MAGYAR NEMZETI BANK

QUARTERLY REPORT ON INFLATION

June 2010

Published by the Magyar Nemzeti Bank
Publisher in charge: Dr András Simon
1850 Budapest, 8–9 Szabadság tér
www.mnb.hu
ISSN 1585-0161 (print)
ISSN 1418-8716 (online)

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* Report *is published biannually, with partial updates to the forecasts also prepared twice a year. The forecasts of the Monetary Strategy and Economic Analysis and Financial Analysis Departments are based on certain assumptions. Hence, in producing its forecasts, the Directorate 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 and Financial Stability Departments under the general direction of Ágnes Csermely, Director. The project was managed by Barnabás Virág, Senior Economist of Monetary Strategy and Economic Analysis, with the help of Viktor Várpalotai. 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 17 th May and 31 st May 2010. 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.

Contants

Summary

The domestic economy began to recover at the beginning of the year, buoyed by robust global activity	The outlook for growth and inflation in Hungary continues to be shaped by the pick-up in global economic activity and the slow recovery in domestic demand. In the conditional forecast, which has been produced on the assumption that the central bank base rate and the exchange rate remain unchanged at the April levels (5.25% and EUR/HUF 265.4, respectively), the strong expansion of exports and faster corporate stockbuilding may be able to offset the decline in consumption in 2010 and, consequently, the recession in Hungary may end this year. The economy is expected to grow at rates above 3% over the next two years, with the pick-up in domestic demand making an increasingly positive contribution. Despite the sharp increase in capacity utilisation, however, output is likely to remain below its potential level over the entire forecast period.
Inflation may settle around the target over the medium term	This year, the downward pressure on prices from weak domestic demand will be counterbalanced by the increase in energy prices stemming from global activity growth and depreciation of the euro. As a result, inflation is only expected to reach the Bank's 3% target in 2011. An upswing in domestic demand and higher imported inflation are likely to hinder a further decline in inflation in 2012, as also reflected in the upward path in core inflation.
The country's external financing capacity may remain positive over a longer period	While the slow recovery in consumption points to higher import demand, stronger external demand may partly offset the negative impact on the external balance of the pick-up in domestic absorption. Consequently, the trade balance may be much stronger over the medium term than in previous years. Hungary's external financing capacity may only begin to fall materially towards the end of the forecast period.
A sharp turnaround in the positive investor sentiment was caused by the spread of uncertainty related to sovereign debt problems and the stability of the euro area	Until mid-April, investor sentiment on the international financial markets was essentially positive, due mainly to the release of positive macro-economic data during the period. There was a material improvement in the assessment of risks associated with the Central and Eastern European countries, including Hungary, as reflected in exchange rate appreciation and a decline in risk premia. As a result, our baseline assumptions include i) a base rate that is below its February level, and ii) a more appreciated EUR/HUF exchange rate. From mid-April, however, there was a reversal in investor sentiment as the Greek debt crisis widened. Risk premia in euro-area Member States with relatively weaker fiscal positions began to rise first, followed by countries with significant exposures to Greece. After this, concerns about the prospects for the entire euro area soon began to emerge, leading to a sharp decline in general risk appetite. Even the announcement of a joint EU and IMF emergency package was insufficient to provide much relief. Investors worldwide have recently been closing-out their positions in risky assets.
The buoyant external demand was	The recession in Hungary ended in 2009, with GDP expected to begin growing on a quarterly basis this year, coupled with a likely

strengthened by some temporary factors thus the current strong expansion is surrounded by some sustainability risks	increase in the annual average rate of growth. This turnaround in growth is mainly due to the development of global economic activity. The robust expansion of demand in Asia is expected to drive up Hungarian exports both directly and indirectly, through rising exports of Hungary's major European trading partner economies, primarily Germany. The effects of international fiscal stimulus measures and corporate stockbuilding also turned out stronger than we expected, which improves the short-term outlook for Hungarian exports as well. Due to mounting concerns about fiscal sustainability at the international level, however, countries are expected to make greater efforts to adjust their fiscal positions over the medium term. Consequently, the current strong expansion in external demand is unlikely to be sustained over the medium term.
Domestic demand may pick up from 2011 onwards	Recent data suggest a somewhat more robust picture of household consumption growth than we previously expected. The reduction in macroeconomic uncertainty in recent months, the sharp correction in the money and capital markets over the past few quarters and the decline in real interest rates to low levels all may have been contributing factors. Nevertheless, the sector's income prospects, persistently high unemployment and the banking sector's much more subdued lending activity suggest that consumption will remain relatively low over the short run. Consequently, household consumption expenditure is expected to be significantly lower this year than in 2009. The recovery in consumption as an effect of rising incomes is only expected to contribute to domestic economic activity after 2011, which is likely to be supported by the banking system's increased willingness to lend. Gross corporate capital formation is expected to increase this year, closely related to faster-than-anticipated stockbuilding and several large investment projects. By contrast, demand in the household sector is likely to continue declining sharply in 2010. On balance, therefore, whole-economy investment is only expected to pick up materially in 2011.
Economic growth is not accompanied by a sharp fall in unemployment, and thus labour market conditions may remain loose	During the downturn, companies retained their workforce at higher levels relative to actual demand conditions, in order to minimise the costs of hiring and firing. Consequently, and probably also because of the anticipated increase in labour productivity, the economic upturn is unlikely to initially be accompanied by employment growth on a similar order of magnitude. The number of private sector employees is only expected to start rising slowly in 2011, with unemployment likely to remain high over the entire forecast period. Hence, the stronger-than-expected pick-up in activity and higher inflation are unlikely to be associated with a significantly faster rise in private sector earnings over the period to the end of 2011, owing to the loose labour market conditions. The wedge between domestic and external demand growth is expected to lead to differences between sectors in the labour market as well: wage inflation and employment growth in manufacturing are expected to pick up earlier than in market services.

The decline in lending to companies may come to an end this year, but tighter lending conditions for households are expected to persist over the longer term	Lending to the private sector continues to be very subdued. Bank credit to the corporate sector has fallen sharply, but the rate of decline has slowed compared with the previous two quarters. Banks plan to increase their outstanding lending to companies significantly this year, which may be a sign of an imminent turnaround. Due to the tight lending standards, however, the range of companies with good creditworthiness is very narrow, and so far there are few signs that credit standards will ease over the near term. The household sector is increasingly a net repayer of debt, and it seems likely that the decline in lending to households will be protracted. One positive development, however, is that forint loans as a percentage of total new lending have been rising recently.
Inflation may reach the 3% target in 2011, due to subdued domestic demand and the impact of higher energy prices, which are being driven up by global economic activity	The outlook for inflation is shaped by rising global economic activity and the prolonged weakness in domestic demand. The disinflationary effect of the negative output gap is likely to remain in 2010, as reflected most markedly in the components of core inflation. On the other hand, energy price inflation, which is driven by rising global activity, and administered price increases are exerting upward pressure on inflation over the short term. As a result, the CPI index is likely to remain close to 4% in the second half of 2010, even after the effects of the increase in indirect taxes drops out of the index. Despite the recessionary environment seen in recent years, achievement of the inflation target will be delayed. Core inflation, and particularly services inflation, may fall to a historic low by the end of this year. Weak domestic demand and loose labour market conditions are conducive to low inflation. Although output will remain below potential over the entire forecast horizon, core inflation will begin rising gradually from 2011 as domestic demand picks up. All in all, over the horizon relevant for monetary policy headline inflation is likely to settle near the 3% target.
Risks to inflation are on the upside, while those to growth on the downside	In terms of the real economic forecast, the development of external demand represents the most important risk. The sharp rise in external demand in recent quarters has occurred in conjunction with a significant build-up of government debt in developed countries. As investors have started to pay increasing attention to the sustainability of debt paths in their decisions in recent months, fiscal adjustment measures may be necessary even in the near term. This would affect Hungary's growth prospects negatively, while at the same time presumably dampening imported inflationary pressure. The currently high level of inflation expectations, however, continues to pose an upside risk to the inflation outlook. Slow adjustment of expectations may again translate into an acceleration in inflation as the economic recovery gathers speed. In respect of the longer-term outlook for inflation, upside risks stem the possible downward bias in our oil price assumption, coupled with its overall weak predictive power. On balance, risks to external demand represent a downside risk to growth from 2011, while there are strong upward risks in relation to the baseline projection for inflation.

Rising government revenue due to the pick-up in economic activity may result in a downward path for the deficit from 2011	According to our fiscal projection, based on the actual fiscal law and some technical assumptions for 2011-2012, higher-than-planned government expenditure and revenue shortfalls are likely to contribute to the deficit exceeding the official target by more than 0.5 percentage point in 2010. Looking forward, assuming no policy change, the government deficit is expected to fall from 2011, supported by rising revenue as the output gap closes and based on savings expected from a modest increase in expenditure, the cyclical improvement in local government balance and falling interest payments. Structural pressures in the government budget, partly related to quasi-fiscal activities, continue to pose significant risks. Managing these pressures may lead to a higher deficit even over the short term. Public sector debt may stagnate this year, followed by a slow decline from 2011.

Chart 1: Inflation projection fan chart

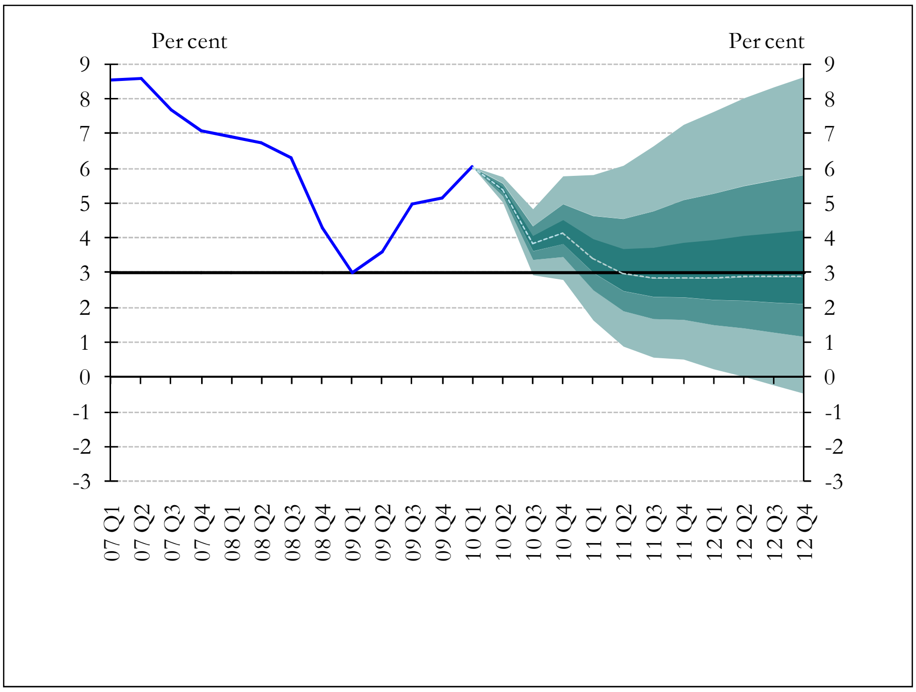
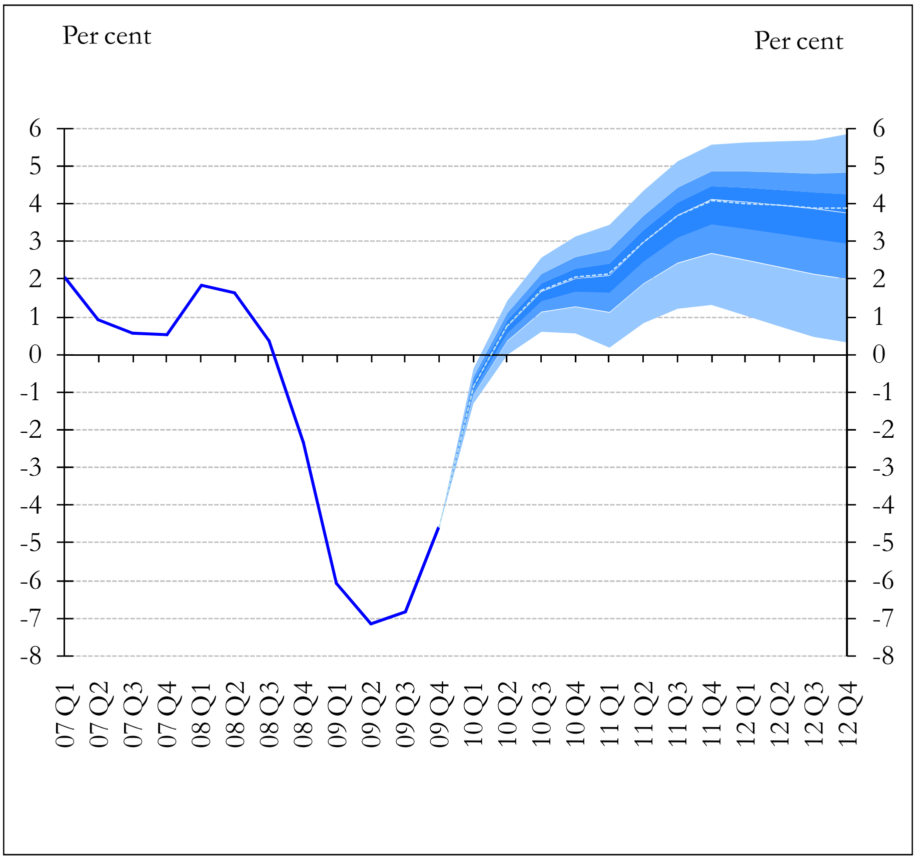


Chart 2: GDP projection fan chart
(seasonally adjusted, reconciled data)



Summary table of 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 previus year.)

	2009	2010	2011	2012
	Actual	**Projection**		
Inlation (annual average)				
Core inflation[1]	4,1	3,0	1,6	2,5
Consumer price index	4,2	4,9	3,0	2,9
Economic growth				
External demand (GDP based)	-4,3	1,5	2,0	2,3
Household consumption expenditure	-7,6	-2,6	3,0	4,3
Gross fixed capital formation	-6,5	1,4	5,5	6,0
Domestic absorption	-11,5	-0,2	3,1	3,9
Export	-9,1	8,8	8,1	10,1
Import	-15,4	8,1	8,4	10,7
GDP*	-6,3	0,9	3,2	3,9
External balance[2]				
Current account balance	0,2	-0,6	-0,9	-1,4
External financing capacity	1,6	1,4	1,4	0,8
Government balance[2]				
ESA balance[3]	-4,0	-4,5 (-4,3)	-3,9	-2,9
Labour market				
Whole-economy gross average earnings[4]	0,5	2,7	4,4	5,4
Whole-economy employment[5]	-2,5	-0,8	0,3	0,7
Private sector gross average earnings[6]	4,4	4,2	4,4	5,4
Private sector employment[5]	-3,8	-1,6	0,4	0,9
Unit labour costs in the private sector[5,7]	8,2	-1,4	1,2	2,0
Household real income**	-4,6	-2,9	2,5	3,0

[1]From May 2009 on, calculated according to the joint methodology of the CSO and MNB. [2]As a percentage of GDP [3]The numbers in brackets refer to the deficit achievable in case of total blocking of budgetary reserves. In our forecast we have not taken into consideration any risk from debt assumptions. [4]Calculated on a cash-flow basis. [5]According to the CSO LFS data. [6]According to the original CSO data for full-time employees. [7]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.*

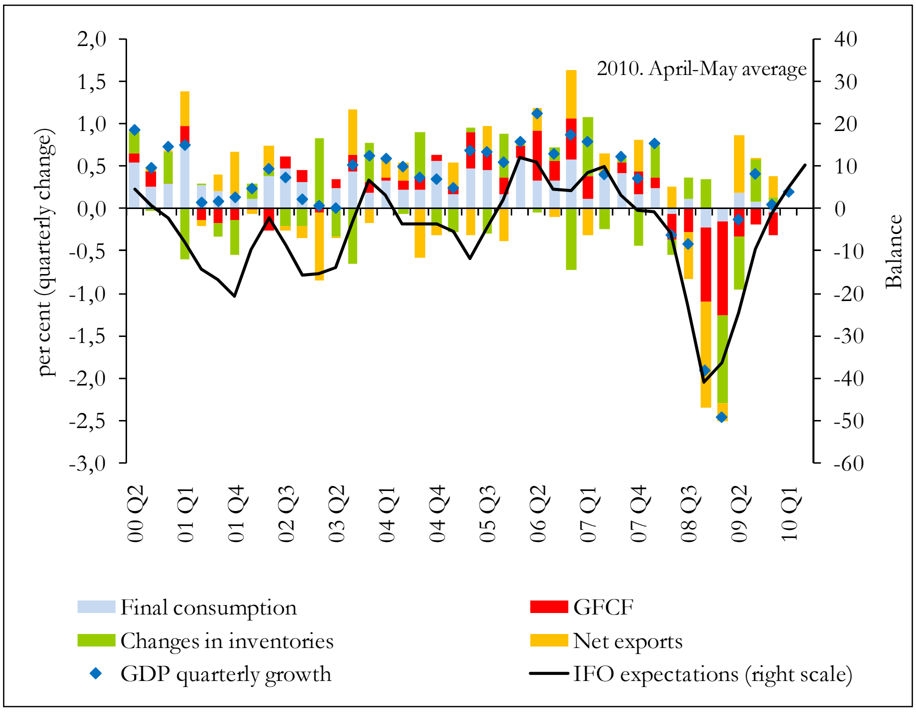
*** MNB estimate.*

1. Evaluation of macro-economic data

The steady improvement in external economic activity is increasingly beneficial to the domestic export sector as well

The improvement in the global economic activity observed since the middle of last year has continued in recent quarters. Although domestic demand in developed economies has continued to be extremely subdued, the dynamic increase in the demand of the Asian region has resulted in a stronger-than-expected recovery in foreign trade. The more robust external environment has also had a favourable impact on developments in domestic growth, and as a result domestic economic activity began to recover from the recession at the beginning of this year, lagging behind the global and regional trends. While external demand has been dynamic, domestic demand has remained weak. Consequently, the heterogeneity characterising recent years may remain in 2010.

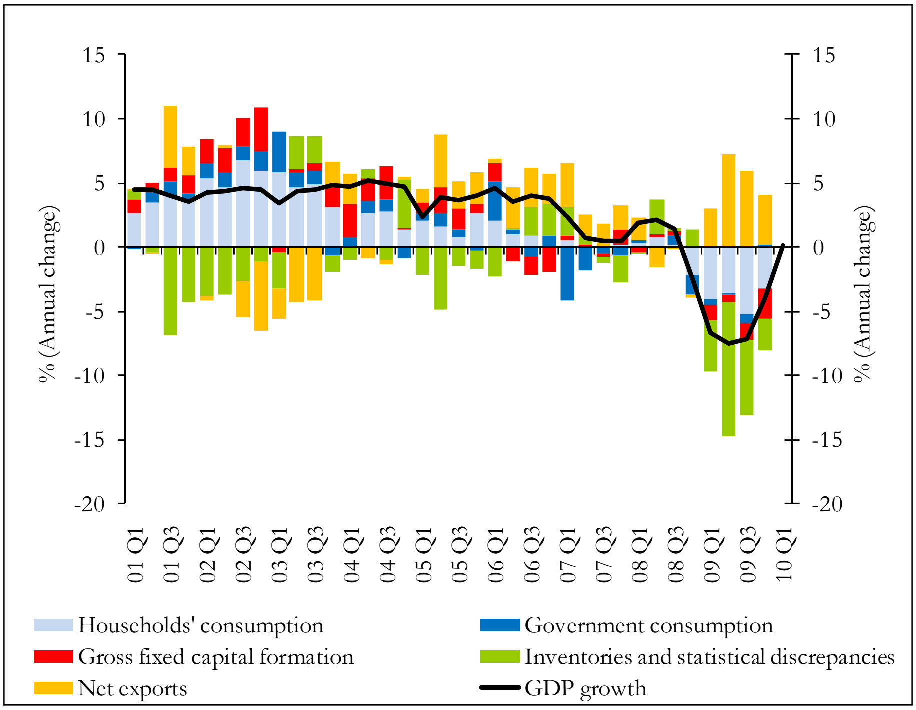
Chart 1-1 Euro area growth and the IFO confidence index
(seasonally adjusted data)



The structure of domestic GDP growth in recent quarters diverged from our previous expectations. The key components of domestic demand developed more favourably than projected in our short-term forecasts. Despite the persistently weak labour market environment and subdued lending activity, household consumption is restraining the development of domestic growth less and less. The smaller decline in consumption may be attributable to a correction in consumption–savings behaviour, which changed drastically during the crisis. Corporate and household investment activity remained subdued in recent quarters, with significant new investments only occurring in the government sector, primarily financed from EU funds. In line with the increase in demand – following the slump at the end of last year – inventories in the economy may have considerably increased at the beginning of this year.

The Hungarian export sector is also increasingly benefiting from the revival in external economic activity, and this – coupled with unchanged weak import demand and improvement in the terms of trade – has resulted in a substantial trade surplus in recent months as well.

Chart 1-2 Contributions of the main absorption items to changes in GDP



Labour market developments continue to be determined by companies' adjustment to the unfavourable profit situation. Towards the end of last year a decline in layoffs was observed in the competitive sector, while the diverging trends observed in the real economy resulted in substantial differences in wage developments as well. A slowdown in wage growth is especially typical in the domestic services sectors, whereas improving sales results have already been reflected in the acceleration of wages in manufacturing.

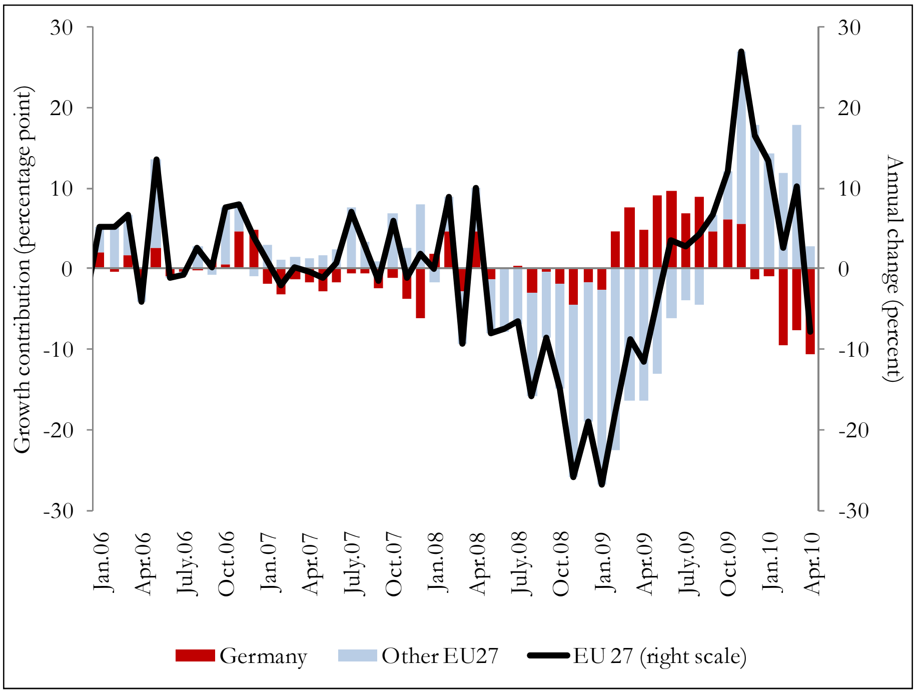
Developments in inflation continue to be determined by the dual trends of the price-reducing effect of weak demand and the government's indirect tax measures on the one hand, and strengthening imported inflation on the other. In spite of the significant economic downturn, the annual inflation rate was around 6 per cent at the beginning of the year, i.e. higher than the medium-term inflation target. At the same time, in line with weak domestic demand, loose labour market conditions and the forint exchange rate, which was stable in recent months, our indicators characterising the inflation trend continue to indicate historically low levels.

1. 1. Steady recovery in global economic activity and strengthening imported inflation effects

Since the turning point in mid-2009, the recovery in global economic activity has been unbroken in the past quarters. Along with the increase in key international confidence indicators, this steady pick-up has also been clearly observed in production data as well.

One of the most important factors behind this upswing was the implementation of fiscal measures to boost demand. Although these programmes have come to an end in some economies, their positive impact is still being felt in the first half of this year still. As a steep, immediate fall in demand has been observed in the countries where these programmes have already ended, e.g. the German vehicle scrapping scheme, with the gradual fading out of the programmes that are currently still in effect we can expect to see a similar decline in demand in all developed economies in the second half of the year.

Chart 1-3 New car registrations in Europe



Source: www.acea.be

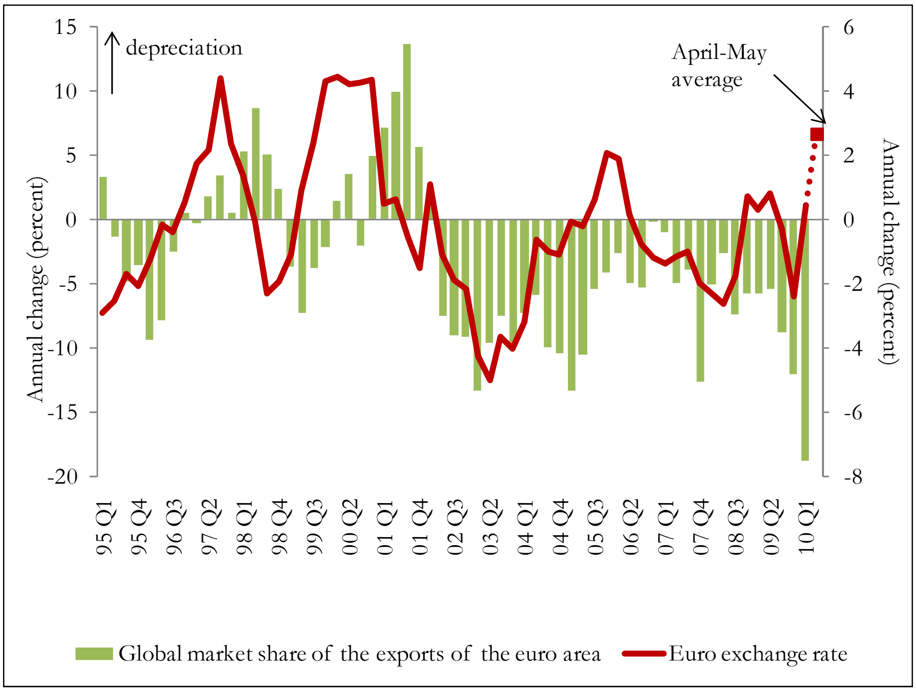
In addition to the fiscal economic stimulation packages introduced in developed economies, the demand of Asian and developing – mostly raw material exporting – economies, which is expanding dynamically again, also contributed significantly to the recovery in world trade in recent quarters. By the beginning of this year, exports to the aforementioned regions reached or even exceeded the levels typical of the pre-crisis years. The pick-up in foreign trade with Asia improves the growth prospects of the Hungarian export sector directly and indirectly as well. The indirect channel is the increase in the exports of the euro-area economies, mainly Germany, which account for a substantial share of Hungary's export sales. This was also facilitated by the depreciation of the exchange rate of the euro against the US dollar, which was typical of the past quarters, and the improvement in the price competitiveness of the euro area also stimulates the exports of Hungary and the region via supplier relations.

Box 1-1 Possible effects of the euro effective exchange rate on domestic activity

The exchange rate of the euro has shown significant fluctuations since the outset of the international financial crisis. In 2008 H2, the euro depreciated by nearly 24 per cent against the US dollar, which played the role of a 'safe haven' currency in the period of greatest uncertainty. As the crisis faded, the euro appreciated gradually, before depreciating strongly again in 2010 H1, as a result of the uncertainties related to Greek government debt.

In the past, the performance of euro-area exporters tracked changes in the exchange rate with a delay of several quarters. Accordingly, depreciation of the euro (and its predecessors) was typically coupled with an increase in export market share. The weakening euro may also allow European companies to gain market shares in those Asian markets which are recovering from the crisis most dynamically. As most Hungarian exporters are suppliers of export-oriented Western European companies, changes in the exchange rate of the euro may have a substantial effect on domestic business activity as well. This box attempts to quantify this effect.

Chart 1-4 Euro exchange rate and the global market share of euro-area exports*



** Global market share = goods exports volume of the euro area / goods imports volume of the world (source: CPB Netherlands). The source of the nominal effective exchange rate data is the ECB.*

The direct impact of the effective exchange rate of the euro, and of the EUR/USD cross rate in particular, on Hungarian exports may be small, because more than 80 per cent of exports is settled in euro.[1] The USD exchange rate may only directly affect the sales revenues of a few sectors (e.g. the pharmaceutical industry). The indirect effects, however, may be more significant. First, depreciation of the euro improves the price competitiveness of euro-area exporters, which may generate demand for their Hungarian suppliers as well. Second, the export-driven GDP growth of the euro area means market expansion for all Hungarian exporters. Finally, this may somewhat be offset by the fact that inflation in the euro area may increase with depreciation of the euro, to which the common monetary policy may react with an interest rate hike.

In order to assess the indirect effects of the euro exchange rate on the Hungarian economy, we first need to study how the exchange rate of the euro affects growth and inflation in the euro area, because these are particularly important exogenous factors for domestic business activity. An ECB analysis prepared in 2008[2] used several methods to examine how the exchange rate influences euro-area macroeconomic developments. In addition to using the dynamic general equilibrium Area Wide Model (AWM), they also carried out simulations with a Global VAR (GVAR) model, which took account of the interactions of 26 countries and regions. Furthermore, the study[3] presenting the OECD's new global macro model also simulates the international effects of euro depreciation. These models present the effect of the exchange rate shock with the historically usual reaction of monetary policy. In addition, with the NiGEM international macro model we simulated an exchange rate shock,

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[1] Goldberg, L. S. – Tille, C. (2008): Vehicle Currency Use in International Trade, *Journal of International Economics*, 76 (2), 177-192 (December).

[2] Di Mauro, F. – Rüffer, R. – Bunda, I. (2008): The Changing Role of the Exchange Rate in a Globalised Economy, European Central Bank, Occasional Papers No. 94 (September).

[3] Hervé, K. – Pain, N. – Richardson, P. – Sédillot, F. – Beffy, P. (2010): The OECD's New Global Model, OECD Economics Department, Working Paper No. 768, ECO/WKP (2010) 24 (May).

the inflationary effects of which monetary policy does not react to. The underlying motive may be that with the current weak demand conditions inflationary pressure is low in the euro area.

Table 1-1 The impulse response of selected macro variables of the euro area to a 10 per cent depreciation in the nominal effective exchange rate of the euro

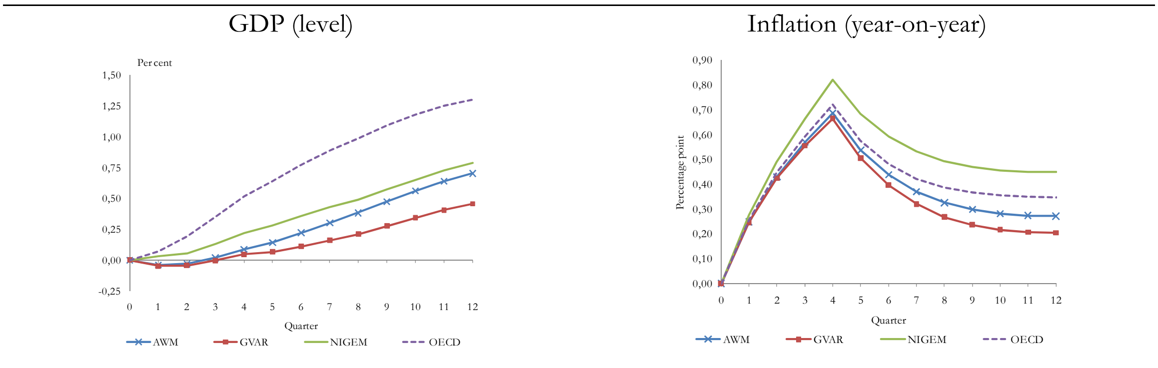
(percentage deviation from the baseline scenario after 1/2/3 years)

Model	Eurozone GDP	Eurozone price
AWM (EKB, 2008)	0.2 / 0.6 / 0.9	0.3 / 0.9 / 1.4
GVAR (EKB, 2008)	0.2 / 0.4 / 0.6	0.2 / 0.5 / 1.0
NiGEM	0.5 / 1.1 / 1.3	1.4 / 2.4 / 3.4
OECD (2010)	0.7 / 1.3 / 1.7	0.3 / 0.7 / 1.0

A permanent 10 per cent depreciation of the euro increases the levels of GDP and prices in all three models. In terms of magnitude, the impulse responses of the AWM and the GVAR are similar, while the reaction in GDP is stronger in the OECD model. For lack of monetary policy tightening, much stronger impulse responses result from the NiGEM simulation.

In the following, the DELPHI model (see related Box) is used to examine how the change in the growth and inflation environment of the euro area affects the Hungarian economy. External demand, euro-area inflation and the EUR/USD exchange rate are exogenous variables for us, the shocks of which are calculated from the results of the above simulations.

Chart 1-5 Impulse response of selected macro variables of the Hungarian economy to a 10 per cent depreciation in the nominal effective exchange rate of the euro

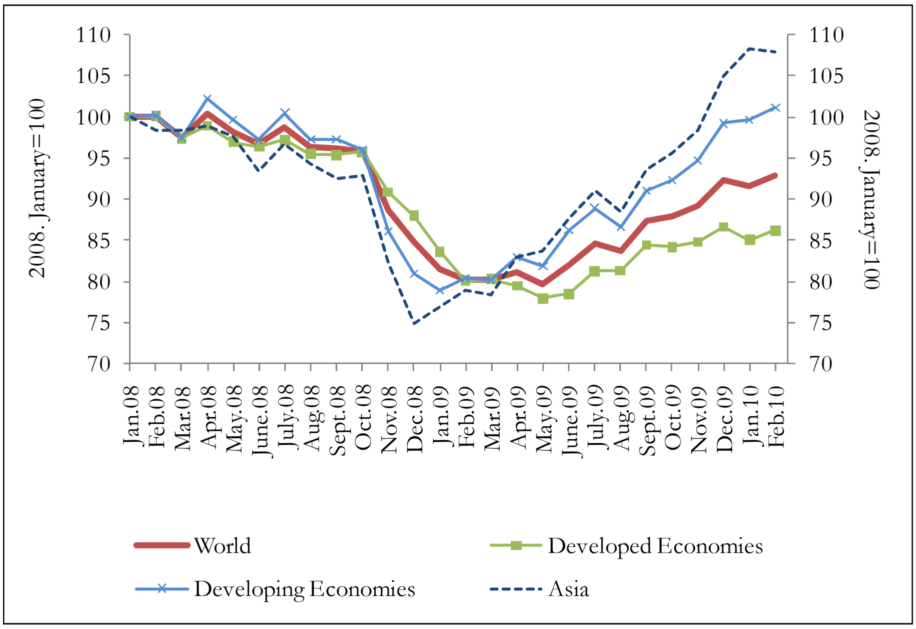


Note: The impulse responses show the deviation from the basic forecast of the DELPHI model. The shocks of the exogenous variables of the DELPHI model were derived from several types of models (AWM, GVAR, NiGEM and OECD).

The model simulations suggest that fluctuations in the EUR/USD exchange rate may have a significant effect on domestic economic activity, primarily through the performance of the export sector as a supplier to the euro area. Depreciation of the euro, however, raises inflation, mainly through the price of oil, which in turn reduces households' real income and hinders consumption. On the whole, assuming a stable EUR/HUF exchange rate, a 10 per cent depreciation in the effective exchange rate of the euro may raise Hungarian GDP growth by 0.2-0.3 percentage points on average over a period of 2-3 years.

Although there have been substantial exchange rate movements in both directions in recent months, on balance the euro has depreciated since the outbreak of the global crisis. The level of the EUR/USD exchange rate assumed over our projection horizon is nearly 5 per cent weaker than the average exchange rate of the previous 12 months. Therefore, assuming a fixed EUR/USD exchange rate, a positive effect on the domestic export sector can be expected, which may be reflected in GDP developments as well. On the other hand, a weaker euro increases inflation mainly through the prices of energy.

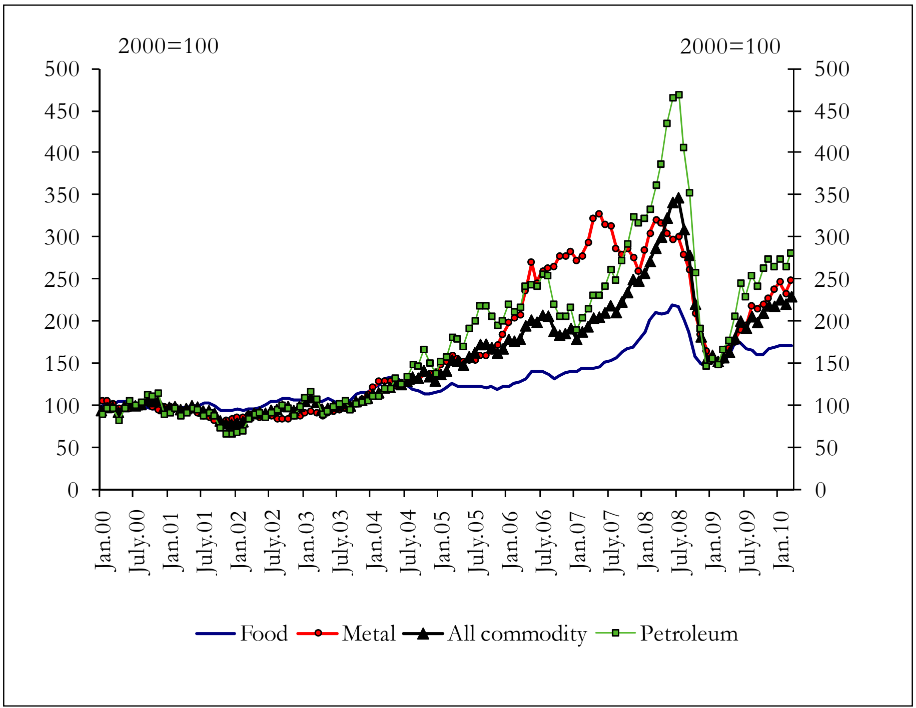
Chart 1-6 Changes in the volume of goods imports of the world
(seasonally adjusted levels)



Source: CPB Netherlands

The pick-up in global economic activity, especially Asian economic activity, has put global commodity prices back on an upward path again. As a result of EUR/USD exchange rate weakening, the related effects on inflation are especially strongly felt in Europe's commodity-importing economies. The only exceptions are food prices, where, in view of the anticipation of favourable crop results, no significant increases have been observed for the time being. Overall, however, the rise in commodity prices expressed in euro may result in increasing cost-side inflationary pressure in domestic inflation as well.

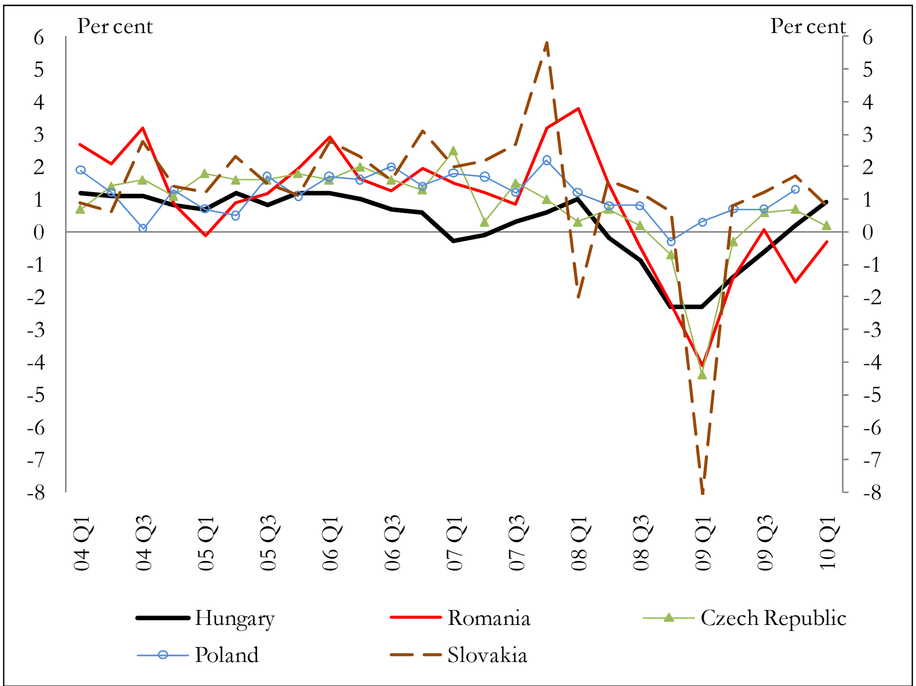
Chart 1-7 Global commodity prices



1. 2. Recession in Hungary that has lasted for nearly two years came to an end

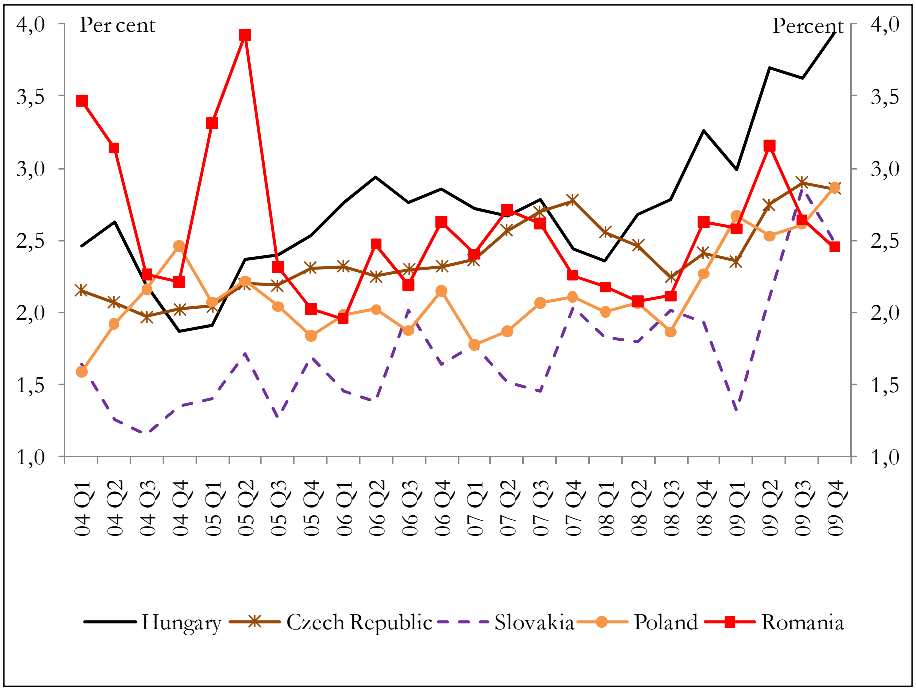
The pick-up in international economic activity had a favourable effect on industrial production of the whole region, including Hungary. Although the recovery of the Hungarian economy followed the regional trends only with a delay, owing to the persistently subdued development of domestic demand and despite the upturn in export sales, the increase in 2010 Q1 can be considered strong even in an international comparison.

Chart 1-8 Economic growth in the region
(quarterly changes)



The growth in domestic demand in developed European economies continues to be restrained. Therefore, the dynamic expansion of regional export sales typical of recent quarters is mainly related to supplier activities for the exports of Hungary's main trading partners. At the same time, it is worth mentioning that in the case of Hungary the increase in demand in Asia does not only appear through indirect relations, but also in a direct manner. As a result of the dynamic growth in exports to Asia in the past half year, Hungary's share of Asian markets increased in a unique way in the region, albeit from a low level. Over the short run, a gradual fading out of the European fiscal demand-stimulating programmes is expected. However, with the more depreciated euro/dollar exchange rate, the resulting negative effects may be offset by the growing Asian trade of Hungary's main export partners, including Germany in particular. Accordingly, all in all, the external demand environment may be more favourable than our earlier expectations in the coming quarters as well, which is also expected to be increasingly beneficial for the domestic industry through supplier relations.

Chart 1-9 Exports of the countries of the region to Asia as a percentage of their total exports

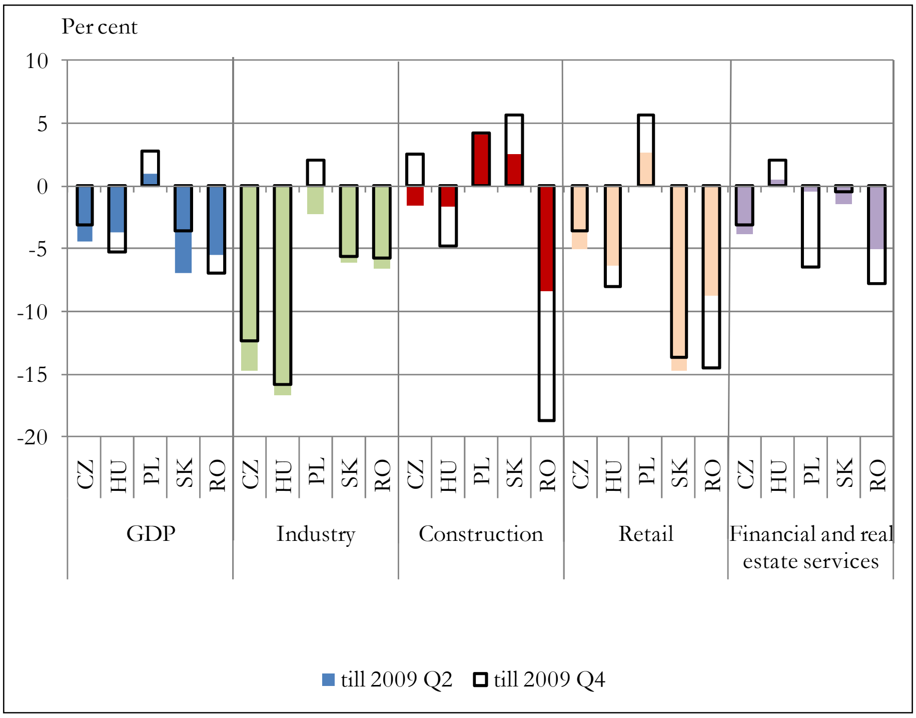


As opposed to companies producing for export, the output of the main sectors producing for the domestic market has continued to decline in recent quarters, albeit at a slower and slower pace. The reasons behind this are still restrained household consumption and investment, and weak corporate willingness to invest. In the first months of this year, however, there have already been some perceptible signs that the turnaround in household consumption may take place sooner than we previously expected, which may also have a favourable impact on the performance of some services subsectors (trade, tourism). Accordingly, in the first quarter the domestic economic recovery may be borne not only by exporting companies, but by improving output in some domestic sectors as well.

Only thefinancial, real estate and other business services sector showed a continuous increase in value added during the crisis period. This phenomenon is unmatched in the region, because in parallel with the decline in lending activity and the collapse of the real estate market the performance of this sector declined everywhere, except in Hungary.

Chart 1-10 Performance of the main sectors in the region

(compared to 2008 Q4)

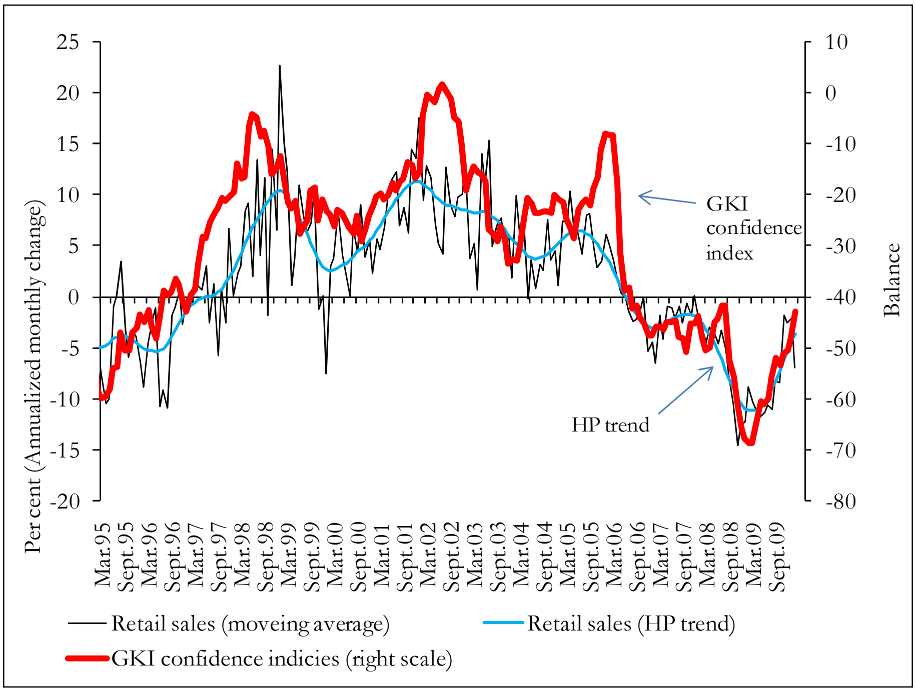


Of the sectors with a lower weight, the value added of agriculture exceeded the average in 2009 as well. But in view of the outstanding harvest results in 2008, the contribution of the sector to the development of domestic GDP was negative last year. The performance of the construction industry declined steadily last year. There were striking differences behind the decline within this sector. While the fall in household and corporate building investment was significant, government investment in infrastructure, which was mostly financed from EU sources, somewhat offset the magnitude of the decline. Data for the first months of 2010 indicate that this trend is continuing. Based on developments in the total number of contracts in the construction industry and housing market indicators (construction of new homes and permits issued), we expect a further sharp fall in household investment over the short run, the negative effects of which may be mitigated by investment based on EU funds and the implementation of some large individual projects.

The substantial differences between the outputs of individual sectors are quite visible in the main use items of GDP as well. Household consumption declined significantly at the end of 2009 as well, but the magnitude of the decline was smaller than we had projected. Based on Q1 retail trade figures, the more favourable consumption path may remain in place in the first half of this year as well, and accordingly the turnaround in household consumption may happen earlier. Considering that the developments in the main economic variables determining household consumption (labour market data, lending activity of financial intermediaries) were in conformity with our expectations, the underlying reason for the more favourable consumption figure must be sought in other factors that influence households' consumption–savings decisions.

In this regard, factors deserving mention include the decline in general macroeconomic uncertainty, the favourable effects of the strong money and capital market adjustment on households' financial wealth, the considerable personal income tax reduction at the beginning of the year and the decline in the real interest rate to a low level by the end of last year (see the box below). In line with these effects, households' rapid balance sheet adjustment observed in the crisis period did not continue in the past quarters. The favourable shift in household consumption demand may have remained typical in the first months of this year as well, although this may still be accompanied by a slight decline in consumption.[4]

Chart 1-11 The developments in retail sales and consumer confidence indicator



Box 1-2 Main factors determining households' consumption–savings behaviour during the crisis

Remarkable changes have been observed in households' consumption–savings behaviour since the autumn of 2008. Owing to the labour market adjustment, government measures, the increased uncertainty and developments in bank conditions, from 2008 the household sector, which had produced a rapid increase in debt in 2006 and 2007, was compelled to significantly adjust its earlier consumption path, which was coupled with an increase in the savings rate. At the end of last year, however, the signs observed in the developments in consumption were already more positive than earlier, in spite of the still declining consumption expenditures. This box summarises the changes in the factors that may have had the greatest effect on households' consumption–savings decisions.

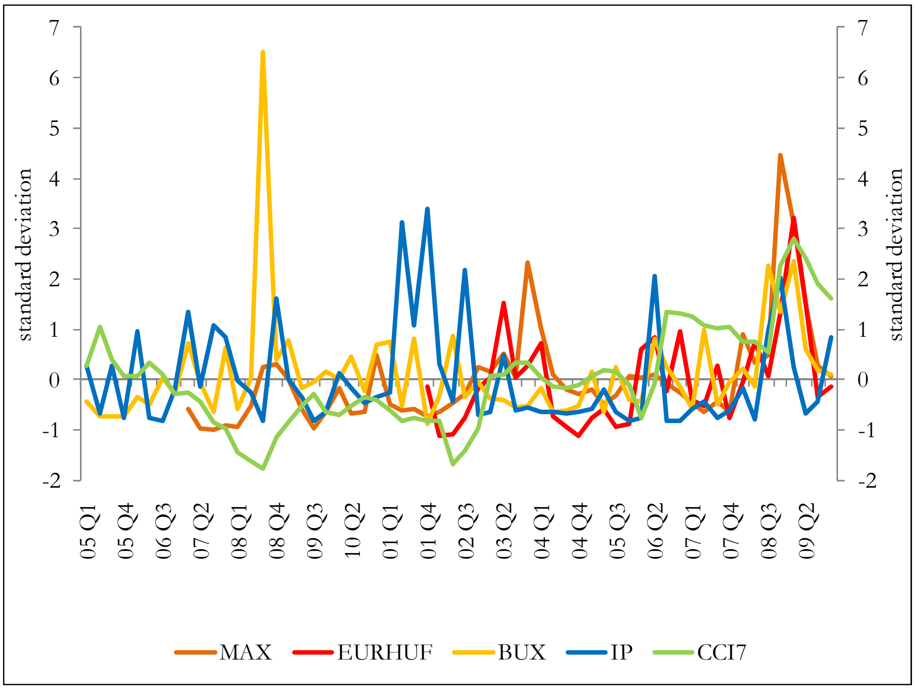
According to our theoretical framework, i.e. the permanent income hypothesis, households reduce their consumption when they foresee a decline in income expected over the long term, and increase consumption when they expect an increase in income. Permanent income may best be approached by stable, predictable incomes, such as labour incomes and cash transfers received from the government. However, these income elements had already declined in the pre-crisis years as well, and this process intensified in the period following the crisis in line with labour market developments (increasing wage adjustment and unemployment) and government measures (freezing of wages, termination of the 13th-month salaries in the public sector, termination of the 13th-month pension, abandoning the planned pension adjustment etc.). At the same time, the personal income tax reduction at the

[4] It is important to note, that there were greater difference between the indicators of household's consumption in the last quarters than earlier. In 2009 Q4 the difference was significant between the consumption and the retail sales data, while in 2010 Q1 the same phenomenon could be observed between the number of new registrated cars, and the retail sales of cars and car parts. Because of the great uncertainty of the data, our point of view about the household's consumption-savings decisions are more uncertain.

beginning of this year may have had a perceptible positive effect among a wide range of employees. This may have a positive impact on *expectations related to the expected income path* as well, which, based on past experiences, become more favourable in the period of parliamentary elections anyway.

In the months of the crisis, income declined with a simultaneous increase in its *uncertainty*. This stemmed from the increasing riskiness of the real-economic environment (fall in production, increase in unemployment), from money and capital market developments (exchange rate changes, asset prices) as well as from the behaviour of the budget and the banking sector. The developments are well demonstrated by our indicators calculated to quantify uncertainty. By end-2009, however, the uncertainty indicators had fallen back close to the level of the pre-crisis period. All this is in line with the developments in households' consumption–savings decisions: the motives of precautionary savings strengthened in the period of high uncertainty, but by the end of the year they weakened again.

Chart 1-12 Changes in uncertainty indicators5



** MNB estimate*

In the first quarters of the crisis, the turbulent money and capital market developments substantially *devaluated households' financial wealth*, which may have increased households' savings initially. As a result of the developments in the last half year (adjustment in stock exchanges, appreciation of the forint exchange rate), however, the decline in households' net financial wealth was already offset. Accordingly, the further improvement of the financial situation may have forced households to increase their propensity to save to a smaller extent than in the previous quarters.

Finally, *bank conditions* may also have influenced households' behaviour significantly. In the first months of the crisis, owing to the decline in credit supply and the high deposit interest rates in real terms, households reduced their consumption and increased their bank deposits. With the decline in the central bank base rate, the improvement in risk perception and the easing in commercial banks' dependency on internal sources, however, the net real interest rate attainable on new deposits declined to almost zero, making bank deposits less attractive, which also fosters an increase in consumption expenditures.

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[5] – MAX: MAX is the quarterly dispersion calculated from the daily data of the index containing domestic bonds with a maturity of over one year. It is related to the shocks to households' financial wealth, which have a significant impact on consumption–savings decisions.

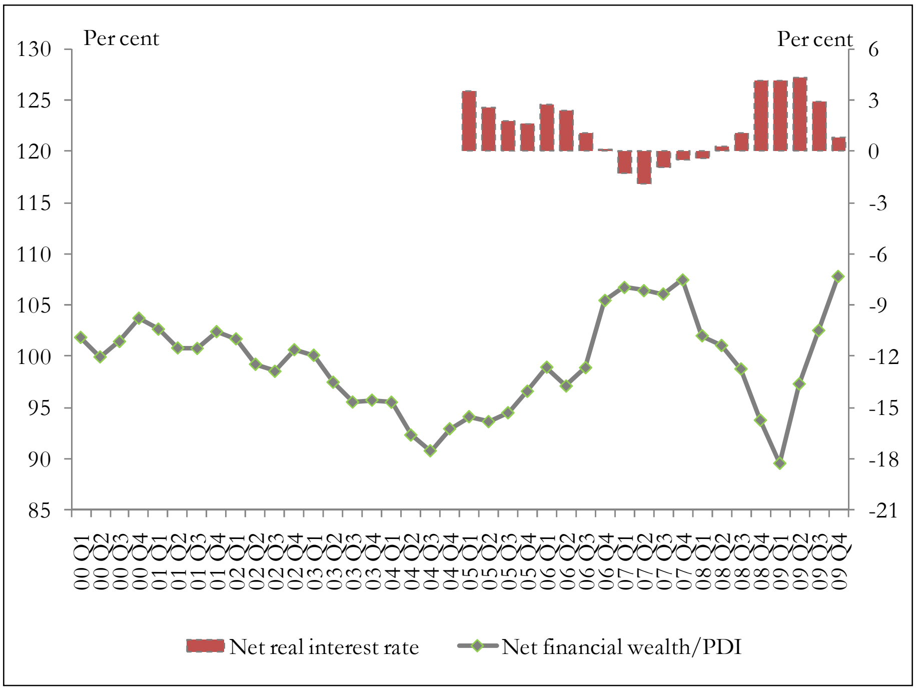
– EUR/HUF: The quarterly dispersion calculated from the daily EUR/HUF exchange rates. The fluctuations in the instalments of those who borrowed in foreign currency can be approached with it, which influence debtors' disposable income and thus their consumption decisions as well. In addition, through companies' exchange rate exposure, it has an indirect effect on households' income.

– BUX: Quarterly GARCH dispersion indicator calculated on the basis of the daily data of the BUX index. It may be related to the shocks to households' financial wealth.

– IP: Quarterly GARCH dispersion indicator calculated from the month-on-month increase in industrial production.

– CI7: Question 7 of the confidence indicator survey of GKI, regarding expected developments in unemployment (standardised balance indicator). Expectations regarding the probability of unemployment may measure income prospects and their uncertainty.

Chart 1-13 Households' net financial wealth and the net real interest rate

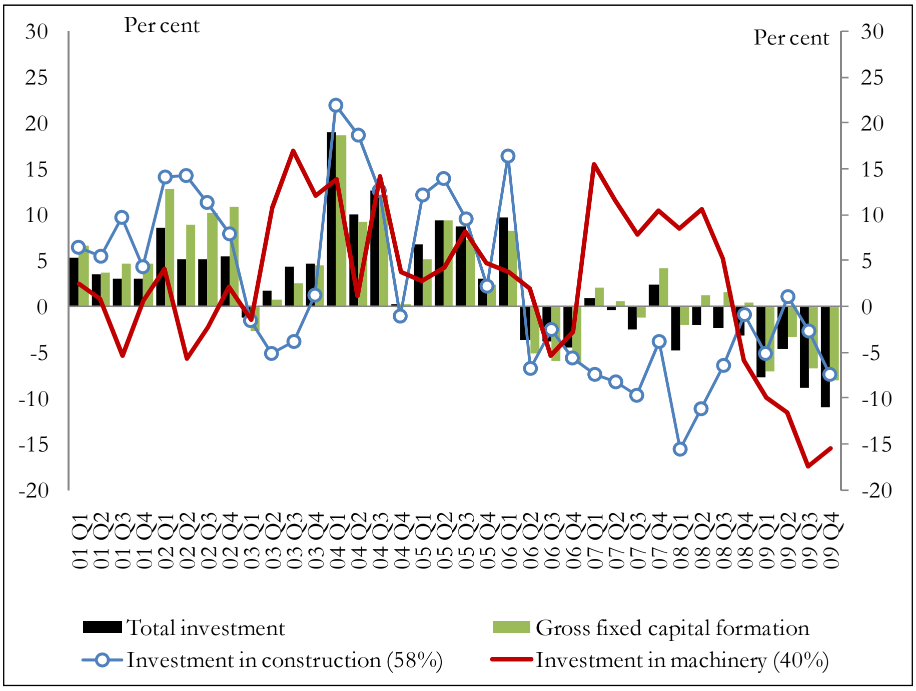


In summary, several factors can be identified that accelerated the adjustment of households' consumption–savings behaviour in the initial period of the crisis, but have had the opposite effect in recent months.

The decline in whole-economy investment continued to worsen at the end of 2009. In parallel with the still historically low level of capacity utilisation, the sharpest falls continued to be recorded in investment in machinery (primarily by corporations), but in the second half of the year building investment also showed a deepening decline. This latter development is mainly the result of the significant decline in household investment. The tightening of the government housing support scheme in the middle of the year and commercial banks' subdued lending activity resulted in a strong reduction in the construction of new homes and housing purchases among households. Based on this year's available housing market indicators, the decline in household investment may continue over the short run as well, while with an increase in external demand – in parallel with a rise in capacity utilisation – the implementation of new investment may already become necessary in manufacturing industries. Government investment financed from EU funds will remain decisive in the coming quarters as well.

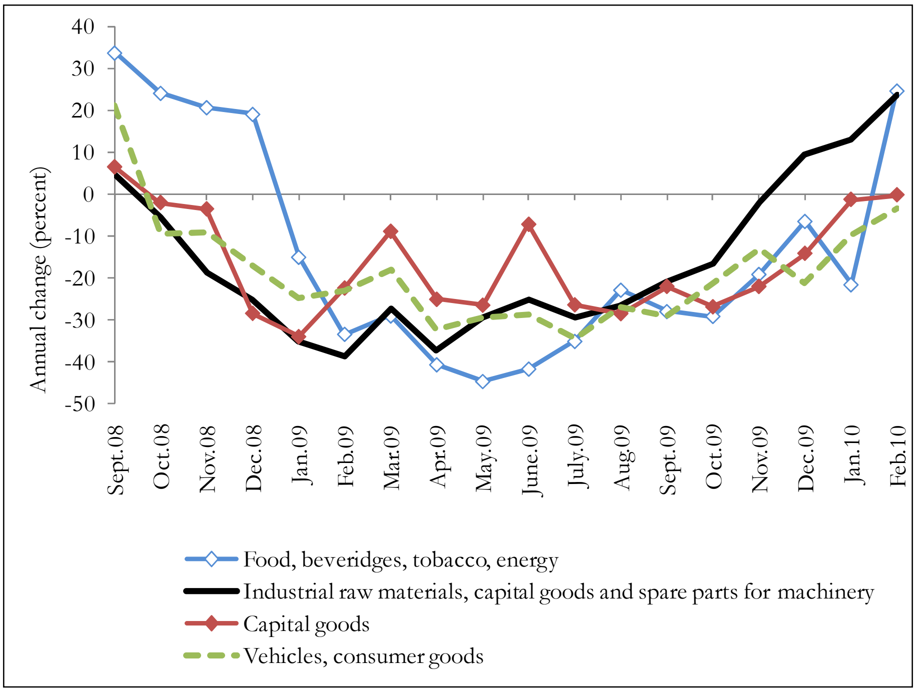
Chart 1-14 Whole-economy investment

(annual index)



The decline in whole-economy inventories did not continue in the second half of 2009. With the steady pick-up in external economic activity and in parallel with the increase in capacity utilisation, the replenishment of inventories in manufacturing – which fell drastically in the first period of the crisis – may become necessary again. This is indicated by import data from the beginning of the year. Dynamic import growth was particularly strong in the case of vehicle and other parts used for further manufacturing. At the same time, with the decline in uncertainties surrounding the path of domestic demand, replenishment of inventories is expected in the trading sector as well. Consequently, inventory accumulation may make an important positive contribution to domestic GDP growth in the first quarters of 2010, as opposed to last year.

Chart 1-15 Changes in Hungary's imports



The recovery of the domestic economy from the crisis started at the beginning of this year and was stronger than we expected earlier. The most important factor behind growth is the ongoing upswing in the external demand environment, which may result in dynamic export growth and a renewed increase in inventories. At the same time, positive signs are being observed in households' consumption behaviour as well, and thus over the short run developments in domestic demand may hamper the recovery in domestic growth to a smaller and smaller degree.

1. 3. The external balance adjustment was significant in regional comparison as well

In line with real-economy developments, Hungary's external equilibrium position improved in 2009, to the extent that the economy became a net saver. The surge in net exports was the strongest contributor to external financing capacity, which increased to 1.6 per cent of GDP at the annual level. This was followed by funds received from the European Union which increased significantly to approximately EUR 2.7 billion and by the decline in income expenditures.[6]

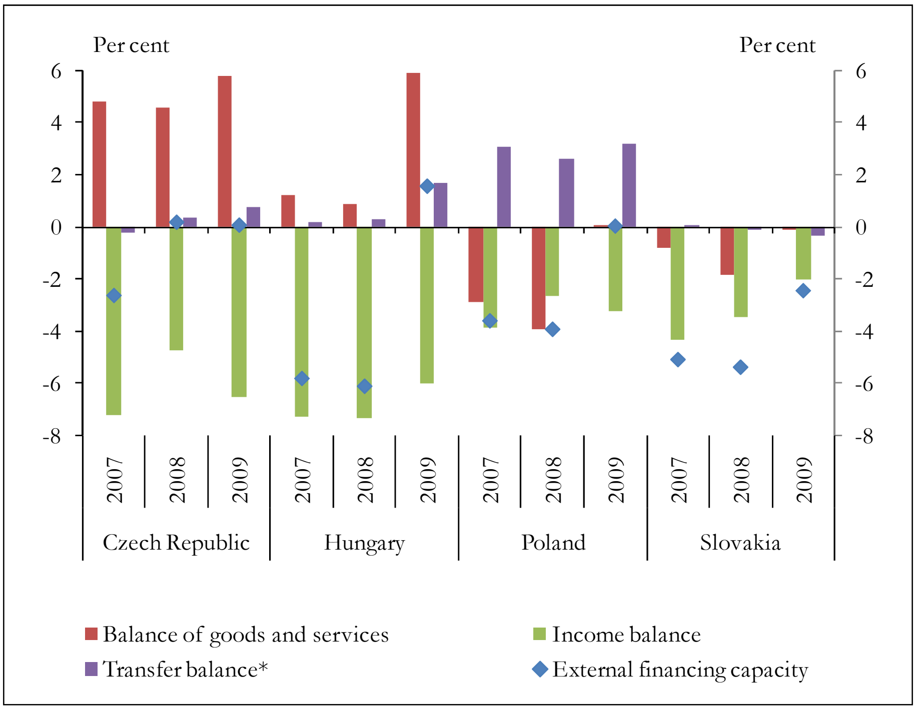
The extent of the improvement in Hungary's external position can be considered significant compared to the Visegrád countries as well, reflecting the drastic fall in household consumption and corporate investment. One common feature in the region is external equilibrium adjustment driven by shrinking domestic demand, although the effects of the recession appeared in a much more subdued manner in neighbouring countries. In addition, developments in income flows are also worth mentioning. Similarly to the developments in Hungary, following the outbreak of the crisis a decline in the deficit of the income balance was observed in the Slovak economy as well. The dynamics of the income balance of Poland and the Czech Republic, however, are different from the above. Income expenditures of the Polish and the Czech economies related to direct investment already increased in

[6] The 2009 figures for income flows related to direct investment are based on estimates in the balance of payments statistics. The estimate will be replaced by data based on corporate reports in September 2010.

2009, which may indicate that the profit deterioration of foreign-owned companies was concentrated in the early stage of the crisis period.[7]

Chart 1-16 Components of external financing capacity

(values as a percentage of GDP)



Sources: Eurostat, national central banks.

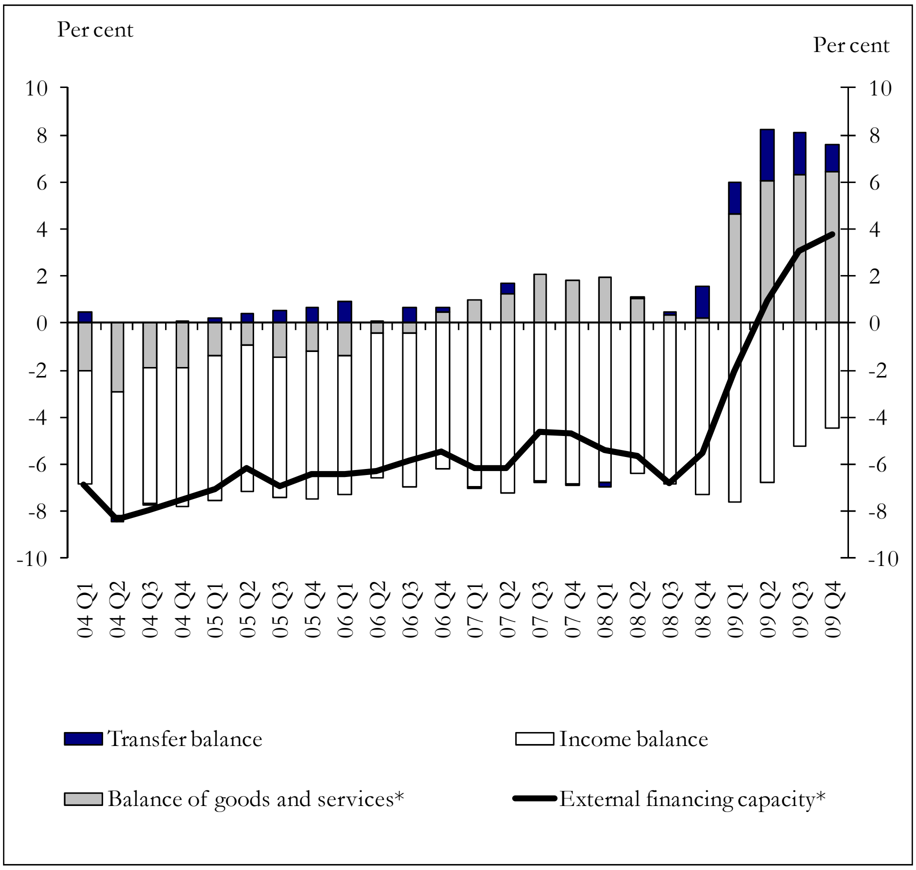
** In addition to EU funds, the balance of transfers also contains the balance of labour incomes transferred abroad and home as well as the sale and purchase of non-produced, non-financial assets (e.g. copyrights, patents).*

Towards the end of the year, a slowdown in the adjustment process was observed in Hungary. Overall, real-economy developments did not exert any further balance improving effect in the second half of the year. As a result of the increasingly benign external environment, Hungarian export performance picked up, but the growing import demand related to this and the replenishment of inventories stabilised the surplus of the goods and services balance. At the same time, the profit deterioration of foreign-owned companies and the decline in interest paid on the external debt continued to be factors that reduced the deficit of the income balance in Q4 as well.

[7] Similarly to domestic data, actual figures regarding corporations' after-tax profit are included in the international balance of payments statistics with a significant delay; until then the facts are substituted by estimates.

Chart 1-17 Components of external financing capacity

(seasonally adjusted values as a percentage of GDP)



Note: Seasonal adjustment of the time series was made with direct adjustment. Therefore, the sum of the components of external financing capacity does not necessarily equal the adjusted values for external financing capacity.
** Adjusted by the difference caused by imports brought forward on account of EU accession and by the import increasing impact generated by the termination of customs warehouses due to EU accession and by the Gripen fighter aircraft purchases.*

With the decelerating external equilibrium adjustment, no further improvement was experienced in the financial position of the private sector. In relation to the replenishment of inventories, net savings of corporations stopped increasing. The continued decline in household borrowing in 2009 H2 did not result in any further increase in the sector's financing capacity, because the expansion of its financial assets also decelerated considerably. The extremely low accumulation of assets may also have reflected several factors affecting households' savings behaviour. Some households may have mitigated the impact of the shock to their incomes on consumption by using up their financial assets. In addition, uncertainty related to future income and employment prospects increased to such an extent during the last one year that it may have prompted households to handle their finances in a very cautious manner. Data suggest that this precaution materialised in restrained borrowing. In addition, private pension fund regulations also contributed to the evolution of the low savings level (see details in Box 1-3).

Box 1-3 The effect of the change in pension fund regulations on the financial position of households and the general government

Act LXXVII of 2009 on amendments to certain acts on the system of contributions to public revenues allowed the return from private pension funds to the social security pension system until the end of 2009. The possibility of returning was opened up for those fund members who had become private pension fund members voluntarily and turned 52 years old on or before 31 December 2008.

In terms of the effect of the change in pension fund regulations on households' savings, a one-off effect and a long-term effect can be distinguished. The one-off effect was observed at the date of rejoining the social security pension system. According to the information currently available to us, this affected private pension fund savings with a total volume of approximately HUF 90 billion. Depending on their entry into force, around HUF 25 billion and HUF 65 billion of this amount were transferred to the social security system in 2009 Q4 and 2010 Q1, respectively, i.e. there was a similar decline in households' receivables from pension funds and in the financing capacity of the sector. In addition, the regulation has a longer-term effect as well on households' savings because, as a result of the returns to the social security system, the contributions of former private pension fund members are already paid to the social security system following the return. According to our calculations, this may entail a further reduction of HUF 10–12 billion in the level of households' financial savings.

Of course, in parallel with the change in households' savings, the position of the general government also changes to a similar extent. The approximately HUF 90 billion item improves the 2009–2010 balances as a one-off revenue, while the contribution payments of the more than 60,000 people rejoining the state system generate permanently higher revenues. Nevertheless, it must be taken into account that pension expenditures are expected to increase over the medium term, when those who returned now will start to retire.

Decline in debt-generating financing continued to characterise the end of 2009

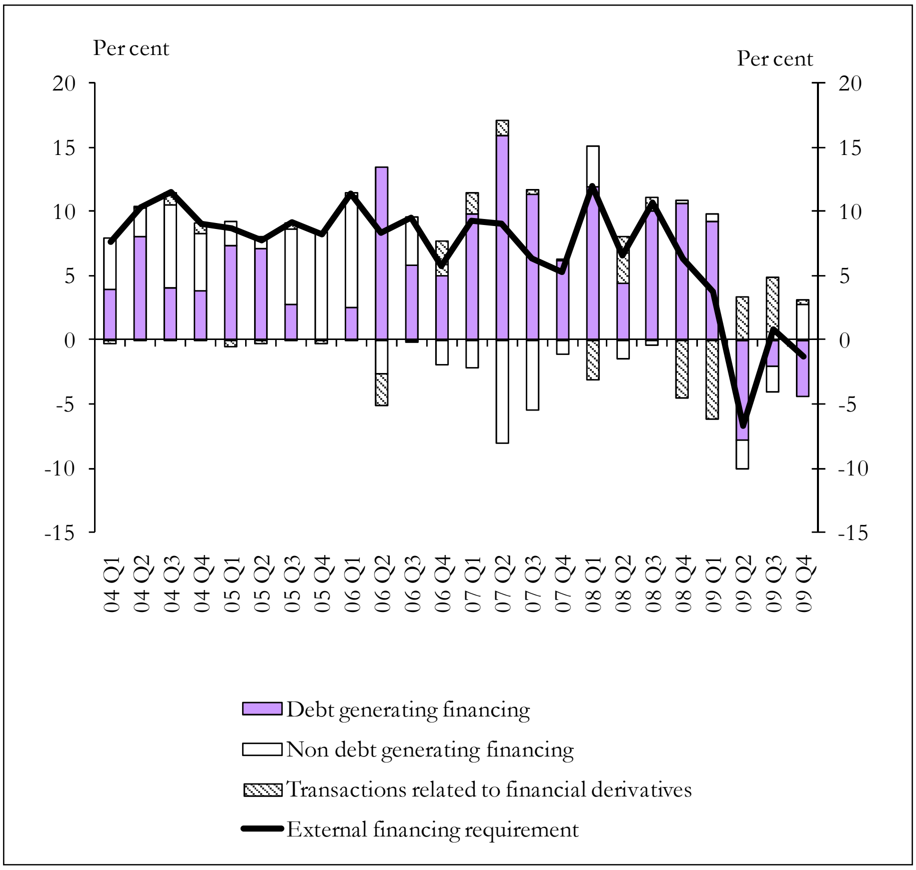
The outflow of debt-type liabilities continued in 2009 Q4 as well, which, in contrast to the previous quarters, reflected the decline in government securities held by non-resident investors and not the financing developments in the banking sector. This could also be observed in the continued decline in net external debt. At end-2009, the debt-to-GDP ratio[8] was around 54 per cent, but this level continues to exceed the pre-crisis value in spite of the substantial debt outflow. Firstly, upon evaluating the debt ratio it is important to take into account that compared to September 2008 the exchange rate of the forint is much weaker, which, stemming from devaluation, resulted in an increase in the foreign exchange denominated portion of debt. Secondly, the considerable fall in GDP also contributed to the increase in the ratio last year.

Stabilisation in banks' outstanding foreign loans was observed towards the end of the year. Examining the balance sheet structure of banks, this development may partly be attributable to the decelerating deposit accumulation of the private sector. Accordingly, less domestic funds were accumulated at banks compared to the first half of the year. Moreover, foreign derivative transactions did not have a financing effect in the final months of the year as well.[9] With regard to the assets of the banking sector, it is also important to add that during 2009 the declining lending activity gradually reduced the sector's need for funds, but this effect was more than offset by the accumulated MNB bond holdings.

[8] Debt indicator calculated on a forint basis, excluding shareholder loans and financial derivatives.

[9] The underlying reason is that a significant part of the margin calls asked for in the period of the substantial depreciation of the forint exchange rate (in 2008 Q4 and 2009 Q1) already returned to the banking sector during the year. In the final months of 2009, the balance of transactions related to derivative transactions was already around zero.

Chart 1-18 Forms of financing as a percentage of GDP



**Financing requirement calculated from "below" is equal to the sum of the external financing requirement and the error and omission item of the balance of payments.*

Although at the end of last year fresh capital inflows to Hungary and reinvested earnings offset the continued decline in debt to shareholders, this did not result in any substantial change in our earlier picture of foreign direct investment in Hungary. Total foreign direct investment inflows dropped to an extremely low level in 2009 as a whole. The decrease in reinvested earnings reflects the decline in foreign-owned companies' profits, while the fall in debts within company groups may be related to the sector's weak demand for loans and its financing opportunities, which were restricted. At the same time, in terms of fresh capital imports we still do not perceive negative effects related to the unfavourable investment environment.

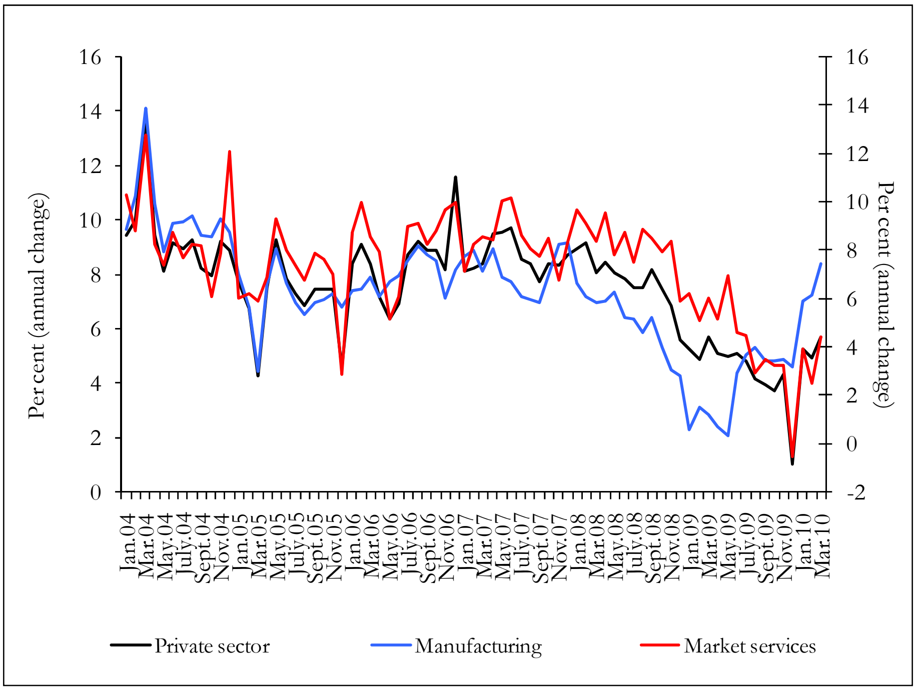
1. 4. Increasing unemployment coupled with strong wage growth at industrial companies

As a whole, companies' labour market decisions last year were influenced by the stabilisation of the profit situation, which had deteriorated significantly as a result of the crisis. As a consequence of the layoffs carried out mainly in 2009 H1 and restrained developments in wages during the whole year, the profit deterioration of the competitive sector decelerated considerably in the final quarter of 2009, and in the case of market services a slight profit improvement was even observed. In conformity with this, layoffs already declined markedly in the competitive sector in the past quarters. As a turnaround in economic activity is approaching, companies are striving to keep their existing workforce.

In terms of the development of wages, significant differences can be observed between sectors. In parallel with an improvement in production results and an increase in the number of hours worked, wages in manufacturing have shown acceleration since the middle of last year, while in the subdued domestic demand environment wage increases in services sectors continue to be characterised by weak dynamics. Although the wage increases in the two sectors used to follow each another closely, in view of the significant differences in business conditions between the sectors, the aforementioned phenomenon is expected to persist over the short run as well.

Chart 1-19 Wages in the private sector

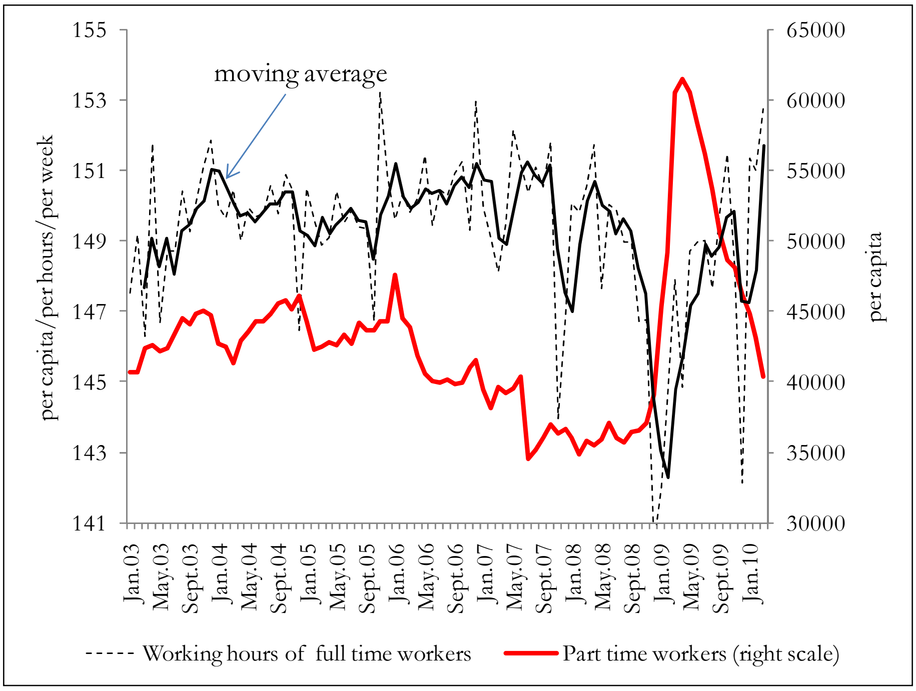
(annual growth)



The acceleration of wages in the manufacturing industry can be considered a general phenomenon. In March 2010, growth in wages was already close to the values typical of the pre-crisis period. It is worth mentioning that significant base effects also play a role in the acceleration of annual wage dynamics. In early 2009, the drastic reduction of hours worked and the increase in part-time employment contributed significantly to the deceleration of wages. The correction of these developments results in a remarkable temporary increase in the wage index as well early this year.

At the same time, wages in manufacturing may be raised not only by the increasing productivity and base effects. Despite the high number of unemployed jobseekers, a short-term shortage of specialists may be experienced in certain areas of the sector. In this environment, companies may react to the pick-up in demand by increasing utilisation of their existing workforce, instead of increasing the number of employed. This may be reflected by the historically high level of hours worked and the rapid adjustment of part-time employment as well. If this phenomenon continues, wages in the sector may show high dynamics even over the longer term, despite the generally loose labour market conditions.

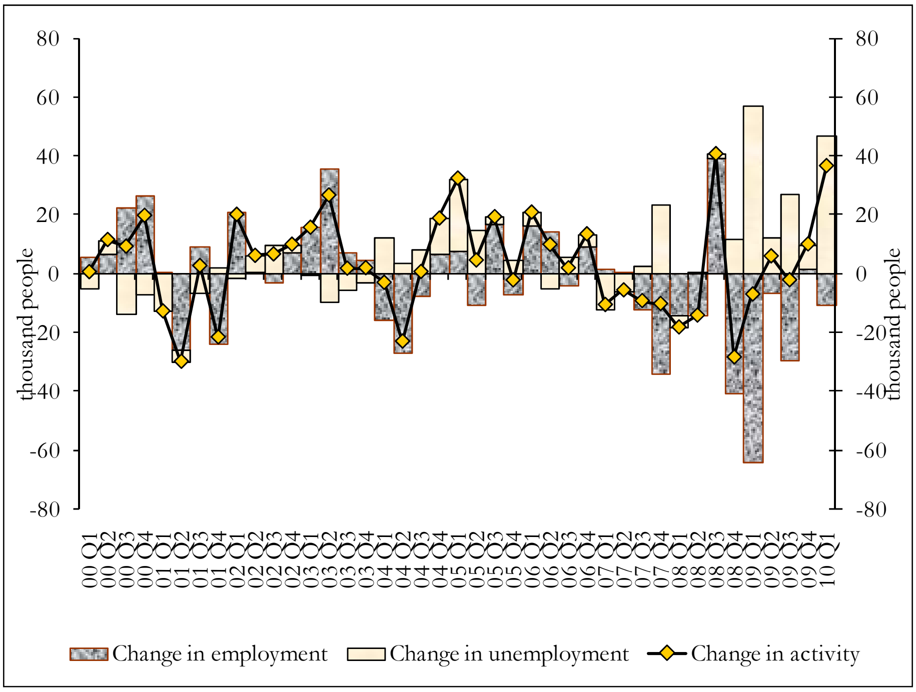
Chart 1-20 Number of working hours and the part time workers in the manufacturing sector



In spite of steadily declining layoffs, the unemployment rate continued to increase in the first months of the year, and exceeded 11 per cent. It is still true that the proportion of those dismissed who remain in the labour market is higher than earlier. However, a new phenomenon in recent quarters is that the number of the active population has also increased considerably. There may be some statistical reasons for the increase in the number of jobseekers leaving inactivity and appearing in the labour market again,[10] but the government's measures aiming at increasing the willingness to work might also have contributed to the increase.

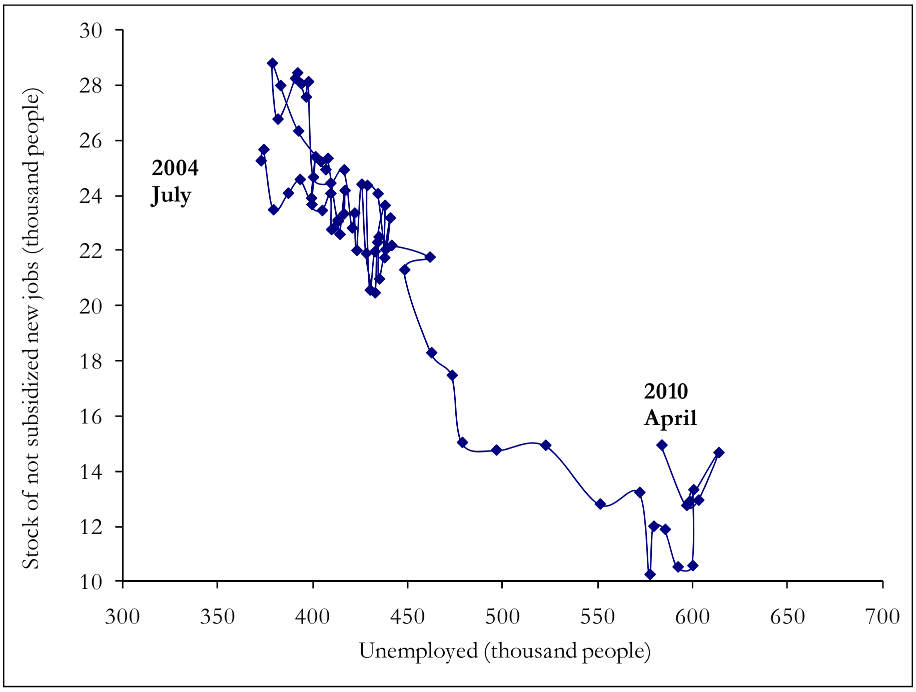
[10] An indication of this may be that according to the data of the Public Employment Service the number of registered unemployed has not continued to increase in recent months, in contrast to the results of the LFS statistics, which are based on individual queries.

Chart 1-21 Breakdown of the change in activity
(on the basis of seasonally adjusted data)



While unemployment is high in the competitive sector, the number of new jobs continues to be low, with no important change observed at the beginning of this year. The underlying reason is the already mentioned phenomenon of labour hoarding, as a result of which companies attempted to retain their well-trained employees during the crisis (with a lower utilisation). Thus, in the first phase of the recovery we do not expect a considerable increase in employment. Owing to the high number of unemployed and the low number of vacancies advertised, labour market conditions continue to be loose in general. However, there may be sectors where a shortage of experts may be experienced already over the short run, resulting in a weaker wage reducing effect of the loose labour market. In early 2010, a substantial increase in employment may result from a re-announcement of the public employment programmes announced last year.

Chart 1-22 Beveridge curve*

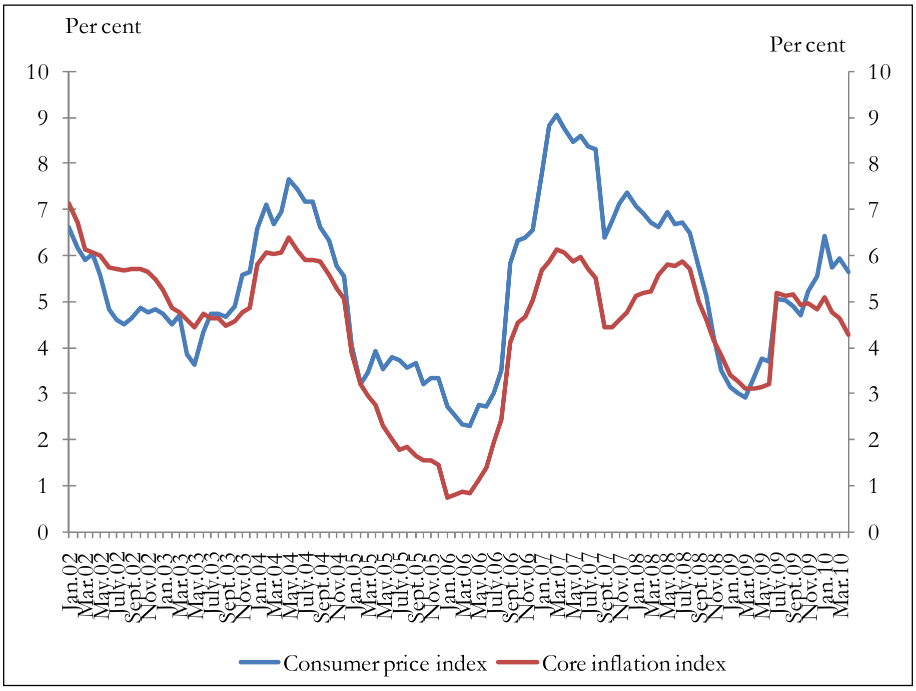


**The Beveridge-curve represents the relation between the unemployment and the number of vacancies. Movements along the top left-bottom right line – 'alongside the curve' – are caused by the labor market cycle: during recessions, the demand for labor declines and unemployment increases. Meanwhile, movements along the bottom left – top right line – 'the shifts of the curve' – are interpreted as shocks affecting the NAIRU; except for a short accommodation period, both higher unemployment and an increased number of vacancies can only persist if stronger labor market frictions result in a longer duration of job search or labor reallocation has increased.*

1. 5. Mounting imported price pressure in inflation developments

Following an increase in 2009 H2, annual inflation stagnated at around 6 per cent – i.e. well above the medium-term inflation target – in the first months of 2010, while annual core inflation showed a slight, but gradual decline. The latest excise tax increase and the increase in global commodity prices were the main underlying reasons for the high inflation at the beginning of the year, while trend inflation indicators continue to suggest a restrained pricing environment.

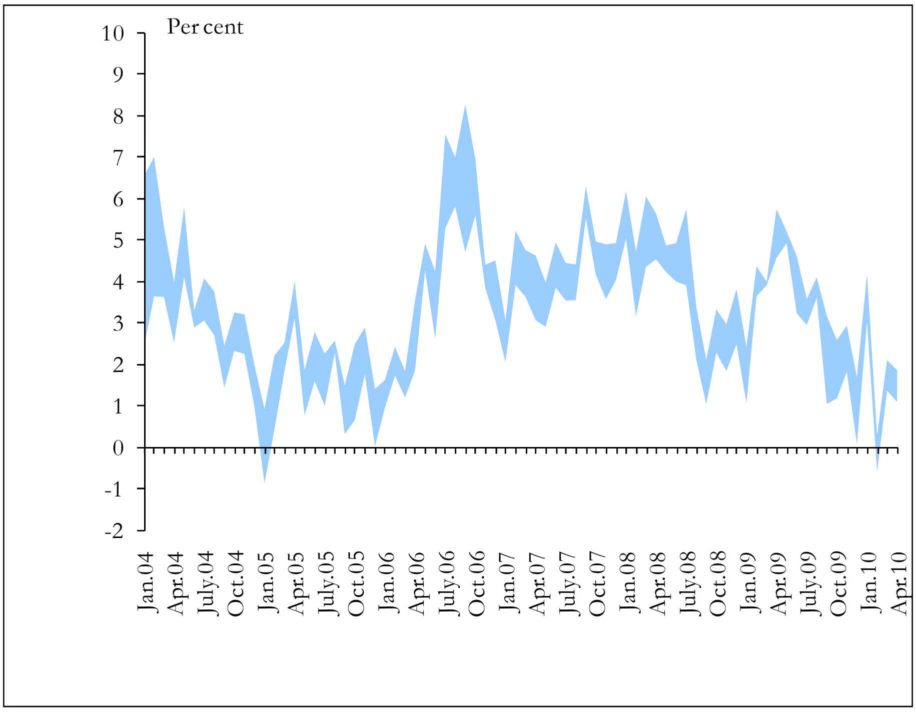
Chart 1-23 Changes in the annual consumer price index



In the first quarter, core inflation was more than 0.3 percentage point lower than our earlier projection. The difference was mainly caused by the lower-than-expected price dynamics of alcohol and tobacco products, while the pricing of industrial products and market services, which determine the medium-term disinflation trend, was in line with our expectations. Following a temporary surge in January, in recent months our trend inflation indicators have returned to the historically low range of between 1–2 per cent. The increase observed in prices of industrial products in January was the result of the change in the timing of sales. Following the relevant adjustment, the price increase of this product group returned to the weak dynamics observed in earlier months. In each month of 2010 the price increases in the market services sector at the beginning of the year were lower than the historical ones. As a result of subdued domestic demand, companies remain unable to carry to out any significant price increases.

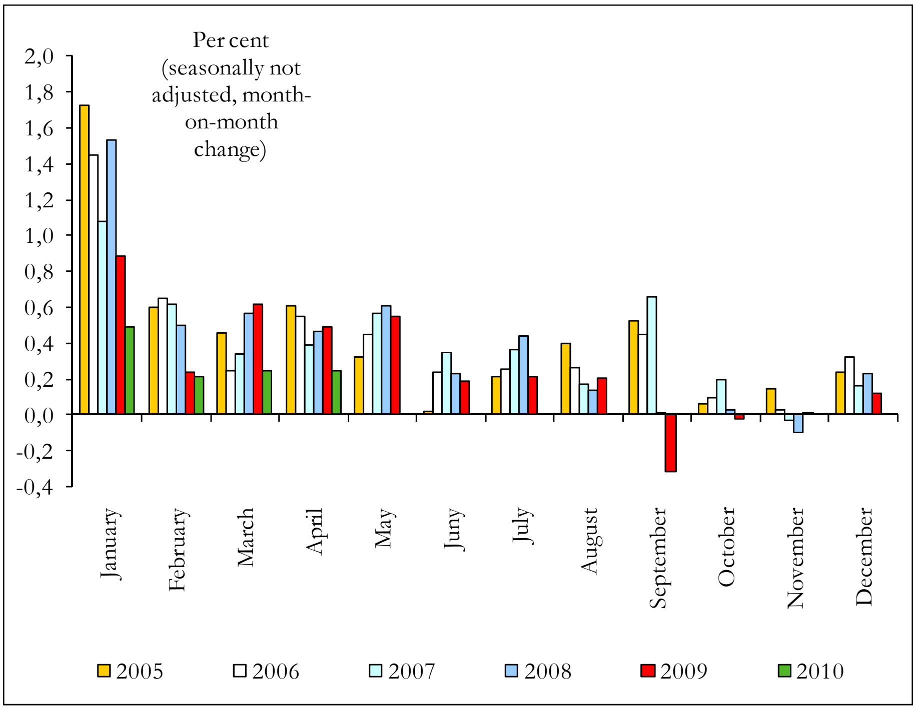
Chart 1-24 Changes in the MNB's trend inflation indicators

(annualised monthly changes)



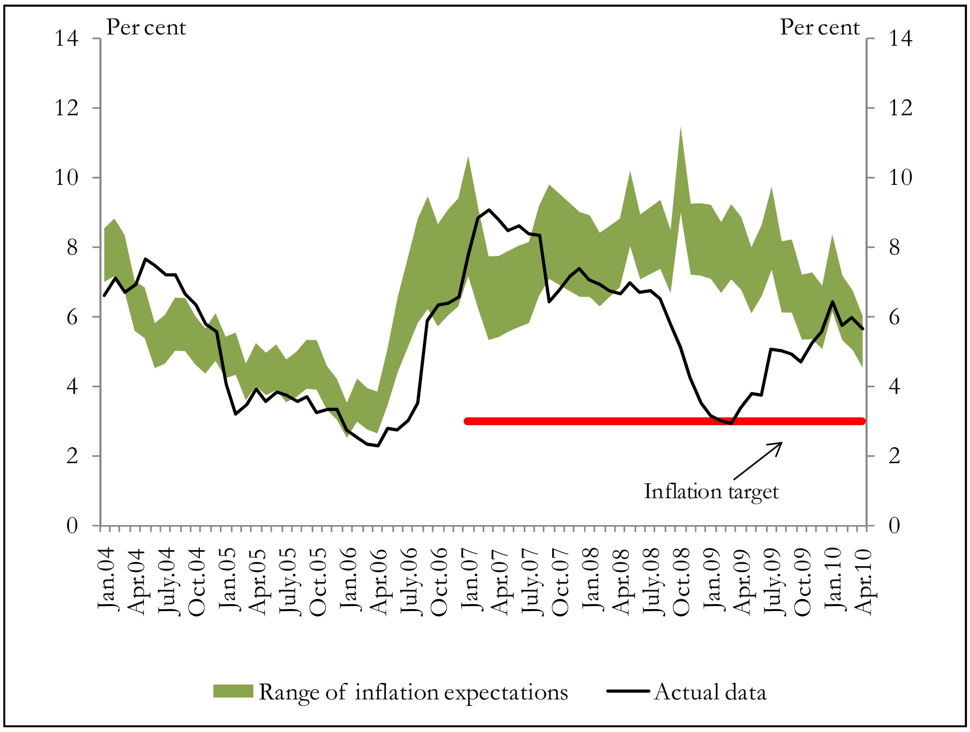
While trend inflation was low, imported inflationary pressure has continued to mount in recent months. The price increasing effect of global economic activity, which is picking up as a result of dynamically expanding Asian imports, is increasingly reflected in rising global commodity prices as well. This process was strengthened by the EUR/USD exchange rate, which has weakened due to risks related to the sustainability of the outstanding debt of some euro-area countries. Imported inflation mainly acts through the prices of crude oil and natural gas, which is priced together with oil. Over the short run, in parallel with a further upswing in the global economic environment, we expect an increase in imported inflationary pressure, which may hamper the disinflation trend appearing as the effects of last year's indirect tax increases fade out.

Chart 1-25 Monthly changes in the prices of market services



Households' inflation expectations have continued to decline in recent months. Although the indirect tax increases carried out in recent quarters resulted in a temporary break in the developments in the time series, households' inflation expectations have been characterised by a steady slowdown since end-2008 (in the recession environment). It is important to note, however, that as a result of the observed price increases, which are high because of the indirect tax measures and rising imported inflation, expectations continue to exceed the level of the medium-term inflation target. With a renewed upswing in economic activity, the persistence of this phenomenon may entail risks in the developments in expected inflation.

Chart 1-26 Development of inflation expectations



Note: MNB estimate on the basis of the GKI household confidence indicator. For more detailed description of the estimation methodology, see Box 1.1 of the 2009 August Inflation Report. Our estimate carries significant uncertainties, especially in terms of the assessment of levels. Quantifying the responses indicating moderated inflation within perceived inflation represents the highest uncertainty. Accordingly, moderated inflation was identified with several values, each of which was determined as an average of the past 3, 4, or 5 years. This value was assumed to be 7 per cent in our basic calculation.

2. Financial markets and lending

2. 1. Uncertainty about the euro area has increased significantly with deepening of the Greek debt crisis

International financial markets have changed significantly since the February issue of the *Quarterly Report on Inflation*. Two periods can be distinguished within the period under review. Until mid-April, the mood on the markets was rather optimistic, with increasing demand for risky assets. In the second half of April, with the deepening of the Greek debt crisis, a turnaround occurred in the markets. During this period, besides global risk appetite, which had been supportive earlier, unfavourable country-specific factors related to sovereign debt and their contagion effects across countries gradually became the dominant aspect in the developments in asset prices by the end of April. By the beginning of May they reached a critical level, which was then able to reverse the previous months' positive global investor sentiment. Risk appetite improved only slightly from the second week of May on, following the announcement of the EUR 750 billion rescue package by the IMF, the European Commission and the ECB. The market reception of the announced measures cannot expressly be called positive; the increase in asset prices and the improvement in sentiment proved to be temporary.

Although the short-term rollover risk of the government debt of euro area Member States with a weak fiscal position has declined substantially, the long-term solvency of the countries concerned and the stability of the euro area as a whole are surrounded by much higher uncertainty than before. On the whole, investors' preference for risky assets is lower, and for the time being it is questionable whether in the purchases that might restart in the future they will take into account the fundamental differences across countries to a greater extent than earlier.

Table 2-1 Latest growth forecasts of the IMF

	IMF WEO Projections April 2010		*Difference from January 2010 WEO Projections*	
	2010	2011	2010	2011
Global economy	4,2	4,3	0,3	0
Advanced economie	*2,3*	*2,4*	*0,2*	*0*
United States	3,1	2,6	0,4	0,2
Euro area	1	1,5	0	-0,1
Japan	1,9	2	0,2	-0,2
United Kingdom	1,3	2,5	0	-0,2
Emerging economie	*6,3*	*6,5*	*0,3*	*0,2*
Central and easter	2,8	3,4	0,8	-0,3
Hungary	-0,2	3,2	0,7	0,7
Developing Asia	8,7	8,7	0,3	0,3
China	10	9,9	0	0,2
India	8,8	8,4	1,1	0,6

Source: IMF World Economic Outlook, April 2010.

Real economy developments played a decisive role in the favourable market sentiment experienced until mid-April. Developments in economic activity in developed markets continue to indicate a slow upturn. At the same time, differentiation has been observed across regions as well, both in terms of actual data and expectations (Table 1). The upswing in the United States may slightly be faster than expected. Most of the macro data released in recent months have typically been more favourable than expected. The trend of improvement observed in the real estate and labour markets, however, is still fragile. The first-quarter results of listed companies exceeded market expectations, but the performance of sectors determined by household consumption was weaker than average. Macro data suggest a more moderate upturn in the euro area. The outturn for Q4 GDP was a slight disappointment, and on the whole, the figures released had a mixed reception by the market. The weaker European real economy outlook is primarily the result of weak domestic demand, while export prospects may be somewhat more favourable. It is worth mentioning that domestic demand may further be constrained by the tightening measures announced by the governments of some euro-area Member States, the effects of which are not yet taken into account in the forecasts available to us.

From mid-April on, financial markets developments were dominated by the events in Greece. The fall in the demand for government bonds of European countries with a weaker fiscal position and the significant exposure of the European banking sector to Greece contributed to the decline in risk appetite. During April it became obvious that the country would not be able to refinance the maturing debt without obtaining funds outside the market.

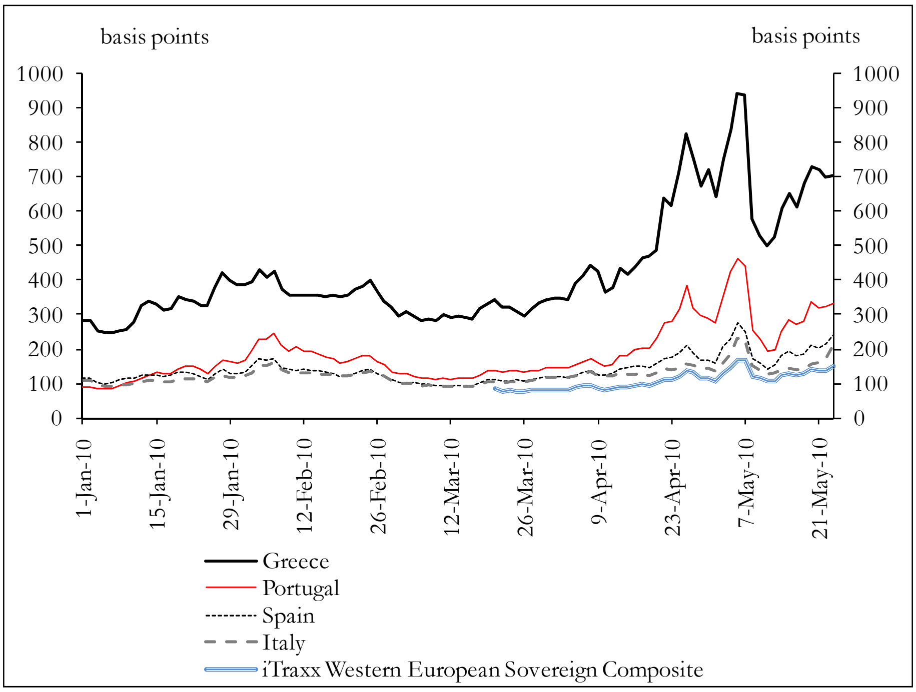
The pressure on Greek asset prices was increased by the fact that all the three rating agencies downgraded the credit rating of Greece in April. The BB+ rating by Standard & Poor's already represents a speculative category. The fact that – according to Eurostat's release – the 2009 fiscal deficit was even worse than expected (13.6 percent) contributed to the downgrades and the drastic increase in risk premium experienced at the end of the period.

In connection with the deteriorating credit ratings, it came to the fore again that a possible suspension of the acceptance of Greek government securities as collateral by the ECB would result in serious liquidity tensions in the Greek banking sector. Reacting to the turbulent market situation and the increase in the risks surrounding the European banking sector, revising its earlier position, in early May the ECB announced that it would accept the Greek government securities in its repo transactions, irrespective of the credit rating.

As a result of the risk shock unfolding in early May, the fall in equity indices in developed markets almost completely eroded the average increase of around 10 per cent accumulated between February and mid-April. The increase in the sovereign risk premia of the euro area accelerated, and the euro depreciated considerably against major currencies. In early May, the decline in the yields of German and US government securities reached an extent that made it clear that the demand for safe haven assets had increased, and risk aversion had become dominant in investors' decisions.

The Greek CDS spreads increased to historical highs in late April and early May: the 5-year spread jumped to 938 basis points, while the 1-year default premium, reflecting the gravity of the short-term risks, grew by several hundred basis points in a few days, reaching a level of around 1,250 basis points (Chart 1). The Greek–German yield spread increased to above 1,700 and 900 basis points on 2-year and 10-year maturities, respectively. Following the rise in Greek risk premia, yields on the government securities of euro-area Member States with weak fiscal positions also increased, while yields on German and US government bonds, which play a role of safe haven, declined considerably.

Chart 2-1 Five-year CDS spreads of selected euro area Member States and the Western European sovereign composite index of iTraxx



Sources: Bloomberg, Thomson Reuters.

It was unable to calm the markets even temporarily that the leaders of euro area countries and the IMF decided to grant a EUR 110 billion loan package to Greece. Some improvement in investor sentiment took place only after the announcement of the general euro area stabilisation mechanism elaborated by the IMF, the European Commission and the ECB not much later. Based on the information made public so far, a total amount of EUR 750 billion may be available for those euro area Member States that are unable to maintain the market financing of their general governments. EUR 60 billion of this amount is available immediately, EUR 440 billion will be provided by the EU Member States (with parliamentary approval), and EUR 220 billion were offered by the IMF.

Following the announcement, there was an initial remarkable increase in stock markets, while risk premia declined significantly: the Greek–German yield spread fell below 650 and 450 basis points at 2-year and 10-year maturities, respectively, to which the bond purchases by the ECB also contributed. Investors' attitude towards the euro area and their risk appetite, which was subdued compared to what had been usual in previous months, remained largely unchanged. The fall in European stock exchange price indices continued, albeit at a slower pace than earlier. The euro continued to depreciate against major currencies, against the US dollar in particular, which suggests that, on the whole, sovereign risks did not diminish, only their redistribution within the area took place.

Central banks resorted to liquidity providing measures again

Until the end of April, the termination of central banks' liquidity providing instruments continued in the developed markets in line with the pre-announced schedule, without significant market reactions. With the global decline in risk appetite, however, the cost of dollar and euro funding increased in the financial markets. Both the Libor-OIS and the TED spread widened compared to the levels seen in the first quarter. Although their values did not leave the narrow band typical since 2009 Q3, in early May several signs indicated increasing liquidity tensions in the market.

Reacting to this, the ECB announced that in May and June it would meet the liquidity needs within the framework of the 3-month LTRO auctions, which had been turned into competitive some weeks earlier, at a fixed interest rate with full allotment. Moreover, in addition to the original plans, another 6-month LTRO auction was held, with unlimited allocation. Similarly to the last 12-month repo, the interest rate of the instrument is tied to the prevailing key policy rate of the ECB. Consequently, an increase in the latter would also add to the cost of the instrument in the remaining period. In early May, the ECB also started to purchase government securities, although according to President Trichet this only serves the normalisation of developments in the market, while the evolving excess liquidity will be withdrawn from the banking sector using a new 1-week variable-rate deposit-side facility.

In order to provide satisfactory US dollar liquidity to the European banking sector, the 1-week and 84-day swap agreement with the Fed that had expired in February was renewed. Within its framework, US dollar liquidity is provided for banks against adequate euro collateral.

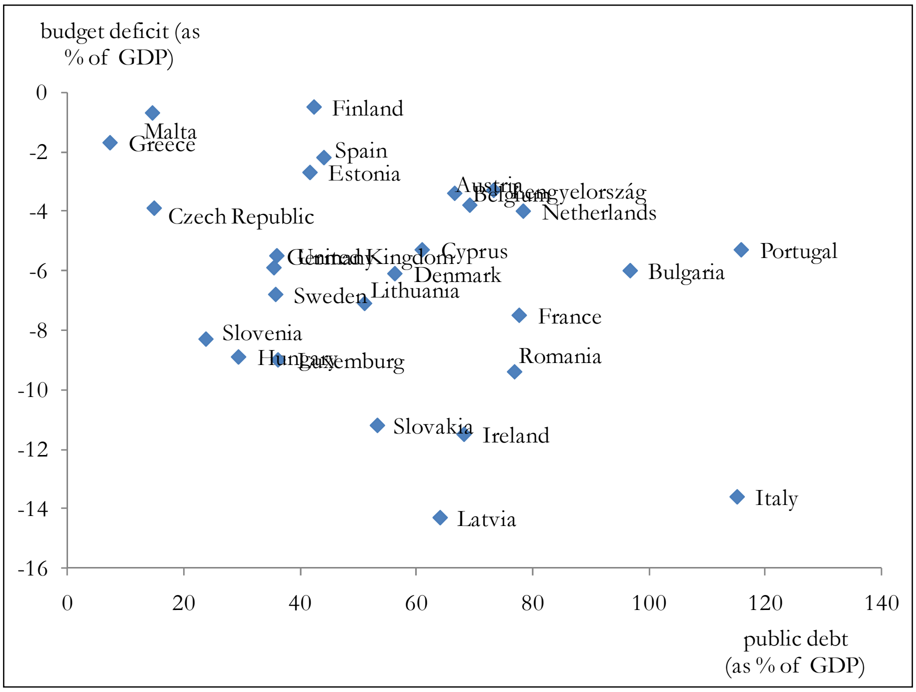
Of the emerging markets it was the Central European region that reacted to the Greek crisis in the most sensitive manner, but the impact of the global risk appetite was decisive here as well

In most of emerging markets the upswing is expected to be faster, which is also confirmed by the latest growth forecast of the IMF, in accordance with recently published macroeconomic data. The statement that in the coming period the Asian countries will be the driving force behind growth is still valid, which may have the greatest effect on raw material importing Latin American countries. Business activity prospects of the Central European region are determined by the weak import demand of the developed European countries, which are growing at a moderate rate.

The stronger consideration of country-specific effects is confirmed by the fact that the different business activity prospects of the emerging regions are also clearly reflected in the countries' monetary policy stance. In Southeast Asia, the shift towards tighter monetary policy is becoming increasingly visible. Interest rates were raised in Malaysia and India. In China, where monetary policy is becoming increasingly focused on keeping a tight hand on inflation and preventing the evolution of a possible asset price bubble, the central bank has already started effective tightening by raising the minimum reserve rate and by tightening regulations in an administrative manner. In Latin America, tightening started only in Brazil, where at end-April, i.e. somewhat later than expected, the base rate was increased by 75 basis points to 9.5 per cent.

In the past months, investors' attitude towards the Central European region was mostly determined by the initially supportive and subsequently negative effect of the global risk appetite. The assessment of the region was affected to a lesser extent by the possible strength of the contagion effect of the tensions related to Greek government debt (Chart 2). Although the Eastern European risk indicators exhibited a positive correlation with the Greek ones, this rather had an indirect impact through the effect of the events in Greece on the global – and European – investor sentiment, and the extent of the shifts remained in safe territory. Based on the information available for us, no significant contagion effect can be observed for the time being.

Chart 2-2 Government debt and budget deficits in EU Member States in 2009



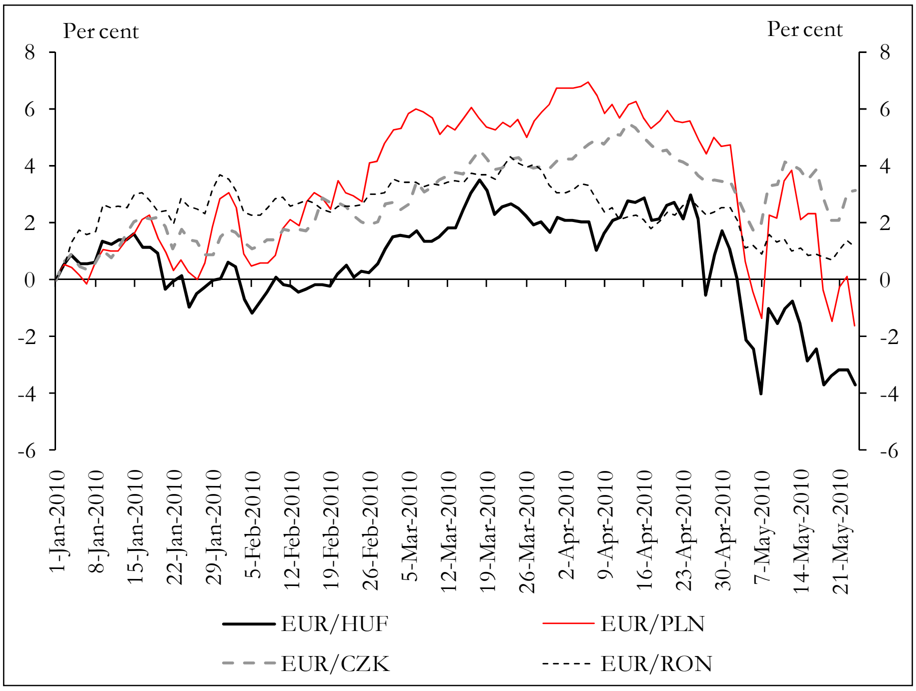
Source: Eurostat.

Overall, it can be seen that region-specific effects influenced the developments in asset prices only to a limited extent. Nevertheless, in connection with real-economy developments it is worth underlining that inflationary pressure continues to be low in the countries in the region, and domestic demand also shows moderate dynamics. A favourable picture is drawn by forward-looking purchasing managers' indices and foreign trade data, although it is worth noting that the government tightening measures announced in some euro area Member States pose a significant downside risk to the export sector of the region.

Consequently, the continuation of monetary easing and the postponement of the start of tightening was typical of Central and Eastern European central banks, which was partly attributable to the subdued business activity prospects and low inflation risks, and partly to the appreciation pressure on certain currencies. In addition to Hungary, the base rate declined by 75 basis points in Romania, 100 basis points in Serbia and 50 basis points in Latvia. The base rate remained unchanged in Poland, but the Czech central bank cut the key policy rate by 25 basis points to 0.75 per cent. Based on the developments in the exchange rates of the zloty and the Czech koruna, market participants already expected a possible cut in the past period. An exception in the region may be Turkey, where monetary tightening may start this year as a result of increasing inflation.

Central European countries reacted to the Greek debt crisis in a more sensitive manner than other emerging regions. Since the beginning of the year, currencies in our region had appreciated by some 3–6 per cent against the euro, before depreciating to a nearly similar extent with the exacerbation of the situation in Greece. Exchange rates practically moved together in the whole period, although at certain times the zloty and the forint outperformed the average. In early May, however, these two currencies suffered the greatest loss (Chart 3).

Chart 2-3 Changes in the exchange rates of Central European currencies against the euro



Source: Thomson Reuters.

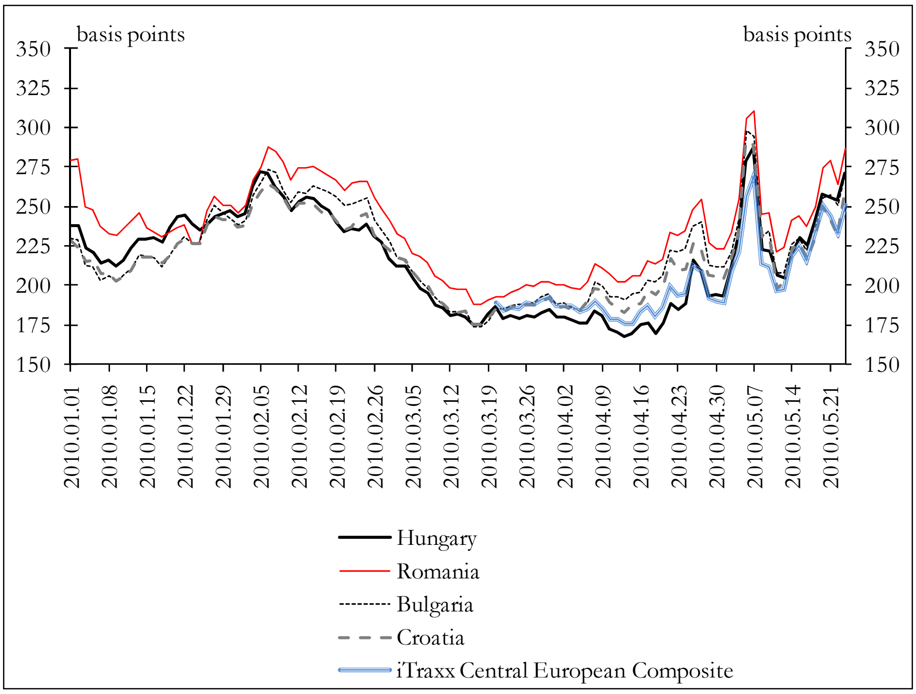
Government securities yields declined considerably in the countries of the region in the first part of the period. By mid-April, the Polish and the Czech yield curves had moved down by some 60–80 basis points, while Hungarian yields declined by approximately 150 basis points. It was observed in all three countries that the decline in yield took place while the curves became flatter. These developments, which can be observed in the changes in CDS spreads as well, indicate that the risk premium also declined in this period. With the decline in investors' risk tolerance, the declines in yields corrected partly. In early May, Czech and Polish yields increased by approximately 30–40 basis points, while a 100 basis point yield increase took place in Hungary. Following the announcement of the EUR 750 billion rescue package, Polish government securities yields declined by 20–25 basis points, while Hungarian yields fell by 30–60 basis points.

Developments in Hungarian asset prices followed the fluctuation in global investor sentiment, and the exchange rate and yields did not react more sensitively than the regional average

The exchange rate of the forint against the euro appreciated considerably at the beginning of the period, remaining in the HUF 262–268 band until the end of April, before weakening to nearly HUF 283, as a consequence of the decline in global risk appetite following escalation of the Greek debt crisis. The initial strengthening of the forint was accompanied by a decrease in the implied volatility of the exchange rate and a decline in the turnover of the foreign exchange market. Until mid-April, non-residents' opening of forint positions was concentrated on the foreign exchange market; their purchases of government securities and equities were not significant. During the substantial forint depreciation that took place in early May, a surge in the turnover was experienced, accompanied by the liquidation of non-residents' long forint positions. It is worth emphasising that a large portion of the forint sales was not related to sales of government securities and equities, but rather to the closing-out of long forint positions built up earlier. Following the announcement of the European stability package, the forint – moving together with the currencies of the region – strengthened, but did not leave the exchange rate band of HUF 270–280 against the euro.

In the first part of the period, a favourable trend was observed in developments in the credit derivatives. 5-year CDS spread, which is considered to be the closest proxy of the risk premium of Hungarian government securities, declined to below 200 basis points in March, and even the first waves of the Greek debt crisis did not move it from the band of 175–185 basis points. In these weeks, the dynamics of the decline in the CDS exceeded that of the countries belonging to the same category. Accordingly, the perception of risks related to Hungary improved not only in absolute terms, but in relative terms as well. In April, the fact that euro area Member States with a weaker fiscal position fell to lower positions in this ranking also contributed to this. During the increase in the spread that started in the second half of the month the value of the CDS quotes reached 280 basis points, but the relative position of the country did not change (Chart 4). In May, the spread fluctuated between 210 and 240 basis points, i.e. it stabilised in a significantly higher territory compared to the levels of March.

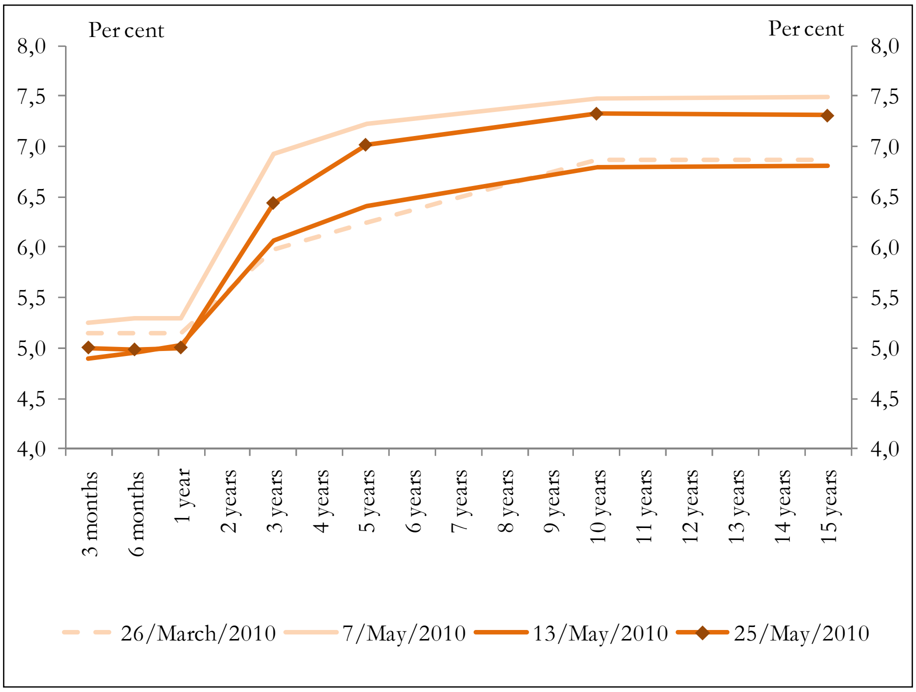
Chart 2-4 Five-year CDS spreads of selected Central European countries and the Central European composite index



Source: Thomson Reuters.

The fluctuations in the risk assessment of forint assets were most apparent in the foreign exchange rate and yields on government bonds. In the favourable market atmosphere typical of March and the first half of April, short yields declined to 4.85 per cent, the yields of the 3–5-year bonds approached 5.5 per cent, while long yields reached their minimum point at 6.4 per cent. The Greek crisis resulted in a considerable increase in yields, which, compared to the above values, meant 30–40 basis point increases in the case of maturities of up to one year, and 80–100 basis points in the case of long-term yields. Long-term yields worked off approximately 30–60 basis points from this in May (Chart 5).

Chart 2-5 Changes in government securities market reference yields



Source: Bloomberg.

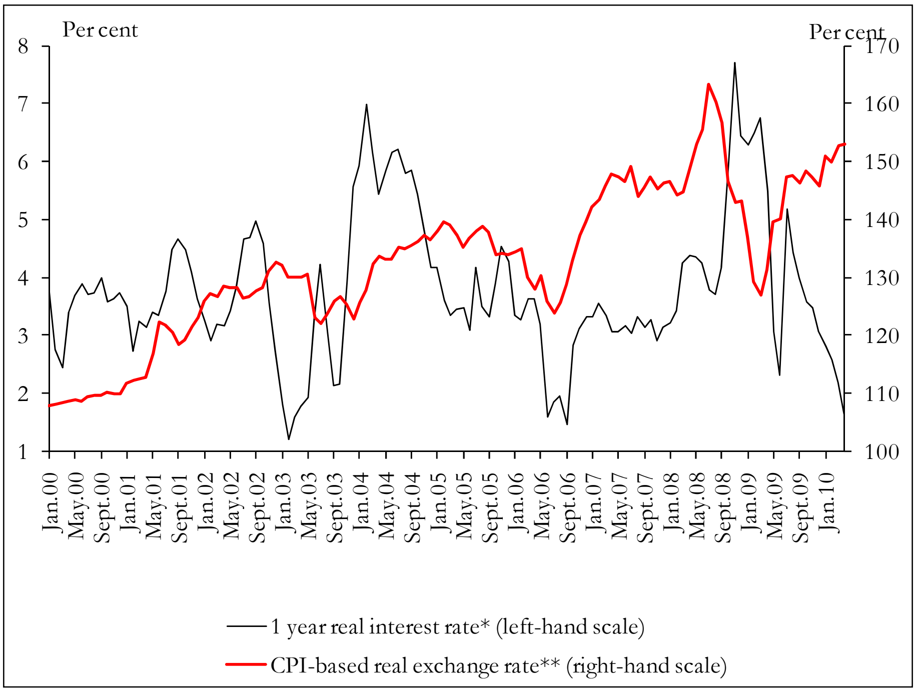
Subdued foreign demand was typical in the government securities market during the whole period. Following a remarkable increase in February, non-residents' government securities holdings declined somewhat. Purchases in the secondary market and at auctions were unable to completely offset the approximately HUF 100 billion decline in the holdings resulting from maturing bond and a treasury bill redemption. It was observed in secondary market transactions that the non-resident sector strived to extend the average remaining maturity of its government securities portfolio. Overall, the yield decline was rather a result of the government securities purchases of domestic participants (mainly pension funds).

Compared to earlier months, a somewhat higher-than-usual demand was observed at the auctions. Since the February issue of our *Quarterly Report on Inflation*, the Government Debt Management Agency (*ÁKK*) has issued 3- and 12-month discount treasury bills in an amount of approximately HUF 530 billion, which, on average, were more than three and a half times oversubscribed by primary dealers. The emphasis of the issues continues to be on maturities of up to one year. The ÁKK issued 3-, 5-, 10- and 15-year bonds in a total value of more than HUF 350 billion at the bond auctions, with a lower oversubscription. In the case of both types of securities, the auctions were characterised by declining yields. The liquidity of the secondary market improved slightly in March and April; market turnover was above a stable daily HUF 100 billion, mostly consisting of securities with maturities of over 3 years. In the first week of May a considerable deterioration in liquidity was observed in the secondary market, but thereafter market trends shifted towards normalisation again.

2. 2. Monetary conditions still characterised by low real interest rates and a strengthening real exchange rate

In terms of monetary conditions, the trends observed since 2009 Q3 continued (Chart 6). The dynamic decline in the 1-year real interest rate continued, although there were various developments in the factors influencing it. The decline was basically a result of the sharp fall in nominal yields, while a slight increase in inflation expectations continued to be observed. Since the end of 2009, the nominal yield has decreased by more than 1 percent, while inflation expectations have increased by almost 0.3 percent.

Chart 2-6 Development of monetary conditions



*Notes: * Based on the one-year forward-looking inflation expectations of analysts calculated by the MNB using the 1-year zero coupon yield and the Reuters poll. ** Monthly depreciation of the exchange rate against the euro (monthly rate of devaluation until April 2001), adjusted for the given domestic inflation indicator and the harmonised inflation of the EU (1 January 1997 = 100%; an increase means appreciation).*

The real exchange rate continued to strengthen, although the trend was less clear or strong. A total appreciation of more than 7 per cent has been observed since the end of last year. On the one hand, this was partly a result of the strengthening of the nominal exchange rate. On the other hand, in recent months the inflation rate has been higher in Hungary than in the euro area, thus the positive inflation differential also resulted in real appreciation. The magnitudes of the effects of the two factors were nearly identical. It is worth noting that the significant nominal depreciation seen in recent weeks may put an end to the trend of real appreciation.

2. 3. Lending to the private sector continues to be very subdued

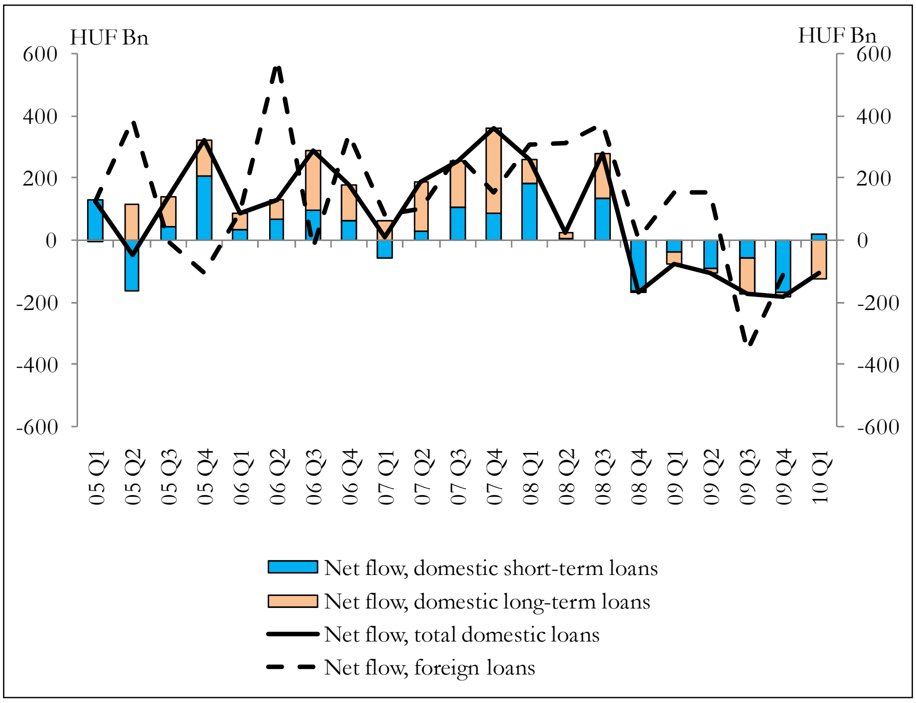
Lending to the private sector remains to be subdued. The decline of lending to corporations is significant, but has slowed down as compared to the previous two quarters. Banks plan to significantly increase their corporate portfolio in the course of 2010, which may signal an upcoming reversal in the downtrend. Due to the current strict lending conditions, the group of creditworthy enterprises is still very small, and there are no signs of easing the lending conditions in the near future. Lending to the household sector continues to contract, and the decline in lending to households seems will last for a longer period of time. One favourable development, however, is that within the new loans the ratio of forint loans is increasing.

Although the decline in total loans to corporations decelerated in 2010 Q1, by the end of March non-financial corporations' borrowings from banks had fallen by approximately HUF 103 billion, which exceeded our expectations. One important development is that outstanding short-term loans increased, and thus the sole reason for the decline is long-term loans. In the household segment, the decline in bank lending accelerated faster than expected, as outstanding bank loans to households fell by HUF 44 billion in the first three months of the year. In view of the declining interest rates, bank deposits are becoming less attractive, which is also reflected in the fact that households withdrew deposits with a total value of HUF 236 billion from the banking sector, changing a part of this amount to other forms of saving.

Corporate borrowing and depositing

The contraction of lending to corporations is a primary risk and may hinder an economic recovery. In light of this, it is alarming that banks' total lending to corporations continued to contract in Q1. Nevertheless, only long-term loans declined within total loans, while short-term loans (mainly business credit) grew for the first time since October 2008. This may indicate that the scope of creditworthy companies is not narrowing significantly any more, and that lending is slowly returning to normal in this portfolio. During the balance sheet adjustment since end-2008 banks were typically able to cut back on short-term loans; now this kind of bank adjustment seems to be decelerating, and short-term liabilities are slowly expanding for creditworthy companies. On the other hand, long-term lending (mainly investment loans) may continue to decline, because in view of the low production level corporations are able to increase production capacities over the short term without major investment.

Chart 2-7 Net quarterly increase in the corporate loans of the domestic banking sector

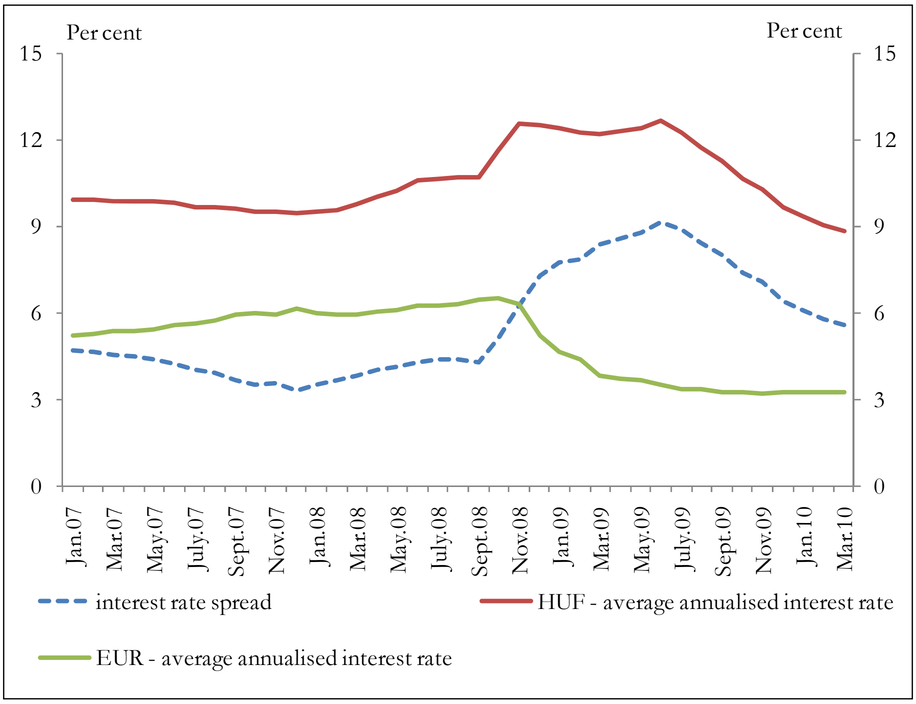


Note: Credit institutions and the Hungarian branches of non-resident credit institutions. Net increase, seasonally unadjusted and adjusted for the rolled-over exchange rate impact of the loan portfolio.

The market intelligence surveys[11] conducted among banks and the MNB's *Senior Loan Officer Survey on Bank Lending Practices* of May 2010 indicate that banks intend to significantly expand their corporate lending activity. Plans call for an average increase of 6.4 per cent in their corporate loan portfolio, whereas corporate loans declined by 7.1 per cent in the banking sector in 2009. In line with the economic recovery, the increasing loan supply may also be coupled with a growing demand for loans starting from the second half of the year.

[11] *Report on Financial Stability*, April 2010, pp. 58–59.

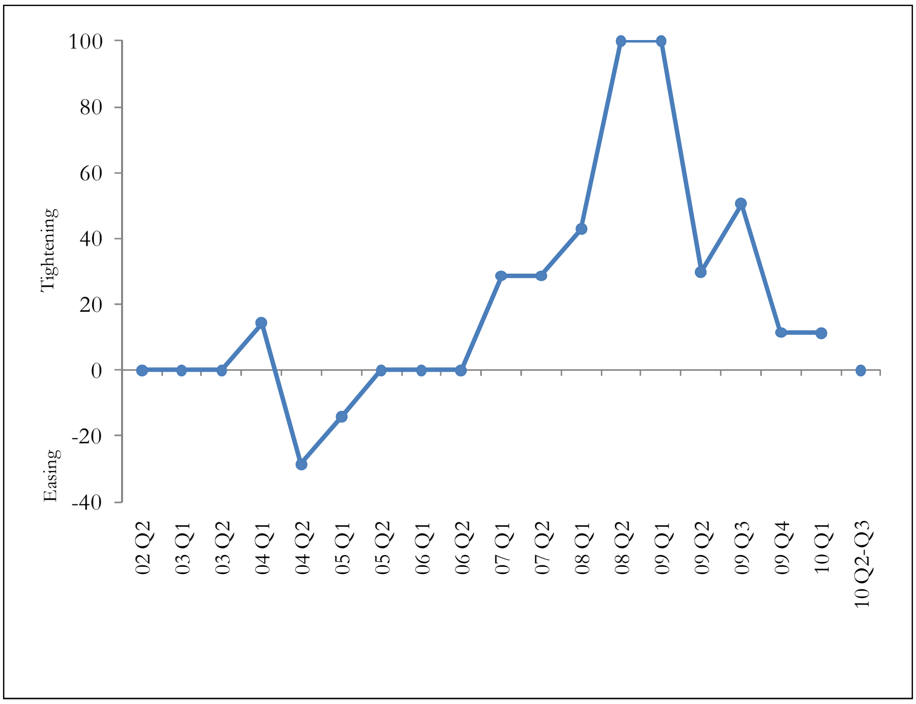
Chart 2-8 Average annualised interest rate on loans to non-financial corporations



Note: Weighted by end-of-month stock.

Most banks' lending conditions did not continue to tighten in 2010 Q1. The interest rate on forint loans declined as a result of a fall in the costs of funds, but it is still well above the interest rate on euro loans. However, owing to the strict conditions, relatively cheap euro loans continue to be available only to a narrow scope of the best companies. Two fundamental factors count in the assessment of creditworthiness: the balance sheets of past periods and profitability prospects. As most companies' 2009 balance sheets show an extremely unfavourable picture, and future prospects are still surrounded by strong uncertainty, there is a risk that the currently less creditworthy companies will remain outside the scope of banks' preferred borrowers for a longer period of time.

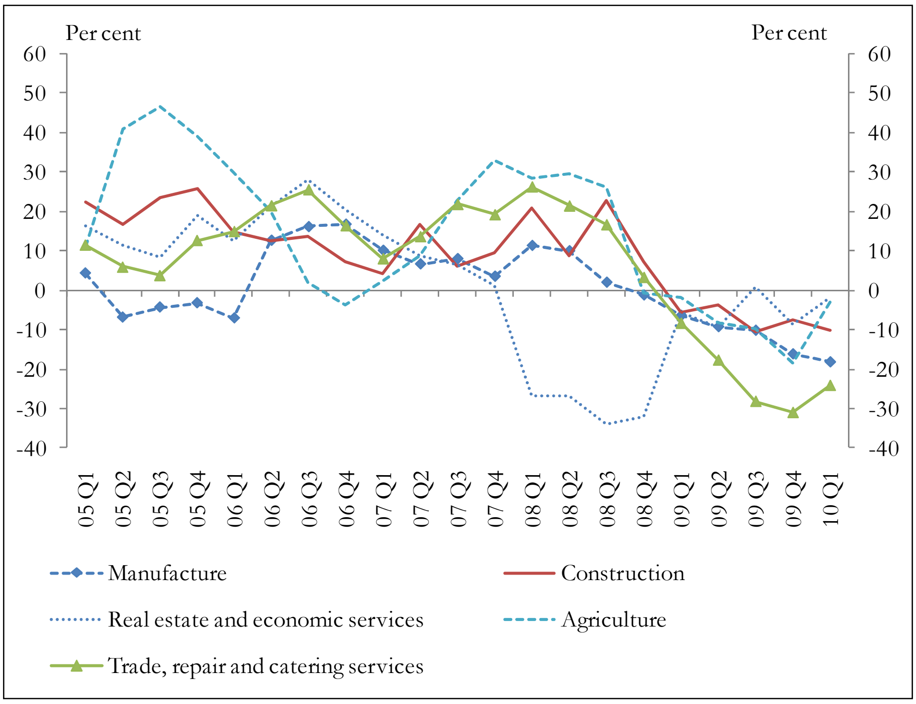
Chart 2-9 Changes in the banking sector's non-price lending conditions to non-financial corporations



Note: Net percentage of respondents reporting tightening/easing. Responding banks' expectations for 2010 Q2 and Q3.

Developments are similar to the aggregate picture in most of the sectors of the national economy. Manufacturing and construction are exceptions, where the decline in lending continued to accelerate. In the case of construction, this is in line with the fact that banks uniformly avoid large-scale lending for real estate development. The difficult situation of construction companies is also indicated by the fact that the annualised bankruptcy rate increased faster in this sector than in other ones, reaching 9 per cent in 2010 Q1.

Chart 2-10 Annual growth rate of outstanding short-term bank loans in selected sectors of the national economy



Note: Credit institutions, data adjusted for the exchange rate effect.

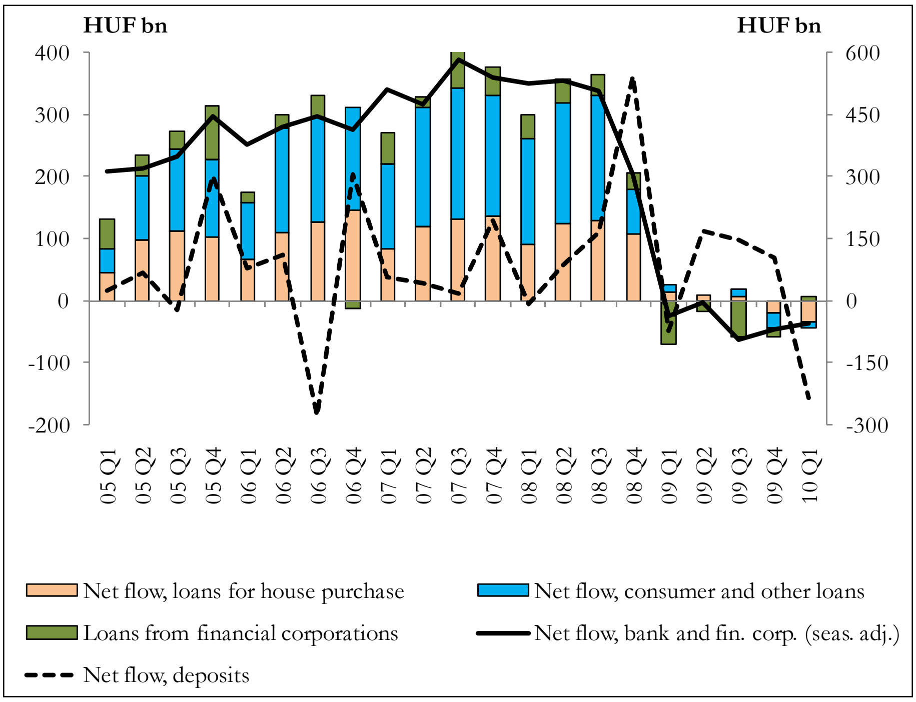
During the first three months, corporations withdrew forint deposits worth a total HUF 157 billion from the banking sector, and in parallel with this they deposited foreign exchange with a value of HUF 67 billion. This is the first time since mid-2009 when corporations generated new foreign exchange deposits, which may also be a sign of an upswing in export activity. At the same time, the withdrawn forint deposits probably serve the purpose of substituting bank loans that are still scarce for less creditworthy companies.

As a result of an upturn in banks' activity and the approaching economic recovery, corporate lending is expected to start growing in the second half of the year. This is threatened by serious risks, however, owing to the uncertainty of the external economic environment.

Household borrowing and depositing

The decline in total household loans, and within them mainly housing loans, accelerated in Q1. It appears that the fall in household lending by banks and non-banks will last for a longer period of time. This is also confirmed by the findings of the market intelligence survey, as responding banks are planning to increase their household portfolio by a mere 0.9 per cent in 2010.

Chart 2-11 Net quarterly increases in the domestic banking sector's and financial enterprises' household loans and households' bank deposits

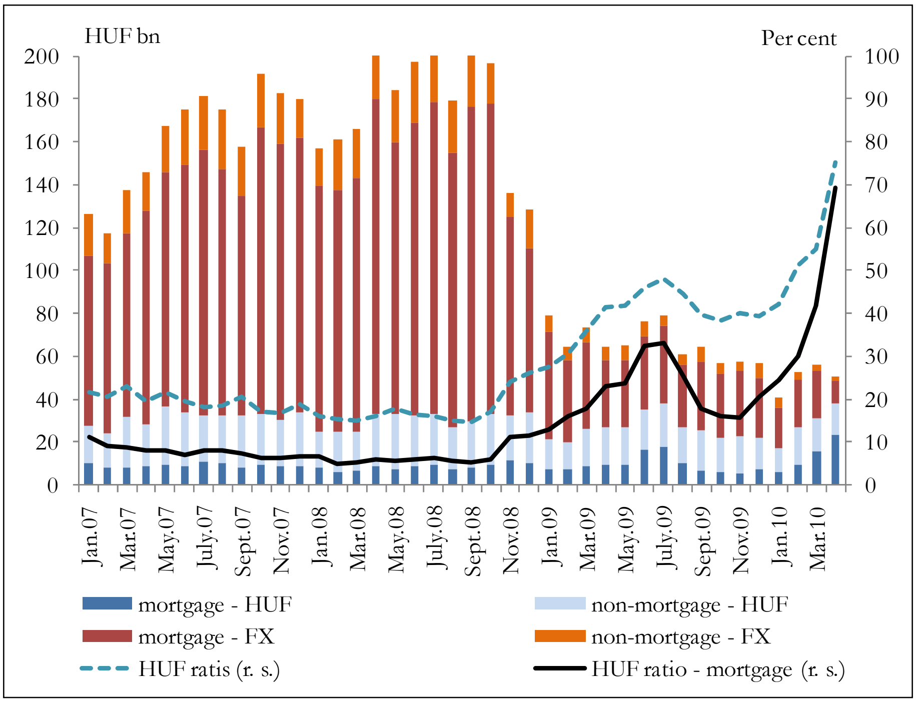


Note: Credit institutions and the Hungarian branches of non-resident credit institutions as well as financial enterprises. Unless otherwise indicated, net increase in total loans, seasonally unadjusted and adjusted for the exchange rate effect. The last data for non-bank lending are preliminary.

The government decree on prudent lending entered into force on 1 March 2010. It limits the loan-to-value ratio and the maximum maturity of vehicle purchase loans to different extents for forint and foreign exchange loans. Although the effect of the decree will really be felt when lending begins to pick up again, the amended regulation may already have played a role in the change in the currency composition of new loans.

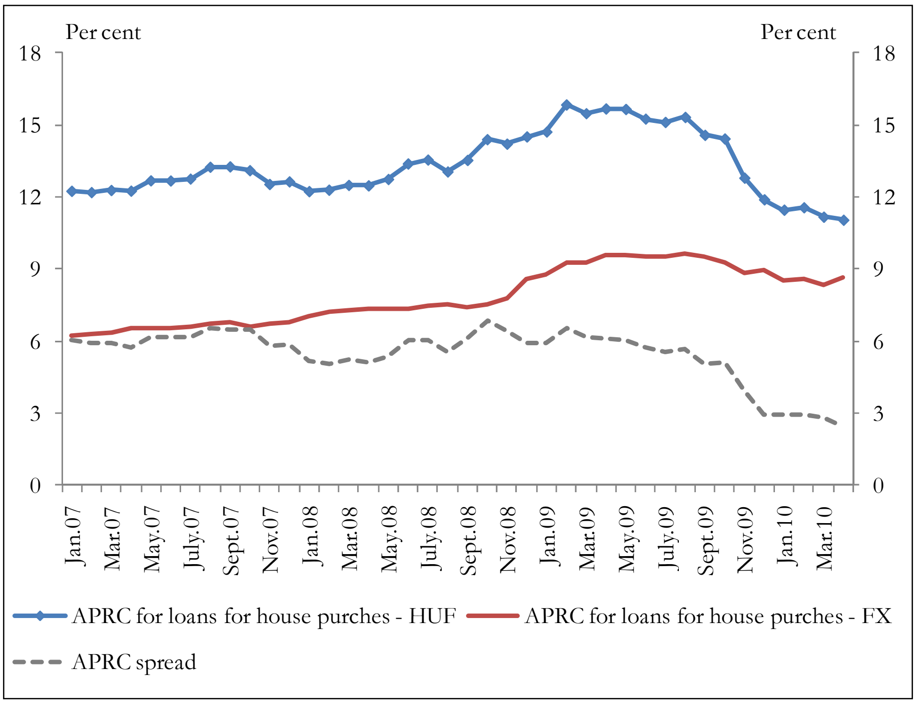
Statistics on new loans reveal that although the amount of new loans continues to be low, the share of forint loans is increasing both within mortgage loans (69 per cent in April) and within total household loans (75 per cent). On the one hand, this may by attributable to the continuous decline in the difference in the interest rates on foreign exchange and forint loans, and on the other hand, pursuant to the new regulation, it may also play a role that with a given downpayment a higher amount can be borrowed in forints than in foreign exchange.

Chart 2-12 Composition of new bank loans to households



Note: Credit institutions and the Hungarian branches of non-resident credit institutions. Not seasonally adjusted data.

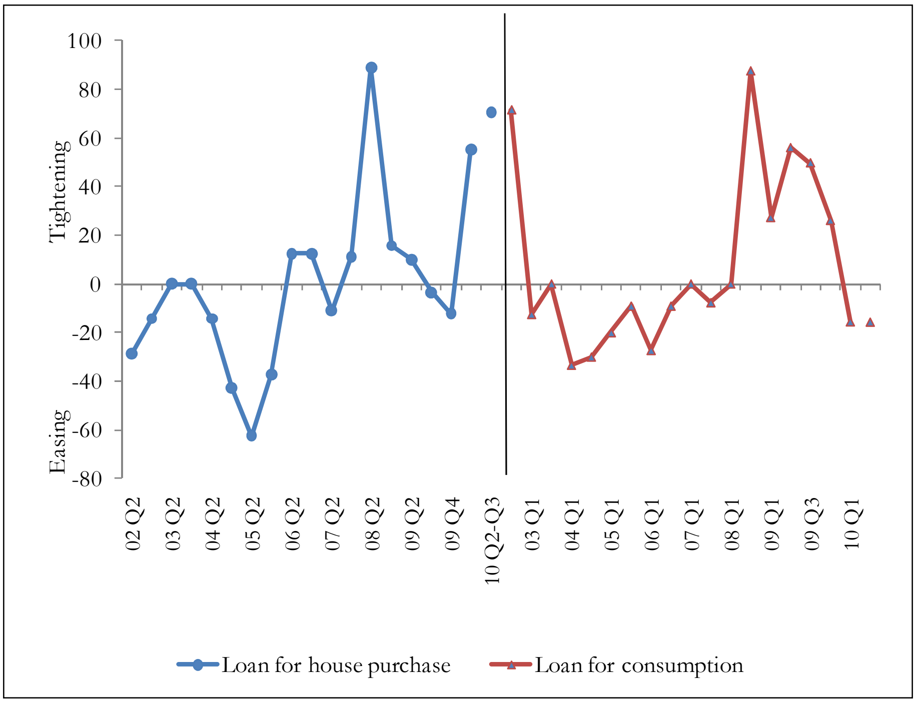
Chart 2-13 Average APRs on new mortgage loans



Banks indicated in the *Senior Loan Officer Survey on Bank Lending Practices* that they tightened the conditions of housing loans in Q1, although this was probably only the mandatory tightening required by the government decree (conditions of consumer credit did not become stricter). It is important to emphasise, however, that banks are planning further tightening for the next half year, which, in turn, reflects the provisions of the second part of the government decree effective as of 11 June.

Accordingly, banks will have to determine different 'lending limits', i.e. income-proportionate instalment ceilings, in forint and foreign exchange.

Chart 2-14 Changes in the banking sector's non-price conditions of loans to households

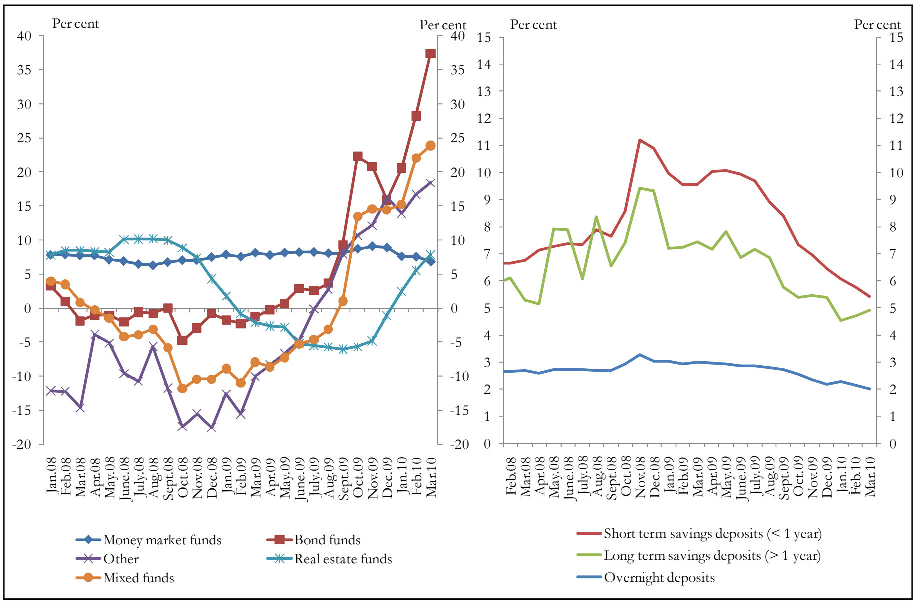


Note: Net percentage of respondents reporting tightening/easing (weighted with market share).

Source: MNB lending survey.

Owing to declining deposit rates, bank deposits are becoming a less and less attractive form of savings. Probably this is the main underlying reason why households withdrew deposits with a total value of HUF 236 billion from the banking sector in three months. A part of the withdrawn savings was placed in mutual funds, which performed very well in recent months. In 2009, with the return of financial markets to normal, the performance of mutual funds already improved, thus, in parallel with the steady decline in deposit rates, mutual fund shares became increasingly competitive compared to bank deposit type savings. Capital inflows were particularly significant in the case of money market and bond funds, which is partly (as indirect household saving, e.g. through life insurance) related to other institutional investors and partly to households. In the first months of 2010, in parallel with the withdrawal of households' bank deposits, inflows to mutual funds continued to increase. However, the deposit ratio of the portfolio of investment funds increased in this period, so nearly half of the inflowing capital returned to the banking sector in the form of bank deposits.

Chart 2-15 One-year retrospective yields by types of funds and the average interest rate paid on bank deposits



Note: The 'Other' category includes the data of guaranteed, derivative and non-classified funds. Owing to their extreme movements, equity fund yields are not presented.

Sources: Association of Hungarian Investment Fund and Asset Management Companies (BAMOSZ) and MNB.

According to our calculations, households' indebtedness will decline for a longer period of time, and lending to households is expected to expand only from 2011 on.

3. Inflation and real economy outlook

The more robust-than-expected recovery in global trade improves the short-term growth prospects of the Hungarian economy as well. Accordingly, domestic GDP may start to grow already in early 2010. Domestic economic agents' balance sheet adjustment may have come to an end in the past quarters, and no further significant balance sheet adjustment is expected. At the same time, households' and corporations' consumption and investment decisions may continue to be characterised by cautiousness over the short run. Accordingly, domestic demand is expected to remain weak this year, but may make a positive contribution to economic growth from 2011 on. In parallel with a gradual upswing in international economic activity, domestic growth may continue to pick up in 2012.

The duality of domestic and external demand conditions is also reflected in inflation developments. First, as a result of weak domestic demand and loose labour market conditions, core inflation is expected to develop in a restrained manner over the forecast period. Second, the strengthening of international business activity adds to imported inflation, mainly through energy prices. The consumer price index may remain close to the medium-term inflation target over the period relevant for monetary policy.

Box 3-1 Briefly about the new macroeconometric model used in our forecast

Macroeconometric modelling has a decade-long history in the Magyar Nemzeti Bank. The work that resulted in the creation of the macroeconometric quarterly projection model (*N.E.M.*) used by the MNB for many years had started in 1999 with the development of the Hungarian block of the

NIGEM world model.[12] In addition to regular forecasts, the N.E.M. model was used for preparing numerous impact studies and analyses. However, recent years, and the period of the global financial crisis in particular, posed new challenges for the N.E.M. model. The expert system was better able to depict the significant short-term reactions triggered by the crisis and affected by frictions than the models used. Therefore, it became necessary to amalgamate the knowledge accumulated about the functioning of the Hungarian economy with the favourable features of the model, providing a consistent and transparent framework for the forecast.

Following an assessment of expectations, a decision about developing a new model was made. The result was the DELPHI (Dynamic Econometric Large-scale Prognosticator of Hungarian Inflation) model, used for the compilation of the forecast published in the *Quarterly Report on Inflation*.[13] Although it is a novelty, the DELPHI model is similar to its predecessor in many respects.

–Both models are medium-size macroeconometric models. They have a similar number of equations, although the DELPHI model is more detailed in terms of several of its blocks (approx. 150 equations as opposed to the approx. 100 equations of N.E.M.; the number of behavioural equations is 38 in the DELPHI model and 29 in N.E.M.).

–Similarly to its predecessor, the model steps on a neoclassical balanced growth path over the long term, but over the short term it has new-Keynesian features owing to the nominal frictions. Between the long term, which means steady state growth path, and the short term, which means the forecast horizon, the model is able to describe the catching-up process of the economy as well. The behaviour equations of the model are stated in an error correction format, because this is a useful tool to connect long-term relationships containing the theoretical limitations to the short-term, Keynesian-type frictions and slow adjustments.

–Potential output (value added) over the longer term is determined in the model by the available factors of production and technology. Demand effects may divert current output from the potential level over the short term, but excess or insufficient demand launches nominal adjustment processes as well.

The most important differences compared to its predecessor:

–The DELPHI model maps the relationships between national accounts completely, i.e. accounts for both income flows within the given period and the accumulations between periods in full.

–The block of general government is worked out in more detail, connected with the remaining sectors of the economy through various taxes and expenditure items. This richness in details provides a good base for the simulations, especially for fiscal analyses.

–The neoclassical growth correlations included in the model result in dynamics free from overshoots, acceptable catching-up paths and permanent ratios.

–A further difference between the DELPHI and its predecessor is that the newer model widely relies on experts' accumulated knowledge and provides for the simultaneity across variables taking analysts' partial equilibrium relations as a basis.

The inflation forecast is produced as a result of the close interaction of the model and experts' knowledge: experts' assessment prevails over the short term (1–2 quarters). Over the longer term, however, it is the model run containing the calibrated and estimated relationships that determine the

[12] For a detailed description of the N.E.M. model see the MNB's Occasional Paper 60: Sz. Benk – Z. M. Jakab – M. A. Kovács – B. Párkányi – Z. Reppa – G. Vadas: The Hungarian Quarterly Projection Model (NEM).

[13] The description of the DELPHI model will be published in an MNB study in the near future.

forecast, although in the behaviour of the variables, where it may deviate from the historical one, experts' additional information prevails.

It is important to emphasise that the information basis of our forecast is characterised by greater-than-usual uncertainties. These uncertainties partly result from the usual risks of the assessment of the external environment, while in terms of domestic developments the highest uncertainty may be related to the economic policy measures of the new government. Our current forecast is based on the budget act in force; for lack of official announcements, expected new measures could not be taken into account yet.

Box 3-2 Changes in our basic assumptions

Chart 3-1 Changes in our basic assumptions relative to the February Quarterly Report on Inflation*

	February 2010			May 2010			Change compared with February (%)		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
Central bank base rate (per	6,00	6,00	-	5,25	5,25	5,25	-0,75	-0,75	-
HUF/EUR	269,3	269,3	-	266,2	265,4	265,4	-1,1	-1,4	-
USD/EUR (cent)	142,8	142,8	-	135,3	134,3	134,3	-5,2	-6,0	-
BRENT oil price (USD/ba	79,4	84,8	-	84,4	90,4	91,8	6,3	6,6	-
BRENT oil price (EUR/ba	55,6	59,4	-	62,4	67,3	68,4	12,3	13,4	-
BRENT oil price (HUF/ba	14 970	15 990	-	16 616	17 873	18 146	11,0	11,8	-

* Annual averages, based on the monthly average exchange rate of April 2010 and the crude oil futures price.

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

Overall, compared to the February issue of our *Quarterly Report on Inflation*, our basic assumptions shifted towards a higher inflation path. As a result of the rate-cutting cycle, the central bank base rate has been lowered by an additional 0.75 percentage points, currently standing at 5.25 per cent. In the past period, the exchange rate of the forint strengthened slightly, while the dollar/euro cross rate to a somewhat greater extent. This latter effect contributed to the increase in the world market price of oil expressed in euro. The price of oil increased over the entire forecast period.

3. 1. Following the international business activity, the domestic recovery may begin in early 2010

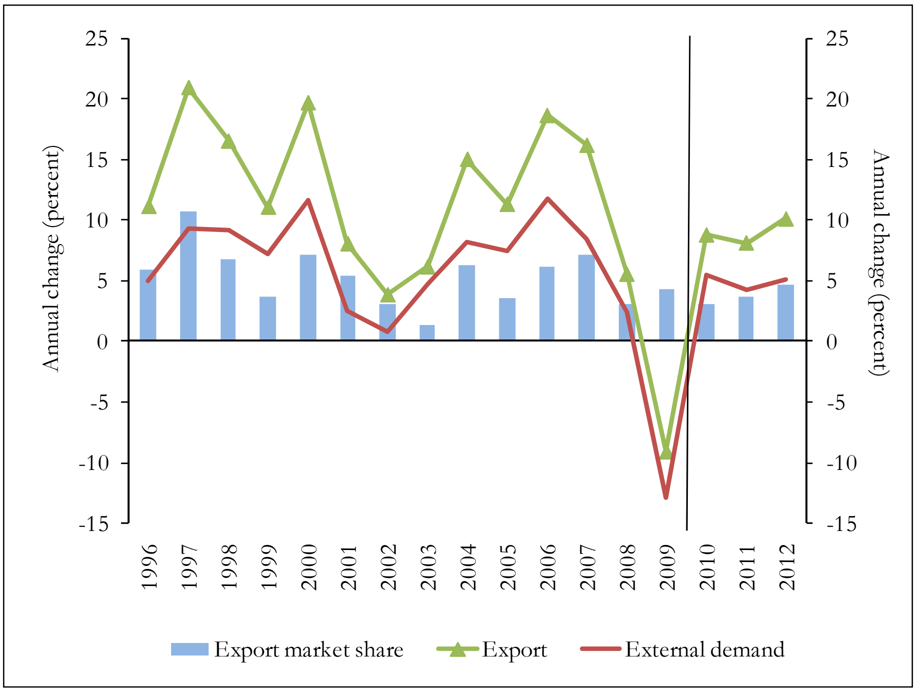
Global business activity continues to develop more favourably than expected. Accordingly, international institutions' growth forecasts for 2010 have also improved in recent months. In particular, the expansion of world trade exceeded earlier forecasts, which may result in a marked upswing in Hungarian exports over the short run. However, the recovery remains fragile: the positive surprise is mainly attributable to the fact that the effect of temporary growth-stimulating factors (replenishment of stocks, governments' economic stimulus measures) has been stronger and more protracted than expected earlier. By contrast, medium-term prospects may be impaired by mounting global concerns about fiscal sustainability. Therefore, as the recession ends, governments may be compelled to implement stronger adjustments than planned before, the effect of which may be reflected in a slower expansion in Hungary's external demand in 2011.[14]

The robust expansion of Asian economies remains a major factor in the global economic activity. It influences the Hungarian economic outlook through two channels. On the one hand, it may facilitate the recovery of the European (especially the German) export sector, and the Hungarian economy may also benefit from this as a supplier. This may be supported by the euro, which has been

[14] It is important to emphasise that these fiscal adjustment measures have not been announced in most developed economies yet, so their growth effects are also surrounded by high uncertainty. The export prospects of the Hungarian economy may be sensitive to the announcement of the measures already over the short run.

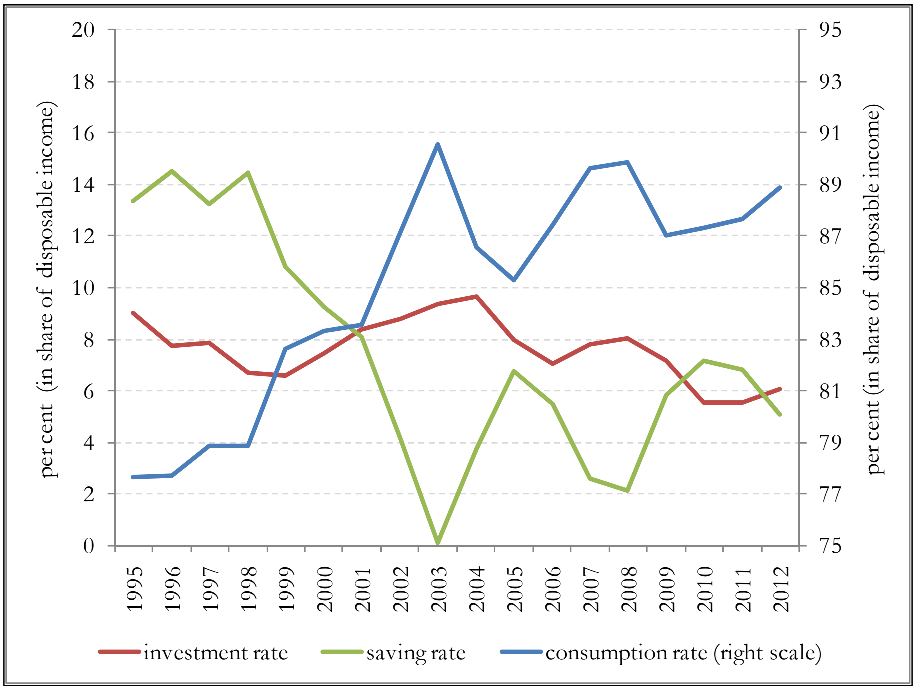
depreciating in recent months. On the other hand, the strong demand of Asian countries may raise global commodity prices, which may boost imported inflationary pressure.

Chart 3-2 Changes in export market share



In respect of domestic demand items, consumption in particular may have developed more favourably than expected over the short run. This is confirmed by the recent actual data as well. Over the medium term, however, households' consumption decisions may continue to be characterised by more cautious behaviour than before the crisis. Unemployment may remain high over our entire forecast horizon, and lending to households is also expected to be characterised by stricter than conditions than before. With an increase in incomes and a slow upturn in the credit market, household consumption may also show a perceptible increase from 2011, although the high consumption rate typical before the crisis is not expected to emerge again. The higher level of households' savings may result in a shift in the funding of the economy towards domestic sources.

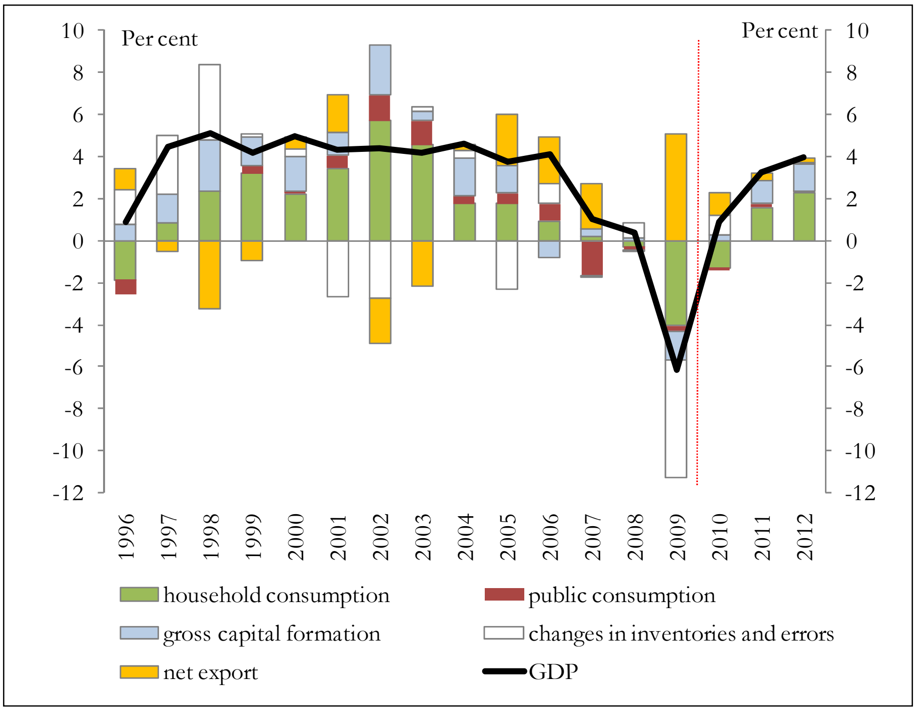
Chart 3-3 Trends in the use of household income



Our earlier picture of investment activity has remained broadly unchanged. Owing to companies' underutilised capacities and financing constraints, the upturn in corporate investment is expected to be slow. Household investment is limited by households' weak income position, persistently high unemployment and weak credit activity. In 2010, total investment may primarily expand as a result of infrastructure developments and some large projects (e.g. the Mercedes factory in Kecskemét). Improving economic conditions may stimulate gross fixed capital formation from 2011 on. At the same time, the contribution of inventory accumulation to growth in 2010 may be more pronounced than previously expected. After the slump in 2009 prompted companies to reduce their inventories, the stronger-than-expected pick-up in demand requires the replenishment of stocks in 2010.

Overall, our growth expectations for 2010 have improved, which is supported by the upswing in external markets, as well as by the more favourable-than-expected developments in domestic demand in recent months. Considering that one-off factors – the replenishment of inventories of Hungary's main export partners – may also have played a role in the strong expansion in external demand at the beginning of this year, the economic recovery may continue at a slower pace than in the first quarter. In 2011 and 2012, expansion in domestic demand will also support domestic growth, while the contribution of net exports to growth will gradually decline. The output gap is negative over our entire forecast period, although it may close faster compared to our earlier expectations (see box). Nevertheless, domestic real economy developments continue to justify low demand-side inflationary pressure.

Chart 3-4 tructure of economic growth



Box 3-3 Revisions of developments in the potential growth of the Hungarian economy expected over our forecast period

We last revised our picture of potential output in August 2009, in connection with the global financial crisis.[15] In August we took into account the following effects.

–In the *capital market*, we expect a decline in corporate investment as a result of the increasing risk premium. This impact, which hinders potential growth, is strengthened by the fact that some of the existing capacities will become permanently redundant, and will lose their value faster than usual during a whole year (2009). In addition, the crisis required fiscal adjustment steps to be taken. Fiscal policy may reduce Hungary's growth potential by restraining government investment, but may improve it via the decline in the risk premium.

–As a result of the protracted recession, high unemployment will persist in the *labour market*, which may diminish the willingness to remain active. This may partly be offset by the increase of the effective retirement age as a result of falling incomes, and the impact of fiscal measures aiming at the stimulation of labour demand and supply.

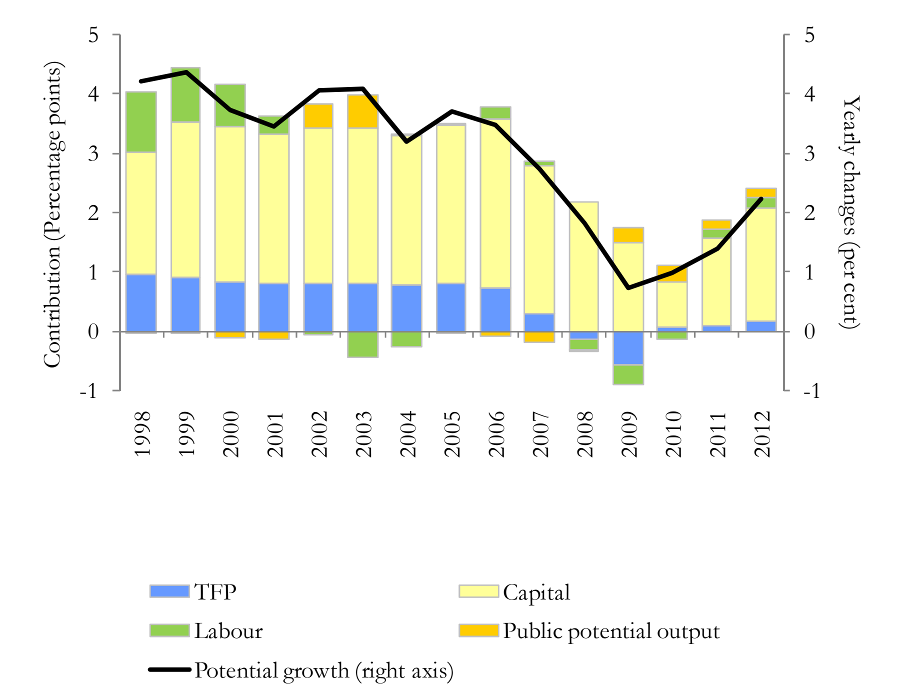
–With the freezing of business credit, the level of *efficiency* (TFP) may have declined at end-2008, and catching up may continue on at a slower pace than earlier from mid-2010.

Macroeconomic indicators since the middle of last year have largely confirmed our revisions carried out in the past of the time series. Nominal adjustment of the economy – developments in trend inflation and wages – was mostly in line with our expectations in the past quarters. At the same time, the past quarters provided new information in connection with the expected future pick-up in potential growth. Bankruptcy rates continued to increase from last year's high levels, while companies are still facing tight lending conditions, in contrast to our earlier expectations. Accordingly, the effect of the financial crisis on production capacities may be more persistent than assumed so far, i.e. the faster-than-usual obsolescence of redundant capacities may continue in 2010 as well. In accordance

[15] See Box 3-2 in the *Quarterly Report on Inflation*, August 2009.

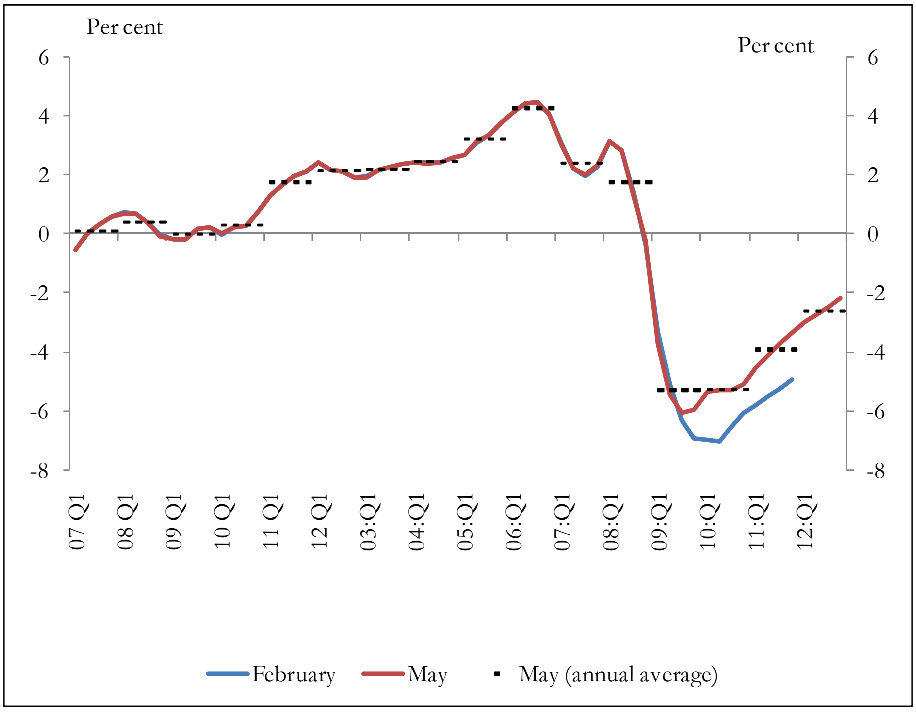
with this, short-term potential growth may be somewhat lower than expected earlier, and we expect it to reach a rate of around 2.5 per cent, considered sustainable for a longer period under the current conditions, only in 2012.

Chart 3-5 Components of potential growth (our current estimates)



As a result of the lower growth in potential output and our improving real-economy forecast, this year's negative output gap may be smaller than what our earlier estimates would have suggested. As a result of the changes, output may reach its potential level with the optimum utilisation of the factors of production earlier than we assumed in February. But considering that it may take place in 2013–2014, the output gap remains negative over our entire forecast horizon.

Chart 3-6 Changes in the output gap in our current and earlier forecasts
(as a percentage of potential output)



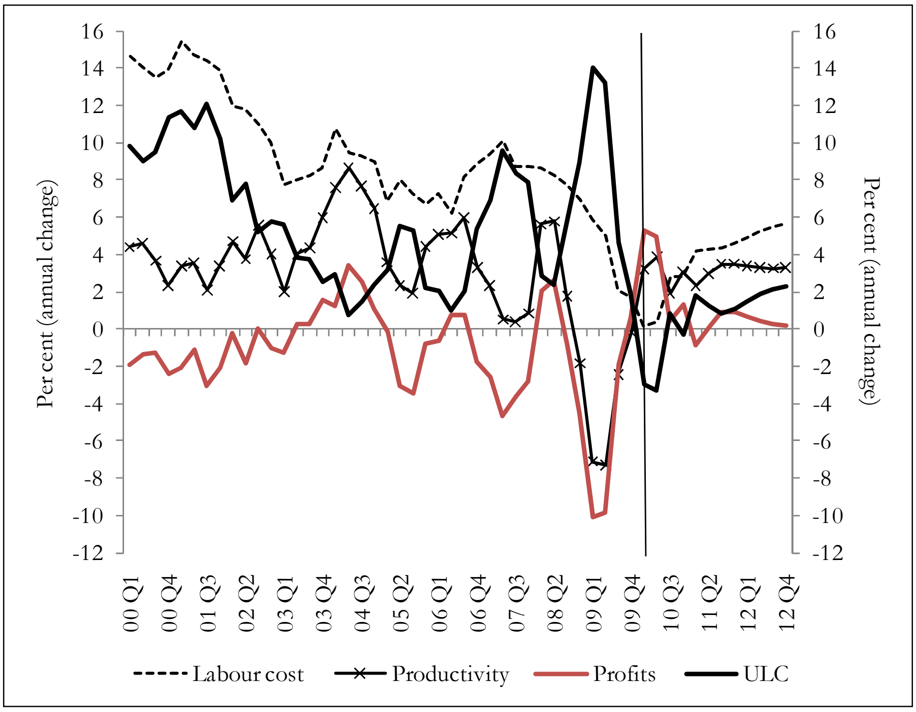
3. 2. Persistently high unemployment is expected, despite improving economic activity

Labour market developments continue to be determined by the fact that corporations are striving to restore their profitability, which declined during the crisis. Slow employment growth and restrained wage developments are expected in the course of the recovery from the crisis as well. Labour market conditions, however, are expected to differ markedly across sectors, especially over the short run.

Labour hoarding, which was typical in the recession period, reduced the increase in unemployment. Consequently, companies may react to the fledgling upturn mainly by more intensive utilisation of the existing workforce reserve, instead of increasing the number of employed. The need to increase employment may first arise in the case of companies producing for external demand, and accordingly, hiring of new employees in these sectors may already take place from the middle of this year on. Employment in the service sectors may start growing in 2011. At the same time, the regulatory changes adopted in recent years lead to an increase in labour market activity. Therefore, according to our expectations, most of those who lose their jobs will not leave the labour market, and so the unemployment rate may remain high over our forecast period.

The loose labour market may contribute to subdued wage increases even in the period of recovery. The effect of the duality of the developments in external and domestic economic activity is perceived in the labour market as well. Accordingly, in addition to workforce increases, an upturn in wages may also emerge earlier in manufacturing than in the services sectors. The wage dynamics of the two sectors may converge with a revival in domestic demand from 2011 on, following which wage increases of over 5 per cent in the competitive sector are expected in 2012. Real wage growth is to expected to remain lower than productivity growth over the entire forecast horizon. Therefore, we do not expect significant inflationary pressures originating from the labour market.

Chart 3-7 Unit labour cost and its components in the competitive sector



3. 3. Achieving the inflation target will be delayed, due to strengthening imported inflationary pressure

Domestic real economy and labour market developments point to low core inflation. By contrast, the stronger-than-expected international economic activity increases the imported component of inflation, mainly through the prices of energy. Even with low trend inflation, strengthening imported inflationary effects will retard disinflation over the short run. Consequently, annual inflation may still remain above the 3 per cent target in the second half of the year, after the effect of last year's indirect tax measures on the price index disappears. Achieving the 3 per cent inflation target may be delayed until mid-2011, while the consumer price index may evolve around the inflation target over the period relevant for monetary policy (5–8 quarters).

Core inflation may reach a historically low value over our forecast period. Weak domestic demand continues to have a considerable price-reducing effect in pricing decisions. Low inflation is supported by the loose labour market conditions, which may result in restrained wage dynamics in the coming years. The negative output gap would justify disinflation over our entire forecast period. However, owing to the uncertainty related to the size of the output gap and the still high inflation expectations we believe that enterprises may already react to the upturn in domestic demand with minor price increases. Consequently, a slight increase in the trend of core inflation is expected from 2011 on.

Of the items of core inflation, disinflation in market services may be especially pronounced. Trend inflation in this product group is expected to be historically low in 2010. From 2011 on, with the recovery in domestic demand, price dynamics will accelerate, but the inflation of services may remain much slower than what was usual in earlier years. In the case of industrial products, the price-reducing effect of weak demand may be supported by the exchange rate level, which is stronger than last year. On the basis of futures prices, global food prices may start to increase from 2011 on, which may also add to processed food inflation.

Inflationary pressure is mainly perceived in global commodity prices, which may be attributable to the more robust-than-expected global economic recovery. The impact of the oil price increase is also amplified by the depreciation of the euro (and the forint) against the US dollar. Our higher forecast for regulated prices (mainly gas and district heating) is mainly based on the oil price increase. In addition, the price of oil also adds to core inflation through producer prices.

Developments in trend inflation will become evident in the annual price index only with the fading out of the temporary effect of the July 2009 indirect tax increases. In line with this, starting from mid-2010 the annual inflation rate is expected to decline significantly, but the price index is projected to be well above the medium-term inflation target even at the end of this year. Achieving the inflation target may be delayed until mid-2011, while inflation may evolve around the target over the period relevant for monetary policy. Due to the application of our underlying technical assumptions, imported inflationary effects play a decreasing role in inflation developments over the time horizon exceeding one year, but from early 2011 on – in parallel with a pick-up in domestic demand – a reversal is expected in the trend of core inflation as well. Although the output of the domestic economy is expected to remain below its potential level over our entire forecast horizon, with the improving demand environment it may become possible to realise some of the price increases postponed in the past. Thus, core inflation may accelerate in 2012.

Chart 3-8 Developments in trend inflation
(seasonally adjusted, annualised quarterly growth)

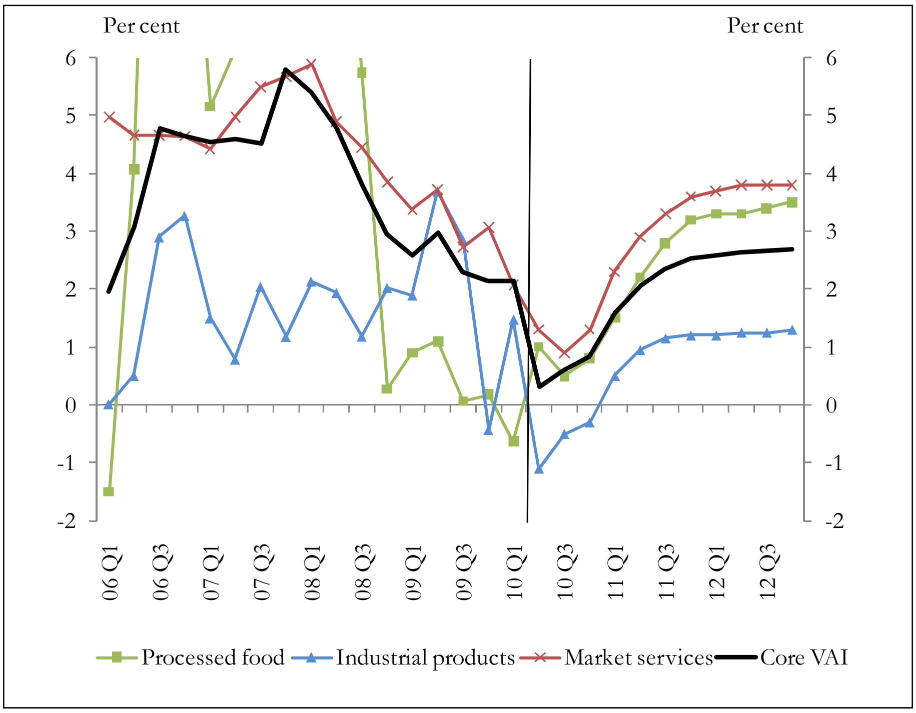


Table 3-1 Details of our inflation forecast*

	Weight	10 Q1	10 Q2	10 Q3	10 Q4	11 Q1	11 Q2	11 Q3	11 Q4	12 Q1	12 Q2	12 Q3	12 Q4
Unprocessed food	5,8	1,1	-4,5	4,2	7,0	5,2	4,0	5,1	4,7	4,3	4,1	3,8	3,5
Vehicle fuel and market energy	7,6	21,3	21,1	15,3	15,7	8,1	3,5	2,6	2,9	2,7	2,5	2,4	2,4
Regulated prices	16,7	6,5	8,0	8,1	9,7	10,6	9,3	6,8	5,2	4,2	4,0	3,9	3,8
Core inflation	70,0	4,8	4,1	1,6	1,3	1,0	1,3	1,7	2,1	2,4	2,5	2,6	2,6
Consumer price index	100,0	6,0	5,4	3,8	4,1	3,4	3,0	2,8	2,8	2,8	2,9	2,9	2,9

** Aggregates are calculated by chain linking.*

3. 4. Upturn in domestic demand may result in a gradual deterioration in the external balance from 2011 on

The external financing capacity of the economy may already decline in the coming quarters. Both the replenishment of stocks continuing in 2010 and then the slow upturn expected in consumption point to an increase in import demand, but growing external demand may keep the surplus of the real-economy balance high. According to our expectations, the increase in corporate profits will not yet be reflected in the income balance this year. The underlying reason is that the interest balance may continue to improve along the projected path of forint and euro yields. Our expectations regarding funds received from the EU has remained unchanged. As in 2009, EU transfers may contribute to the external financing capacity considerably. According to our forecast, the external financing capacity may fall markedly from 2012. We project a declining surplus of the real economy balance as domestic demand gains strength. At the same time, an increase in the profit transferred to foreign owners may be reflected in the income flows in an increasingly pronounced manner.

Table 3-2 Structure of external financing capacity

(relative to GDP; in per cent, unless otherwise indicated)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Fact/Preliminary fact						*Forecast*		
1. Balance of goods and services	-2,9	-1,2	-0,9	1,2	0,8	5,9	5,7	5,5	5,4
2. Income balance	-5,2	-5,7	-5,9	-7,3	-7,3	-6,0	-6,0	-6,1	-6,4
3. Balance of current transfers	-0,2	-0,3	-0,3	-0,5	-0,7	0,3	-0,3	-0,3	-0,4
I. Current account balance (1+2+3)	*-8,3*	*-7,2*	*-7,1*	*-6,5*	*-7,1*	*0,2*	*-0,6*	*-0,9*	-1,4
Current account balance in EUR billions	*-6,8*	*-6,4*	*-6,4*	*-6,6*	*-7,5*	*0,2*	*-0,6*	*-0,9*	-1,6
II. Capital account balance	*0,1*	*0,7*	*0,7*	*0,7*	*1,0*	*1,4*	*1,9*	*2,3*	2,1
External financing capacity (I+II)	**-8,2**	**-6,5**	**-6,4**	**-5,8**	**-6,1**	**1,6**	**1,4**	**1,4**	**0,8**

In conformity with the assumed dynamics of the external equilibrium position, domestic (net) savings, which expanded significantly in 2009, may remain at a high level in 2010 as a whole. The underlying reason is that this year we expect very subdued household consumption, declining borrowing and an only slow increase in corporate investment activity. In parallel with the pick-up in economic growth, the private sector's financing capacity may already drop off. However, significant EU transfers could maintain corporations' net savings position.

Table 3-3 GDP-proportionate net financing capacity of individual sectors

	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Fact/Preliminary fact						*Forecast*		
I. Augmented general goverment*	-8,3	-9,3	-9,5	-5,8	-3,7	-4,6	-5,0	-3,9	-2,7
II. Households	2,3	4,3	3,3	1,5	1,2	3,4	3,8	3,7	3,4
Corporate sector and "error" (= A - I.- II.)	*-2,2*	*-1,5*	*-0,2*	*-1,6*	*-3,7*	*2,8*	*2,6*	*1,6*	*0,1*
A. External financing capacity, "from above"(=B+C	-8,2	-6,5	-6,4	-5,8	-6,1	1,6	1,4	1,4	0,8
B. Current account balance	-8,3	-7,2	-7,1	-6,5	-7,1	0,2	-0,6	-0,9	-1,4
- *in EUR billions*	*-6,8*	*-6,4*	*-6,4*	*-6,6*	*-7,5*	*0,2*	*-0,6*	*-0,9*	*-1,6*
C. Capital account balance	0,1	0,7	0,7	0,7	1,0	1,4	1,9	2,3	2,1
D. Net errors and omissions (NEO)**	-1,4	-1,9	-2,3	-1,6	-2,8	-0,7	-0,6	-0,6	-0,6
External financing capacity "from below" (=A+D)	-9,6	-8,4	-8,8	-7,5	-8,9	0,8	0,7	0,8	0,2

** In addition to the state 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. The forecast related to the financing needs of the general government does not include stability and interest rate risk reserves. ** 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.*

3. 5. Inflation and growth risks

In addition to the baseline scenario, we quantified the impact of three risk paths that may have a major effect on our forecast.

We still consider the pick-up in external demand to be fragile. In our baseline scenario, our forecast for global economic activity is based on the projections of major international institutions. Accordingly, global growth may be characterised by a slow but gradual pick-up in the coming years. At the same time, as a result of government economic stimulus packages, developed economies have been characterised by considerable increases in government debt. Current developments suggest that fiscal sustainability aspects may become increasingly relevant for investors' decisions, which may necessitate significant fiscal adjustment steps over the short term already. Accordingly, we see major risks to the sustainability of the current pick-up in external demand. As a result of the adjustments, the domestic demand of developed economies may expand in a much more subdued manner from 2011 than in the baseline scenario. The more subdued economic environment, in turn, limits the increase in international prices as well, which would result in lower imported inflation in terms of domestic developments. Overall, this scenario would result in a less favourable GDP path and lower inflation for the Hungarian economy compared to the baseline scenario.

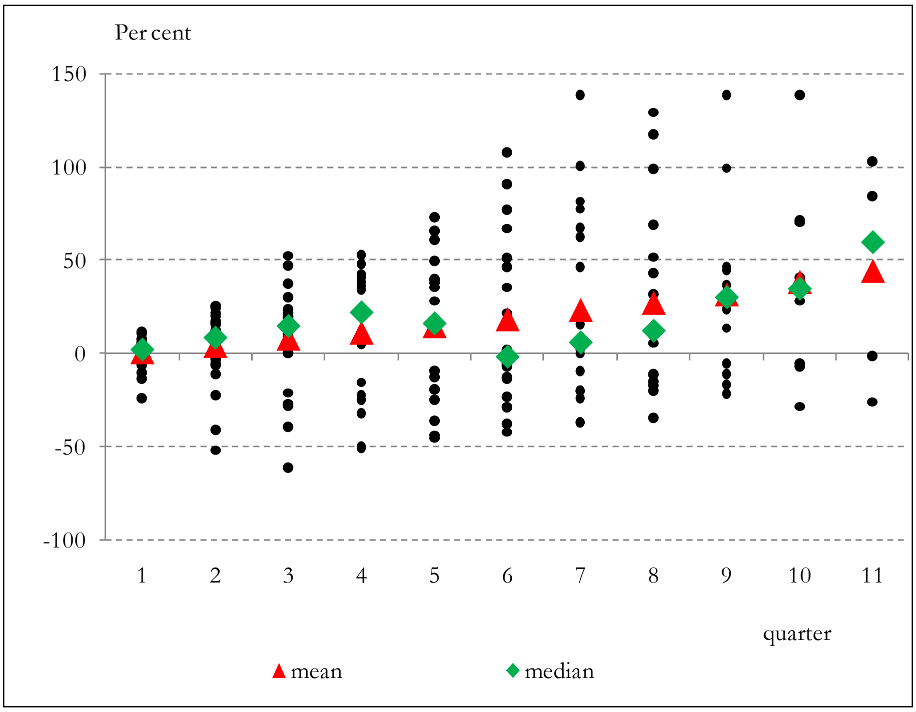
Although our indicators of inflation expectations are declining gradually, they are still higher than the medium-term inflation target, and also exceed the similar values of those countries in the region that record permanently low inflation. This phenomenon may be attributable to the unfavourable domestic inflation history and the significant individual shocks that kept Hungarian inflation high even during the period of recession. Considering that inflation in Hungary has not yet been close to the 3 per cent inflation target for an extended period of time since the political transition, it is difficult to assess to what extent the inflation target is able to orient the pricing and waging decisions of economic agents in an economy entering a new period of growth. The slow adjustment of inflation expectations may pose substantial upside risk compared to our basic inflation forecast, while its impact on the GDP path is nearly neutral.

Our third risk scenario is justified by the significant error in our underlying technical assumption of the expected developments in oil prices. In the last 20 years, futures prices have been biased forecasters of actual price movements (see details of this phenomenon in Box 3-3). The distortion appeared particularly significant over the time horizon of monetary policy. Several possibilities to improve the forecasting ability of futures prices are offered in international literature, and their application may be justified especially when external demand is assumed to gain momentum. Our alternative scenario takes account of the alternative that is the simplest to quantify, i.e. the one adjusted for past average forecasting errors. Along this path the rise of the expected oil path is positive over the entire forecast horizon, posing strong upside risks in terms of inflation especially towards 2012. Risk distribution points to lower growth in the case of the GDP path.

Box 3-4 The forecast performance of our oil price assumptions

Since August 2003 our basic assumption for the oil price in the *Quarterly Reports on Inflation* has been calculated on the basis of futures prices.[16] The experiences of the past years show that these assumptions were able to forecast future oil price changes only with large errors. The errors proved to be significant especially over the 1- or 2-year forecast periods, pointing notably to one direction (see Chart 3–5).

Chart 3-9 Error of the oil price assumption for various forecast periods
(as a percentage of the forecast)



Note: The error of the oil price assumption was examined starting from the Quarterly Report on Inflation *of 2004 Q1.*

The error is related to the fact that over the time horizon relevant for monetary policy, futures prices tend to flatten out. Thus, they are unable to capture expected price dynamics. This may lead to the underestimation of inflationary effects from oil prices towards the end of our usual forecast horizon.

International studies also reveal that futures prices incorrectly predict future oil prices, using time series starting from the early 1990s. They find that over longer time horizons the expected oil price is systematically *underestimated*.[17] Theoretical considerations based on asset pricing models also confirm that futures prices incorrectly predict spot prices. It can be demonstrated that futures prices will be lower than the expected value of spot prices, namely owing to the risk premium related to holding the stocks of oil.[18]

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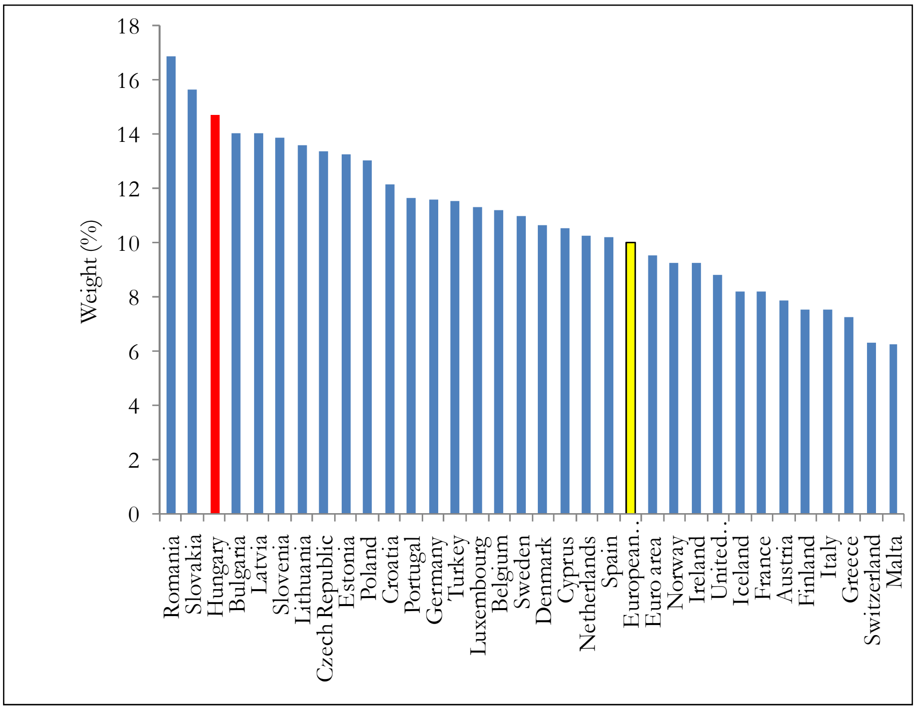
[16] Earlier, we used the constant oil price assumption, which corresponds to postulating a random walk process.

[17] Coimbra, Carlos and Esteves, Paulo Soares (2004): 'Oil Prices Assumptions in Macroeconomic Forecasts: Should We Follow Futures Market Expectations?', *Banco de Portugal*, WP4-04.

[18] Pindyck, Robert (2001): 'The dynamics of commodity spot and futures market: a primer', *The Energy Journal*, vol. 22, pp. 1-29.

As energy prices have a considerable effect on Hungarian inflation, and this effect is greater than in developed countries (Chart 3–6), the accuracy of the inflation forecast may fundamentally be influenced by the forecasting ability of our oil price assumption. Therefore, although most central banks use the futures oil prices as basic assumption, we examined the alternative methods that can give better oil price assumption. We used the proposed method to form one of our risk scenarios.

Chart 3-10 The weight of energy prices in the consumer price indices of selected European countries



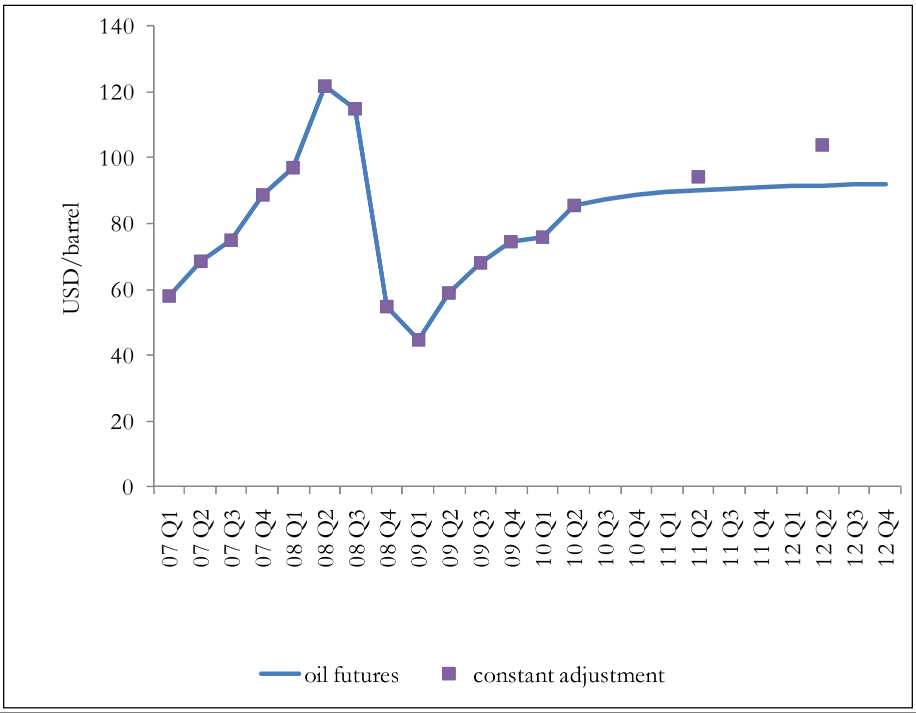
Note: Gas, electricity, heating and vehicle fuels total.

Recent studies present several methods that have better forecasting ability than futures prices. We have selected one of the simplest of these methods as the alternative oil price assumption, in which the futures prices are adjusted with the past average forecasting error, thus eliminating the systematic bias of the past. This forecasting error depends on the time horizon (the further the time period the greater the error), but does not depend on the date of preparing the forecast.[19] On the basis of the estimates in the literature, futures prices practically do not have to be modified within one year, while they have to be revised upwards by approx. 4 dollars over the 1-year horizon and approx. by 12 dollars over the 2-year horizon (Chart 3-8).

[19] An alternative is if the futures prices are corrected with values that change in time, for example the economic activity is also taken into account (see Pagano and Pisani (2009): 'Risk-Adjusted Forecasts of Oil Prices', *The B.E. Journal of Macroeconomics*, Volume 9, Issue 1, Article 24).

Chart 3-11 The adjusted futures oil price assumption used in the risk scenario and the unadjusted futures oil price

(based on April averages)



Overall, owing to the slow adjustment of expectations and the bias of our assumption applied for the oil prices in the direction of lower inflation, we perceive strong upside risks in the case of inflation, while the risk distribution of growth points to lower GDP dynamics from 2011 on.

Chart 3-12 Inflation fan chart

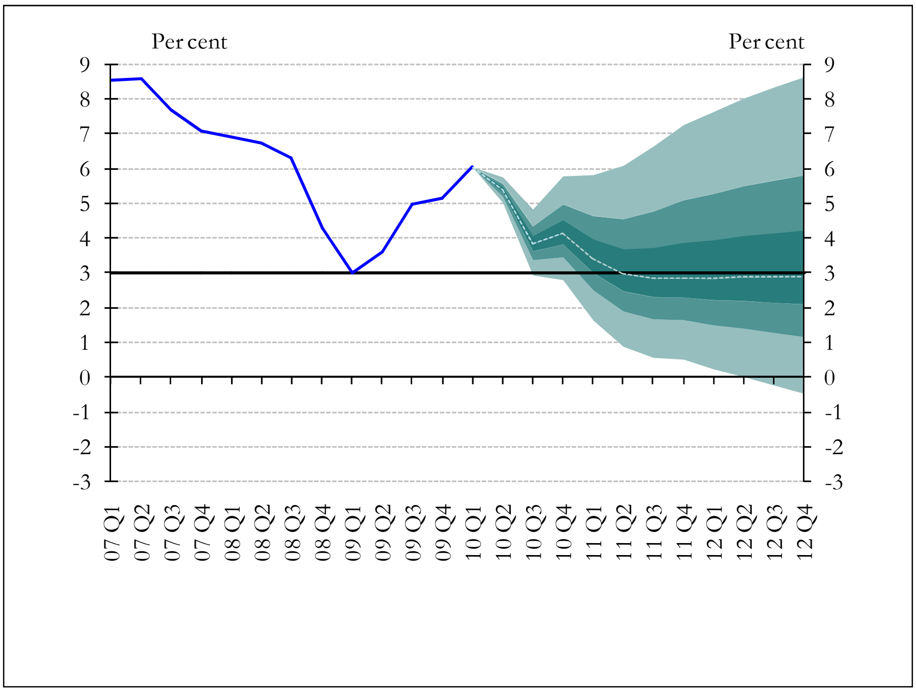


Chart 3-13 Fan chart of the GDP projection
(seasonally adjusted, balanced data)

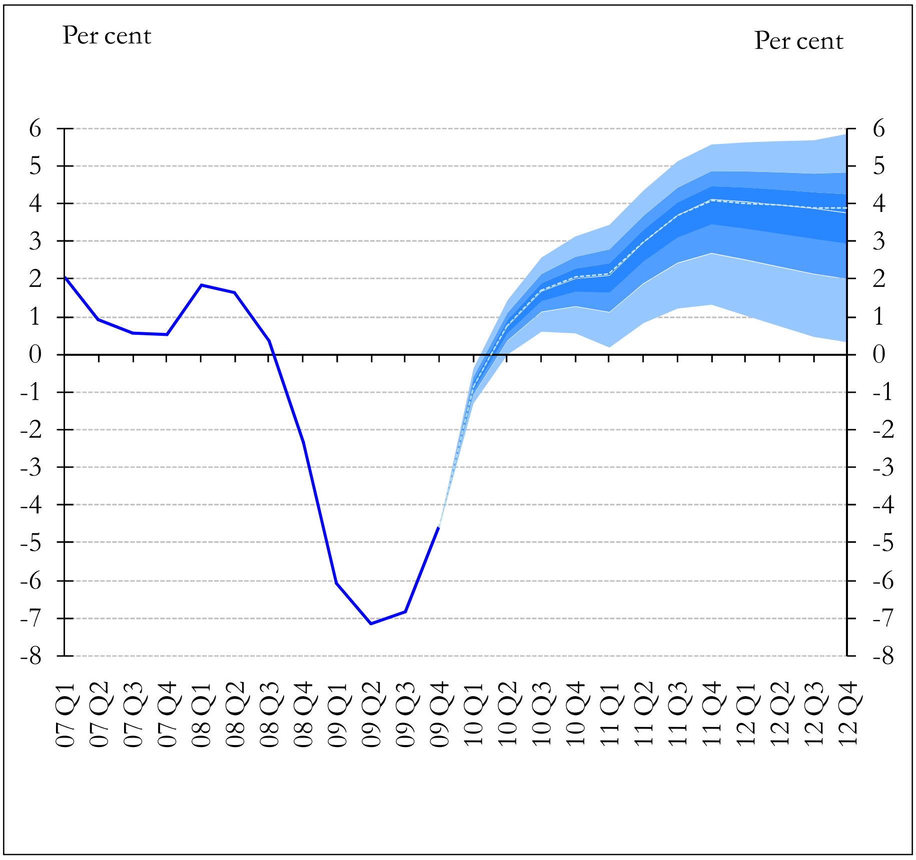


Table 3-4 Changes in our forecast relative to February 2010

	2009	2010		2011		2012	
		Projection					
	Actual	February	Current	February	Current	February	Current
Inflation (annual average)							
Core inflation[1]	**4,1**	3,2	**3,0**	1,3	**1,6**	-	**2,5**
Consumer price index	**4,2**	4,4	**4,9**	2,3	**3,0**	-	**2,9**
Economic growth							
External demand (GDP-based)	**-4,3**	1,1	**1,5**	2,1	**2,0**	-	**2,3**
Household consumer expenditure	**-7,6**	-3,9	**-2,6**	2,7	**3,0**	-	**4,3**
Fixed capital formation	**-6,5**	1,8	**1,4**	5,0	**5,5**	-	**6,0**
Domestic absorption	**-11,5**	-1,6	**-0,2**	2,9	**3,1**	-	**3,9**
Export	**-9,1**	5,8	**8,8**	9,0	**8,1**	-	**10,1**
Import	**-15,4**	4,7	**8,1**	8,8	**8,4**	-	**10,7**
GDP*	**-6,3**	-0,2	**0,9**	3,4	**3,2**	-	**3,9**
External balance[2]							
Current account balance	**0,2**	-0,4	**-0,6**	-0,4	**-0,9**	-	**-1,4**
External financing capacity	**1,6**	1,6	**1,4**	2,0	**1,4**	-	**0,8**
Government balance[2]							
ESA balance[3]	**-4,0**	-4,2 (-4,0)	**-4,5 (-4,3)**	-4,3 (-4,1)	**-3,9**	-	**-2,9**
Labour market							
Whole-economy gross average earnings[4]	**0,5**	2,4	**2,7**	3,9	**4,4**	-	**5,4**
Whole-economy employment[5]	**-2,5**	-0,8	**-0,8**	0,1	**0,3**	-	**0,7**
Private sector gross average earnings[6]	**4,4**	3,6	**4,2**	3,9	**4,4**	-	**5,4**
Private sector employment[5]	**-3,8**	-1,7	**-1,6**	0,1	**0,4**	-	**0,9**
Private sector unit labour cost[5,7]	**8,2**	-1,2	**-1,4**	0,3	**1,2**	-	**2,0**
Household real income**	**-4,6**	-2,7	**-2,9**	2,0	**2,5**	-	**3,0**

[1] *From May 2009 on, calculated according to the joint methodology of the CSO and MNB.*
[2] *As a percentage of GDP.*
[3] *The numbers in brackets refer to the deficit achievable in case of total blocking of budgetary reserves. In our forecast we have not taken into consideration any risk from debt assumptions.*
[4] *Calculated on a cash-flow basis.*
[5] *According to the CSO LFS data.*
[6] *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.*
[7] *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 3-5 Our forecasts compared to other projections

	2010	2011	2012
Consumer Price Index (annual average growth rate, %)			
MNB (May 2010)	4,9	3,0	2,9
Consensus Economics (May 2010)[1]	3,9 - 4,5 - 5,6	2,7 - 3,0 - 3,7	-
European Commission (May 2010)	4,6	2,8	-
IMF (April 2010)	4,3	2,5	2,6
OECD (May 2010)	4,5	2,3	-
Reuters survey (May 2010)[1]	4,2 - 4,5 - 4,9	2,4 - 3,0 - 3,7	2,3 - 2,8 - 3,4
GDP (annual growth rate. %)			
MNB (May 2010)[4]	0,9	3,2	3,9
Consensus Economics (May 2010)[1]	(-1,0) - (-0,1) - 1,2	1,5 - 2,6 - 3,5	-
European Commission (May 2010)	0,0	2,8	-
IMF (April 2010)	-0,2	3,2	4,5
OECD (May 2010)	1,2	3,1	-
Reuters survey (April 2010)[1]	0 - 0,7 - 1,5	1,5 - 2,7 - 3,4	-
Current account balance (percent of GDP)			
MNB (May 2010)	-0,6	-0,9	-1,4
European Commission (May 2010)	-0,2	-0,3	-
IMF (April 2010)	-0,4	-1,0	-2,1
OECD (May 2010)	0,8	-0,4	-
Budget Balance (ESA-95 method, percent of GDP)			
MNB (May 2010)[6]	-4,5 (-4,3)	-3,9	-2,9
Consensus Economics (May 2010)[1]	(-4,4) - (-5,0) - (-6,3)	(-3,0) - (-4,1) - (-4,7)	-
European Commission (May 2010)	-4,1	-4,0	-
IMF (March 2010)	-3,8	-2,8	-
OECD (November 2009)	-4,5	-4,3	-
Reuters survey (May 2010)[1]	(-4,1) - (-5,1) - (-6,5)	(-3,0) - (-4,4) - (-8,5)	-
Forecasts on the size of Hungary's export markets (annual growth rate, %)			
MNB (May 2010)	5,5	4,3	5,2
European Commission (May 2010)[2]	4,5	5,1	-
IMF (April 2010)	3,0	3,2	-
OECD (May 2010)[2,3]	6,7	6,9	-
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (May 2010)	1,5	2,0	2,3
European Commission (Május 2010)[2]	1,4	2,0	-
IMF (April 2010)[2]	1,5	2,3	2,5
OECD (May 2010)[2,3]	1,9	2,4	-
Forecasts on the GDP growth rate of euro area (annual growth rate, %)			
MNB (May 2010)[5]	1,0	1,4	1,5
European Commission (May 2009)	0,9	1,5	-
IMF (April 2010)	1,0	1,6	-
OECD (May 2010)	1,2	1,8	-

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

[1] For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the medium value), we also indicate the lowest and the highest values to illustrate the distribution of the data.

[2] Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Therefore, these figures may deviate from the figures published by the specified

[3] OECD did not publish any information about Romania, therefore Romania is not included in our OECD forecast.

[4] Data not adjusted for calendar-day variations.

[5] Aggregate based on Euro area members included in our external demand indices.

[6] The numbers in brackets refer to the deficit achievable in case of total blocking of budgetary reserves. In our forecast we have not taken into consideration any risks from debt assumptions.

Sources: Eastern Europe Consensus Forecasts (Consensus Economics Inc. (London), May 2010); European Commission Economic Forecasts (May 2010); IMF World Economic Outlook (April 2010); IMF Country Report No. 10/80 (March 2010); Reuters survey (May 2010); OECD Economic Outlook No. 87 (May 2010).

3. 6. Developments in the general government balance

Regarding the fiscal forecast it is important to emphasise that we evaluate the 2010 figures basically in comparison with the actual budget law. We took into account the figures of the first four months and other available information. On the other hand, as there are no budget law or other official information about the expected direction of economic policy for 2011-2012, we use technical assumptions for this time horizon, and assume a technically unaltered fiscal policy.[20]

In 2009 the declining trend of the ESA deficit came to a halt, and according to our baseline projection the deficit is expected to increase in 2010. In the event that the remaining reserves of the budget are used, a 4.5 per cent ESA balance is expected as a proportion of GDP, while if they are cancelled completely, it is expected to be 4.3 per cent; the deficit target set forth in the budget act will not be met. For lack of an adopted budget act, our forecast for 2011 and 2012 primarily reflects the effects of macroeconomic developments, while technical projections were applied with respect to the discretionary measures of the government. Our baseline projection suggests that the ESA balance may follow a declining trend from 2011 on again. The foundations of the gradually declining deficit path: (1) revenues, increasing with the closure of the output gap, (2) a moderate increase in primary expenditures, (3) the expected, (investment) cyclical expenditure cut of the local government sector and its further adjustment to the level of central allocations that was reduced in 2009 and 2010 (4) savings attained in interest expenditures resulting from the favourable developments in the yield curve. Nevertheless, the deficit path, which is declining following from our technical rules, is surrounded by significant risks, i.e. its actual realisation can only be considered probable if the government does not use the scope for action resulting from the improvement in the cyclical position to reduce existing tensions. However, in the event that the risks related to the budget are partly or completely realised, the decline in deficit may either begin from a higher starting level or may even shift to a stagnating path.

The changes in our cyclically adjusted SNA balance forecast, which captures the developments in structural deficit best, indicate that the cyclically adjusted fiscal position net of temporary, complementary items may improve by 0.7 per cent of GDP in 2010. Accordingly, adjustment for the total effect of the economic cycle and the temporary items may result in a structural deficit level of 2.4 per cent. In addition to the completion of the motorway constructions implemented in the PPP scheme, the opening between the ESA balance and the developments in the cyclically adjusted SNA indicator is caused, inter alia, by the different accounting of the payments of those returning from the private pension funds and the Central Bank's profit/loss.

A further improvement in the structural balance is expected in 2011 and 2012, in parallel with a substantially declining ESA deficit. For this period we assume a considerable fall in quasi-fiscal activities and also that the adjustment typical of earlier election cycles will be repeated in the local government subsector. In the case of the local government subsector the magnitude of adjustment may be greater than what was typical of earlier cycles because in addition to the usual investment cycle the subsector also has to adjust itself to the withdrawal of funds carried out in 2009 and 2010. The settlement related to the MNB's profit/loss can take place in the ESA balance only in 2012.

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[20] Our projection for the main revenues and for the macroeconomic path driven expenditures (e.g. pension and interest expenditures) was based on our macroeconomic forecast, but we also took into account the effect of the accepted and known measures. For those expenditure items where the decisions of the government are decisive instead of the macroeconomic path, our forecast was based on the allocation. This allocation is the basis of the technical projection. With regard to the major part of government expenditures we assumed that they change with the potential real growth rate. This is what we considered a neutral starting point regarding the cycle, although its result is that GDP-proportionate expenditures decline in the period of the closure of the output gap. However, there are expenditure items for which we are able to provide more accurate forecasts on the basis of the already known determinations. For example, these items include family allowances or the housing subsidy, where the measures taken earlier provide for the lower growth dynamics.

The use of EU funds will continue to play a role in the improvement of the structural deficit, as we assume that funds received from the European Union will reduce government investment expenditure financed from own sources in the entire forecast period.

Table 3-6 Developments in the balance indicators of the general government*21

		2009	2010		2011	2011
		prel.	with reserves	cancelled reserves	forecast	forecast
1. ESA balance*	fact/projected	-4,0	-4,5	-4,3	-3,9	-2,9
	Official target	-3,9	-3,8	-3,2	-2,6	
2. Augmented (SNA) balance		-4,6		-5,0	-3,9	-2,7
3. Cyclical component		-1,5		-2,6	-2,1	-1,6
4. Cyclically adjusted augmented (SNA) balance**	4 = 2 - 3	-3,1		-2,4	-1,8	-1,1
memo: ESA elsődleges egyenleg	*1 - interest exp.*	*0,7*		*-0,3*	*0,0*	*0,8*
memo: gross public debt		*78,3*		*77,6*	*76,1*	*73,3*

*Together with the revision of our potential GDP estimate we also reassessed our methods used for the cyclical adjustment of the budget, which resulted in revisions for 2009 as well, compared to the data in the *Quarterly Report on Inflation* published in February.

Similarly to the February issue of our *Quarterly Report on Inflation*, our ESA deficit forecast contains a reserve for the entire time horizon. The HUF 50 billion interest rate risk reserve is still available in 2010, while for 2011–2012 we assumed a reserve of around 0.15 percentage point of GDP as technical projection.

The cyclically adjusted SNA deficit may strongly improve over our forecast horizon

In 2009, the structural deficit adjusted for the effect of the economic cycle and the temporary, augmented items amounted to 3.1 per cent of GDP. This indicator may improve to 2.4 per cent in 2010, and decline by around a further annual 0.6 per cent in 2011 and 2012.

Table 3-7 Breakdown of the changes in the structural balance between 2010 and 2012 to the factors (measures) that cause the changes (as a percentage of GDP)

Changes in income and MNB income	-0,3
Tax measures (change in PIT)	0,6
Investment cycle of municipalities	-0,4
Changes in pension expenditures (parametric)	-0,3
Changes in spending of budgetary units and chapters	-0,2
Changes in determined expenditures	-0,3
Changes in quasi-fiscal expenditures	-0,2
Other changes	-0,1
Total effect of measures and assumptions	**-1,2**

The change in the cyclically adjusted SNA balance shows to what extent the general government's position improves as a result of the measures which may be considered permanent. We forecast a total 1.2 percentage point improvement in 2011 and 2012. This will only be realised if our two assumptions are met. On the one hand, we took into account that the PPP investment projects implemented outside the official budget will diminish, and on the other hand, in the baseline scenario

[21] Stability and interest rate risk reserves account for the difference between our indicators calculated including reserves and excluding reserves.

we assumed that the low expenditures of budgetary units and in public health observed in recent years will only increase moderately. However, it depends on whether the tightening of expenditures is achievable through an increase in efficiency or a decline in output, and whether it is sustainable in the latter case. The cyclically adjusted SNA balance is a broader category than the ESA balance. Therefore, of course, it comprises most of the factors that affect the ESA balance, but also contains several additional correction items.

Components of the 2010 change

The improvement in the augmented SNA balance in 2010 is a result of the completion of the so-called quasi-fiscal investment (motorway construction in PPP scheme), which improves the balance by 0.5 percentage point. At the same time, the SNA-type general government balance worsens by 0.9 percentage point, resulting in an 0.4 per cent deterioration in the balance. However, the contribution of the effect of the economic cycle to the deterioration in the balance will be 1.1 percentage points higher than in 2009, thus the cyclically adjusted SNA indicator already shows an improvement; the structural balance will be close to the Maastricht criterion by 2010. The change in the SNA balance in 2010 is basically attributable to the same factors that cause the increase in the ESA deficit.

Main factors of our ESA deficit forecast

The budget act targeted a cash deficit of 4 per cent of GDP, to which a 3.8 per cent ESA balance belongs. The envisaged deficit contained an extraordinary reserve of around 0.6 per cent of GDP (stability and interest rate risk reserve), i.e. based on the underlying fiscal developments the government planned a 3.2 per cent ESA deficit.

The 2009 ESA balance was in accordance with our earlier projections; according to the March EDP Report it amounted to 4.0 per cent of GDP. The most important factor of the 2009 basic developments is the significant shortfall of revenues. Especially corporations' tax payments deviated from the trend significantly, but personal income tax payments also carried negative surprises. By contrast, VAT revenues declined to a much lesser extent than what would have been justified by the changes in consumption.

In 2010 Q1 both revenues and expenditures exceeded our expectations; the developments in VAT revenues show a favourable picture, although the excise tax and personal income tax revenues were below our expectations. There are no clear signs of the start of the envisaged expenditure cuts at budgetary units and chapters, although the government intended to grant an important role to the latter in attaining the fiscal deficit target. Risks pointing to a surge in deficit are accumulating on the expenditure side, and already in the first months of the year some government measures resulted in an additional increase in expenditures compared to the appropriations specified by law.

Our calculations suggest that stemming from underlying macroeconomic and fiscal developments the deficit may be 1.1 percentage point of GDP higher than planned. Accordingly, instead of the 3.8 per cent deficit target, the complete spending of the reserves would result in a 4.9 per cent ESA deficit as a proportion of GDP. The final freezing of the stability reserve reduces the deficit to 4.5 per cent; the 4.3 per cent ESA deficit could be reached with the future final freezing of the interest rate risk reserve. The shortfall of revenues and the expected overrun of expenditures contribute to the deviation to a smaller and greater extent, respectively. The latter is primarily caused by the underplanning of expenditure items and the additional costs of subsequent government measures (e.g. the prolongation of the gas and district heating subsidy, subsidies to state-owned transport companies etc.).

The macroeconomic developments that determine the changes in revenues may become more favourable than thought earlier, but the targets may not be attained this year yet

Contrary to our earlier assumption, the economy will step on a growth path already in 2010, but the impact of the cycle is attenuated by the fact that the composition of growth is still unfavourable in terms of fiscal revenues, as wages and consumption expenditures, which are the main revenue determining factors, are increasing more slowly than the nominal GDP. The composition effect may gradually become more favourable as time goes by. In 2011 consumption will already slightly exceed the growth rate of the economy; the dynamics of earnings will still be lower then, while in 2012 the increase in the wage bill will also catch up with the growth rate of the economy.

This year, compared to the appropriations of the budgetary law, lower revenues from personal income tax, corporate tax, excise taxes and duties are expected. In 2010 Q1 the revenue was below our expectation, in spite of the fact that in the public sector the wage supplements announced earlier had already been paid. In this respect the developments in the magnitude and timing of the revenues originating from the taxation on fringe benefits in the remaining part of the year are still uncertain. We estimate the effect of raising the tax brackets in 2011 to amount to 0.7 per cent of GDP.

Corporate tax revenue is determined by the profit of companies that are profitable in the given year and their loss accounted for from earlier years. By contrast, the results of companies producing losses in the given year do not influence the tax revenue, only later, if they become profitable. In 2009, payments by companies fell to a greater extent than their aggregated operating profit, which theoretically may only happen if their total profits decline more than their total losses.[22] This also means that the budget has already 'realised' most of the missing tax revenue, so the delayed effect through carry-overs of losses will be lower. In other words, in the next years corporate tax may catch up from the low level reached in 2009 faster than companies' operating profit.

In the case of excise taxes, owing to the excise tax on tobacco products with an amount of approximately HUF 30 billion brought forward to 2009 and the decline observed in fuel consumption, we expect tax revenues to be lower by around 0.2 per cent of GDP, indicating that this estimate is based on the assumption that the fall in fuel consumption perceived in 2010 Q1 will decelerate in the remaining part of the year. In the case of the revenues from duties we carried out the technical projection of the decline in Q1, which resulted in a nearly 0.1 per cent revenue loss as a proportion of GDP.

Of the main types of taxes, the overall developments in revenues from contributions were in line with our expectations; we do not perceive any major risk for 2010.

Revenues from VAT exceeded our expectations; gross payments continue to be in line with expectations, refunds generally remain below our expectations. We have increased our annual forecast in accordance with the more favourable macroeconomic projection. We expect a 0.15 per cent of GDP higher revenues compared to the appropriation in the budget act, which already takes account of the lost VAT revenue related to the excise tax revenue brought forward and the year 2010 effect of the extraordinary refunding obligation related to the earlier decision of the Court of Justice of the European Communities. For 2011 and 2012 we expect tax revenue dynamics driven by a pick-up in domestic consumption to exceed the index of nominal GDP; accordingly, VAT revenues as a proportion of GDP may increase by approximately 0.25 per cent in these two years. Changes in corporate inventories may be cyclical; the accumulation of stocks may result in a temporary decline in net VAT revenues – we calculate with the relevant effect spread over the entire time horizon.

Developments in tax and contributions revenues in 2010 may result in exceeding the deficit by 0.5 per cent of GDP, excluding the effect of the termination of the real estate tax. The year 2010 effect of the latter, as a one-off revenue, is more than offset by the effect of private pension fund members' returning to the state pillar. The budget act has not taken this effect into account. Taking this effect

[22] One of the possible explanations is that companies were subject to sector-specific shocks from time to time earlier, which made some of them loss-making. However, now it is true for companies in general that their situation deteriorated, thus even among profit-making companies, which represent a much higher weight, a serious decline in profits is perceived.

into consideration as well, tax and tax-type revenues contribute to the deterioration in the balance by approximately 0.4 per cent of GDP in 2010.

Expenditures are expected to exceed the target in 2010

On some occasions, the envisaged values were exceeded on the expenditure side in the first four months of the year, and the risks indicated earlier also remained in place. Budgetary institutions' appropriations and appropriations under chapter management, which largely determine the attainment of the expenditure target, were realised above our expectations in the first four months of 2010. The pro rata attainment of net expenditures exceeds the statutory target. Moreover, owing to the additional expenditure increasing measures, this trend may continue to exist; therefore, risks point to higher expenditures than envisaged.

With regard to primary expenditures, our baseline projection contains an around HUF 210 billion overspending compared to the statutory estimate

In the case of expenditures it poses an upside risk that, stemming from our rules, we accept the targets envisaged in the budget act as starting points for the expenditures of budgetary institutions, which targets by themselves assume an implicit adjustment. Consequently, if the assumed implicit adjustment is not supported by subsequent concrete measures, the expected level of expenditures will be underestimated. Actual data for the first four months of the year do not confirm that compared to last year the conditions of the HUF 100 billion expenditure reduction really exist in the case of the budgetary institutions. According to our forecast, the institutions' net expenditures on an accrual basis will be higher than these expenditure items by 0.3 per cent of GDP. Our forecast for 2011–2012 is based on the assumption that budgetary institutions' expenditures will change by the index of potential real growth. Therefore, according to our technical projection, net expenditures of central chapters and institutions may decline from the GDP-proportionate value of 8.5 per cent in 2010 to a level of around 8.2 per cent in 2012.

Normative subsidies to corporations (e.g. the subsidy to MÁV) may exceed the target by more than 0.1 per cent of GDP in 2010, as a significant portion of earlier announced measures has not been implemented, and the operating profit/loss of the railway company may be weaker than expected. It is expected that unless appropriate measures are taken the railways will have to be subsidised with similarly increased amounts in the coming years as well.

In accordance with macroeconomic developments, unemployment-related expenditures of the Labour Market Fund may be overrun by nearly 0.1 per cent of GDP this year.

The fiscal support of local governments may exceed the appropriation by approximately 0.3 per cent of GDP (including the subsidy granted to BKV and the developments in the 'Road to Work' programme). Additional expenditure is presumed in connection with the 'Road to Work' programme. As a result of the high number of participants and the underplanned appropriation, an additional expenditure of 0.1–0.2 percentage point is estimated. We assume a repetition of the usual expenditure side cycle of municipal elections. Accordingly, in spite of the higher amount of fiscal support, the deficit of this subsystem is 0.1 percentage point higher in our forecast than in the budget. At the same time, in 2011 and 2012 the deficit of the local government subsystem may return to its historical average. According to our estimate, the subsystem will adjust its balance by 0.6 per cent of GDP in two years, primarily on the expenditure side. The magnitude of the adjustment may exceed the magnitudes experienced in earlier cycles as the subsystem faces a stronger than ever central tightening of funds, which it will be able to adjust only partially in 2010. Therefore, our forecast is based on the assumption of further significant balance improving measures in 2011 and 2012.

The accrual-based interest expenditure may be more than 0.2 per cent more favourable than what is envisaged in the budget, thus on the expenditure side the expected overrun of primary expenditures by approximately 0.9 per cent of GDP may decline to 0.7 per cent of GDP at the level of total expenditures.

The accrual-based interest balance may improve the deficit by 0.1 per cent of GDP in 2011 and 2012. Our forecast for the MNB's profit/loss has changed since February; according to our baseline projection, in 2011 it will not be necessary to settle the loss of the MNB. It may take place only in 2012; its magnitude may be around 0.2 per cent of GDP.

3. 7. Items outside general government continue to pose considerable risk

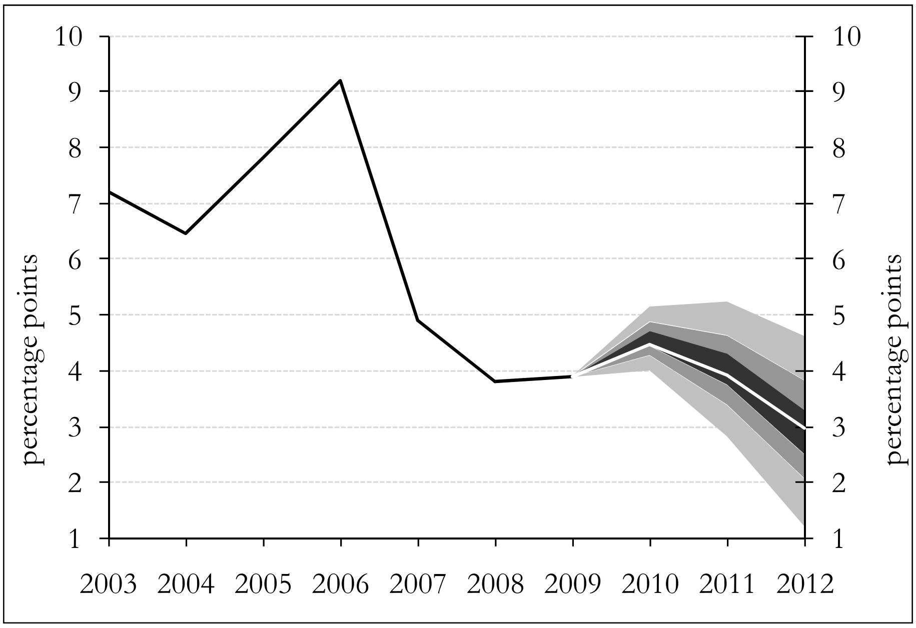
Fiscal fan chart

For 2010 the fan chart indicates risks pointing to the evolution of a deficit that is higher than the baseline projection, while distribution is nearly symmetrical in the coming two years. The skewness of the distribution for 2010 is primarily attributable to the uncertainty surrounding the forecasting of expert items. Of the expert items, significant risks are perceived in connection with expenditures of the budgetary institutions, and considerable risks are seen with regard to the central support of local governments and health expenditures.

The uncertainty surrounding the forecast for 2011 and 2012 is becoming symmetrical because the upside expert risks are offset by the uncertainty stemming from the macroeconomic path, mainly the risks pointing to higher inflation.

The fan chart does not contain risks related to debt assumptions; a separate chapter has been prepared for the presentation of these types of risks.

Chart 3-14 Fiscal fan chart



Serious structural tensions are perceived in some areas

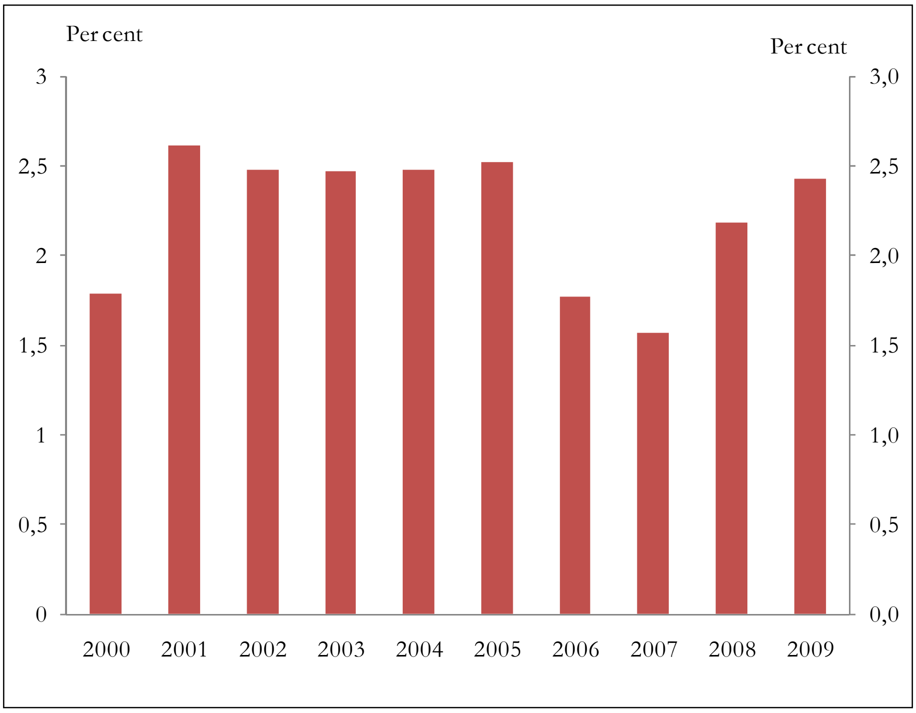
In addition to the uncertainty in basic fiscal developments, as we have already called the attention to it in our *Quarterly Report on Inflation* in November 2009, related risks remaining outside the official general government statistics (e.g. the ones related to quasi-fiscal activities) also entail serious hazard in terms of the fiscal deficit path. Our estimate for these types of risks remained broadly unchanged compared to the November issue of the *Quarterly Report on Inflation.* Regarding the operating profit/loss of state-owned transport companies, the expenditures of budgetary chapters and institutions, the financial management of local governments and the perceptible structural problems of the public health care system the experiences of the past period show that tensions already appear at the level of day-to-day operation, and project the necessity of a future intervention by the government. Nevertheless we believe that risk management does not necessarily have to be carried out in one year and in the total amount. Consequently, the size of the risks presented below cannot be added automatically to the forecast of any of the years.

In the case of the state-owned transport companies (MÁV, BKV, Malév) the tensions are becoming increasingly obvious, thus the government already had to interfere in their operation in order to support their current operations as well. In 2010 the subsidising of the current operations of MÁV and BKV may increase by more than 0.2 percentage point of GDP compared to the targets. The re-nationalisation of Malév is expected to require a total 0.1 percentage point government support in 2011 and 2012. These effects have already been taken into account in our baseline projection. Even with the already implemented raising of current subsidies and a credible future reorganisation plan providing for long-term sustainability, and at least partial settlement of the accumulated quasi-fiscal debt stock may also be necessary. At end-2009 the debts of MÁV and BKV amounted to 0.9 and 0.3 per cent of GDP, respectively. The total debt of the two companies may increase by a further 0.2 percentage point this year, approaching 1.5 per cent of GDP by end 2010. Past experiences show that in the case of debt assumptions, capital settlements etc. the state usually did not assume the whole debt and often did not assume it at the same time. It is very difficult to determine the magnitude of the 'necessary' debt consolidation; it may depend on the business model to be applied in the future, on the capital position of the company, the structure of the outstanding debt, on the financing costs of the latter as well as on the possibilities of market financing. Based on historical experiences, in the case of MÁV, for example, approximately half of the outstanding debt was settled on the occasion of each government intervention.

In the case of the expenditures of budgetary chapters and institutions a major risk is the extremely high amount of carryover balance.[23] Its natural level – with high uncertainty – may be around 1.5 per cent of GDP. In the last decade it was observed that in 2001 the amount of the remaining carryover increased sharply, mainly as a result of the slower than planned implementation of motorway constructions, and remained at a high level until 2006. As a consequence of the acceleration of the motorway constructions in 2006 and 2007, most of the remaining amount was 'cleaned out' of the budget, which is also reflected in the changes in deficit. In 2008 and 2009 it started to increase again, although then it was not related to a specific subject (like the motorway construction earlier), but basically to an 'artificial' reduction of expenditures, without an adequate narrowing of government tasks. This process, in turn, resulted in an increase in the carryover balance to nearly 2.5 per cent of GDP. If the government intends to reduce the amount of the carryover balance close to its natural level again, it may entail an additional expenditure corresponding to 0.7–1.0 per cent of GDP in the coming years. The reason why the estimate regarding the reduction of the remaining carryovers is not included in our baseline projection is that it can be carried out over a longer period of time, and the date and pace of reducing the carryovers depends on discretionary government measures.

[23] The overwhelming majority of the remaining amounts of carryover is related to the expenditures of budgetary chapters and institutions.

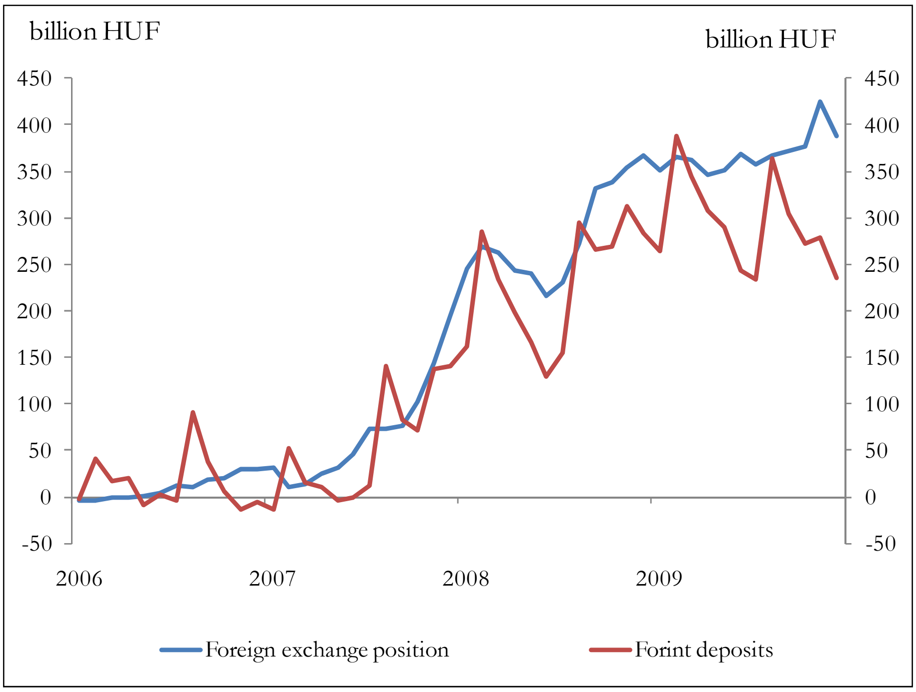
Chart 3-15 Carry-over balance (as a percentage of GDP)



As a result of local governments' becoming indebted in recent years, from 2010 H2 on significant amounts will have to be repaid, which may mean repayment problems for some municipalities, and thus may entail a compulsion to intervene in the central budget. Starting from 2007, some municipalities and local governments of counties issued considerable amounts of foreign exchange bonds, the purpose of which was partly to prepare for the government adjustment plans, i.e. the declining fiscal support in particular. In parallel with this, however, the total amount of forint assets of the subsector also increased significantly, which suggests that local governments continue to reserve most of the funds raised, and they can use these reserves to cover their higher expenditures when it becomes necessary.

With the expiry of the initial grace period often typical of the issues, from end-2010 on repayment of the bonds will start, which may entail payment difficulties for those local governments that have spent the money originating from bond issues on operating costs. As we have no information to what extent the circle of indebted local governments and the ones with higher receivables overlap one another, it is difficult to assess the exact magnitude of the risks related to this subsystem. At the same time, an increase in risks is indicated by the fact that at par value the gross consolidated debt of the subsystem exceeded 4 per cent of GDP in 2009, and nearly two thirds of it was denominated in foreign exchange. Another warning sign is that based on the financial accounts net financial assets of the subsystem reached a historic low in nominal terms as well, declining to a mere 0.5 per cent of GDP by end-2009.

Chart 3-16 Changes in local governments' foreign exchange position and forint deposits cumulated from the beginning of 2006



As a result of the fiscal consolidation launched in 2006, the GDP-proportionate value of expenditures spent on public health has continued to decline, while no substantial structural measures have been taken. Consequently, the total debt of hospitals has accumulated to around 0.2 per cent of GDP in recent years, and, compared to the statutory appropriations, the government was compelled to grant additional support to the system on several occasions. In addition, the level of public health expenditures and public health investment (e.g. the number of state-of-the-art diagnostic appliances) are below the regional average in international comparison as well, which suggests that the system may need government intervention.

Table 3-8 The estimated maximum size of risks concerning selected items of general government
(as percentage of GDP)

	Maximum of potential risk factors (1+2+3+4)	**2.7 - 3.0**
1	State-owned transport companies	1.5
2	Local governments	0.3
3	Net expenditure of budgetary chapters and institutions	0.7 - 1.0
4	Health care	0.2

Government debt-to-GDP ratio may stagnate this year and start to decline from 2011

Based on the technical assumptions of the *Report*, the government debt-to-GDP ratio may slightly decline in 2010 compared to 2009, but the actual figure greatly depends on the changes in the exchange rate of the forint. The technical assumptions of the *Quarterly Report on Inflation* reflect an early-May state, based on the data of the first four months. Consequently, our calculations do not take account of the exchange rate weakening that took place in May. Earlier we expected the debt ratio to reach its peak in 2010, but this may have already happened in 2009, provided that at end-2010 the exchange rate of the forint will not be weaker than its April level of 265 HUF/EUR. The government debt-to-GDP ratio is expected to follow a declining trend in the coming years. Recent years' fiscal adjustment, the appreciation of the forint and the yield decline in the first four months of 2010 as well as the use of the foreign exchange deposits available for the government for financing purposes all play a role in this. These four factors facilitate the start of the decline in the gross debt-to-GDP ratio despite the low economic growth. Our forecast assumes that by end-2012 the government will use up its funds placed in foreign exchange deposits and the amount of loans extended to the banking sector that expires and has to be repaid in 2011 and 2012. No loan assumption by the state is included in the simulation.

Chart 3-17 Government debt as a percentage of GDP