustified; trends in financial markets have outpaced those in the real economy; as a result, a sizeable correction is inevitable. In the US, before the season of quarterly flash reports, i.e. late June and early July, uncertainty increased, market sentiment became bleaker and risk appetite decreased, although the projected substantial adjustment failed to materialise.

A major turning point in investor sentiment was due to the results of the quarterly flash reports in the US: the majority of Q2 corporate figures were better than expected, which have, along with other macro-economic data, revived risk appetite, driven up stock exchange indices and reduced implied volatility on the securities market. In that period several indicators reached or approximated their level prior to the fall of Lehman.

The turning point was also attributable to the good performance of the financial sector. The perception of financial institutions started improving immediately after the publication of the Q1 flash reports; a further positive development was that a number of US banks were allowed to repay the state aid granted under the TARP programme

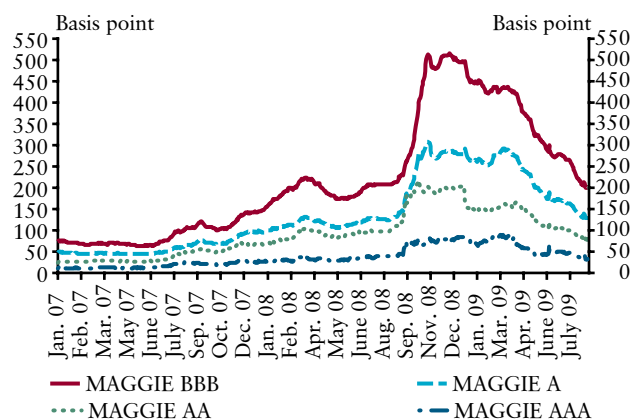
(Troubled Asset Relief Programme). Furthermore, there was also some good news concerning borrowing by banks which must, on the basis of stress tests, raise funds. Nevertheless, despite signs suggesting the continuation of the banking system's consolidation, the persistence of the recession in the real economy and the increase in loan losses continues to pose a risk.

Tension continued to subside in the developed inter-bank market, and a considerable fall in short-term inter-bank yields and spreads reflects renewed inter-bank confidence. The TED spreads, the difference between the interest rates on inter-bank loans and short-term government debt, and the LIBOR – OIS spreads decreased markedly; however, they have not reached their pre-crisis level yet. This favourable picture is somewhat modified by the fact that both US and European banks rely heavily on the liquidity-providing instruments of central banks; it was especially long-term facilities that once again boosted central bank balance sheet totals.

Trends in the real economy remain in the focus of investor attention; it is mainly the forecasts and opinions concerning the expected time of the start of the economic recovery to which particular importance is attached. No consistent picture can be outlined on the basis of the mixed incoming macro-economic data. In addition to forward-looking sentiment indices and confidence indicators, some backward-looking data also suggest the first signs of an economic upturn. However, property and labour market data may cause a surprise; unemployment reaching record levels in a number of countries poses a special risk.

**Chart 2-1**

**Changes in risk indicators\***



\* Indicators reflecting the spread on EUR-denominated debt in a breakdown by credit rating.

Source: JPMorgan.

**Chart 2-2**

**Fed policy rate, 3-month dollar inter-bank deposit and treasury bill yields**

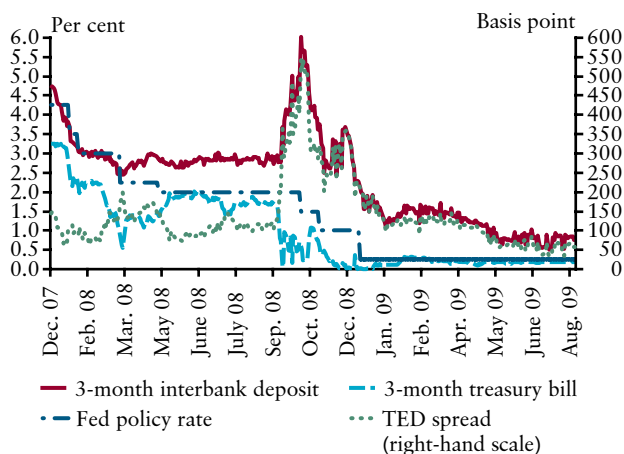
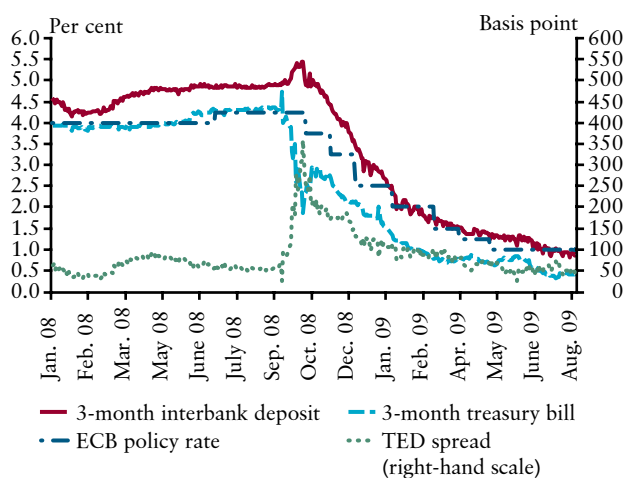


Chart 2-3

### ECB policy rate, 3-month euro inter-bank deposit and treasury bill yields



Major central banks continue to maintain loose monetary conditions and keep striving to stimulate lending. In keeping with market expectations, they left base rates unchanged. Both the FED and the ECB reiterated that the current low levels of interest are expected to persist. Based on central bank communication, risks to deflation are now on the downside and no hike in inflation is expected either. As a combined result, both the FED and the ECB managed to dampen base rate expectations; for the time being, markets do not expect any monetary tightening to materialise before

next spring. The ECB launched its asset purchase programme. The FED continued its programme in line with its former planned quantities, unlike the Bank of England, which expanded its asset purchase programme to a substantial extent. Furthermore, the ECB started to provide liquidity at its key policy rate at auctions for loans with a maturity of one year. Demand for the facility surpassed expectations and channelled a significant amount of surplus liquidity into the banking system, which also helps reduce longer-term inter-bank yields.

Government debt, which hefty bailout packages have increased considerably, has also come into the limelight in developed economies over the past months. This was reflected in the news about the downgrading of Ireland and the potential downgrading of the US and the UK. Partly as a result of massive fiscal deficits, yields on long-term government securities began to increase significantly from March, approximating 4% by early June. Such a steep rise in yields was due to investor worries about the record volume of government securities issued and heightened inflation expectations. Likewise, the fact that demand for safe assets decreased due to growing risk appetite also added to higher yields. As a result, central bank communication and measures focused on curbing long-term yields and dampening inflation expectations. Although yields on long-term government securities did fall in June, they started edging up in early July despite low inflation risks, which suggests that worries concerning the financing of the budget have not disappeared.



## 2.2 Asset price developments in emerging markets

In addition to global investor sentiment, events specific to the region have also played a decisive role in the development of asset prices in emerging markets. During the first half of the period, deteriorating sentiment in developed markets affected emerging markets unfavourably, and lower risk appetite was reflected the most in the CEE region. The revelation of Latvia's serious fundamental problems further deteriorated the risk perception of the region. Risks concerning the sustainability of the Latvian exchange rate regime and the receiving of the next tranche of the international rescue package created for the country increased at the end of May, which – through the possibility of a contagious crisis – affected the entire region adversely. Depending on the level of involvement, the impact was exerted on individual countries and asset prices to a differing extent. Increases in CDS spreads and yields were a general trend, pressure mounted on fixed exchange rate regimes, while the weakening of floating exchange rates was less common. Although – after the approval of the Latvian government's measures aimed at reducing the deficit and reaching an agreement with the EU and the IMF – pressure on the Latvian lat subsided, risks concerning the inevitable devaluation of its exchange rate persisted.

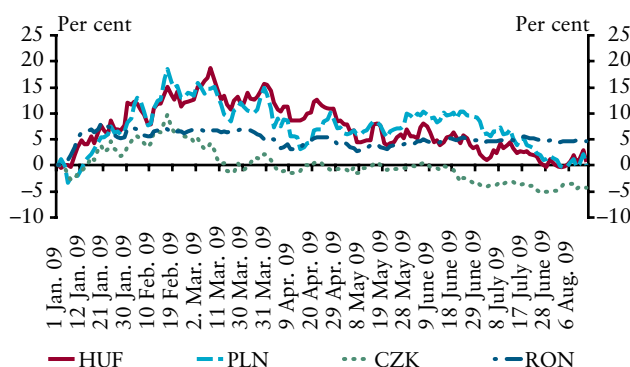
In the second half of the period, i.e. from late July, it was fundamentally developments in the global market sentiment that exerted the most profound effect on regional processes. A new wave of bleak investor sentiment in late June was the most acutely felt in rising risk premia and plummeting stock exchange indices; though foreign exchange rates did not weaken during this period. Vigorous carry trading affected the region's local currencies beneficially and being aimed at making the most of the interest rate differential is also likely to have played a role.

A positive development in developed markets in early July also reverberated on emerging markets: risk appetite perked up, regional stock exchange indices started to recover, CDS spreads hit lows not seen in months and foreign exchange rates strengthened considerably. Successful foreign currency denominated bond issuances and favourable macro-economic news suggesting a reduction in the external vulnerability of the countries in the region added to improved risk perception. In the latter case, this favourable picture is mitigated by the fact that the underlying reasons for the surplus in current account and trade balances are mainly

forced adjustment as well as a sharp fall in imports and consumption in response to the crisis.

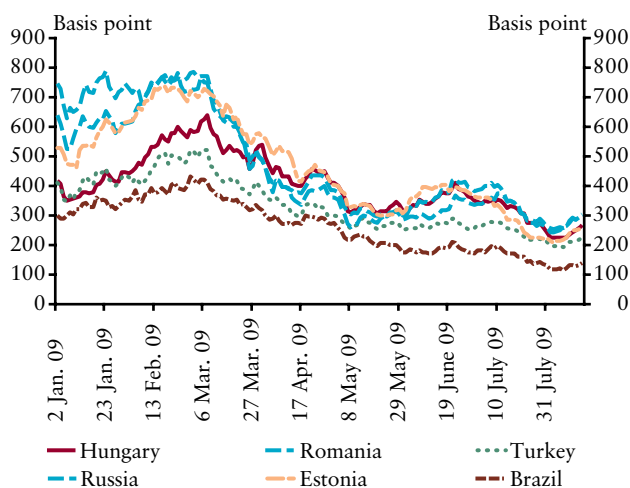
A number of emerging countries have issued sovereign bonds on global capital markets over the past few months. Since the last *Report*, foreign currency denominated bonds have been issued by Croatia, Lithuania, Poland, Hungary and Romania in the region. A favourable development was that investor demand for these bonds was mostly high, and on a number of occasions issuers were able to increase the amount issued relative to the quantity originally planned. The success of the auctions is very

**Chart 2-4**  
Changes in the exchange rates of the regional currencies\*



\* Changes in percentages, 1.1.09 = 0, a positive value indicates a devaluation of the local currency.

**Chart 2-5**  
Developments in CDS spreads in some emerging countries



likely to have been the result of a general rise in the willingness to take on risks, good timing making the most of an upswing in market sentiment and relatively high yield spreads. Experience shows that, given the current market situation, in order to borrow in large amounts on the international capital markets, issuers have to pay borrowing costs that are higher than CDS spreads measuring sovereign credit default risks, and secondary market yields on foreign currency denominated bonds.

Central banks in emerging markets maintained a loosening monetary policy. There were base rate cuts in the broader region (Poland, the Czech Republic, Romania, Turkey, South Africa and Russia) as well as in Latin America and South East Asia. At the same time, however, market expectations suggest that in several countries the easing cycle is drawing to a close and central banks are about to switch to a more cautious interest rate policy.

## 2.3 Continuing consolidation in domestic financial markets

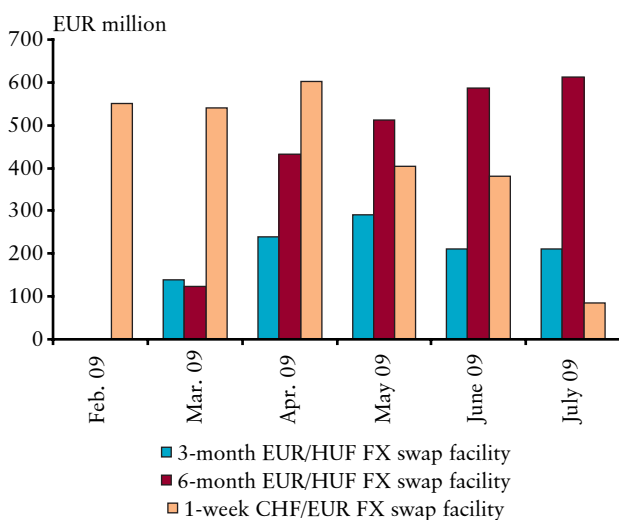
The consolidation of the operation of domestic financial markets has continued since the last *Quarterly Report on Inflation*. The effect of the instruments introduced earlier by the MNB to facilitate banks' liquidity management continues to be perceivable in the normalisation of the redistribution of both the forint and foreign exchange liquidity. Normal operation of the interbank depo market continues to be ensured; forint liquidity redistribution is basically implemented in the uncollateralised interbank market. The use of the overnight central bank loan was minimal, and overnight deposits also fell noticeably compared to the average value of the previous period. Interbank yields continued to stay typically in the lower segment of the interest rate corridor. In parallel with the system-level liquidity surplus, liquidity tension was not typical at the individual bank level either. No new six-month loan was extended during the last three months; outstanding two-week loans dropped to the minimum.

No foreign exchange liquidity tension has been experienced in the forint FX swap market in recent months. Implied forint yields computed on the basis of FX swap transactions fluctuated around the forint reference yields with the relevant maturities both at shorter and longer maturities. The need for the overnight central bank instrument ensuring euro liquidity

practically ceased to exist, and the FX swap tenders with longer maturities were also relatively rarely used. The one-week CHF/EUR and the three-month EUR/HUF FX swap holdings declined. Outstanding amounts increased in the case of the six-month EUR/HUF tender, although the use of this facility continues to be far below the full utilisation available.

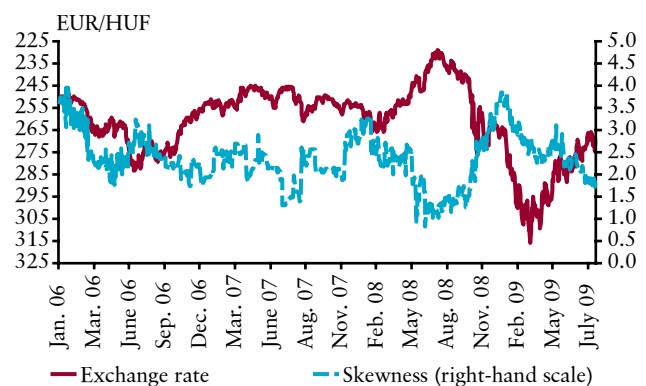
Amongst significant fluctuations, the exchange rate of the forint appreciated significantly compared to its end-May level. The exchange rate was primarily affected by the changes in international investor sentiment; the forint moved more or less in line with regional trends, although the magnitude of the amplitudes typically exceeded that of other currencies in the region. The trend of strengthening that had started in March somewhat broke in June; the exchange rate fluctuated within a wide band: between HUF 275 and 290 per EUR. However, considering longer-term trends, this corresponded to a certain stabilisation, the exchange rate centre of which was around the level of HUF 282–283 per EUR. This also meant that in this period the developments in the exchange rate departed from other domestic instrument prices, without displaying the temporary increase in the risk premium in June which was, inter alia, clearly typical of the CDS spread or the 5-year implied yield spread over euro rates in 5-year time. Exchange rate movements within a wide band

**Chart 2-6**  
Recourse to longer-term central bank FX swap facilities\*



\* Outstanding amounts at the end of months.

**Chart 2-7**  
Developments in the forint/euro exchange rate and the skewness of exchange rate expectations in the direction of weakness\*



\* Skewness in the direction of weakness =  $1M \text{ risk reversal} / 1M \text{ volatility} * 10$ ; multiplication by ten was applied for easier plotting; the skewness indicator does not have a unit of measurement; the rise of the indicator illustrates the shifting of exchange rate expectations in the direction of weakness.

continued in July, although in terms of the range covered there was a shift in the level towards appreciation: in this period the exchange rate fluctuated between HUF 265 and 280 per EUR. The continuing trend of appreciation had a noticeable impact on the changes in exchange rate expectations as well: in Reuters' regional FX survey, market consensus moved towards strengthening in all periods queried. In addition, the skewness of expectations in the direction of weakness calculated from option price quotes moderated considerably and declined to a level last experienced in October 2008. Implied volatilities also declined slightly.

As regards the conditions in the government securities market, it is an important development that there has been a definite step forward to return to market financing. Primary issues were characterised by permanently high demand, frequently raised quantities of issuance and declining average auction yields. As a result, the ÁKK gradually increased the quantity offered at bond auctions to a level comparable with the issues of the periods preceding the government securities market turbulences. In parallel with this, the magnitude of the amount of bond repurchases declined to levels typical of the normal functioning of the market.

Following a slump in June, there was a significant turn in foreigners' demand for forint-denominated government securities in July. Following a steady fall of five months, non-resident participants' government securities holdings increased by approximately HUF 220 billion in July. In addition, their share in total holdings also grew, and foreign investors' return to bond issues with increasing amounts is becoming more and more observable.

As a result of the rebound in the demand for government securities, the intensive fall in secondary market yields continued, meaning a 120-140 basis point decline in yields at shorter maturities and a 140-170 basis point fall at maturities over one year, compared to the end-May values. Consequently, by early August the yields of reference government securities fell below 8% on maturities up to one year, while they decreased to values close to 8.5% at maturities between 3 and 10 years and to 8.2% in the case of the 15-year security. In August, however, the descent of yields on longer maturities halted, yields on the 3 to 10 year segment of the curve could not fall below the 8.5% level.

Hungarian euro bonds with a maturity of 5 years were issued in mid-July. This borrowing of EUR 1 billion did not serve financing purposes, but its objective was to assess international demand for Hungarian government securities. Accordingly, the message value of this successful issuance carried out with significant oversubscription is positive in any

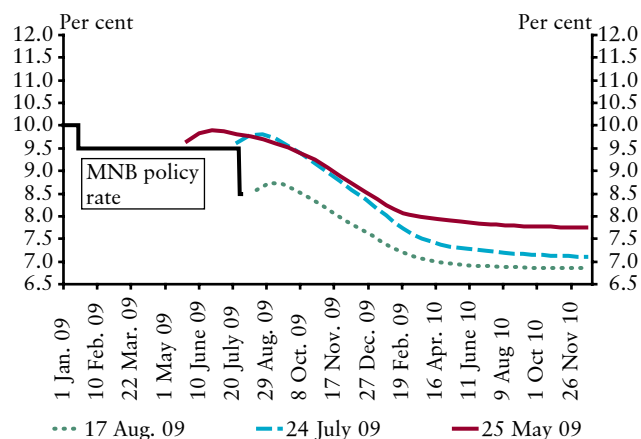
case in the process of normalisation of the government securities market. Another favourable development is that a significant part of the bonds issued were sold to institutional investors that consider Hungarian government securities as permanent investment. Using the recent foreign exchange denominated bond issues in the region as a reference, the 395 basis point yield spread of the issue over the euro swap yield was in line with what was justified on the basis of Hungary's CDS spread.

Non-residents' forint position continued to increase after end-May; they purchased forints in the value of approximately HUF 365 billion until end-July. In parallel with this, non-residents' net FX swap holdings and central bank bill holdings declined by HUF 400 billion and HUF 110 billion, respectively. Firstly, data suggest that non-residents continued to dismantle their positions against the forint, and secondly, in terms of their forint placements, regrouping towards the government securities market can be observed.

During this period Hungary's risk assessment was basically influenced by international factors, rather than country-specific ones. Mainly as a result of the problems in Latvia, the Hungarian CDS spread temporarily increased, although both the absolute and relative risk assessment of the country improved later. Following the favourable turn in international market atmosphere, by early August the 5-year Hungarian CDS spread declined to 225 basis points, i.e. below the Romanian, Bulgarian and Russian values and close to the Croatian and Estonian spreads. Although there was a general increase in CDS spreads in August, this has not affected the Hungarian spreads' relative position vis-à-vis its peers.

In June, the Monetary Council left the central bank base rate unchanged, indicating at the same time that monetary easing

**Chart 2-8** Future path of the two-week base rate as implied by money market yields



may start if risk assessment continues to improve. Then, taking advantage of the favourable market sentiment, in July the Council decided to cut the base rate by 100 basis points, which exceeded market expectations. The cut, which was a surprise in terms of its magnitude, rewrote the interest rate path expected earlier by market participants to become lower more slowly in the short term. Following the decision, the

level of the shortest section of the interest rate path calculated on the basis of money market yields moved considerably downwards. At the same time, the interest rate expected over a one or one-and-a-half-year time horizon declined only slightly. Based on current market prices, the central bank base rate may fall to 7.5% by the end of the year and below 7% by end-2010.

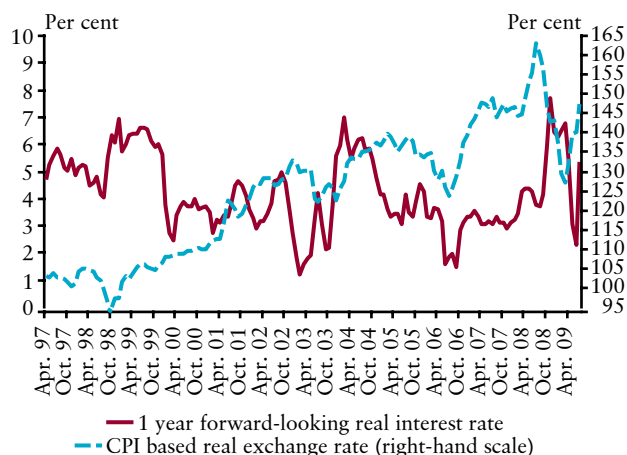
## 2.4 Developments in monetary conditions

Since the last *Quarterly Report on Inflation*, the real exchange rate appreciated markedly. The changes in the numerical value of the real interest rate are basically attributable to technical factors stemming from the increase in VAT, while the nominal yield level itself declined considerably.<sup>13</sup> As we indicated in our previous *Quarterly Reports on Inflation*, in addition to the traditional indicators, since the escalation of the crisis non-price factors of lending also play a prominent role in developments in monetary conditions. In this respect, the developments in creditworthiness standards, both in the case of corporate and household loans, indicate that strict conditions are expected to remain in place in lending processes.

The intensive fall and the subsequent sharp rise in the forward-looking real interest rate were caused by the appearance of the effect of the VAT increase in inflation expectations, then, in July, by its exclusion from the consumer price index. Consequently, the intensity of the decline in the real interest rate lasting until June was not fundamentally justified despite the fact that in this period the nominal yield level also fell significantly. Similarly, the repeated soaring of the real interest rate in July is primarily attributable to the fact that the effect of the VAT increase does not appear any more in this month in the inflation figure for next year, which results in a one-off fall in level in the value of inflation expectations in the given month, which factor overcompensated the real interest rate decreasing effect of the decline in nominal yields.

Chart 2-9

### Developments in monetary conditions\*



\* In the case of real exchange rate increasing values indicate real appreciation.

Since the last *Quarterly Report on Inflation*, a considerable appreciation of the real exchange rate has taken place. All factors affecting the indicator pointed to strengthening: the most influential nominal exchange rate had appreciated by more than 15% since March. In addition, in the recent period the magnitude of domestic inflation exceeded that of the euro area, thus the positive inflation differential also has contributed to the real appreciation.

<sup>13</sup> For the calculation of the real interest rate we use the average of the fixing of the one-year government securities market reference yield in the given month and the value of the one year forward inflation expectations calculated using the monthly analyst survey conducted by Reuters. However, over a one year period of time the temporary inflation increasing effect of raising the VAT also appears in the expectations, which distorts the value of the real interest rate calculated in this manner. The indicator would reflect the fundamental changes only if the effect of the increase in the VAT was excluded. However, relevant data for this are not available. Analysts provide forecasts only for the official consumer price index figure; moreover, only for the annual average values and the ones expected for the ends of calendar years. Therefore, experts' estimate concerning the developments over time appears as another subjective element, in particular if the inflation path does not fall or rise steadily. Consequently, in the current situation, numerical developments in the real interest rate should be interpreted with appropriate prudence.

## 2.5 Slackening macroeconomic activity also reflected in lending

In 2009 Q2, borrowing by the private sector was mainly driven by the slackening macroeconomic activity and banks' low willingness to take risks. The banking sector continued to behave cautiously, while a decline in the household sector's demand for loans was observed, with savings increasing. The demand for housing loans brought forward as a result of the tightening of the housing support scheme was unable to offset the impacts of increasing unemployment, the stagnating housing market and the related declining consumption. In the case of the corporate sector, declining macroeconomic activity and increasing vulnerability (falling profit, growing bankruptcy rate) influenced the demand for loans in contrary directions. In the past quarter, the sector as a whole also reduced its outstanding loans, although it built up substantial deposits. Developments in the credit path of the private sector are in line with our expectations, and we forecast borrowing to remain at a low level in 2009 H2 as well.

### 2.5.1 CORPORATE LOAN PROCESSES

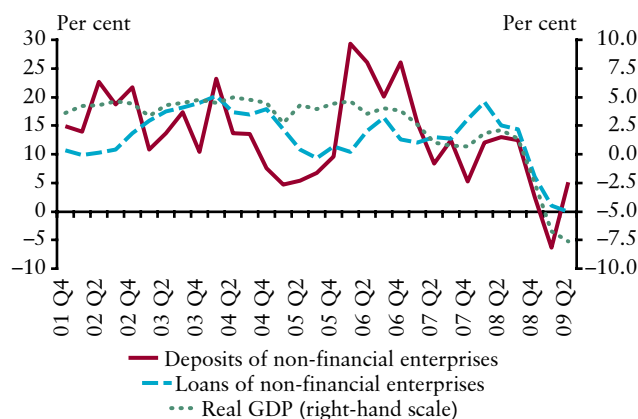
In 2009 Q2, the conditions of corporate loans continued to become stricter, although to a lesser extent than earlier. Tightening is already less attributable to banks' borrowing problems; the main factors contributing to tightening were the economic prospects, industry-specific problems and banks' declining willingness to take risks. Increasing risks are well-reflected by the bankruptcy rate, which is growing in all sectors, and the strongly deteriorating portfolio quality displayed in banks' books. Among lending conditions, the non-interest type ones became stricter, while interest rates on loans to corporations remained practically unchanged, except for euro-denominated loans, where some decline was observed. Large banks participating in the Lending Survey experienced increasing demand for loans, mainly for forint-denominated ones. Exceptions are the large-amount loans for the development or purchase of commercial real estate, where both the demand for and the supply of loans has continued to fall. Although the loans for the development and purchase of real estate are highly concentrated, they represent a large share (approximately 20%) of total loans, on which they thus have a strong effect.

Loans extended by the domestic banking sector to non-financial corporations continued to decline in 2009 Q2,

broadly equalling the level observed one year earlier (adjusted for the effect of the exchange rate). The decline in Q2 is the result of net forint borrowing and net foreign currency loan repayment. Foreign exchange loans decreased especially at short maturities, and Swiss franc-denominated loans fell at all maturities. The developments in loans are mainly explained by the decline in loans to the trade and repair sector, where the volume of foreign currency loans up to one year decreased to a particularly large extent. In other sectors, loans outstanding declined only moderately, or even increased.

In the meantime, deposits of corporations increased considerably in Q2: companies placed mainly short-term, foreign currency denominated time deposits worth HUF 260 billion (adjusted for exchange rate effect and seasonal effects). This magnitude of the increase in corporate deposits is unusual, as depositing should move together with economic activity. This would be justified by the fact that one of the important motives of maintaining short-term deposits is the transaction motive: owing to the different timing of transactions that entail income and expenditure, companies are compelled to keep liquid sources. With the deceleration of the economy, the number of transactions also declines. Consequently, less short-term deposits are needed. In addition, the decline in the availability of loans would also point to a decrease in deposits.<sup>14</sup> However, in Q2 these

**Chart 2-10**  
Loans and deposits of the non-financial corporate sector and the annual GDP growth rate\*

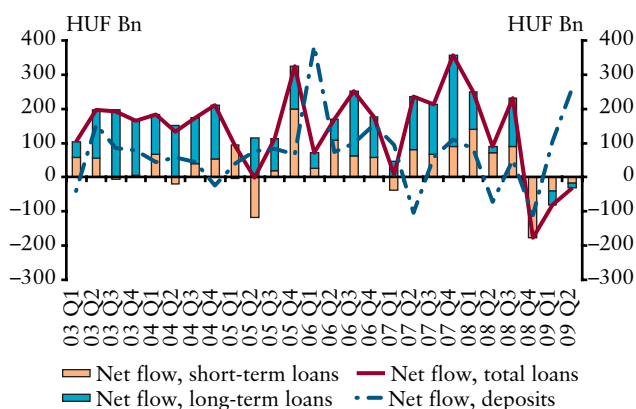


\* Exchange rate adjusted.

<sup>14</sup> ECB Monthly Bulletin, July 2009, Box 1: Some considerations regarding the driving forces behind non-financial corporations' M3 deposit holdings.

Chart 2-11

### Net quarterly increase in corporate loans and deposits of the domestic banking sector\*



\* Exchange rate adjusted, seasonally adjusted.

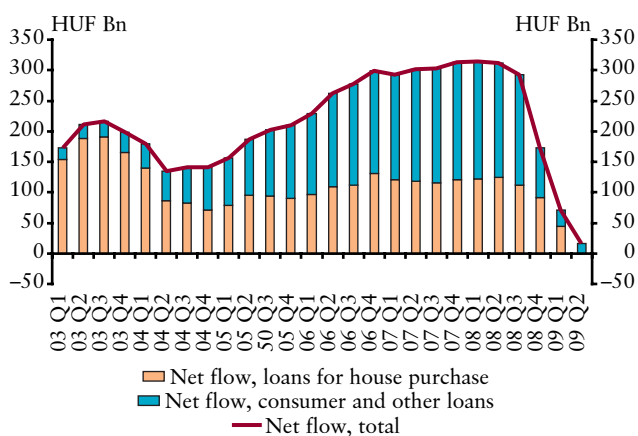
impacts may have partly been offset by deposit interest rates offered by banks in their campaigns. Consequently, companies became able to start to make up for the liquidity reserves reduced in previous months under favourable conditions. One of the sources for depositing may have been the significant inventory adjustment of the sector. Building up reserves may also have been facilitated by the fact that corporate tax advances for 2008 exceeded the magnitude of the required tax payment to a larger than usual extent, thus the amount refunded by the tax office in Q2 was also very high.

## 2.5.2 DEVELOPMENTS IN LENDING TO HOUSEHOLDS

Banks' conditions of lending to the household sector continued to tighten, mainly with regard to consumer loans. Tightening was implemented through non-interest conditions in this sector as well, with interest rate conditions of loans remaining practically unchanged. However, borrowing rates

Chart 2-12

### Net quarterly increase in the household loans of the domestic banking sector\*



\* Exchange rate adjusted, seasonally adjusted.

perceived by households increased considerably, as Swiss franc-denominated loans, on which the interest rate was the lowest, ceased to be offered by banks. Demand for loans also declined, with the only exception of forint-denominated housing loans, in connection with the house purchases brought forward as a result of the tightening of the scheme of subsidies. However, the resulting credit flow was also very low, and thus unable to turn the decline in net borrowing. The expansion of total loans outstanding adjusted for the exchange rate sank close to zero; significant positive net credit flow was experienced only in the forint overdrafts, which are easy to draw without any separate application process. Loan portfolio quality deteriorated, although to a lesser extent than in the case of corporations. In addition, households built up considerable deposits worth more than HUF 170 billion in 2009 Q2, offsetting the decline in deposits in Q1. Depositing was primarily in euro, the underlying reason of which may be the uncertainty in connection with developments in the exchange rate of the forint.



## **3 Inflation and real economy outlook**





Contrary to the steadily deteriorating prospects for economic activity in previous quarters, based on our current forecast, our macroeconomic outlook has remained broadly unchanged since May.<sup>15</sup> We continue to believe that following an extremely deep downswing of around 6,5% this year, the Hungarian economy will recover gradually: the economy is not expected to expand before mid-2010. In the event that our usual basic assumptions remain permanently valid, the Hungarian economy will be

characterised by a disinflation trend stemming from the fall in demand. However, in the short term as a result of tax measures inflation will significantly exceed the target; the price index may rise from the 3.6% in Q2 to above 6% by end-2009 or the beginning of 2010, increasing the risks pointing to higher inflation. According to the baseline scenario of the forecast, as the shocks caused by the tax measures fade away, inflation may be around 2-2.5% from mid-2010 until end-2011.

### Box 3-1: Basic assumptions of our forecast

In line with the practice adopted in the previous issues of the *Report*, we build our current forecast on rule-based, fixed assumptions regarding the expected path of the base rate, the EUR/HUF exchange rate and oil prices. In accordance with our earlier practice, we used the average values of the month preceding publication, i.e. the July averages on this occasion.

Compared to our May assumptions, all our basic assumptions changed significantly. Following the 100 basis point cut on 27 July, the central bank base rate stands at 8.5%. The forint is some 8% stronger than the exchange rate used in our earlier forecast. The USD/EUR exchange rate weakened by 6%, attenuating the approximately 15% increase in oil prices measured in dollars. The slope of the oil price path was nearly parallel. Consequently, there was no major change in its slope.

**Table 3-1**

#### Changes in our basic assumptions compared with the May Report\*

	May 2009			August 2009			Change compared with May (%)		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Central bank base rate (per cent)**	9.5	9.5	9.5	8.5	8.5	8.5	-1.0	-1.0	-1.0
HUF/EUR	294.9	295.1	295.1	281.1	272.1	272.1	-4.7	-7.8	-7.8
USD/EUR (cent)	131.5	131.9	131.9	137.0	140.8	140.8	4.2	6.7	6.7
BRENT oil price (USD/barrel)	52.0	62.2	67.4	59.0	71.6	75.6	13.6	15.2	12.2
BRENT oil price (EUR/barrel)	39.5	47.1	51.1	42.7	50.9	53.7	8.1	8.0	5.2
BRENT oil price (HUF/barrel)	11,662	13,904	15,077	12,011	13,841	14,619	3.0	-0.5	-3.0

\* Annual averages, based on the monthly average exchange rate of July 2009 and the crude oil futures price.

\*\* End-of-year values based on constant interest rate assumption, the change compared to May is presented in percentage points.

<sup>15</sup> Projections are based on information available up to the 17th of August c.o.b.

## 3.1 Deep recession, gradual recovery from 2010

Prospects for business activity in the Hungarian economy continue to be determined by three main factors that are related to the global crisis: the fall in external demand and lending, as well as the fiscal adjustment.

Compared to the earlier nearly free-fall situation, signs of consolidation have strengthened in the global economy. In terms of the developments in the international environment, it can be considered as good news that, contrary to the first stage of the crisis, in recent months the growth prospects of major economies have not deteriorated any further.

Nevertheless, the signs of recovery of the global economy continue to be vague. It is uncertain at what rate developed economies will be able to grow in the coming period, following the lower turning point of the cycle. The financial sector is still only partly capable of fulfilling its task: despite the wide-ranging incentive packages, there is no noticeable pick-up in real economy lending, and the uncertainties surrounding the balance sheet of the financial sector have not eased significantly either.

The latest forecasts of major international institutions start from the assumption that the current financial crisis will be followed only by a slow, gradual recovery in the global economy. As regards the pace and timing of consolidation, Hungary's most important trading partner, the euro area is not in a favourable

situation. Recovery in Europe may only start later than what is expected for the USA, and according to forecasts, the nearly 5% decline in the euro area will be followed by stagnation next year, and compared to previous years' growth more modest expansion is expected even for 2011.

In this international environment we expect that Hungary's import-based external demand may drop by 16%–17% this year, i.e. even more than our previous forecast. However, our longer-term projection has not changed significantly. The stagnation expected for next year may be followed by an around 5% expansion in 2011, as by that time we expect Hungarian exports to react to our trading partners' increasing demand in a sensitive manner.

In addition to external economic activity, the market share of the Hungarian economy is also considerably influenced by developments in the real exchange rate. Real exchange rate indicators have weakened significantly since the summer of last year, although this has been attenuated by the strengthening of the forint observed since spring. Looking ahead, real depreciation may further be eroded by smaller labour market adjustment and a stronger real exchange rate based on unit labour cost. Thus, all things considered, developments in external demand may have more influence on the increase in market share than expected, and the real exchange rate will play a smaller role.

**Table 3-2**

### Forecast for Hungary's external demand

(per cent)

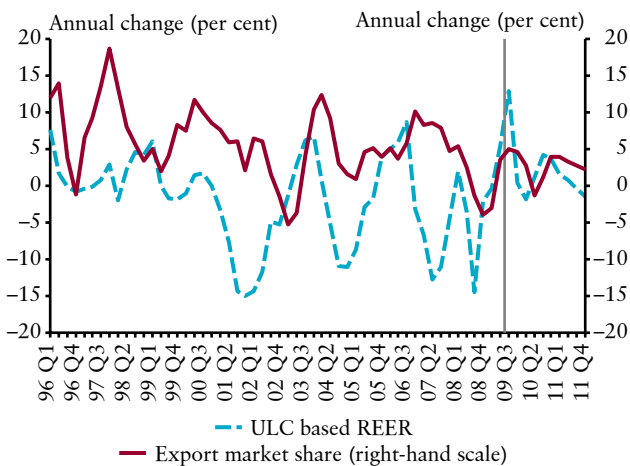
		Total				Euro area*			
		2008	2009	2010	2011	2008	2009	2010	2011
MNB	August 2009	2.0	-5.1	0.3	2.1	1.5	-4.6	-0.2	1.4
	May 2009	2.1	-3.2	0.1	2.0	0.7	-4.1	-0.3	1.5
IMF	June 2009	1.8	-5.1	0.0	-	0.8	-4.8	0.3	-
	June 2009 direct**	2.1	-4.9	0.3	2.3	-	-	-	-
	April 2009	2.1	-4.1	-0.2	2.2	0.9	-4.2	-0.4	-
OECD	June 2009	1.6	-4.8	0.0	-	0.5	-4.8	0.0	-
	March 2009	0.8	-4.5	0.0	-	0.7	-4.1	-0.3	-
EB	May 2009	2.1	-4.1	0.2	-	0.8	-4.0	-0.1	-
	January 2009	2.3	-1.1	1.1	-	0.9	-1.9	0.4	-
EKB	June 2009	-	-	-	-	0.6	(-5.1)-(-4.1)	(-1.0)-0.4	-
	March 2009	-	-	-	-	0.8-1.2	(-1.0)-0.0	0.5-1.5	-

\* MNB's aggregate contains regularly monitored eurozone members.

\*\* IMF estimation (different weights and countries as in the MNB's methodology).

Chart 3-1

## Real exchange rate and market share



Our picture of lending to domestic sectors has not changed much since the previous forecast. We still believe that, in line with international experiences, the financial crisis will be followed by a protracted period characterised by very slow loan dynamics. With tensions in loan supply, sharper recovery in demand for loans is only expected from 2011 onwards.

In our earlier macroeconomic projection we already took into account most elements of the government's crisis management package adopted in June.<sup>16</sup> Therefore, the adoption of the

measures themselves has not altered the prospects for economic activity. However, a new element is the large-scale reduction of the personal income tax announced for 2011, which will significantly (by around HUF 180 billion) increase households' disposable income, entailing a considerable macro effect. At the same time, it is important to add that according to our rules we include those expected measures in the baseline scenario of our forecast that have already been adopted as provisions of law. In this case it means that the tax cut of 2011 is included in the baseline scenario, but – as its balance-deteriorating effect has not been offset by another measure yet – risks to growth stemming from the fiscal measures are highlighted in the risk path.

Based on the international environment and modest lending, we expect the economy to decline around 6.5%, and despite the gradual recovery, the average annual growth rate will be negative next year as well. However, for 2011 we expect vigorous growth exceeding 3%, which will be close to the average of the years preceding the crisis.

The developments in the potential growth rate of the Hungarian economy are of key importance in terms of longer-term growth prospects and the trends in inflation as well. Based on our latest relevant analyses, we think that the potential GDP will also sink sharply in 2009–2010, and will not exceed 2.5% over the medium term either. The main considerations are summarised in the box titled 'Revision of potential output'.

### Box 3-2: Revision of potential output

The directly non-measurable potential GDP and the output gap, which can be derived from the former, are central elements of economic models. It is practically very difficult to measure intuitive relationships at the level of the models. Nevertheless, in the current situation characterised by a major fall in GDP, estimating the output gap and continuously updating the related considerations is inevitable.

The uncertainty surrounding the measurement of potential GDP and the output gap is shown by the fact that in recent years we revised our relevant assumptions on several occasions. Based on past figures and various econometric procedures, our findings in respect of the potential output were published in detail in the May 2008 *Quarterly Report on Inflation*.<sup>17</sup> As past data cannot provide information about how the financial crisis changes the prospects of the Hungarian economy for

catching up, there have been attempts to quantify the impact of the changed economic environment since the eruption of the crisis. Since the May issue of the *Quarterly Report on Inflation* several factors urged us to make our relevant experiments explicit. Firstly, the fact that companies adjust themselves to the deteriorating profitability in the labour market more slowly than we expect suggests that in the starting situation the ratio of redundant capacities in production may have been lower than what we assumed in May. Secondly, several international studies on the impact of crises, especially financial crises, on potential GDP have been published in recent months (EC, OECD).<sup>18</sup> Overall, however, we must come to the conclusion that the current revision of potential GDP is the consequence of an inevitable necessity, as it takes years until we can have reliable estimates concerning how the financial crisis changes the potential expansion of the Hungarian economy.

<sup>16</sup> See details in Box 3-2 titled 'Government measures and their macroeconomic effects' in the May 2009 *Quarterly Report on Inflation*.

<sup>17</sup> See Box 3-1 in the May 2008 *Report*.

<sup>18</sup> OECD Economics Department: The effect of financial crises on potential output: new empirical evidence from OECD countries (*Working Papers* No. 699, 2009). European Economy, Directorate-General for Economic and Financial Affairs: Impact of the current economic and financial crisis on potential output (*Occasional Papers* No. 49, 2009).

However, for the analysis of the developments in inflation and longer-term fiscal developments it is essential to attempt to quantify the effects arising in connection with the financial crisis.

According to the analysis of the OECD, as a result of financial crises, the level of potential output declined permanently by an average 1.5%-2.4%, while in times of more severe crises the effect may even have reached 4%. In addition, a further conclusion of the Commission is that probably the current financial crisis also permanently hinders potential output, namely through all the three factors of the production function: capital, labour, efficiency (TFP). Moreover, this effect is around a total 3% in developed countries, while in small, open economies it may be stronger (even above 5%). As a result of the financial crisis, for the period after 2011 the Commission's production function-based estimates forecast a continuing growth of 2%-2.5% for the East European region, which is much lower than before the crisis. However, an important piece of information is that, according to the calculations of the Commission, in times of past financial crises there was no larger negative output gap than 6%-8%.<sup>19</sup>

The current financial crisis may have influenced the factors of production through the following channels (already partly taken into account in May). Corporate investment is hindered by the increase in the uncertainty of return and the risk premium. On the other hand, as a result of tightening measures, the government also reduces its infrastructural investment, similarly leading to lower capital expansion. However, there is a contrary effect whereby, as a consequence of the government's efforts to preserve the sustainability of general government, the risk premium expected of Hungarian instruments may

decline permanently. We took these effects into account already in May. However, the depreciation of the existing capital stock appears as a new channel in our simulation. The reason is that, as a result of the financial crisis, we expect part of the already existing capacities to become permanently redundant (e.g. capacities in the automotive industry, production processes that require too much energy, etc.).

In May we already took into account the opposing effects that exist in the labour market. As a result of mass layoffs and a longer recession, the number of permanently unemployed may increase, which may (in line with the effect quantified for the EU in the study of the Commission) add 1-1.5 percentage points to the natural level of unemployment, thus reducing potential output. On the other hand, as a result of the fall in income, the effective retirement age may become extended, which would add to potential output through the increase in activity. Government measures enhancing labour supply and demand (reduction of the social security contribution, tightening of the pension system, child benefit and maternity leave payment) also contribute to this.

In recent years, TFP growth may have been slower, while capacity utilisation, as a result of overheatedness, may have been higher than we thought earlier, i.e. Hungary's catching up may have temporarily been on a slower path than what was typical in the years before 2006. In addition, the freezing of business credit at end-2008 may have resulted in a further one-off fall in the level of TFP. All this has been taken into account in our potential estimate. Further effects taken into consideration are that, on the one hand, productivity increase may be facilitated by stronger competition resulting from the significantly

**Table 3-3**

**Revision of developments in potential GDP, main channels**

Factor	Channel	Impact on pot. GDP
Capital	Drop in corporate investment	-
	Cuts in government investment	-
	Fiscal measures reducing equity premium	+
	Obsolation of capital stock (new)	-
Labour	Increase in long unemployment spells may raise the NAIRU	-
	Extension of effective retirement age	+
	Fiscal measures stimulating labour supply and demand	+
TFP	Lower TFP growth and higher capacity utilisation in the past (new)	-
	Freezing of credits on current assets causing one-shot drop in TFP (new)	-
	Reducing R&D expenses	-
	Improving productivity due to strenghtening competition	+

<sup>19</sup> This observation is important because in the calculation of the output gap the size of the gap examined over the projection horizon strongly depends on what growth rates we assume permanently after the crisis.

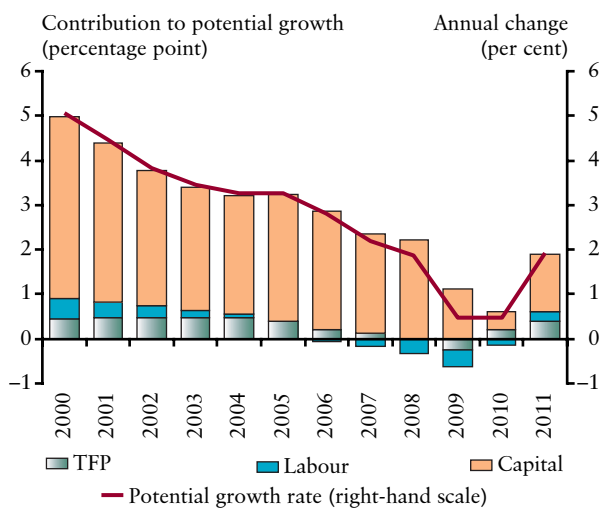
shrinking demand, while on the other hand, it may be delayed by reduced investment through the fall in R&D expenditures.

Completing our estimates with the new information, potential growth may have been slower in recent years than thought in May, and may continue to decelerate until mid-2010. Slower catching up contributes to the former, while over the short term all the three factors contribute to the latter. However, we think that the most considerable adjustment may take place in capital stock. Following that, starting from mid-2010,

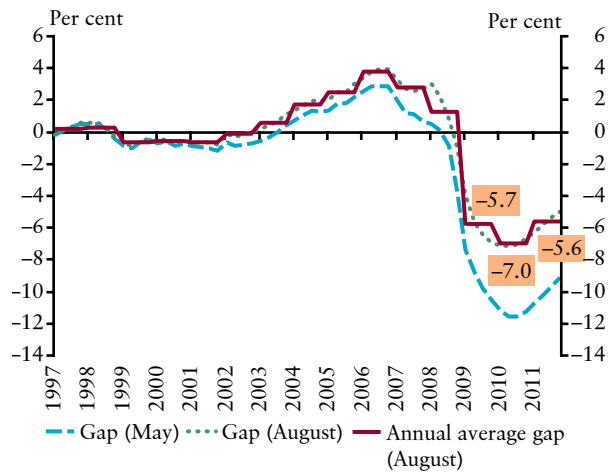
catching up and the expansion of capital stock will commence again, but at a lower rate than before the crisis.

Owing to the lower growth, the level of potential output may also be lower, resulting in a slightly more positive output gap for the past, and a much smaller, but still considerably negative output gap from 2009 on. In line with this, disinflationary pressure coming from the direction of the real economy may continue to be significant, although lower than believed so far.

**Chart 3-2**  
**Potential growth and the contribution of its components**



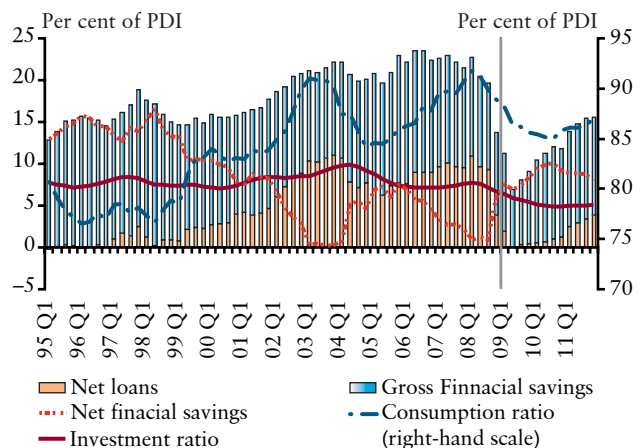
**Chart 3-3**  
**Output gap in May and August**



Households' disposable income is declining by more than 4% this year. On the income side, labour market adjustment (through the increase in unemployment and the lower wage dynamics of earlier years), tightening of welfare transfers and inflation resulting from tax increases play a role in it. At the same time, the easing of personal income taxes works against the decline in income. In addition to the income effects, the narrowing of lending opportunities also points to a fall in consumption and investment. Beyond that, we also expect an increase in precautionary savings owing to the economic uncertainty and fears of unemployment. As a result of all these effects, in 2009 the fall in consumption may significantly exceed the decline in disposable income, and both income and consumption are expected to decrease in 2010 as well. However, in 2011 the reduction of the personal income tax will further increase real incomes in a macroeconomic environment characterised by low inflation and gradual consolidation, allowing a more than 3% increase in consumption. According to our calculations, following a sharp fall and a subsequent minor correction, at the end of

our forecast period consumption, as a proportion of disposable income, may stabilise around 86–87%, compared to the peak exceeding 90% in 2007.

**Chart 3-4**  
**Trends in the use of household income**

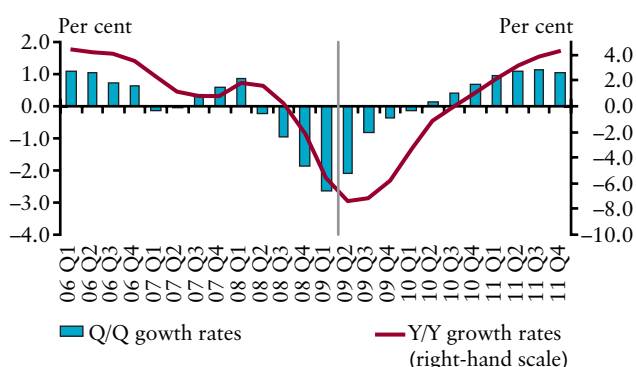


In the short term, developments in investment may be slightly more favourable than our earlier expectations: although the general macroeconomic conditions did not improve, some individual factors indicate a better short-term picture. In H1, the housing investment of households may have been temporarily and slightly stimulated by demand brought forward because of the tightening of state subsidies. Basically negative developments dominate in the corporate sector's investment decisions: the fall in external demand, the narrowing of financing possibilities and their rising costs, as well as the general economic uncertainty together explain a sharp, nearly double-digit decline in investment. However, the more intensive utilisation of EU funds, which can be observed in both government and corporate investment, is a favourable development. The growing use of EU funds is attributable to the easing of the conditions of application and the rapid increase in the number of contracts concluded.

In our assessment of the gross capital formation we also took into account that this year economic agents are reducing their stocks to a greater extent than the fall in investment. The decline in stocks is partly explained by individual reasons, e.g. the protracted filling of gas storage facilities. Nevertheless, we think that in the future the Hungarian economy will operate with a lower level of stocks than before, thus we consider a part of the decrease in stocks to be permanent. Overall, the fall in gross capital formation this year – mainly as a result of the changes in stocks – will significantly exceed even the decline in domestic absorption.

Chart 3-5

## Annual and quarterly GDP dynamics



However, from next year on its contribution to growth will be positive. Based on all these considerations, we believe that the worst of the crisis will be over for the Hungarian economy this year, and gradual recovery will start in 2010. However, longer-term prospects are uncertain near the lower turning point. Most probably, the international environment, which is becoming more favourable, the real exchange rate, which is weaker than in previous years, the free capacities resulting from the crisis and the easing of taxes envisaged for 2011 following the fiscal tightening in 2009–2010 together will serve as a basis for a growth rate exceeding 3% by 2011. Although this dynamic cannot be considered as extremely high historically, based on our picture of the potential growth rate it already allows the start of the closure of the wide negative output gap accumulated during the crisis.

Table 3-4

## Main components of our GDP projection

(annual change, per cent)

	2008	2009	2010	2011
	Actual	Forecast		
Household consumption expenditure	-0.5	-8.3	-2.7	3.4
Social transfers in kind	2.3	-1.0	-1.1	1.7
Final consumption of households	0.1	-6.8	-2.4	3.1
Final consumption of government	-1.9	-2.2	-2.1	0.6
Total consumption	-0.2	-6.2	-2.3	2.8
Gross fixed capital formation	-2.6	-9.2	1.0	3.8
Changes in inventories				
Gross capital formation	2.3	-16.0	0.8	3.5
Domestic use	0.4	-8.6	-1.6	2.9
EXPORT	4.8	-14.5	2.6	8.6
IMPORT	4.7	-17.0	1.8	8.4
GDP	0.6	-6.7	-0.9	3.4



There is no major difference between our May forecast and our current GDP projection, although the structure of the latter does show some changes. Compared to May, now we are of the opinion that – due mainly to the strong corporate stocks adjustment – the fall in domestic absorption may be stronger than expected, and the improvement in net exports may also be sharper.

## 3.2 More protracted labour market adjustment

On the input side, firms try to react to the sharp fall in production and sales mainly by reducing employment and wage payments. One of the most important elements of our May forecast was the strong adjustment expected in the labour market, both in terms of wages and labour force. Our assessment is unchanged in the sense that the economic crisis continues to force companies to implement significant changes, but on the basis of the latest data we think that the pressure on the labour market may be weaker than expected earlier.

Adjustment in the labour market may basically be slower because of two factors. Firstly, on the real economy side we expect a smaller negative output gap than earlier, resulting in a lower loss of profit and also allowing modest price increases and a partial passing of the increase in unit costs on to prices. Secondly, the signs related to the stickiness of inflation expectations have strengthened in recent months, which may become incorporated in the labour market bargains in the coming years. Nevertheless, we reckon with much lower wage inflation than the wage dynamics of earlier years: over the entire forecast period we expect an approximately 4%

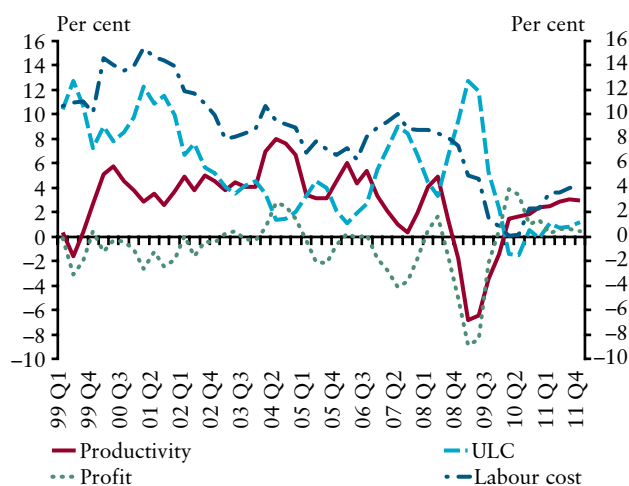
nominal increase in wages in the private sector. In our labour market projections, in addition to the usual uncertainty factors, a new element, the rapidly growing number of part-time employees also has to be taken into account. As discussed in Chapter 1, while the ratio of full-time and part-time employees used to be very stable earlier, this trend has changed radically in recent months, presumably partly because of government subsidies. As part-time employees' wages are much lower than those of full-time employees, this trend is also worth taking into account in corporate adjustment. However, it is uncertain how stable this trend in the baseline scenario is. In our forecast we do not expect any further increase in the number of part-time employees in the coming period, although the change in the past period will permanently remain in the stock.

Regarding the developments in the number of employees, the dismissal of approximately 130,000 people is expected in the competitive sector this year; more than 80,000 already lost their jobs in H1. However, the decline in whole-economy employment is somewhat attenuated by the increase in staff in the public sector, mainly as a result of the 'Pathway to work' programme. However, from H2 on employment will decline again, as then the number of participants in the public programme will no longer increase.

Contrary to the trends of previous years, the relation of the dismissed to the labour market has also changed in recent months: more people than earlier remain in the labour market as unemployed, and fewer people become inactive. Based on the above, in our forecast we expect that job losers will keep in closer touch with the labour market in the future as well; therefore, the unemployment rate may rise to nearly 11% next year, and slightly decline by end-2011.

The tax amendments adopted as parts of the government's crisis management package were also taken into account in our forecast. Reducing the contributions to be paid on labour improves the situation of labour market participants, but major positive effects will unfold only from 2010 on.

**Chart 3-6**  
**Unit labour costs in the competitive sector**



### 3.3 Temporary, sharp increase in inflation and gradually declining trend inflation

In terms of inflation outlook it is important to distinguish the overall price index influenced by tax increases from trend indicators reflecting the underlying inflationary processes of the economy. While the overall price index will increase in H2, and will be exposed to a new push in early 2010 owing to a repeated rise in excise taxes, in the indicators excluding the tax effect we expect a declining trend from Q3 on. Over the longer term – following the fading away of temporary tax effects – we forecast inflation to be below the target from 2010 H2, in line with our earlier projection.

Below we first present inflation effects stemming from macroeconomic developments, then we discuss the tax increase and the impact of regulated prices.

Of the basic assumptions used in our forecast, the forint exchange rate and the changes in oil prices have contrasting effects on inflation. In 2010, the nearly 8% appreciation of the exchange rate of the forint will partly be offset by a 5%-8% increase in oil prices calculated in euro. Based on the trends in feed-through effects, inflation in 2011 will only be influenced by the stronger exchange rate, to a lesser extent than the effect in 2010.

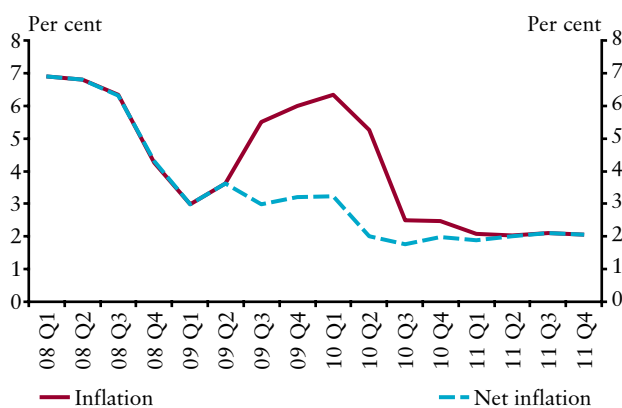
Regarding the inflation impulse stemming from real economy developments, we continue to expect a very low inflationary pressure over the entire forecast period. We have been dealing with the disinflationary effect of the output gap and the fall in demand for a longer time: based on the negative output gap widening as a result of the deep economic recession, we expect an unprecedented magnitude of decline in inflation. However, it must be added that the output gap may be narrower than assumed in our May forecast, and therefore its inflation-reducing effect also lessened in our model (see details in the previous box in this chapter). There has also been a similar change in our assessment in connection with the inflationary pressure coming from the labour market. As mentioned in the chapter about the labour market, nominal wages that are higher than expected earlier – partly due to inflation expectations – result in higher unit labour cost, which, ceteris paribus, slightly increased our forecast.

However, in connection with the above effects it is important to note that in preparing macroeconomic forecasts the disinflationary effect of the fall in demand and the handling of inflation expectations belong to the factors that are the

most difficult to capture. At present we think that both factors will play an important role in influencing inflation over our forecast period, although the uncertainty surrounding the concrete magnitude of the effects will only slowly diminish in the next quarters. It is worth paying increased attention to this uncertainty when evaluating the forecasts.

However, our short-term picture is robust in the sense that in past quarters, of the two main factors that determine the developments in inflation – i.e. weakening of the exchange rate and the fall in demand – the fall in demand will dominate, as the depreciation of the exchange rate has already mostly appeared in prices. Therefore, from Q3 we expect a clear decline in our monthly trend indicators that exclude the effect of tax increases. Of the main components of core inflation, in Q3 the decline may be the strongest among industrial products; in market services – also taking into account the seasonal repricing practice in the sector – we expect substantial moderation early next year. Following that, the trend indicator excluding the tax measures will fluctuate within 1%-2% until 2011.

**Chart 3-7**  
**CPI and net inflation\***



\* Net inflation is filtered from the estimated pass-through of indirect tax hikes.

Concerning the effect of tax measures on the price index, until now we have been able to provide estimates for the share of the increase in VAT and excise taxes (technical effect) that actually appears in consumer prices only on the basis of the experience of earlier years. Based on the July data, we think that 75%-80% of the full effect of the VAT

increase might appear in the prices, as opposed to the earlier 90%.<sup>20</sup>

Overall, we continue to forecast below-target inflation (close to 2%) over the period relevant for monetary policy, following the fading away of the effect of tax increases.

Dynamics of the overall price index will be higher than core inflation mainly because of the administered prices. In the short term, despite the aforementioned favourable trends, owing to the tax increases and the starting point exceeding price stability, price indices around 5–6% are expected until mid-2010.

**Table 3-5**

**Details of our inflation forecast**

(per cent)

	Weight	2009				2010				2011			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Unprocessed food	5.9	3.1	11.1	9.6	12.3	6.9	0.8	3.5	2.4	2.4	3.3	3.8	4.1
Vehicle fuel and market energy	7.0	-11.5	-9.9	-4.9	4.6	14.9	10.0	4.1	5.2	2.2	1.8	1.5	1.3
Regulated prices	15.9	8.1	8.0	9.0	6.6	6.4	6.0	3.1	4.9	4.3	4.6	4.4	3.3
Core inflation	71.1	3.3	3.2	5.4	5.5	5.4	5.0	2.1	1.7	1.5	1.4	1.5	1.7
Consumer price index	100.0	3.0	3.6	5.5	6.0	6.3	5.3	2.5	2.5	2.1	2.0	2.1	2.1
Yearly average													
Core inflation					4.3				3.6				1.5
Consumer price index					4.5				4.1				2.1

<sup>20</sup> However, on the basis of data for one month it is difficult to estimate how protracted the feed-through may be. What we see is that very low repricing took place in the first month, but we cannot be sure whether in the coming months there will be further repricing as a consequence of tax increases. It is worth noting that in periods of VAT increases, which affected a narrower range of products than now, most of the repricing took place in a month.

## 3.4 Inflation and growth risks

The main uncertainties surrounding the baseline scenario of our forecast are related to inflation expectations and fiscal measures.

The uncertainty stemming from inflation expectations is a recurring element of our forecasts. In the current situation, in addition to the unprecedented magnitude of tax shocks to the economy, survey data reflecting inflation expectations also add to these risks. In the event that economic agents' inflation expectations remain high, despite the deep recession of the real economy, nominal adjustment may also be more moderate compared to the baseline scenario.

In connection with the fiscal measures, we have already mentioned that no compensation of the tax cut in 2011 – amounting to nearly 0.6% of GDP – taken into account in line with our forecasting rules can be seen. Consequently, the government offsetting the effects of the tax increase in part

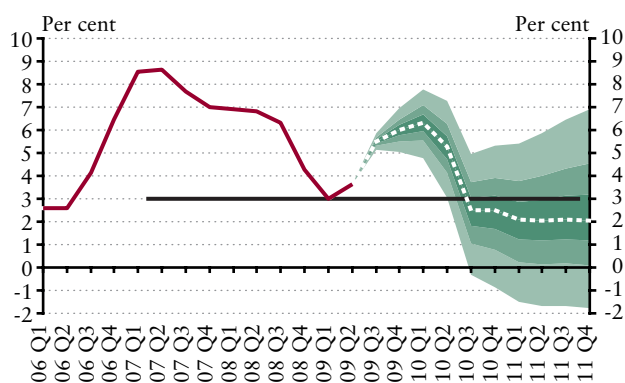
by reducing expenditure and in part by raising administered prices in order to achieve the deficit target represents a risk on the real economy side.

While the above factors pose an upside risk to the inflation outlook, a more significant adjustment in the corporate sector relative to the baseline projection poses a downside risk. Such a scenario may emerge if the VAT increase is no longer passed on in the second half of the year and, consequently, inflation turns out to be lower than expected. This may have an effect of wage setting in 2010, which, in turn, may lead to the development of a more favourable inflation environment over a prolonged period than assumed in the baseline projection.

Overall, based on the above risk factors, over the entire forecast period inflation is surrounded by slight upside risks, while economic growth – especially in 2011 – is surrounded by downward risks.

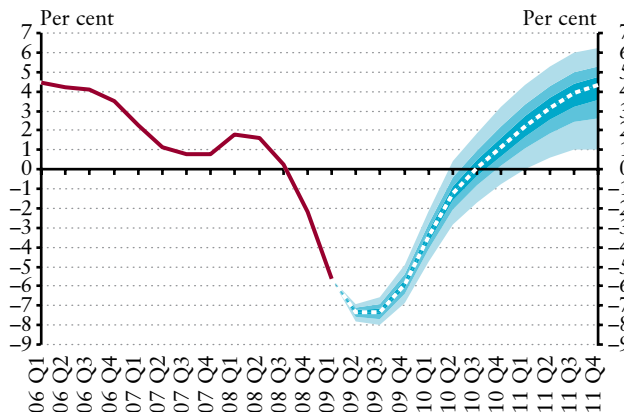
**Chart 3-8**

**Fan chart of the inflation projection**



**Chart 3-9**

**Fan chart of the GDP projection\***



\* Based on seasonally adjusted and reconciled data.

**Table 3-6****Changes in our forecast relative to the previous Report***(per cent)*

	2008	2009		2010		2011	
	Actual	Projection					
		May	Current	May	Current	May	Current
<b>Inflation</b> (annual average)							
Core inflation <sup>1</sup>	5.2	4.4	<b>4.3</b>	3.5	<b>3.6</b>	1.3	<b>1.5</b>
Consumer price index	6.1	4.5	<b>4.5</b>	4.3	<b>4.1</b>	1.9	<b>2.1</b>
<b>Economic growth</b>							
External demand (GDP-based)	2.0	-3.2	<b>-5.1</b>	0.1	<b>0.3</b>	2.0	<b>2.1</b>
Household consumer expenditure	-0.5	-8	<b>-8.3</b>	-2.9	<b>-2.7</b>	2.9	<b>3.4</b>
Fixed capital formation	-2.6	-10.3	<b>-9.2</b>	0.8	<b>1.0</b>	4.2	<b>3.8</b>
Domestic absorption	0.4	-7.9	<b>-8.5</b>	-1.7	<b>-1.6</b>	2.9	<b>2.9</b>
Export	4.8	-15.1	<b>-14.5</b>	3.0	<b>2.6</b>	8.7	<b>8.6</b>
Import	4.7	-16.7	<b>-17.0</b>	2.1	<b>1.8</b>	8.3	<b>8.4</b>
GDP*	0.6	-6.7	<b>-6.7</b>	-0.9	<b>-0.9</b>	3.4	<b>3.4</b>
<b>External balance<sup>2</sup></b>							
Current account deficit	8.4	4.1	2.9	4.0	<b>3.0</b>	3.3	<b>2.6</b>
External financing requirement	7.3	2.0	<b>0.9</b>	1.4	<b>0.6</b>	0.2	<b>-0.3</b>
<b>Government balance<sup>2</sup></b>							
ESA deficit	3.4	3.9	<b>4.1 (3.9)</b>	4.5	<b>3.7</b>	4.3	<b>4.3</b>
<b>Labour market</b>							
Whole-economy gross average earnings <sup>3</sup>	7.6	-0.3	<b>0.4</b>	2.1	<b>2.7</b>	4.5	<b>3.9</b>
Whole-economy employment <sup>4</sup>	-1.2	-3.2	<b>-2.6</b>	-1.7	<b>-0.9</b>	0.7	<b>0.7</b>
Private sector gross average earnings <sup>5</sup>	8.5 (8.0)	3.0	<b>4.2</b>	3.0	<b>3.9</b>	4.5	<b>3.9</b>
Private sector employment <sup>4</sup>	-1.1	-4.0	<b>-3.6</b>	-2.1	<b>-1.7</b>	0.9	<b>0.9</b>
Private sector unit labour cost <sup>4,6</sup>	6.0	5.7	<b>7.9</b>	-2.0	<b>-0.6</b>	1.6	<b>1.0</b>
Household real income**	-2.1	-4.3	<b>-4.3</b>	-1.6	<b>-1.3</b>	1.8	<b>2.3</b>

<sup>1</sup> From May 2009 on, calculated according to the joint methodology of the CSO and MNB.<sup>2</sup> As a percentage of GDP, in case of the ESA deficit for 2009, in parenthesis the deficit forecast is presented under the assumption that budget reserves are partly blocked.<sup>3</sup> Calculated on a cash-flow basis.<sup>4</sup> According to the CSO LFS data.<sup>5</sup> According to the original CSO data for full-time employees. The numbers in brackets refer to wages excluding the effect of whitening and the changed seasonality of bonuses.<sup>6</sup> Private sector unit labour costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses.

\* The table contains data excluding calendar effects.

\*\* MNB estimate.

**Table 3-7****Our forecast compared to other projections**

	2008	2009	2010	2011
<b>Consumer Price Index (annual average growth rate, per cent)</b>				
MNB (August 2009)	6.1	4.5	4.1	2.1
Consensus Economics (July 2009) <sup>1</sup>	–	4.3 – 5.0 – 5.5	2.8 – 4.5 – 6.1	–
OECD (June 2009)	6.0	4.5	4.1	–
European Commission (May 2009)	6.0	4.4	4.1	–
IMF (April 2009)	6.1	3.8	2.8	–
Reuters-survey (August 2009) <sup>1</sup>	–	4.2 – 4.7 – 5.2	2.7 – 4.4 – 6.1	2.0 – 2.8 – 3.3
<b>GDP (annual growth rate, per cent)</b>				
MNB (August 2009) <sup>4</sup>	0.6	–6.7	–0.9	3.4
Consensus Economics (July 2009) <sup>1</sup>	–	(–7.5) – (–6.4) – (–6.0)	(–2.5) – (–0.7) – 0.5	–
OECD (June 2009)	0.4	–6.1	–2.2	–
European Commission (May 2009)	0.5	–6.3	–0.3	–
IMF (April 2009)	0.6	–3.3	–0.4	2.5
Reuters-survey (August 2009) <sup>1</sup>	–	(–7.8) – (–6.7) – (–5.9)	(–2.5) – (–0.2) – 1.0	–
<b>Current account deficit (as a percentage of GDP)</b>				
MNB (August 2009)	8.4	2.9	3.0	2.6
OECD (June 2009)	8.2	4.0	3.2	–
European Commission (May 2009)	8.4	5.0	4.8	–
IMF (April 2009)	7.8	3.9	3.4	–
<b>Budget Deficit (ESA-95 method, as a percentage of GDP)</b>				
MNB (August 2009)	3.4	4.1	3.7	4.0
Consensus Economics (July 2009) <sup>1</sup>	–	2.9 – 3.8 – 4.1	2.8 – 3.7 – 4.3	4.3
OECD (June 2009)	3.4	4.2	4.2	–
European Commission (May 2009)	3.4	3.4	3.9	–
IMF (November 2008)*	3.4	2.5	2.0	–
Reuters-survey (August 2009) <sup>1</sup>	–	3.8 – 3.9 – 4.1	3.5 – 3.9 – 4.5	–
<b>Forecasts on the size of Hungary's export markets (annual growth rate, per cent)</b>				
MNB (May 2009)	4.1	–16.5	0.9	5.4
OECD (March 2009) <sup>2,3</sup>	1.0	–13.5	0.5	–
European Commission (May 2009) <sup>2</sup>	3.4	–11.1	–0.8	–
IMF (July 2009) <sup>2</sup>	3.5	–13.7	–1.0	4.0
<b>Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, per cent)</b>				
MNB (August 2009)	2.0	–5.1	0.3	2.1
OECD (June 2009) <sup>2,3</sup>	0.8	–4.8	0.0	–
European Commission (May 2009) <sup>2</sup>	2.1	–4.1	0.2	–
IMF (July 2009) <sup>2</sup>	2.1	–4.9	0.3	2.3
<b>Forecasts on the GDP growth rate of euro area (annual growth rate, per cent)</b>				
MNB (August 2009)	0.7	–4.6	–0.2	1.4
OECD (June 2009)	0.5	–4.8	0.0	–
European Commission (May 2009)	0.9	–4.0	–0.1	–
IMF (July 2009)	0.8	–4.8	–0.3	–

The projections of the MNB are 'conditional', which means that they cannot always be directly compared with the projections of other institutions.

<sup>1</sup> 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.

<sup>2</sup> 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. Therefore, these figures may deviate from the figures published by the specified institutions.

<sup>3</sup> OECD did not publish any information about Romania, therefore Romania is not included in our OECD forecast.

<sup>4</sup> Data not adjusted for calendar-day variations.

\* The figures refer to the IMF Staff Report for Hungary, published in November 2008.

Sources: Eastern Europe Consensus Forecasts (Consensus Economics Inc. [London], January 2009); European Commission Economic Forecasts, May 2009; IMF World Economic Outlook (April 2009); IMF World Economic Outlook Update (July 2009); Reuters survey (January 2009); OECD Economic Outlook (March 2009).





## **4 General government and external balance**





## 4.1 Developments in the general government balance

Since the autumn of 2008 the developments in the expected fiscal path have been determined by the deteriorating macroeconomic outlook and the government's reactions to it. In Hungary – contrary to most countries in the region and developed countries – not only boosting the economy with fiscal tools is not possible, but in order to compensate the missing tax revenues, pursuing pro-cyclical economic policy, expenditure-reducing steps became necessary. In parallel with a somewhat more moderate labour market adjustment, macroeconomic prospects have remained practically unchanged since the publication of the May 2009 *Quarterly Report on Inflation*. At the same time, apart from the easing in the personal income tax system in 2011, no other major measures have been adopted.

In our latest forecast, in 2009 we decreased our prognosis of corporate tax revenues and increased the forecast of health care expenditures. These amendments could not be offset by the lower interest payments and slightly higher wage-related personal income tax and contribution revenues. As a result of these factors, there has been a slight upward revision in our deficit forecast. Our 4.1% deficit expectation according to the ESA methodology is 0.2 of a percentage point higher than the official target of the government, therefore this target can only be achieved by the partial freezing of the stability reserve. For 2010 we expect lower deficit than in 2009, as with the deficit-reducing measures the decline in expenditures as a proportion of GDP will exceed the fall in revenues. We do not expect the decline in deficit to continue in 2011 and the accrual-based deficit may grow significantly, partly because of the tax easing not yet covered by other measures and partly because of the subsequent refunding of the MNB's loss in 2010.

In 2009, through the automatic stabilisers, the economic cycle by itself would add nearly 2 percentage points to the ESA deficit, but the general government mostly offsets this effect with discretionary steps. In 2010, as a result of the pro-cyclical economic policy, the deficit may decline, despite the fact that the cyclical component itself would even increase it. Accordingly, the cyclically adjusted ESA deficit will decline both in 2009 and 2010. In contrast, in 2011 without additional measures in parallel with the increase of ESA deficit the cyclically adjusted deficit could also grow.

While the ESA balance is expected to deteriorate by a mere 0.7% in 2009, the SNA balance, which shows the position of the general government in a broader sense better, will be less favourable by 1.6% of GDP. This is basically attributable to the investment carried out in the PPP scheme. In 2010 and 2011, the difference in the dynamics of the ESA and SNA deficits is also attributable to the fact that the MNB's loss has to be recorded in the SNA balance in the year of its occurrence, while in the ESA balance in the year of its reimbursement.

### 4.1.1 TAX REVENUES ALSO DECLINING IN NOMINAL TERMS IN THE FIRST SEVEN MONTHS OF 2009

As a result of the fiscal adjustment that started in 2006, the ESA deficit of the general government declined to 3.4% in 2008. Thus, taking into account the effect of the private pension fund adjustment, Hungary met the Maastricht criterion regarding fiscal deficit. However, as a consequence of the deteriorating economic environment, the decline in deficit did not continue in the first seven months of 2009.

**Table 4-1**

#### Changes in the balance indicators of the general government

(balance indicators of the general government [as a percentage of GDP])

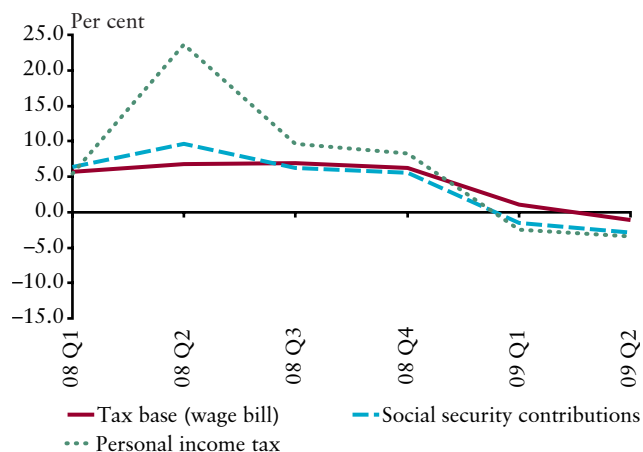
	2008	2009	2010	2011
GFS balance	-3.5	-4.4	-4.1	-4.3
<b>ESA balance</b>	<b>-3.4</b>	<b>-4.1 (-3.9)*</b>	<b>-3.7</b>	<b>-4.3</b>
Cyclical component	1.1	-0.8	-1.6	-1.5
Cyclically adjusted ESA balance	-4.5	-3.3	-2.1	-2.8
Augmented SNA balance	-3.7	-5.3	-5.3	-4.6
General government debt	72.6	79.6	79.8	79.1

\* With the partial freezing of the stability reserve the other indicated deficit figures are also lower.

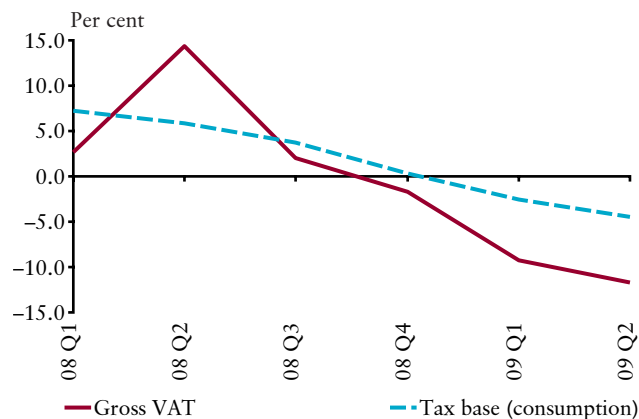
Chart 4-1

## Annual changes in major tax revenues and their tax bases

## Annual changes in the wage bill and the wage-related tax and contribution revenues



## Annual changes in consumption and gross VAT



While revenues were below their respective levels recorded one year earlier, the expenditures did not change substantially, thus the pro-rata deficit on a cash basis was higher than last year.

As a result of the economic recession, the growth rate of tax bases declined steadily, and in parallel with this the deceleration of the dynamics of tax revenues continued. From 2009 Q1 on, each main tax revenue item was below its level one year earlier, even in nominal terms. The fall in main tax revenues exceeded the magnitude of the decline in tax bases as well, which may suggest that the effective tax rates may shrink in the recession environment. The level of expenditures remained broadly unchanged, as a major part of the adopted expenditure-cutting measures are introduced only in 2009 H2 or 2010. The net expenditures of budgetary institutions did not decrease significantly, in spite of the reduction of wage expenditures<sup>21</sup>. The expenditures of social security funds increased partly because of automatism (e.g. indexation of pensions), partly because of the increase of health care expenditures. The expenditures of decentralised funds grew because of the increase in the number of new unemployed. Yields higher than a year earlier and the weaker exchange rate contributed to the increase in interest expenditures, which was almost fully neutralised by the change in the financing structure related to the drawing of the IMF loan. Accordingly, interest expenditures remained broadly unchanged compared to the same period of the previous year.

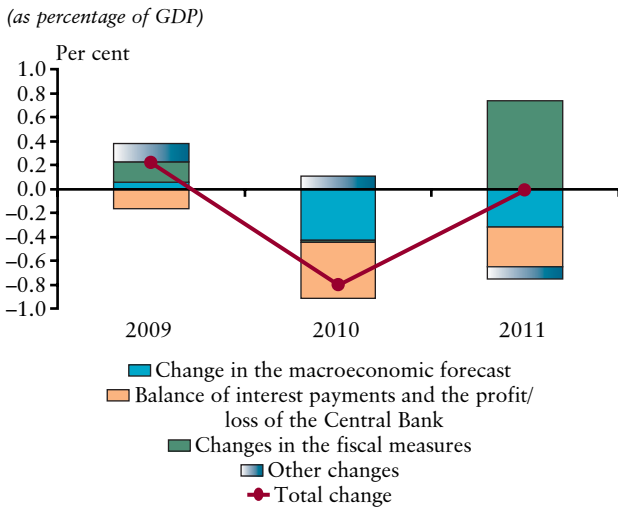
#### 4.1.2 DRIVING FORCES BEHIND THE CHANGES IN OUR DEFICIT FORECAST IN THE PERIOD SINCE THE PREVIOUS REPORT

In all the three years, our forecast was primarily formulated by the changes in our picture of revenue side developments and to a lesser extent by new information related to financing processes. Our assessment of the primary expenditure path has remained practically unchanged. The change in the forecast of macroeconomic developments does not have a significant effect in 2009, but in 2010 and 2011, as a result of a less intense labour market adjustment than expected earlier, pointing to a lower deficit. The impact of the new measures adopted since the May *Quarterly Report on Inflation* is not substantial for 2009 and 2010, but raising the lower band limit of the personal income tax in 2011 may significantly (with 0.6 of a percentage point of GDP) increase the deficit in 2011 through the lost revenues. As a result of the exchange rate appreciation and the decline in yields, our interest payments balance expectation has fallen over the entire forecast period. At the same time, the increase in the MNB's interest loss in 2011 partly offsets the deficit-reducing effect of the decline in our interest payments expectation.

In 2009, the major factors that affect the changes in our forecast are of opposing directions, resulting in a slight increase in our deficit expectation. Our prognosis is higher than the official target of the government; however, it can be

<sup>21</sup> In 2009 a lower compensation is paid instead of the 13th month salary.

**Chart 4-2**  
**Components of the change in our forecast\***



\* Macro path effect means the effect of the changes in macroeconomic forecasts on the main tax and contributions revenues and on the pension expenditure. Fiscal measures primarily include the new fiscal measures (e.g. tax laws of 2010 and the changes in private pension fund regulations) and, to a smaller extent, the changes of items that are exogenous in terms of our forecast. Other items include for example the adjustments owing to the base effect and experts' adjustments.

achieved with the partial freezing of the stability reserve. In 2010, all major factors point to the evolving of a lower deficit than forecasted earlier. In 2011, the easing of the personal income tax will fully offset the impact of the improvement in macroeconomic parameters, and the lower interest payments.

### 4.1.3 DECLINING GDP-PROPORTIONATE REVENUES OVER THE ENTIRE FORECAST PERIOD

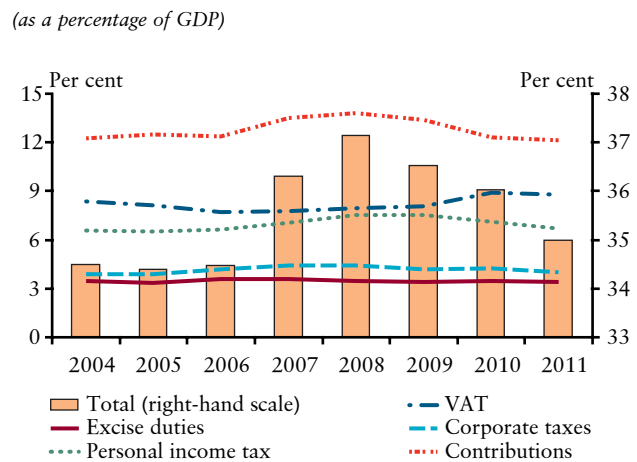
In 2009, in the recession environment we expect nominal and GDP-proportionate declines in the major tax bases; this expectation is also confirmed by data of the first seven months. The nominal decline is attributable to the fall in major tax bases. The fall in GDP-proportionate revenues may be explained by the decline in effective of tax revenues, i.e. the presumed growth of the grey economy. Based on the information published since May, we reduced our profit tax revenue forecast for 2009, which will only partly be offset by the less significant moderation of the wage-related tax and contributions revenues. The change in the regulations concerning private pension funds partly attenuates the deficit-increasing effects. Pursuant to the change, those private pension fund members who reached the age of 52

years before end-2008 may return to the pay-as-you-go pillar before end-2009. The portfolio of those who return from the private pension funds to the social security pillar is transferred to the general government, which, as one-off revenue, reduces the ESA deficit at the time of the transfer, i.e. partly in 2009 and partly<sup>22</sup> in 2010, resulting in a slight increase in social security contributions in subsequent years. However, the deficit-reducing effect is temporary, because this measure will entail an increase in social security pension payments already in the medium term.

We expect GDP-proportionate tax revenues to continue to decline in 2010 and 2011 as well. The fall in GDP-proportionate tax revenues in these years is primarily attributable to structural reasons, as the nominal expansion of dominant tax bases (wage bill and purchased consumption) will lag behind the growth rate of nominal GDP in both years. However, according to our new macroeconomic forecast, labour market adjustment may be smaller than expected earlier, thus the increase in the wage bill may be closer to the expansion of nominal GDP, which by itself significantly increases our revenue projection.

However, the picture is refined by the changes in the tax package since the May *Quarterly Report on Inflation* and the change in the private pension fund regulations already mentioned in connection with 2009. These measures together do not alter the revenues significantly, but in 2011 they will have a substantial deficit-increasing effect. Of the new measures concerning both 2010 and 2011, the classification of some services into a lower VAT rate has a deficit-increasing effect, while the widening of the wealth tax

**Chart 4-3**  
**Tax and contributions revenues of the state budget**



<sup>22</sup> For the time being it is uncertain what percentage of those entitled will return to the pay-as-you-go system, and it is also uncertain in which year the financial transaction will take place. According to our technical assumption, half of those entitled will return to the social security system, and nearly half the value of the transfers will be recorded as revenue in the general government in 2009, with the rest being recorded in 2010.

base has a deficit-reducing effect. From 2011, the limit of the lower band of the personal income tax will increase to HUF 15 million, which by itself will reduce revenues by more than 0.6% of GDP. Accordingly, we have reduced our revenue projection for 2011, despite the macro path which has a more favourable structure than forecasted earlier.

#### 4.1.4 DECLINING PRIMARY EXPENDITURES

With the exception of 2009 our picture of the developments in primary expenditures has not changed as the content of the expenditure-reducing package has practically remained unchanged, and the 2010 budget is not yet known. Reflecting the intra-annual trends, our health care expenditure forecast increased somewhat.

We continue to expect a continuous decline in transfers to households and government consumption and investment over the forecast period through the already approved correction measures. We took into account the prognosis of the government while forecasting the net expenditures of the budgetary institutions. These expenditures could decrease by approximately 1 percentage point as a proportion of the GDP in 2009 and the shrinkage can moderately continue in 2010 and 2011. One of the factors behind this decrease is the wage cut in 2009 and the wage freezing of 2010. Nevertheless, the wage cut in 2009 and the wage freeze in 2010 also reduces the expenditures of the local government authorities. Those who return from the private pension funds to the social security pillar may add to pension expenditures after the forecast period. In 2010 and in 2011 we perceive some risks pointing to a higher deficit in the case of some major expenditure items. This is demonstrated in the chapter on risk assessment.

#### 4.1.5 IMPROVEMENTS IN FUNDING AND DECLINING GOVERNMENT DEBT PATH

As a result of the improving international investors' sentiment and the adopted deficit-reducing measures, the risk premium expected of Hungarian assets has declined considerably in recent months, which has been reflected both in the appreciation of the forint exchange rate and the fall in the yields of government securities. Consequently, over the entire length of the forecast period we reduced our interest expenditure projection. While the strengthening of the exchange rate may contribute to the decline in interest expenditures to a similar extent in all the three years, the fall

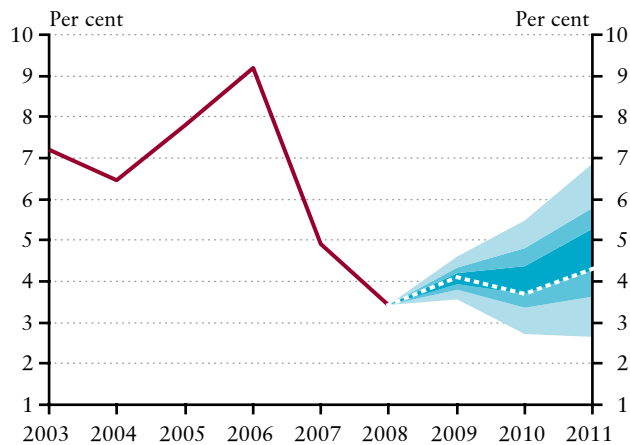
in yields, as a result of continuous repricing, may have a greater effect in the second part of the forecast period. At the same time, the effect of the shift towards market financing with yields higher than international loans is contradictory to the above, somewhat reducing the impact of the fall in yield and the strengthening of the exchange rate. The deterioration of the MNB's interest profit/loss will reduce the effect of the improvement in the interest balance in 2011.<sup>23</sup> Several factors contribute to the deterioration in the MNB's interest profit/loss. The appreciation of the exchange rate and the higher level of the expected foreign exchange reserve have a deficit-increasing effect.

Our forecast for the government debt path is lower than the one in the May *Quarterly Report on Inflation* due to two main reasons. Firstly, the stronger exchange rate reduces the forint value of the foreign currency debt. Secondly, Hungary is expected to draw less foreign currency loans from international institutions than was planned earlier. In 2009, all drawing of credit and other issuances are not expected to exceed the financing requirement. Consequently, there will be hardly any resulting foreign currency deposit for financing purpose (not separated to the banking system). The debt ratio will peak at the end of 2009 around 79.5% of GDP, and then it may slowly sink to 79% of GDP in 2011. Our forecast is based on a technical assumption of a HUF 272.1 per EUR exchange rate. A one per cent change in the exchange rate alters the debt ratio by nearly 0.4% of GDP.

#### 4.1.6 FISCAL RISKS ARE SLIGHTLY ON THE DOWNSIDE IN 2009 AND ON THE UPSIDE FROM 2010

As for earlier *Quarterly Reports on Inflation*, a fan chart presenting the risks has been prepared again. The fan chart contains the risks hidden in the macroeconomic path and the non-political ones additionally perceived by experts. According to the fan chart, in 2009 the risks around our baseline scenario are asymmetrical in the direction of smaller deficit, while in 2010 and 2011, they are asymmetrical in the direction of higher deficit. Of the two factors determining the uncertainty distribution of the deficit, over the entire forecast period the effect of the macroeconomic path is asymmetrical in the direction of a deficit lower than the baseline scenario. Although within this the downward asymmetry of GDP itself would conceal a risk pointing to higher deficit, the impact of upside inflation risks on the revenue side is stronger. In 2009 our downside risk perception is related to the freezing of the stability reserve for reaching the deficit target. From 2010 the

<sup>23</sup> The MNB's loss in a given year is settled by the budget in the next year, so the significantly rising settlement of loss in 2011 is a consequence of the deterioration of the interest result in 2010.

**Chart 4-4****Fan chart illustrating the uncertainty surrounding the fiscal deficit forecast***(as a percentage of GDP)*

expertise component of the risk perception points toward a higher deficit mainly due to the doubts related to four significant expenditure items.

According to our baseline scenario the expenditures of the budgetary institutions decline by approximately one percentage point as a proportion of GDP in 2009. However the expenditure level has not declined substantially in 2009 to date; therefore, the cut of expenditure will be materialised in the last months of the year. One of the factors driving the expenditure cut is the measures implemented, another is lower EU co-financing. In addition, part of the allocations will also be frozen, which can cause an increase of the carry-over provisions from earlier years according to the historical evidence. As part of the frozen allocation is connected with payment obligations often supported by contracts but not

paid in the given year, the increase in carry-over provisions from earlier years increases the risk that the coming years' planned expenditures will be exceeded.

Therapeutic and preventive healthcare expenditures as a proportion of GDP have declined considerably in recent years and, according to the government's plans, this decline will continue over the forecast period as well. The reduction of contributions on labour and the freezing of wages in the public sector will significantly contribute to the decrease in expenditures, while, in line with the government's intentions, GDP-proportionate expenditures would continue to decline in 2011 even without any further announced measure. In our baseline forecast we accept the government's expenditure projection, although we see major risks pointing to higher expenditure. The increasing tensions in funding may result in an increase in the total debt of hospitals, which adds to the chances of fiscal intervention.

The state owned transport companies (MÁV, BKV) had a substantial deficit in the past few years, and there was no reform in their operations. According to the historical evidence, the increase of the debt level – without real structural cost-cutting measures – can lead to government intervention. The potential debt consolidation during our forecast horizon is part of our risk assessment

The government measures related to the local governments could decrease the expenditure. However some of these local authorities have the possibility of not adjusting their expenditures to the government's objectives by benefiting from their debts (from bond issuance) contracted but not yet spent in the past years. The risks related are also incorporated in our risk assessment.

## 4.2 External balance

In the first quarter of 2009 we observed an extremely rapid correction – to an extent not previously experienced – in the external imbalance, which had been permanently high in the last decade. In 2009 Q1, the external imbalance declined considerably. The external financing requirement, which is the sum of the current account and the capital account, declined to 4.2% of GDP, which is a nearly 3 percentage point decline compared to 2008 Q4. The real economic adjustment was determinant in the improvement in the external position, but the substantial amount – EUR 1.1 billion in net terms – of EU transfers also had a crucial role in it, following the low inflow of EU funds in the previous quarter.

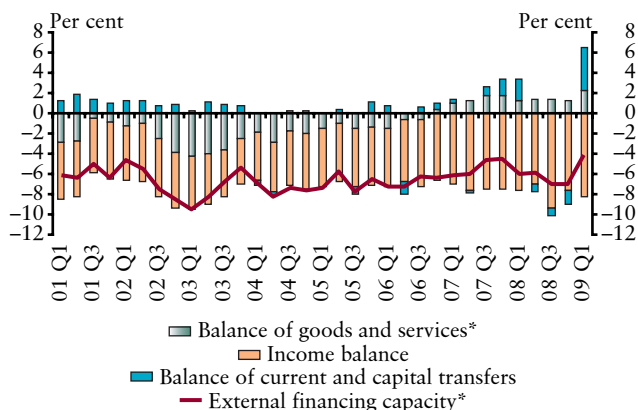
The signs of real economic adjustment were clearly and expressly reflected in the developments in external equilibrium. The rapid fall in domestic demand resulted in a decline in imports, which more than offset the effect of exports that had been shrinking for a longer time. Accordingly, the surplus of the trade balance started to increase dynamically. The effect of recession was perceived in income flows as well: the fall in corporate profit resulted in a strong decrease in income outflow related to direct investment.<sup>24</sup> In addition, the decline in net interest expenditures also played an important role in reducing the nominal deficit of the income balance. The decrease in government securities held by non-residents, domestic investors' gain on foreign exchange bonds and banks' declining interest expenditure contributed to this trend.<sup>25</sup>

Examining the data excluding the effect of the strongly fluctuating EU transfer inflows, the extent of the improvement in the external equilibrium in Q1 exceeded our expectations. In Q1, the adjustment that took place in the trade balance was faster than presumed earlier, although this is partly attributed to the one-off effects mentioned above. In addition, the deficit of the income balance was also below expectations; we believe that this is also partly related to temporary effects. The underlying reason is that no further decline is expected in euro and dollar yields. Therefore, we do not expect that domestic investors will be able to record profits on their foreign bonds similar to the ones experienced in Q1.

Chart 4-5

### Components of the external financing requirement

(seasonally adjusted data; as a percentage of GDP)



\* Adjusted by the difference caused by imports brought forward on account of EU accession and by the import-increasing impact generated by customs warehouses terminated due to EU accession and by the Gripen purchases.

Note: the extremely high deficit in the income balance in 2008 Q3 is explained by the fact that in the case of a large corporation, contrary to the usual procedure, a substantial amount of dividend was voted for in July rather than in Q2. This resulted in a break in the seasonality of the time series, which had been stable earlier.

Seasonal adjustment of the time series was made with direct adjustment. Therefore, the sum of the components of the external financing requirement does not necessarily equal the adjusted values of the external financing requirement.

Regarding the developments in financial savings, the significant decline in the external financing requirement of the country took place in parallel with a surge in net savings of the private sector. The increase in households' savings is completely attributable to the drastic fall in net borrowing, which was already perceived at end-2008. In addition to the increase in the interest rate on foreign currency loans and the declining demand owing to deteriorating income expectations, supply factors may also have played a role in the drop in borrowing. Companies stopped borrowing both from domestic and foreign sources, while – in contrast with the previous quarter – bank deposits increased.

2009 Q1 was characterised by the shock-like adjustment triggered by the change in the international financial environment and the fall in external demand. For the

<sup>24</sup> The figures of income flows related to foreign direct investment are based on estimates in the preliminary balance of payments statistics. The estimate will be replaced by data based on corporate reports in September 2010.

<sup>25</sup> In spite of the strong decline in the nominal deficit of the income balance, the GDP-proportionate indicator increased. Both the fall in GDP and the weakening of the exchange rate of the forint pointed to an increase in the indicator and also dominated in its developments.



**Table 4-2****Structure of the GDP-proportionate current account***(as percentage of GDP, in per cent, unless otherwise indicated)*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Fact/Preliminary fact						Forecast		
1. Balance of goods and services	-3.8	-2.9	-1.2	-0.9	1.4	0.9	4.6	4.7	4.8
2. Income balance	-4.9	-5.2	-5.7	-6.2	-7.4	-8.1	-7.1	-7.1	-7.1
3. Balance of current transfers	0.8	-0.5	-0.6	-0.5	-0.5	-1.2	-0.5	-0.6	-0.3
<i>I. Current account balance (1+2+3)</i>	-8.0	-8.6	-7.5	-7.6	-6.5	-8.4	-2.9	-3.0	-2.6
<i>Current account balance in EUR billions</i>	-5.9	-7.1	-6.7	-6.8	-6.6	-8.9	-2.7	-2.9	-2.7
<i>II. Capital account balance</i>	0.0	0.3	0.8	0.6	1.1	1.1	2.0	2.4	2.9
<b>External financing capacity (I+II)</b>	<b>-8.0</b>	<b>-8.3</b>	<b>-6.7</b>	<b>-6.9</b>	<b>-5.4</b>	<b>-7.3</b>	<b>-0.9</b>	<b>-0.6</b>	<b>0.3</b>

remaining period of the year we already forecast a slowing moderation in the external financing requirement. We do not expect further significant increase in the net savings of households and corporations. Diminishing fiscal deficit – as a result of government measures – may already have a more pronounced role in the improvement of the external equilibrium.

Regarding the structure of the current account, improvement in the external balance in the remaining part of the year may partly take place through slightly increasing trade balance surplus in parallel with shrinking import demand. We also expect some improvement in the deficit of the income balance, which may be justified not only by the decline in expenditures related to direct investment, but also by the fall in funding costs. The underlying reason is that the decline in

CDS spreads, which are determining in terms of the pricing of bank funds, may result in a fall in interest expenditures. EU transfer inflows in 2009 may be in line with our earlier expectations, although a significant portion of EU funds was already transferred in the first half of the year.

For 2010 and 2011 a further slight decline in the external financing requirement is forecast. However, this is mainly related to the expected increase in EU transfers. The effect of export dynamics – gradually picking up in parallel with the slow improvement in external business conditions – may be offset by the import demand increasing because of the domestic demand. The slight decline in external debt may result in a decrease in interest expenditures. However, this is partly neutralised by the income balance impairing effect of the profit rise of foreign-owned companies.

**Table 4-3****GDP-proportionate net financing capacity of individual sectors***(per cent)*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Estimation						Forecast		
I. Augmented general government*	-8.3	-8.4	-9.4	-9.6	-5.9	-3.7	-5.3	-5.3	-4.6
II. Households	0.2	2.5	4.4	3.4	1.6	1.3	4.3	5.4	4.7
Corporate sector and "error" (= A - I - II.)	0.1	-2.4	-1.7	-0.7	-1.1	-4.9	0.0	-0.8	0.1
A. External financing capacity. "from above" (=B+C)	-8.0	-8.3	-6.7	-6.9	-5.4	-7.3	-0.9	-0.6	0.3
B. Current account balance	-8.0	-8.6	-7.5	-7.6	-6.5	-8.4	-2.9	-3.0	-2.6
– in EUR billions	-5.9	-7.1	-6.7	-6.8	-6.6	-8.9	-2.7	-2.9	-2.7
C. Capital account balance	0.0	0.3	0.8	0.6	1.1	1.1	2.0	2.4	2.9
D. Net errors and omissions (NEO)**	0.3	-1.4	-1.8	-2.3	-1.6	-1.8	-0.8	-0.8	-0.8
External financing capacity "from below" (=A+D)	-7.7	-9.7	-8.6	-9.3	-7.0	-9.1	-1.7	-1.4	-0.5

\* In addition to the fiscal budget, the augmented general government includes local governments, ÁPV Ltd., institutions discharging quasi-fiscal duties (MÁV, BKV), the MNB and authorities implementing capital projects initiated and controlled by the government and formally implemented under PPP schemes.

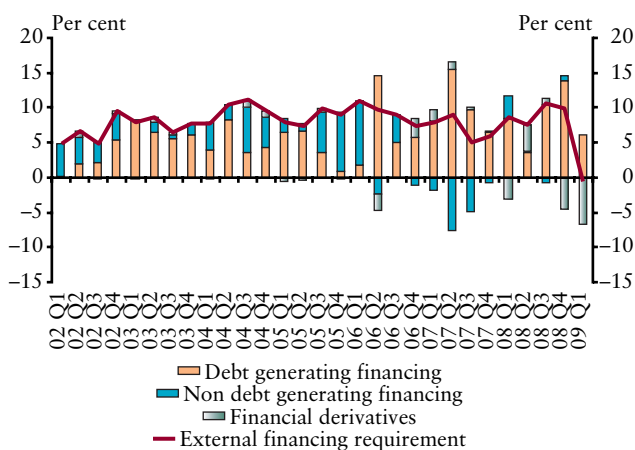
\*\* In our forecast for the 'errors and omissions' item of the balance of payments we assumed that the cumulated figure for the last four quarters would remain unchanged.

## 4.2.1 FINANCING THE CURRENT ACCOUNT DEFICIT

In 2009 Q1, the Hungarian economy became a net saver, i.e. in net terms it was not dependent on external funds, which had not been the case in the previous 10 years. The 'from below' calculated *external financing capacity* amounted to EUR 100 million.<sup>26</sup> Nevertheless, the country's external debt continued to increase in Q1. This is attributable to the fact that the net non-debt generating inflow of funds (direct investment and portfolio equity) was practically around zero, while, as a result of the substantial exchange rate depreciation, banks suffered significant losses on their derivative positions and were compelled to place deposits, as had happened at end-2008. In connection with this, domestic players obtained debt-type funds from abroad.<sup>27</sup> The result of the debt-generating borrowing in excess of EUR 1 billion, the depreciation of the exchange rate and the fall in GDP was that Hungary's net external debt rose above 60% of GDP.

Chart 4-6

### Forms of funding as a percentage of GDP

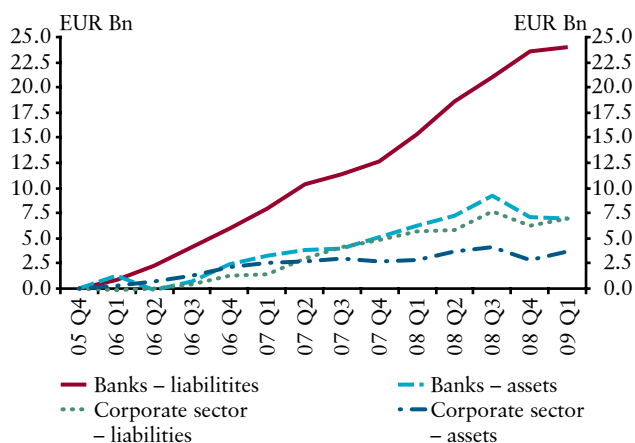


In 2009 Q1, despite the deteriorating borrowing opportunities as a result of the crisis, both banks and corporations succeeded in renewing their expiring external liabilities, and they were even able to slightly increase their foreign loans.<sup>28</sup> While external funds were increasing, the dismantling of the private sector's external assets observed at the end of last year, which was presumably attributable to the easing of the shortage of funds resulting from the dwindling of external resources, did not continue.

The latest figures available for Q2 on the basis of banks' balance sheets suggest significant changes in the developments in external financing. In parallel with the decline in banks' loan portfolios, the sector's external debt started to decrease substantially. At the same time, securities purchases by non-residents may have played a gradually increasing role: in April and May, non-residents significantly increased their equity portfolios, and after a long time their demand for government bonds also picked up in June.

Chart 4-7

### The private sector's external debt-type liabilities and assets\*



\* Cumulated flows.

<sup>26</sup> The sum of the external financing requirement and of the 'errors and omissions' item of the balance of payments statistics.

<sup>27</sup> Most of the derivative transactions are forint/FX swaps. In periods of ample fluctuations of the exchange rate of the forint, net derivative financing and the changes in the exchange rate usually show a co-movement. In 2008 Q4 and 2009 Q1, the forint depreciated significantly against major currencies, which considerably reduced the balance of the financial account through the closed transactions and margin calls.

<sup>28</sup> It is worth mentioning that the lower inflow of external funds to banks compared to previous years' trends took place because of a significant bond expiry of a dominant participant of the sector, as these bonds were not renewed from market sources.

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## MNB OCCASIONAL PAPERS 2007–2008 (English language issues)

*MNB Occasional Papers include empirical (applied) researches of central bank areas, summarize theories on different themes and present international results, in addition they introduce analyses assisting the better understanding of central bank decisions.*

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**Occasional Papers 60.** BENK, SZILÁRD–ZOLTÁN M. JAKAB–MIHÁLY ANDRÁS KOVÁCS–BALÁZS PÁRKÁNYI–ZOLTÁN REPPA–GÁBOR VADAS (2007): The Hungarian Quarterly Projection Model (NEM)

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