QUARTERLY REPORT ON INFLATION
June 2011

MAGYAR NEMZETI BANK

QUARTERLY REPORT ON INFLATION
June 2011

Published by the Magyar Nemzeti Bank

Publisher in charge: dr. András Simon, Head of Communications

8-9 Szabadság tér, H-1850 Budapest

www.mnb.hu

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 quarterly. The forecasts of the Monetary Strategy and Economic Analysis and Financial Analysis Departments are based on assumption of endogenous monetary policy. In respect of economic variables exogenous to monetary policy, the forecasting rules used in previous issues of the Report are applied.

The analyses in this *Report* were prepared by staff in the MNB's Monetary Strategy and Economic Analysis and Financial Analysis Departments and Financial Stability Departments. From chapters 1 to 4 and 6 were prepared under the general direction of Ágnes Csermely, Director while chapter 5 was directed by Áron Gereben, Director. The project was managed by Barnabás Virág, Senior Economist of Monetary Strategy and Economic Analysis. The *Report* was approved for publication by Ferenc Karvalits, Deputy Governor.

Primary contributors to this *Report* include: Dániel Baksa, Gergely Baksay, Péter Bauer, Tamás Berki, Iván Csaba, Gergely Fábián, Csaba Fehér, Mihály Hoffmann, Zsuzsanna Hosszú, Éva Kaponya, Zsuzsa Kékesi, Regina Kiss, Péter Koroknai, Balázs Krusper, Henrik Kucsera, Rita Lénárt-Odorán, Imre Ligeti, Zsolt Lovas, Miklós Lukács, Ádám Martonosi, Dávid Mihályi, Benedek Nobilis, Zsolt Oláh, Gábor P. Kiss, Gábor Pellényi, Olivér Rácz, István Schindler, Gábor Dániel Soós, Katalin Szilágyi, Béla Szörfi, Lóránt Varga, Judit Várhegyi, Tímea Várnai.

Other contributors to the analyses and forecasts in this *Report* include various staff members of the Monetary Strategy and Economic Analysis and the Financial Analysis Departments.

The *Report* incorporates valuable input from the Monetary Council's comments. 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.

The projections is based on information in the period to 15 June 2011.

Contents

Summary

Despite the cost-push shocks, inflation may fall back to target by the end of 2012, even without further monetary tightening...

As a result of high commodity prices, inflation was on the rise again during the first few months of 2011. The effect of cost-push shocks passed through to processed food prices, accelerating core inflation. As a result of the high commodity prices, the consumer price index may be close to 4 percent in 2011. Looking ahead we foresee a gradual easing of global cost pressures, suggesting a moderation of inflation once the first-round effects of the shock wear off. As the price and wage-reducing effect of weak internal demand and slack labour market conditions mitigates second-round effects, maintaining interest rates at their current level over a sustained period may enable inflation to fall back to target by the end of 2012.

...as the negative output gap and the slack labour market help to cushion the inflationary effect of cost-push shocks.

Outlook for economic growth is determined by the developments of our export markets, as well as by the continuing balance sheet adjustment of the private sector after the crisis, and government measures of the Széll Kálmán plan and the Convergence Programme. The measures, which are aimed at improving the fiscal balance and long-term growth prospects, however, may exert adverse effect on internal demand in the short run. Both this year and next, economic growth is likely to exceed its potential level somewhat; nonetheless, the output gap will remain negative across the entire forecast horizon. The narrowing of the output gap continues to be driven by strong external demand, while factors of internal demand may remain permanently below their medium-term equilibrium level. Labour market activity is expected to accelerate, and owing to the disciplinary effect on price and wage-setting decisions the increased labour supply will further reduce the inflationary pressure originating from the real economy.

Economic recovery continues to exhibit structural diversity.

The structural diversity behind economic growth is still evident: external demand is expected to remain the key driver behind the recovery from the recession, with domestic demand picking up only gradually. Owing to robust global demand, industrial production growth has remained nearly unbroken since the beginning of 2009, while the performance of the service sector remains subdued. According to our estimates, actual output may still fall short of its potential level by 3 percent. The narrowing of the output gap is primarily driven by sectors producing for exports, while the capacity utilisation of the service sector remains below its historical average.

Household consumption expenditures have stalled since end-2009 and still show no signs of improvement. Several factors suggest that the downturn in consumption may last longer than our previous forecasts indicated. Households gained a substantial amount of extra income at the beginning of the year – mainly owing to the reduction of the personal income tax rate and the end-of-year payment of bonuses – but this was not reflected in higher consumption. Precautionary considerations are still strong determinants of households' decisions, which resulted in a further increase in the saving rate,

even relative to its high levels reach during the crisis. Households continue to repay more loans than they take out. Demand and supply factors alike contributed to weak lending activity.

Following a steady decline over nearly two years, private sector investment was on the rise in Q1. Only some large corporations in the manufacturing sector were involved in larger-scale investment projects, while housing market indicators deteriorated further.

Wage growth remains moderate as a result of slack labour market conditions.

The acceleration in employment is slow and lags behind the recovery of economic activity. The private sector is yet to see a substantial increase in employment, while the further elevating level of activity keeps unemployment at historically high levels. Slack labour market conditions continue to exert strong downward pressure on wages, consequently, inflationary pressures from the labour market can be considered low.

Consumption trends may prove to be far more unfavourable than expected.

Our forecast indicates that consumption may remain persistently below its long-term trend. Household consumption is still shaped by the uncertainty of income prospects and the protracted balance sheet adjustment resulting from high indebtedness, with increasing instalment amounts only exacerbating the situation further. The homeowner rescue package is expected to have but a limited impact on cautious consumer behaviour. While greater-than-expected real yield disbursements may boost consumption expenditures over the short term, the measures put forward in the Széll Kálmán plan and the Convergence Programme are set to deteriorate the income position of households significantly in the short run. Precautionary motives, which intensified during the crisis, also point to a restrained acceleration in consumption. On balance and relative to our March assumptions we foresee a worse growth path across the entire forecast horizon.

Investment activity may remain subdued due to tight credit conditions and the uncertainty of the macroeconomic environment.

Persistently weak domestic demand, continued tight credit conditions and the sector-specific extra taxes are weighing down on investment growth. Although the large-scale investment projects announced in the automobile industry are boosting investment significantly, the rest of the sectors are expected to utilize existing capacities more intensively and postpone investments.

The housing market may deteriorate further due to strong demand constraints and significant excess supply. The uncertain labour market environment, tighter credit conditions and the accumulated housing stock have an adverse impact on market developments. However, the adopted homeowner rescue package might improve the situation of the household sector, albeit temporarily. Household investment is expected to stabilise only from mid-2012.

Government measures announced recently may adversely affect government investment, which may be offset by the increasing inflow of EU funds at a certain extent. Overall, government expenditures will reduce the economic growth somewhat across the entire forecast horizon.

Employment is slow to pick up amidst persistently slack labour market conditions, and the growth rate of nominal wages remains subdued.

As a result of the labour hoarding observed during the crisis, the economic recovery has not been accompanied by significant, simultaneous growth in employment. Parallel with economic growth, employment is expected to show a gradual and slow rise, however, amidst increasing participation the

unemployment rate may get stuck at its current level of around 10 percent. The acceleration in activity is also being fuelled by the tightening of disability pension regulations. In addition to slack labour market conditions, the reduction of employee tax burdens are enabling companies to offset their reduced profitability from cost-push shocks by lowering their wage bill. Overall, loose labour market conditions are expected to prevail across the entire forecast horizon, thus we foresee only moderate growth in gross wages.

Tight credit conditions continue to impede the recovery in domestic demand.

The private sector's credit stock declined further in Q1. Although international experience suggests that a pick-up in lending typically lags behind the economic recovery, there are signs of strong credit constraints in the domestic bank market. The declines primarily affected long-term corporate loans and household foreign currency loans. The latest lending survey indicates that firms' access to loans narrowed further in Q1. Banking sector shifted its focus to corporations with stellar credit ratings, and is now engaged in fierce price competition for these clients. Overall, non-price conditions on housing loans remained unchanged in the household segment but conditions tightened in the case of consumer loans. As regards mortgage loans, both APR and interest premia increased in this segment. All things considered, corporate lending may start to pick up from mid-2012.

Despite the presence of cost shocks, weak demand, persistently slack labour market conditions and previous interest rate decisions may enable inflation to fall back to target at the end of 2012, even without further monetary tightening.

The rise in inflation observed since the beginning of 2011 was driven by cost pressures originating from global commodity prices. High commodity prices passed through to processed food prices, whilst rising oil prices were quickly reflected in fuel prices. Cost shocks may keep inflation at around 4 percent in the short run. Looking ahead we anticipate a decline in global commodity prices, which is expected to reduce inflation over the medium term. Weak demand combined with a loose labour market continues to alleviate second-round effects. We assumed in our forecast that in addition to the rise observed in costs in the past months, the increase of commodity prices may pass-through to energy prices, which may temporarily break the disinflationary trend in early 2012. According to our baseline projection, maintaining interest rates at their current level over a sustained period may enable inflation to fall back to the 3 percent level consistent with price stability by the end of 2012.

In addition to global factors, Hungarian asset prices were determined by the relatively positive risk assessment of the region and the domestic fundamental developments as well as a modest declining global risk appetite in response to the new phase of sovereign debt crisis in the peripheral countries of the euro area.

Global financial market sentiment has been driven mainly by a slight deterioration in short-term economic prospects and the new wave of the sovereign debt crisis in the peripheral countries of the euro area. Strong adjustments in the prices of high-risk instruments may be attributed to a slight increase in risk aversion in response to the monetary tightening already in progress or expected to commence shortly in developed countries. The direction of capital flows was determined by the increased weight attached to safer financial instruments within the portfolio; at the same time, the risk perception of emerging countries remains positive.

Investor attitude to domestic financial instruments was influenced by the favourable perception of emerging markets, the relative stability in the risk perception of the region and a number of country-specific factors. Although the most recent upsurge in the Portuguese and Greek debt crisis had a limited impact on the risk premia of the region, Hungarian risk premia rose slightly at the end of the period. In terms of country-specific factors, the

favourable international reception of the convergence programme, the interest rate premium of the forint and Hungary's strong trade balance in Q1 are likely to have contributed to the relative stability. Non-resident holdings of Hungarian debt securities have increased further, and, the purchase of assets was primarily reflected in the significantly increased portfolio of government securities.

Hungary's external financing capacity continues to be high, and is likely to be maintained across the entire forecast horizon.

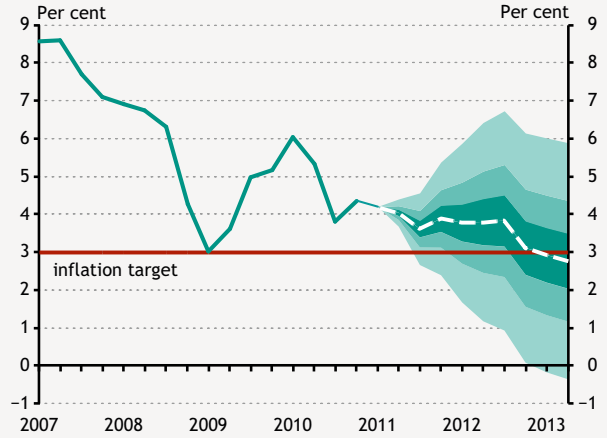
Hungary's external balance position continued to be determined by the duality of strong exports driven by robust external demand and weak domestic demand related to subdued consumption and investment. As a result, the external financing capacity of the Hungarian economy increased to nearly 4 percent of GDP, which is considered high even by regional comparison. The main contributor to this increase was the improved position of the private sector.

The external position of Hungary may continue to improve in the coming years, owing to the country's improving real economic balance and stronger inflows of European Union transfers, which are only partially offset by the growing deficit on the income account. In addition to the strong deterioration of the general government's SNA-based position, the improvement in Hungary's financing capacity in 2011 is determined by the significant amelioration of the private sector's position, while the subsequent improvement expected for 2012 will undoubtedly be driven by the better balance of the general government on the back of the measures put forward in the Széll Kálmán plan. Meanwhile, the net savings of the private sector will decline slightly.

The fiscal easing observed this year will be followed by a strong adjustment next year, and consequently, the 2012 fiscal deficit may be around 3 percent.

The fiscal path is fundamentally influenced by the measures included in the Széll Kálmán plan and the Convergence Programme. As one-off expenditures they are expected to impair the balance slightly in 2011; in 2012, however, they will reduce the deficit substantially. The ESA-based surplus of 2011 is the result of non-recurring revenue, i.e. the transfer of private pension fund assets, which mask the parallel fiscal easing in the area of income taxes. In order to meet the 2.5 percent deficit target of the Government by 2012, in addition to the full implementation of the Széll Kálmán plan and the Convergence Programme, the stability reserves established in 2011 should be cancelled and the underlying expenditure cuts should be enforced over the long term. The announced fiscal measures improve the structural position of the budget; in 2012 nearly half of the deficit can be attributed to the economic recession of recent years, to changes in tax revenues in particular. If the performance of the economy converges to its medium-term level and the fiscal path is not affected by further measures over the medium term, the deficit may drop close to 2 percent of GDP.

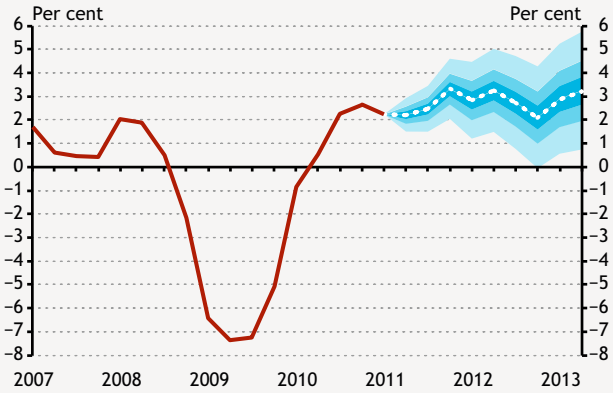
Fan chart of the inflation forecast*



** The forecast for inflation presented in the fan chart shows the expected profile of inflation at the 8 quarter horizon.*

Fan chart of the GDP forecast*

(based on seasonally adjusted and reconciled data)



** The forecast for economic growth presented in the fan chart shows the expected profile of growth at the 8 quarter horizon.*

Summary table of baseline scenario
(Our forecasts were based on assumption of endogenous monetary policy)

	2010	2011	2012
	Fact	Projection	
Inlation (annual average)			
Core inflation[1]	3.0	2.8	2.8
Consumer price index	4.9	3.9	3.6
Economic growth			
External demand (GDP based)[2]	2.6	2.5	2.4
Household consumption expenditure	–2.1	1.4	1.7
Gross fixed capital formation	–5.6	–0.1	3.7
Domestic absorption	–1.1	1.7	1.1
Export	14.1	12.3	9.9
Import	12.0	12.1	8.8
GDP	1.2	2.6	2.7
External balance[3]			
Current account balance	2.1	1.9	3.2
External financing capacity	3.9	4.3	5.8
Government balance[3]			
ESA balance	–4.3	2.4	–3.2
Labour market			
Whole-economy gross average earnings[4]	1.5	2.5	1.6*
Whole-economy employment[5]	0.0	0.6	1.9
Private sector gross average earnings[6]	3.3	4.7	4.3
Private sector employment[5]	–1.0	0.7	1.1
Unit labour costs in the private sector[5,7]	–2.0	2.6	1.7
Household real income[8]	–1.2	2.1	1.1

[1] From May 2009 on, calculated according to the joint methodology of the CSO and MNB.
[2] In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.
[3] As a percentage of GDP. The deficit for 2012 partially includes the effect of the Széll Kálmán plan.
[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.
[8] MNB estimate. The current forecast and the actual data of the household real income does not include contributions to the mandatory pension funds.
** The low growth of the whole-economy gross average earnings has been influenced by several factors relative to our March forecast. On one hand in the actual report we excpect nominal wage freezing in the public sector in line with the Széll Kálmán plan and Convergence Programme. On the other hand in case of the disabled penisioners who will come back to the labour market in our forecast horizon we assume that initially their wages can be lower than the average of the whole economy causing negative composition effect.*

1 Inflation and real economy outlook

1.1 Inflation forecast

According to our forecast, inflation will be determined by cost shocks and weak internal demand. Global commodity prices will keep inflation at high levels over the short term. Looking ahead, we foresee a stabilization of cost factors, and as a consequence inflation will moderate once the first-round effects of the shock wear off. The second-round effects in core inflation will be mitigated by the price and wage-reducing effect of weak internal demand and slack labour market conditions. At the beginning of 2012, rising regulated prices are expected to halt the decline in the consumer price index temporarily. According to our baseline projection, even in the absence of further monetary tightening, inflation may reach the 3 percent level consistent with price stability by the end of 2012.

Chart 1-1
Fan chart of the inflation forecast

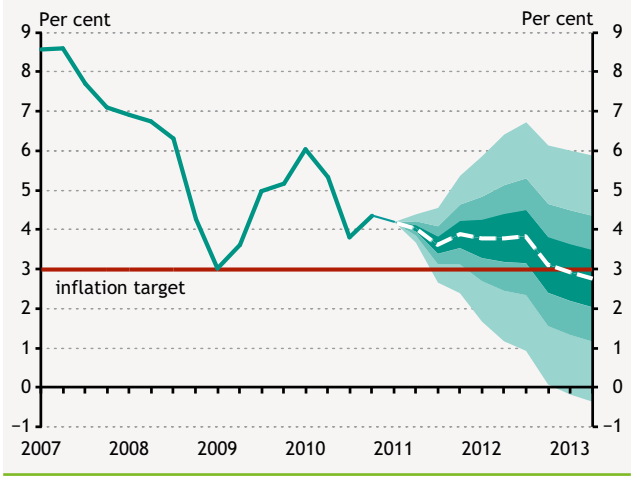
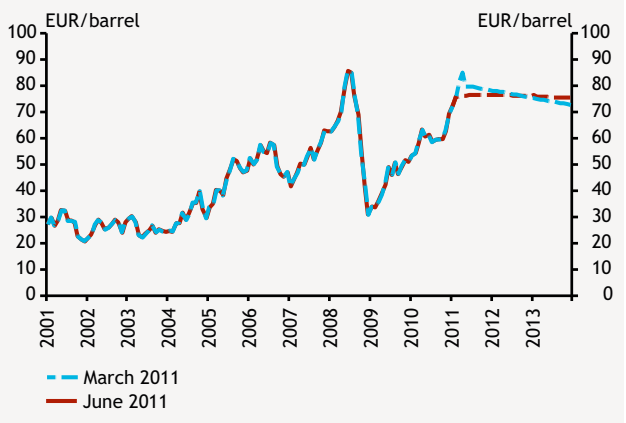


Chart 1-2
Changes in oil price assumption
(in euros)

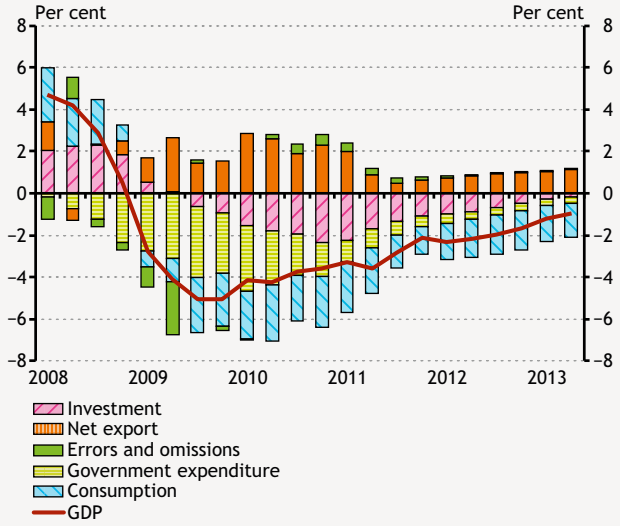


Since the March issue of the *Report on Inflation*, the inflationary pressures originating from global commodity prices have intensified further. High commodity prices passed through to processed food prices, while rising oil prices were quickly reflected in fuel prices. According to our forecast, the effect of cost shocks will keep inflation at high levels over the short term, with a consumer price index of around 4 percent throughout 2011. Looking ahead, inflation will be determined by future cost shocks and the extent of the pass-through.

Future developments in global commodity prices are surrounded by considerable uncertainty. Overall we anticipate a decline in commodity prices. Although the current level of euro-denominated oil prices is higher than the value recorded in March, according to our assumption based on futures contracts, it will gradually decline over the forecast horizon (Chart 1-2). In terms of unprocessed foods, we expect further consumer price increases until the new harvest appears on the market, and in the second half of 2011 price pressures may subsequently alleviate with better yields in agricultural production.

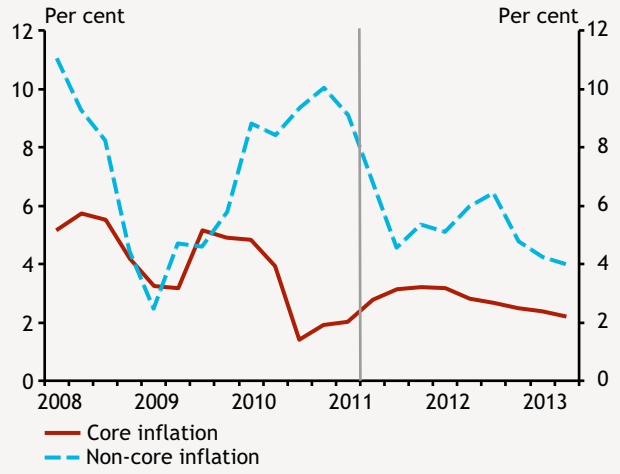
The pass-through of cost shocks is hindered by the weak domestic demand. In our forecast the output gap remains negative over the entire forecast horizon. Output falling below its potential level is accompanied by persistently high and slowly shrinking unemployment in the labour market. The combination of slack labour market conditions and a negative output gap will continue to put severe downward pressure on prices and earnings in the years to come. The inflationary pressures originating from the real economy remain moderate over the entire horizon, which may

Chart 1-3
Decomposition of the output gap*
(2008–2013)



** Trend filtering has been performed for the main demand side components. If the level of a component remains below the trend implied by the convergence path of the economy, it appears as a negative value (negative cyclical position) in our decomposition.*

Chart 1-4
Forecast for core and non-core inflation
(2008–2013)



mitigate the second-round effects of cost shocks significantly (Chart 1-3). This will allow inflation to reach the 3% target consistent with price stability, even without further monetary tightening (Chart 1-1).

Developments in core inflation will be also determined by the cost shocks and weak internal demand. Over the short term, the effect of high commodity prices will be reflected in core inflation, increasing its average level to around 3 percent in 2011, higher than our March forecast. Diminishing cost pressures, however, are accompanied by the price and wage-reducing effect of weak internal demand and slack labour market conditions, thus core inflation could gradually fall below 2.5 percent by the end of 2012 (Chart 1-4).

Developments of regulated prices are shrouded in more uncertainty than usual. In recent quarters the Government has adopted a number of measures which mitigated the pass-through of high commodity prices to consumer prices. Since the gas and district heating subsidy has been extended by another quarter, we anticipate lower regulated prices over the short term. In the longer term, however, the accumulated cost pressures of elevated commodity prices in recent quarters may continuously represent a considerable upside risk. Similarly, the announced transformation of the retail energy price subsidy system into income-based support is set to increase energy prices as of the end of this year, although it will not affect the costs of living. Box 1-1 describes how the cost pressures of elevated global commodity prices may affect inflation in different scenarios and our technical assumptions used in the baseline projection.

Our baseline projection suggests that maintaining the current policy rate of 6 percent over a sustained period may be sufficient to neutralise the medium-term inflationary effects the cost-push shocks may have, and may contribute to attaining the 3% inflation target by the end of 2012. The interest rate path of our forecast does not differ significantly from market expectations and the yield curve derived from market yields.

Table 1-1
Details of our inflation forecast

		2010	2011	2012
Core inflation		3.0	2.8	2.8
Non-core inflation	Unprocessed food	6.6	6.2	3.1
	Gasoline and market energy	18.1	10.7	3.3
	Regulated prices	6.5	4.8	7.2
	Total	9.2	6.5	5.6
Consumer price index		**4.9**	**3.9**	**3.6**

Box 1-1

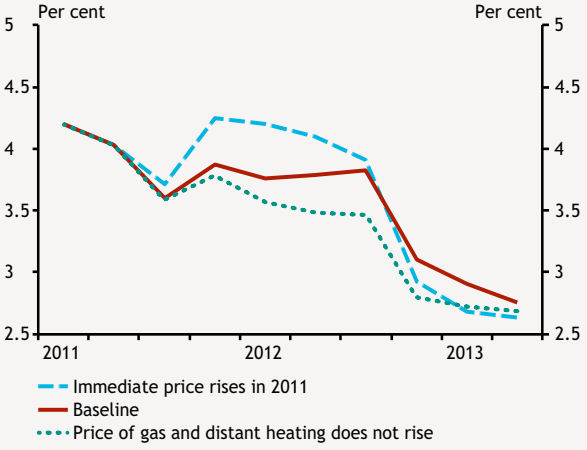
The impact of household energy (natural gas and distant heating) regulation on the consumer price index

Forint-denominated global oil prices rose by 30 percent between October 2010 and May 2011, while household gas and distant heating prices saw only a modest 2.8 percent increase over the same period. Rising oil prices affects gas prices with lag that causes cost pressure for the utility service providers. They can compensate their worsening profitability with improvement in efficiency and/or raising consumer prices. In our forecast, we assumed that high commodity prices would be reflected in consumer prices as well. Due to the generally weak labour market conditions and the sustainability risks, the national authorities endeavour to mitigate the increase of energy prices. This intention is also reflected by the behaviour of the Hungarian regulators. Since the details of future regulation of household energy prices are not available, our baseline forecast of the price rises is based on purely technical assumptions. In our baseline scenario, the providers will raise their prices by two thirds of the degree implied by the gradually rising and accumulated costs in the latter quarters; we also assume that this will be spread over the four quarters.

As details regarding future energy price regulations are not known yet therefore besides our baseline forecast it is worth examining two alternative, extreme cases: one assumes that costs will fully incorporated in consumer prices in the last months of 2011, while the other expects the Government to completely freeze prices, thereby eliminating the price-increasing effect of high commodity prices altogether.

Price regulation affects a wide range of consumers and can therefore greatly influence the possible course of inflation. If changes in household energy prices were in line with the trends in commodity prices, inflation may climb above 4 percent in 2011 Q4 and stay at that level throughout 2012. However, should the Government succeed in freezing the prices both for natural gas and distant heating, the consumer price index could drop close to 3.5 percent during the same period, while it would fall below 3 percent by the end of 2012 (Chart 1-5).

Chart 1-5
The path of the consumer price index under various assumptions on price regulation



1.2 Real economy outlook

The growth of the Hungarian economy still reflects a pronounced duality, albeit decreasing, across the entire forecast horizon. The export sector remains the main driver of growth, while internal demand continues to exhibit moderate expansion. The dynamics of domestic exports will be restrained by the expected deceleration in external demand; however, this effect may be offset by the gradual launch of production in the new, large-scale manufacturing investment projects. In the short run, internal demand will be weakened by the fiscal balance improvement programme designed to facilitate sustainable growth and stimulate long-term growth potential, which is expected to restrain consumption growth across the entire forecast horizon. Due to the restrained growth of internal consumption, the economic output will be slow to reach its potential level. The output gap remains negative over our entire forecast horizon. Free capacities across the economy may generate sustained disinflationary effects.

Chart 1-6
Fan chart of GDP forecast
(based on seasonally adjusted and reconciled data)

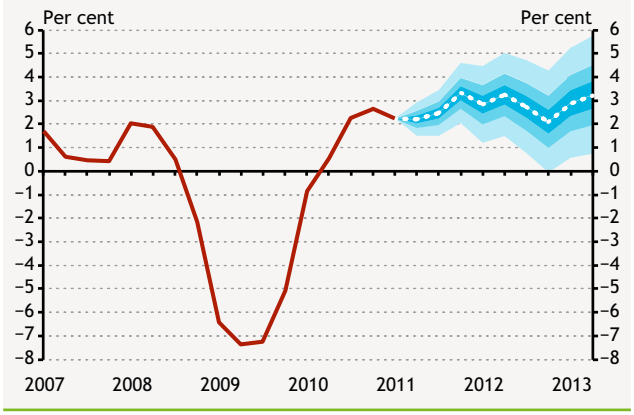
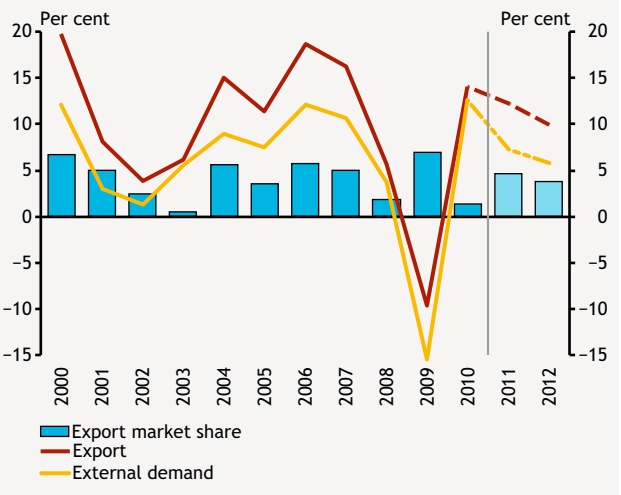


Chart 1-7
Changes in export market share



The outlook of economic activity has deteriorated since our March forecast. In our projection we expect a growth rate of slightly higher than 2.5 percent this year as well as next (Chart 1-6). The expansion of output may exceed the potential growth rate of the economy somewhat; however, the output gap could still remain negative over the entire forecast horizon. The narrowing of the output gap is driven by the nearly double-digit increase in exports, while internal demand factors may come in considerably below their medium-term equilibrium level.

Our assessment of developments in external activity has not changed significantly. The dynamic growth of developing (primarily Asian) countries is stimulating growth in Germany and hence, manufacturing orders. This positive effect is perceivable in Hungarian exports as well. Nevertheless, our forecast reckons with a gradual deceleration in external demand, for two fundamental reasons. On the one hand, monetary policy in fast-growing, emerging countries is expected to adopt austerity measures in an effort to prevent overheating, which will reduce demand for Hungarian products as well. On the other hand, the fiscal consolidation plans announced in developed countries are likely to slow demand in our export markets. However, these effects are offset by the gradual activation of the large-scale domestic investment projects mainly in the automobile sector. All told, exports may continue to exhibit dynamic growth across the entire forecast horizon, accompanied by a rise in Hungary's market share (Chart 1-7). In line with subdued internal demand developments, imports could fall slightly short of our previous expectations. Consequently, the contribution of net exports to growth may remain rather high.

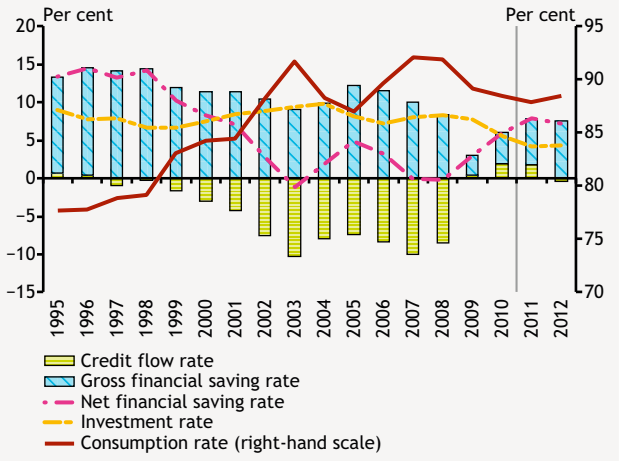
Household behaviour will be determined by a combination of conflicting fiscal measures affecting household income, a slow improvement in labour market conditions and continuing balance sheet adjustments. Confirming the latter factor as well as heightened precautionary considerations, the effect of the reduced personal income tax burden is reflected, for the time being, in increased financial savings rather than increased consumption. Looking ahead, the measures of the Széll Kálmán plan and the Convergence Programme will significantly deteriorate the income position of households in the coming years, generating a more moderated consumption path both in 2011 and 2012. At the same time, the disbursement of higher-than-expected real yields may temporarily boost consumption spending; moreover, the announced homeowner rescue package may also expand households' room for manoeuvre in increasing consumption expenditure.

Nevertheless, the heightening of precautionary considerations during the crisis led to a lasting increase in financial savings. Parallel to this, the consumption rate is expected to decline slightly this year and level off from next year (Chart 1-8). Accordingly, households are likely to adjust mainly by postponing their investment projects. Summing up these conflicting effects, consumption is far worse over the entire forecast horizon than it was in the March projection.

Our current assessment of private sector investment is more negative than we indicated in our March forecast. In a sectoral breakdown, capacity utilisation appears to be heterogeneous. While capacity utilisation once again reached historical peaks after the crisis in the manufacturing industry, a continuation of unfavourable outlooks kept market services below their pre-crisis average. Over the short term, investment activity may be restrained by the fact there are still plenty of untapped capacities in the services sector, while uncertainty about future global demand may postpone planned investment projects in the manufacturing industry. Although a further tightening of credit standards for the corporate sector does not seem likely according to the results of bank surveys, if the strict credit conditions currently in place remain, this may continue to inhibit a pick-up in corporate activity. All things considered, corporate lending and investment projects may start to trend upwards significantly from mid-2012. Despite the fact that many sectors are characterized by cautious investment activity, the realisation of the large-scale investment projects announced in manufacturing will boost corporate investments in the coming years.

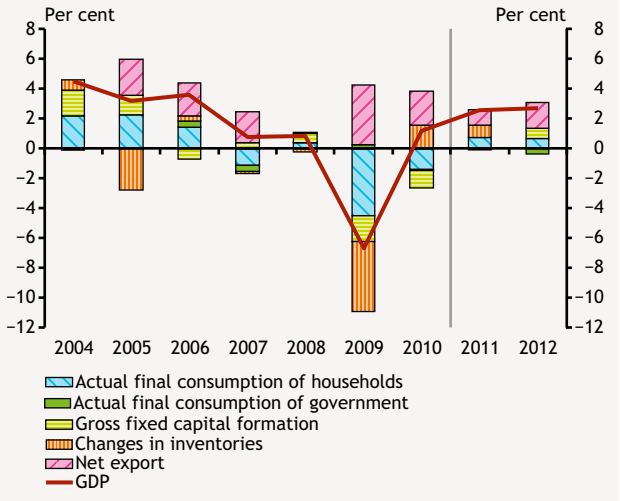
As regards household investment we foresee a continuing, sharp decline. The marked contraction on the housing market is a direct result of the protracted balance sheet

Chart 1-8
The use of household income*



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

Chart 1-9
Changes in GDP growth



adjustment of indebted households on the one hand, and the enforcement of tight credit conditions on the other. On the supply side, the recovery of the market is hindered by substantial excess supply and by the severe funding constraints in the construction sector. By contrast, the homeowner rescue package adopted by the Government and the Banking Association might improve the situation of the household sector somewhat. We do not expect the housing market to stabilise until next year.

As regards government spending we continue to rely on measures already announced. For lack of specifics, based on technical assumptions and taking into account only half of the entire package, we provided just a rough estimate of the expected effects in our March forecast. In light of the details announced since then, our current forecast can gauge the expected effects of these measures more precisely. Another change compared to our March forecast is related to the new information released in the Convergence Programme about future developments in government spending. The staff downsizing and wage freezes expected in the public sector this year not only reduce government expenditure but also have a negative effect on household consumption. As a result of the measures related to government investments our current expectations for next year are slightly less favourable than we had previously anticipated.

Box 1-2

The impact of the fixed exchange rate programme point of the Home Protection Action Plan on household lending

The Government and the Banking Association announced their Home Protection Action Plan on 30 May 2011. One of the main programme points of the plan is a temporarily fixed exchange rate applicable to the instalments of performing mortgage loan debtors[1]; this measure has already been voted through. The eventual participation rate of eligible borrowers may have a significant impact on both lending and consumption across the entire forecast horizon. In this Box we attempt to quantify the relevant effects.

Under the fixed exchange rate programme, within the fixed exchange rate period expiring in 36 months or by 31 December 2014, performing foreign currency mortgage debtors can opt to request a fixed, preferential exchange rate for their monthly instalments, as follows:

- Swiss franc-denominated loans: 180 HUF/CHF (exchange rate on 15th June: 218 HUF /CHF, weaker by 21 percent);
- Euro-denominated loans: 250 HUF/EUR (exchange rate on 15th June: 265 HUF/EUR, weaker by 6 percent);
- Yen-denominated loans: 2,0 HUF/JPY (exchange rate on 15th June: 2,29 HUF/JPY, weaker by 14 percent).

According to the passed bill, debtors need to declare until 31 December 2011 their intention to participate; after that date their participation in the programme becomes final, and new entries are not accepted. After the expiration of the fixed exchange rate period, debtors must pay the difference between the fixed rate payments and the actual exchange rate: during the fixed exchange rate period, the monthly difference is accrued on a separate overflow account bearing the 3-month BUBOR interest rate, and lender banks are not allowed to charge any other fees. After the expiration of the fixed exchange rate period, repayment of the final balance on the overflow account begins in the form of an annuity forint loan with the same maturity as the original foreign currency loan. Essentially, this means

[1] Borrowers can participate only if they have no 90-day overdue.

that debtors would have two loans simultaneously: the original foreign currency loan and the new forint loan. In exchange for a guarantee fee payable to the central government, the state would guarantee the debt accumulated on the overflow account 100 percent during the fixed exchange rate period and 25 percent thereafter.

From the perspective of foreign currency borrowers this essentially translates into debt-restructuring with somewhat better conditions than currently being offered by banks on the market under similar restructuring schemes. Since at least transaction fees are charged (or indeed, increased on account of debtors' deteriorating creditworthiness), under the restructuring schemes of banks, banks' restructuring schemes impose a greater interest burden on clients than those performed under the state's fixed exchange rate scheme. Among performing debtors, this loan structure may benefit those who intended to restructure their loans in any case, or those whose loans have been restructured already in the market and the grace period will expire no later than 31 December 2011 (the share of this latter group in the total portfolio is around 4 percent). The expected number of those opting to join the programme and their composition depend on several, hard-to-quantify factors (tightness of liquidity, speculative and precautionary considerations, social background, etc.). If all those entitled[2] chose to participate in the programme and assuming that the conditions and the exchange rate levels remain the same, about HUF 330–340 billion would accumulate on the overflow accounts by the end of 2014, including interest. As a result, by the end of 2014 the indebtedness of these debtors to banks would decline by 6 percent only, whereas without the fixed exchange rate scheme this indebtedness would be 14 percent lower (disregarding the new loans taken out by the debtors concerned).

However, depending on debtors' preferences, the participation rate may be significantly lower. Based on the databases available[3] to us, we attempted to quantify the number and composition of those entering the programme. We assume that participation is attractive to those who have considered restructuring their loans in any case, or those in need of a liquidity buffer to offset their tight income position. Accordingly, in the available samples we limited the group of potential entrants to those whose income does not exceed the average wages, and to those whose payment-to-income ratio (PTI) is higher than 30 or 40 percent. Based on the number of sample elements, the frequency of those with higher than 40 percent PTI and income less than the average wage is 17.5 percent, while their share in the portfolio is 28.5 percent. In the case of PTIs above 30 percent the same frequencies amount to 28.1 percent and 41.3 percent, respectively (Table 1-1). Therefore, according to our estimate, the ratio of actual participation to the total portfolio may be 30–40 percent, which translates into the accumulation of HUF 97–130 billion on the overflow accounts by the end of 2014.

Since the group of potential entrants is assumed to have liquidity constraints, these households may spend the excess income thus released predominantly on consumption, rather than saving. Considering the estimated ratio of participation to the total portfolio, this would imply an increase of HUF 6.3–8.3 billion in households' quarterly consumption expenditures. We cannot ignore, however, that this extra consumption is the result of forced lending; in other words, it is achieved by maintaining households' excessive indebtedness rather than by a healthy lending activity.

This notwithstanding, the number and consumption appetite of actual participants are surrounded by considerable uncertainty. First and foremost, this uncertainty stems from exchange rate movements. While we prepared our estimates on the basis of the current exchange rate levels, it should be emphasised that a potential strengthening of the Swiss franc in the next 6 months (until the deadline for entries, 31 December 2011) would substantially increase the number of entrants and the impacts described above. Exchange rate movements during the fixed rate period would ultimately impact the final balance on the accumulating overflow account and hence, the future debt-service burden of households.

Table 1-2
Estimated share of debtors participating in the programme

Definition	Frequency	Share of the outstanding amount
Payment-to-income is higher than 40 per cent, and the income is lower than the average	17.5%	28.5%
Payment-to-income is higher than 30 per cent, and the income is lower than the average	28.1%	41.3%

Source: GfK, MNB.

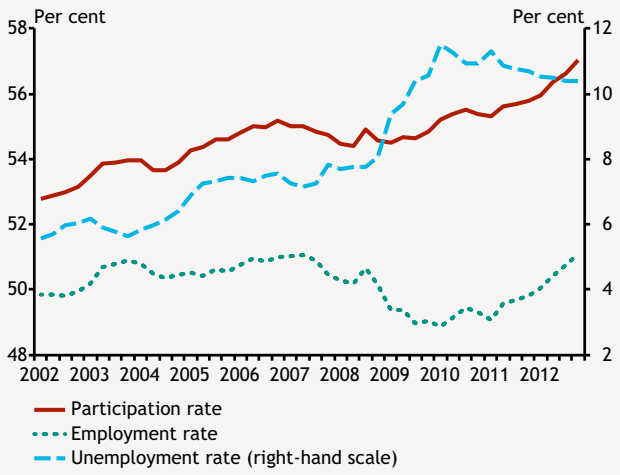
[2] We limited the group of those entitled to homeowners indebted in Swiss franc and Japanese yen, given that the option is less attractive to euro-borrowers under the current exchange rates.

[3] The results of a household questionnaire-based survey conducted by GfK.

1.3 Labour market forecast

Over our forecast horizon, the labour market environment is shaped by a combination of the subdued post-crisis pick-up in labour demand and the measures adopted by the Government with a view to stimulating labour supply. Government measures may continue to boost the rise in labour market activity observed in recent years; however, this effect may materialise only gradually, and in a protracted way. Labour demand may increase gradually, parallel to the slow recovery of economic output, therefore the pick-up in activity will not lead to a decrease in unemployment. Significantly increasing labour supply puts downward pressure on wages across the entire forecast horizon, thus the increase in real wages is likely to fall behind the acceleration of productivity over the long term. Public employment programmes may continue to make a significant contribution to the decline in the unemployment rate.

Chart 1-10
Employment and unemployment, whole economy
(2002–2012)



The labour market environment over the forecast horizon is determined by the moderate increase in labour demand and continuously strengthening labour supply. Amidst a continuous acceleration of activity, the demand of companies for labour during the recovery is likely to increase gradually due to the labour hoarding observed at the time of the crisis (Chart 1-10). The resulting slack labour market environment will result in historically low wage dynamics. High unemployment and the reduction of the employee tax burden will enable companies to offset their reduced profitability from cost-push shocks by reducing their wage bill.

The biggest change compared to our March forecast of employment developments is related to the programme aimed at steering disability pensioners back into the labour market. The more pronounced increase in activity on the back of the measures may be reflected in higher unemployment in the short run, owing to the poorer employment opportunities of those concerned, and may result in a higher utilisation of public employment programmes. The probabilities of finding jobs vary for groups with different education levels. Those with higher qualifications are more likely to get employed even in the short run, thus their return to the labour market may exert a positive influence on employment. On the other hand, in the case of those with lower education levels, the probability of being unemployed in the longer run is higher. This effect could be offset by the extension of public employment programmes. (For more details about the expected consequences of the change in disability pension regulations see chapter 6.2 in Special Topics). The planned higher education reform, which would substantially reduce state-subsidised positions in higher education, points to increased activity as well, albeit to a lesser degree. As a result,

despite significantly increased activity unemployment may remain high throughout 2011 with a perceivable increase only occurring next year. Employment will increase slightly in 2011, and in line with the pick-up in economic activity only slow acceleration is expected in 2012.

The corporate sector suffered a severe setback in profits during the crisis, while the recovery that followed allowed for a slow improvement in the earnings situation, primarily through the reduction of wage costs. In the context of rising global commodity prices, production costs have recently increased substantially, which generates new adjustment pressures. However, amidst weak internal demand, firms can only pass these cost shocks on through their prices to a certain extent. At the same time, persistently high unemployment levels enable the corporate sector to offset the increased costs by reducing wage costs (Chart 1-11).

Although our baseline projection was revised upward compared to our March *Report*, based on data received wage dynamics remain slow over the medium term owing to the increased labour supply, the protracted recovery process and the persistently weak labour demand. On balance, we foresee slightly higher wage dynamics of around 4.5-5.0 percent in 2011, which will drop to around 4.0-4.5 percent in 2012.

Chart 1-11
Changes in gross real wages and productivity in the private sector
(2000–2012)

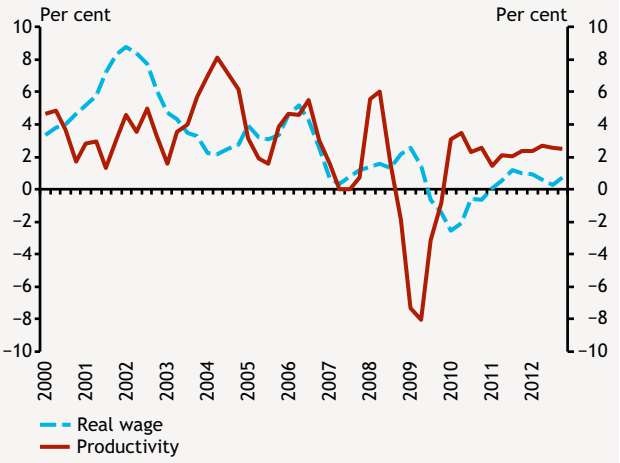


Table 1-3
Changes in our projections compared to March 2011

	2010	2011		2012	
	Fact	Projection			
		March	Current	March	Current
Inflation (annual average)					
Core inflation[1]	**3.0**	2.3	**2.8**	2.4	**2.8**
Consumer price index	**4.9**	4.0	**3.9**	3.4	**3.6**
Economic growth					
External demand (GDP-based)[2]	**2.6**	2.1	**2.5**	2.3	**2.4**
Household consumer expenditure	**−2.1**	2.8	**1.4**	3.0	**1.7**
Government final consumption expenditure	**−1.7**	−0.5	**−0.1**	−1.8	**−3.0**
Fixed capital formation	**−5.6**	1.2	**−0.1**	3.6	**3.7**
Domestic absorption	**−1.1**	2.1	**1.7**	2.0	**1.1**
Export	**14.1**	9.6	**12.3**	9.3	**9.9**
Import	**12.0**	9.3	**12.1**	8.6	**8.8**
GDP	**1.2**	2.9	**2.6**	3.0	**2.7**
External balance[3]					
Current account balance	**2.1**	1.4	**1.9**	2.0	**3.2**
External financing capacity	**3.9**	3.7	**4.3**	4.6	**5.8**
Government balance[3]					
ESA balance	**−4.3**	2.5	**2.4**	−4.6	**−3.2**
Labour market					
Whole-economy gross average earnings[4]	**1.5**	2.3	**2.5**	5.2	**1.6***
Whole-economy employment[5]	**0.0**	0.4	**0.6**	0.5	**1.9**
Private sector gross average earnings[6]	**3.3**	4.1	**4.7**	4.9	**4.3**
Private sector employment[5]	**−1.0**	0.6	**0.7**	1.3	**1.1**
Private sector unit labour cost[5,7]	**−2.0**	0.9	**2.6**	2.7	**1.7**
Household real income[8]	**−1.2**	2.4	**2.1**	1.6	**1.1**

[1] From May 2009 on, calculated according to the joint methodology of the CSO and MNB.
[2] In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.
[3] As a percentage of GDP. The deficit for 2012 partially includes the effect of the Széll Kálmán plan.
[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 costs calculated with a wage indicator excluding the effect of whitening and the changed seasonality of bonuses.
[8] MNB estimate. In our current forecast we have corrected the data of household income with the effect of changes in net equity because of payments into mandatory private pension funds.
** The low growth of the whole-economy gross average earnings has been influenced by several factors relative to our March forecast. On one hand in the actual report we excpect nominal wage freezing in the public sector in line with the Széll Kálmán plan and Convergence Programme. On the other hand in case of the disabled penisioners who will come back to the labour market in our forecast horizon we assume that initially their wages can be lower than the average of the whole economy causing negative composition effect.*

Table 1-4
MNB basic forecast compared to other forecasts

	2011	2012	2013
Consumer Price Index (annual average growth rate, %)			
MNB (June 2011)	3.9	3.6	–
Consensus Economics (May 2011)[1]	3.3 – 4.2 – 5.0	2.5 – 3.5 – 4.1	–
European Commission (May 2011)	4.0	3.5	–
IMF (June 2011)	4.1	3.4	–
OECD (May 2011)	4.0	3.3	–
Reuters survey (June 2011)[1]	3.8 – 4.3 – 5.1	2.9 – 3.5 – 4.6	2.8 – 3.1 – 3.7
GDP (annual growth rate, %)			
MNB (June 2011)	2.6	2.7	–
Consensus Economics (May 2011)[1]	2.0 – 2.6 – 3.1	2.8 – 3.1 – 3.5	–
European Commission (May 2011)	2.7	2.6	–
IMF (June 2011)	2.6	2.5	–
OECD (May 2011)	2.7	3.1	–
Reuters survey (June 2011)[1]	2.0 – 2.6 – 3.1	2.4 – 3.1 – 4.0	–
Current account balance (percent of GDP)			
MNB (June 2011)	1.9	3.2	–
European Commission (November 2010)	1.6	1.9	–
IMF (June 2011)	1.7	1.6	–
OECD (May 2011)	2.7	1.8	–
Budget Balance (ESA-95 method, percent of GDP)			
MNB (June 2011)[5]	2.4	–3.2	–
Consensus Economics (May 2011)[1]	(–2.3)–(–3.3)–(–4.8)*	(–2.4)–(–2.9)–(–4.8)	–
European Commission (November 2010)	1.6	–3.3	–
IMF (June 2011)	2.3	–3.3	–
OECD (May 2011)	2.6	–3.3	–
Reuters survey (June 2011)[1]	(–2.9) – 1.2 – 3.1	(–2.5)–(–3.0)–(–3.7)	–
Forecasts on the size of Hungary's export markets (annual growth rate, %)			
MNB (June 2011)	7.3	5.8	–
European Commission (May 2011)[2]	6.2	6.4	–
IMF (April 2011)	6.4	5.1	5.2
OECD (May 2011)[2]	7.0	6.4	–
Forecasts on the GDP growth rate of Hungary's trade partners (annual growth rate, %)			
MNB (June 2011)[3]	2.5	2.4	–
Consensus Economics (March 2011)[1]	2.2	2.3	–
European Commission (May 2011)[2]	2.5	2.5	–
IMF (April 2011)[2]	2.5	2.7	2.7
OECD (May 2010)[2]	3.0	2.8	–
Forecasts on the GDP growth rate of euro area (annual growth rate, %)			
MNB (June 2011)[4]	1.9	1.5	–
Consensus Economics (April 2011)[1]	1.7	1.7	–
European Commission (May 2011)	1.6	1.8	–
IMF (April 2011)	1.6	1.8	–
OECD (May 2011)	1.2	2.0	–

[1] For Reuters and Consensus Economics surveys, in addition to the average value of the analysed replies (i.e. the medium value), we also indicate the lowest and the highest values to illustrate the distribution of the data.
[2] Values calculated by the MNB; the projections of the named institutions for the relevant countries are adjusted with the weighting system of the MNB, which is also used for the calculation of the bank's own external demand indices. Certain institutions do not prepare forecast for all partner countries.
[3] In line with the changes in Hungarian export structure by destination countries we revised the weights in our external demand indicator.
[4] Aggregate based on Euro area members included in our external demand indices.
[5] As a percentage of GDP. The deficit for 2012 partially includes the effect of the Széll Kálmán plan.
** Without incomes from private pension funds.*
Sources: Eastern Europe Consensus Forecasts (Consensus Economics Inc. [London], May 2011); European Commission Economic Forecasts (May 2011); IMF World Economic Outlook Database (April 2011); IMF Public Information Notice (PIN) No. 11/73 (June 15, 2011); Reuters survey (June 2011); OECD Economic Outlook No. 89 (May 2011).

2 Effects of alternative scenarios on our forecast

We wish to illustrate the risks around the baseline scenario by presenting three alternative scenarios selected by the Monetary Council. The three scenarios relate to the uncertainties surrounding investors' assessments of the government measures affecting the budget, developments in commodity prices and the debt crisis in EU periphery countries. A positive assessment of the government measures regarding the budget would improve inflation outlook, thus allow room for interest rate cuts. If, however, global commodity prices continue to increase or the debt crisis in Eurozone periphery countries deepens, interest rates will have to be maintained at higher levels compared to the baseline scenario.

Chart 2-1
Effects of alternative scenarios on the inflation forecast

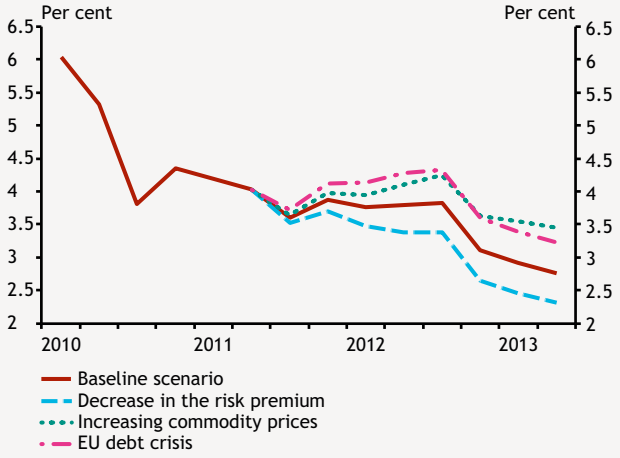
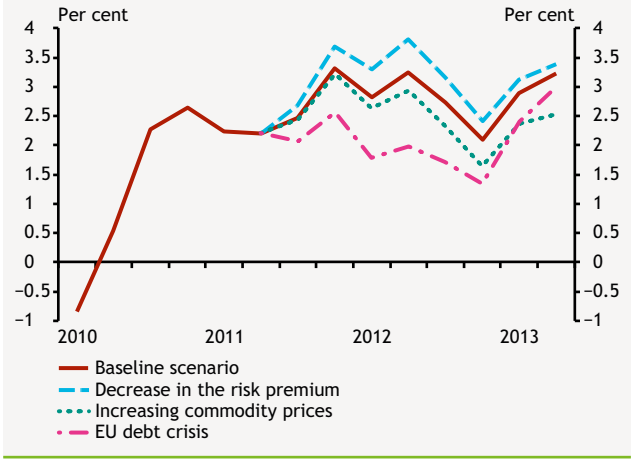


Chart 2-2
Effects of alternative scenarios on the GDP forecast



International investors have reacted positively to the measures aimed at mitigating the fiscal deficit and government debt announced by the government; however, the risk premia on forint assets remain above the regional average. If the market reacts positively to the steps taken in order to achieve fiscal sustainability, the expected premia on forint assets could fall significantly, approaching the regional average. This would strengthen the forint exchange rate that allows room for interest rate cuts through lower inflation. Monetary policy loosening would lead to higher economic growth.

In the baseline scenario, we assume falling commodity prices compared to their current elevated level. We based this assumption on falling futures prices in the case of the oil price, and on the arrival of this year's harvest following last year's poor yield in the case of agricultural products. In this risk scenario, we assume that commodity prices will increase over the forecast horizon in line with the prevalent trends of the past decade (this rate of growth remains lower than the growth characteristic of the past two years). Our simulation suggests that a further climb in commodity prices would necessitate a sustained higher interest rate path. Tighter monetary policy would curb economic growth somewhat and cushion the effect of cost shocks. Even so, inflation would be above its baseline scenario level.

The debt crisis on the periphery of the euro area has only affected risk premia in CEE countries to a limited extent over recent months. An escalation of the crisis, however, could represent a more acute threat. On the one hand it would restrain euro area growth, which would substantially dampen the Hungarian economy's external demand. On the other hand, investors' risk aversion would drastically increase, pulling up the risk premia on Hungarian assets. A

rise in risk premia would in and of itself justify a higher interest rate trajectory, while weaker external demand would justify a lower one. The former effect is more dominant, therefore the scenario is consistent with a tighter monetary policy, while a rise in premia would weaken the exchange rate. A weaker exchange rate pushes inflation up, which even lower demand and a tighter monetary policy could not fully offset. An increase in risk premia and a slump in external demand both have a dampening effect on Hungarian economic growth (Chart 2-1 and 2-2).

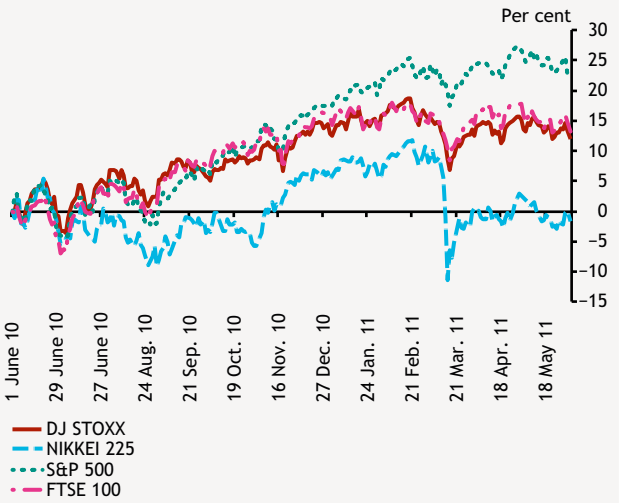
3 Financial markets and interest rates

Investor sentiment in the global financial markets was shaped by the deteriorating short-term outlook for economic growth and a new phase of the sovereign debt crisis in the countries on the periphery of the euro area. Slightly stronger risk aversion, partly in response to monetary tightening already in progress or expected to start in the near future in developed countries, has also contributed to corrections in the prices of risky assets. Overall in the period under review, the direction of capital flows was determined by the overweighting of low-risk financial instruments within the portfolio; the risk perception of the emerging countries remains favourable. Investor attitude to domestic financial instruments was shaped by a favourable perception of the emerging markets, the relative stability of the risk perception of the region and a few country-specific factors. Although the most recent upsurge in the Portuguese and Greek debt crisis affected the risk premium the region to a limited extent only, the premium on Hungary rose slightly at the end of the period. Relative stability is likely to have been due to a favourable global response to the convergence programme and strong trade balance in Q1. Non-residents increased their exposure to Hungarian instruments. The purchase of assets was mainly reflected in significant growth of the government securities portfolio.

Access to credit remains constrained for the private sector. The credit conditions of corporate loans have been slightly tightened yet again, and the credit spread remains broadly flat. The banking sector is focusing solely on more creditworthy corporate clients, leading to strong price competition. Overall, the non-price conditions of housing loans have remained unchanged in the household segment; by contrast, those on consumer loans were tightened further. Both APR (annual percentage rate charged) and the spread on mortgage loans have risen.

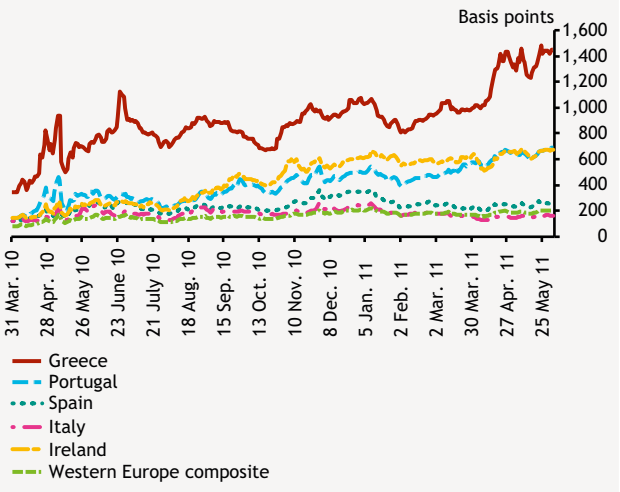
3.1 International financial markets

Chart 3-1
Developed market stock indices



Note: 5 January 2009 = 0; cumulative change.
Source: Thomson Reuters.

Chart 3-2
5-year sovereign CDS spreads in peripheral euro area countries



Source: Bloomberg.

The three months that have passed since the publication of the *Report* in March were characterised by stable global risk appetite in the early part of the period against a background of lower volatility and a modest decline in risk appetite at the end of the period. A robust increase in the stock exchange indices of developed and emerging markets for nearly one year came to a halt or slowed down in May. Although a sharp break in the trend can be noticed in March, after the shock decline triggered by the Japanese natural and nuclear crisis the stock indices increased again, so the fall can be interpreted as a temporary correction. The recent decline in May seems to show the end of the growth trend. Corrections made despite quarterly corporate reports, which exceeded expectations, are likely to have been in response to the deteriorating short-term outlook on the global economy as well as a new upsurge in the sovereign debt crisis afflicting the countries on the periphery of the EU (Chart 3-1). The decline in the price of risky instruments affected commodity markets the most severely, where indicators, which reached local or historical highs, dropped by as much as 5 or 10 percent overnight. The fall in the prices of commodities was attributable to the somewhat less optimistic assessment of the chances of a global recovery and a stronger dollar at the end of the period.

Heightening uncertainty surrounding the sustainability of funding the debt accumulated by the peripheral countries of the EU dampened risk appetite. A rise in risk premia led to a dramatic increase in the cost of market funding in some peripheral countries (Chart 3-2). The latest victim of the sovereign debt crisis is Portugal, where the failure by the government to implement the planned structural reforms led to a domestic political crisis and a bailout package provided by the EU and the IMF. In order to boost investor confidence, decision-makers in the EU decided to strengthen or permanently adopt the institutional solutions engineered to address sovereign debt issues. The EFSF (European Financial Stability Facility) will be replaced by the ESM (European Stability Mechanism) with effect from 2013. No sooner had the dust settled over Portugal than market participants started to worry about Greece's debt reaching

critical mass. Under the agreement reached between the IMF and Greece in 2010, with effect from 2012 Greece will have to raise funds in the market in order to finance its debts.

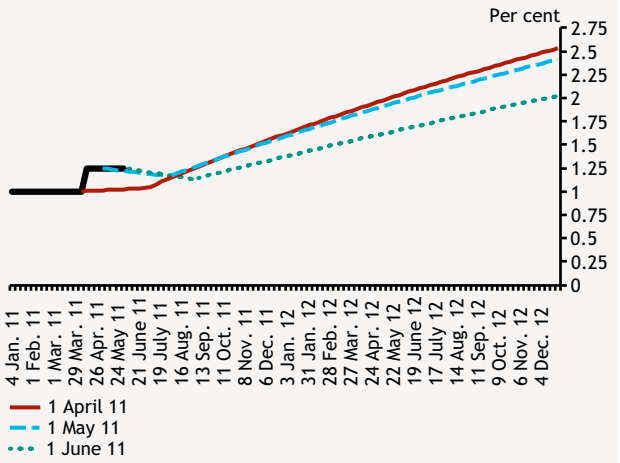
Record high yields on government securities in response to the failure to successfully implement structural reforms and a higher-than-expected fiscal deficit in 2010 would not be able to make market funding sustainable. Of the possible solutions worked out to address a near bankruptcy situation, the most likely choice is a new bailout package. Some form of debt restructuring and, as the riskiest and most pessimistic scenario, an exit from the euro area were also among the most realistic scenarios. News of and comments on the latter alternative (i.e. debt restructuring and exiting the euro area) hit investor confidence hard.

Market participants re-focused their attentions to the adverse fiscal processes in the USA and Japan after S&P revised the stable outlook for the long-term debt rating of both countries down to negative. Although the creditworthiness of the two countries has only eroded to a very small extent, government efforts aimed at consolidation – by way of restraining fiscal stimulus – carry the risk of negative growth.

The tightening of monetary conditions in developed markets is expected to start in the forthcoming period. Although the start of the tightening cycle was deferred and will be more gradual compared to earlier market expectations, against a background of lower fiscal expenditure the stricter monetary policy might contribute to slower growth. The ECB was the first to tighten its monetary policy, increasing the key policy rate by 25 basis points to 1.25 percent (Chart 3-3). This decision was in line with expectations so the narrowing of the interest rate spread between the ECB and the emerging markets did not result in an exogenous shock on developing countries like Hungary. In order to mitigate the secondary impacts of the pass-through of inflationary pressure into developed markets, (further) rate hikes are expected in the UK, Switzerland and the euro area this year. In the USA so far, policymakers have only made cautious hints as to the timing of monetary tightening. Based on the information disclosed so far, after the phase-out of quantitative easing (QE2) maturing instruments will not be reinvested, and the sale of securities will start after the first rate hike (Chart 3-4).

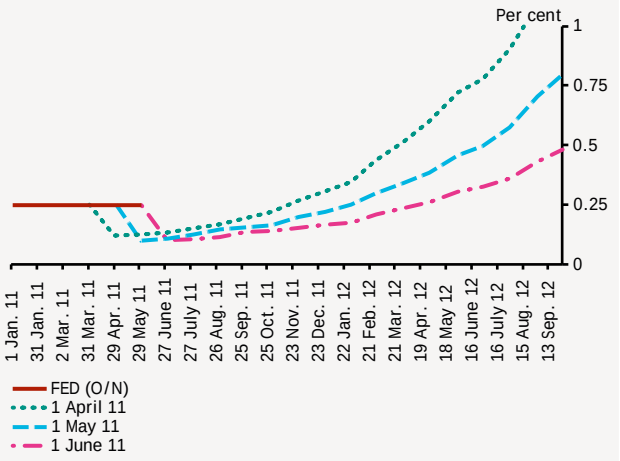
In response to the deteriorating short-term outlook for developed economies, capital was invested in low-risk instruments alongside some portfolio rearrangement. The flow of capital from North American and Western European equity funds to bond funds concurred with corrections in

Chart 3-3
ECB policy rate expectations



Note: Estimated by the ECB using the Svensson-technique, based on AAA-rated euro area central government bonds.
Source: ECB.

Chart 3-4
Fed policy rate expectations

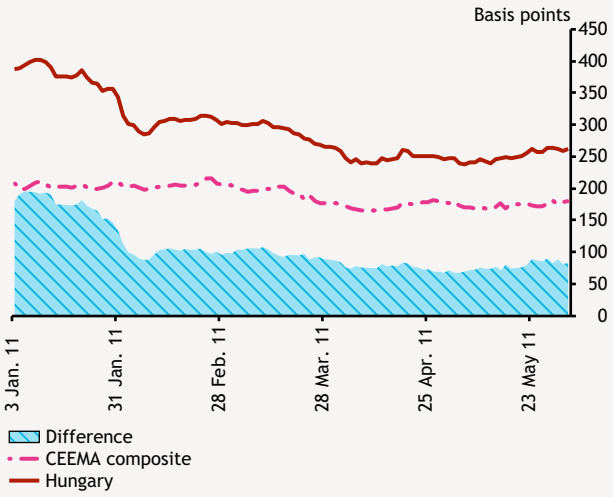


Note: derived from Fed funds futures contracts.
Source: Thomson Reuters.

capital markets and a decline in long-term yields on developed market bonds. Although the withdrawal of capital also affected the emerging markets, investors' risk perception of the region remained benign. As regards this development, which resulted in sizeable capital inflows overall, the narrowing of the gap between the interest spread in developed countries and that in developing areas carries a risk.

3.2 Risk assessment of Hungary

Chart 3-5
Development of the Hungarian 5-year CDS and the CEE composite



Source: Bloomberg.

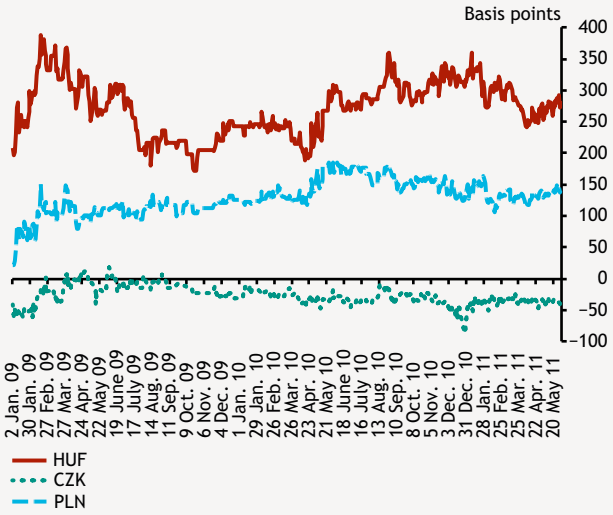
All told, since the *Report* in March Hungary's risk assessment has largely remained stable (Chart 3-5). This stability has been due, in part, to the favourable perception of the region and to a few country-specific factors. In the second half of May, risk appetite related to Hungary weakened unmistakeably. Fundamentally, this is attributable to both global factors and the greater sensitivity of Hungarian instruments to changes in international sentiment.

As regards international factors, the debt crisis on the periphery of the euro area only affected risk premia on CEE countries to a limited extent. A rise in the risk premium in late May was due, in part, to the escalation of the Greek crisis. The solution of Greece's fiscal woes according to an unfavourable scenario, however, carries more serious risks, because the banking sector would probably respond by reducing its exposure to our region, thereby making access to market funding more difficult.

The relative stability of the risk perception of the Hungarian instruments is likely to have been due to a favourable global response to the convergence programme submitted by the Hungarian government, as a country-specific factor, and strong trade balance in Q1. The cautious optimism of market participants was also reflected in the Fitch statement in June, where the rating agency revised the outlook on the BBB rating of Hungary's debt up from negative to stable. As the planned structural measures continue to carry implementation risks in some respects, a lasting reduction in the risk premium requires the consistent implementation of the announced steps in the Széll Kálmán Plan and Convergence Programme.

The relatively favourable investor sentiment enabled the Government Debt Management Agency (GDMA) to implement its FX financing plan for this year with funds that were scheduled but not yet raised. The euro-bond issue in the first week of May was successful in terms of both the required premium, which was in line with the Hungarian CDS premium, and the substantial over-subscription.

Chart 3-6
5-year implied spreads over euro rates in 5 year's time



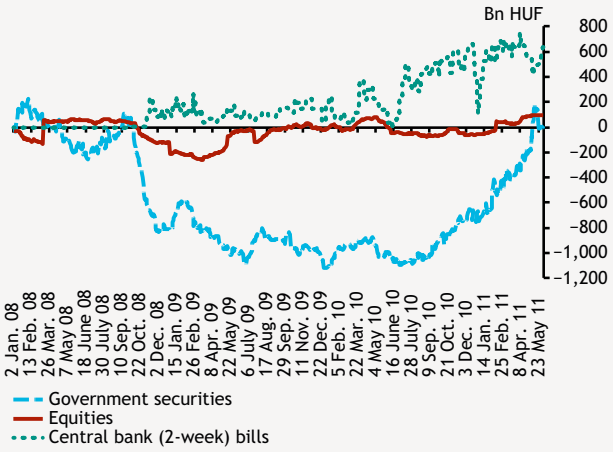
Forrás: Thomson Reuters.

The medium-term external fragility of Hungary might be influenced by the government's decision to purchase the 21.2 percent stake in MOL from Surgutneftegas, because although the EUR 1.88 billion transaction does not affect gross public debt, the purchase financed by unused funds drawn on the earlier loan from the IMF will reduce FX reserves and also raise the need for the issue of debt denominated in foreign currency in the coming years.

Relative to end-March figures, Hungary's risk indicators are roughly the same or slightly higher. After fluctuating in a narrow, 20-bp band, the 5-year CDS premium is currently standing at 260 basis points, while the premium on FX bonds with a maturity of 5 years has risen by 15 basis points to approximately 295 points. The premium on the 5-year forward HUF rate in 5 years time relative to the EUR rate has increased slightly: compared with the 270 basis points at the end of March, it is now standing at 280 (Chart 3-6). The changes in Hungary's risk indicators have been in keeping with developments in the risk perception of the benchmark countries; therefore, Hungary's relative position in the region has not changed considerably.

3.3 Non-residents' demand for HUF assets

Chart 3-7
Forint financial assets held by non-residents



Source: MNB.

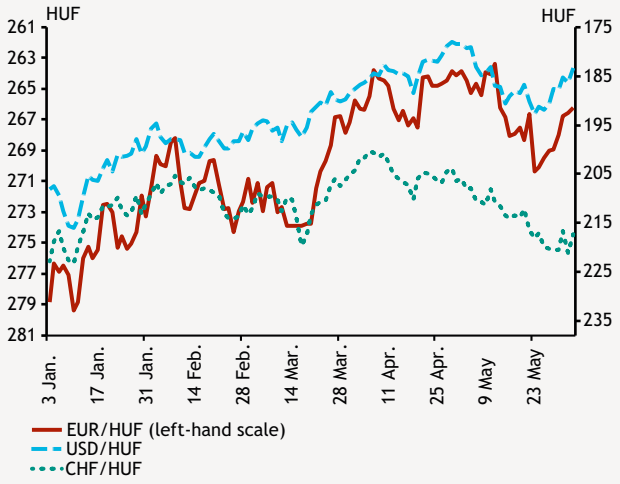
The relative stability of the region's risk perception, the generally benign attitude of investors towards emerging markets and a few country-specific factors has led to heightened interest from non-residents towards HUF-denominated assets. The marked rise in the non-residents' portfolio of government securities observed in Q1 continued in Q2 as well (Chart 3-7). Relative to Q1, however, non-residents also increased their exposure in the capital market, with their equity portfolio posting a rise of nearly HUF 50 billion.

Since late March there has been a close to HUF 320 billion increase in the non-residents' portfolio of Hungarian government securities. This rate of growth was similar to that of the first quarter; there were a few minor adjustments at the end of the period. Growth was distributed roughly evenly between T-bills and Treasury Bonds. Half of the purchases took place on the secondary market, the other half were sold at auctions. The strong presence of non-residents at auctions led to over-subscription. During the period surveyed, the bid-to-cover ratio was 3-fold on average.

Essentially, the value of the MNB bonds held by non-residents is identical to the end-of-March figure, i.e. HUF 620 billion. Typically, over the past quarter some non-resident market participants have used the proceeds from the sale of their MNB bonds to cover their government securities purchases. However, in response to the more jaded global risk appetite they have rearranged their portfolios again, preferring short-term instruments; as a result, including the adjustments made in the government securities portfolio, the portfolio of the MNB bonds increased again. Non-residents used the liquidity from the maturing transactions concluded earlier in the FX swap market and involved HUF placements to finance the majority of their government securities purchases.

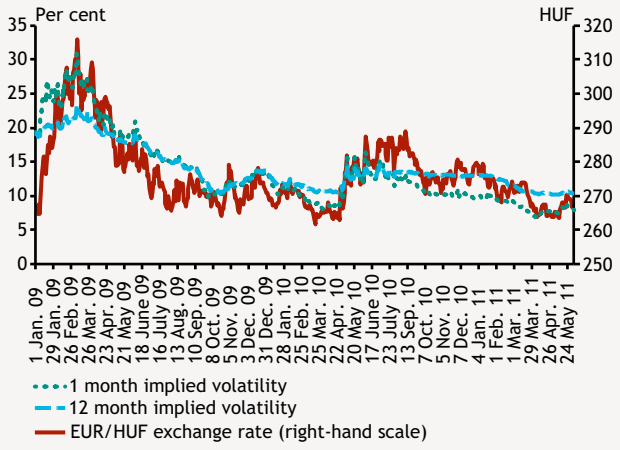
3.4 Developments in the exchange rate

Chart 3-8
HUF vis-à-vis developed market exchange rate



Source: Thomson Reuters.

Chart 3-9
EUR/HUF exchange rate and implied volatilities



Source: Bloomberg.

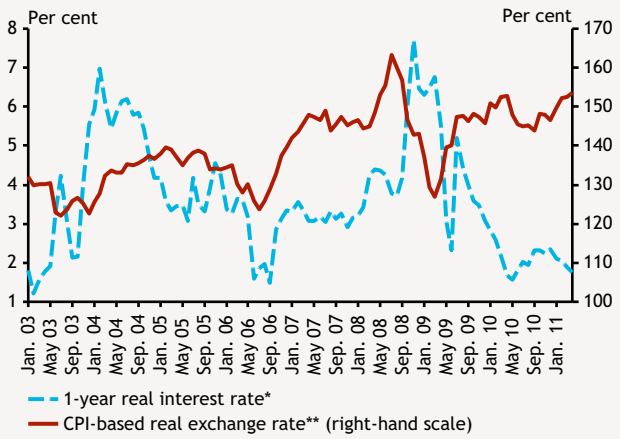
In the FX market and with regard to trends in the exchange rate, there are two dominant factors: first, the benign investor attitude to the region, which was overshadowed by heightened global risk perception at the end of the period (Chart 3-8). In early May, with PIGS sovereign risks having intensified and sentiment towards the USD having changed, there was a sharp fall in the EUR/USD. EUR/HUF quotes also exited the narrow range of a few forints as seen in the preceding months, and against the background of slightly higher intra-day volatility the exchange rate depreciated by nearly two percent over just a few days (Chart 3-9). Market uncertainty surrounding future developments in the exchange rate also increased, and the rise of risk reversal and skewness pointed to weakening.

In mid-June, in response to news of a second bailout package for Greece and the publication of disappointing US labour market data, the EUR/USD exchange rate appreciated again. This also affected regional currencies. Thus overall, the EUR/HUF and USD/HUF quotes are close to end-of-March levels.

One factor differing from the above was dominant in the development of the CHF/HUF exchange rate. The Swiss currency appreciated substantially vis-à-vis the currencies of developed economies, which is attributable to the Swiss currency's role as a safe-haven currency. Thus similarly to the EUR, the forint depreciated by close to 7 percent, which represents heightened risks regarding FX loan repayments.

3.5 General monetary conditions

Chart 3-10
Evolution of forward-looking real interest rate and the EUR/HUF real exchange rate



** 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).*

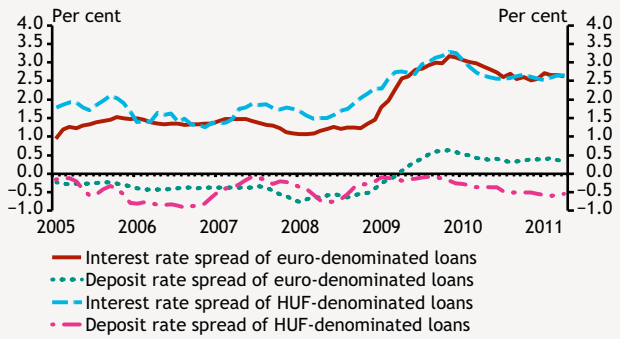
Over the period since the publication of the March *Report*, monetary conditions have been in line with trends that started in December 2010: the moderate decline in the 1-year real interest rate continued whilst the EUR/HUF real exchange rate reflected tightening monetary conditions (Chart 3-10).

Changes in the real interest rate are mainly attributable to slightly heightened inflation expectations, with the nominal rate standing roughly at the level that evolved at the end of the tightening cycle.

The strengthening of the EUR/HUF real exchange rate was triggered by the appreciation of the nominal exchange rate. This impact was subdued somewhat by the fact that monthly consumer prices grew faster in the euro area than in Hungary.

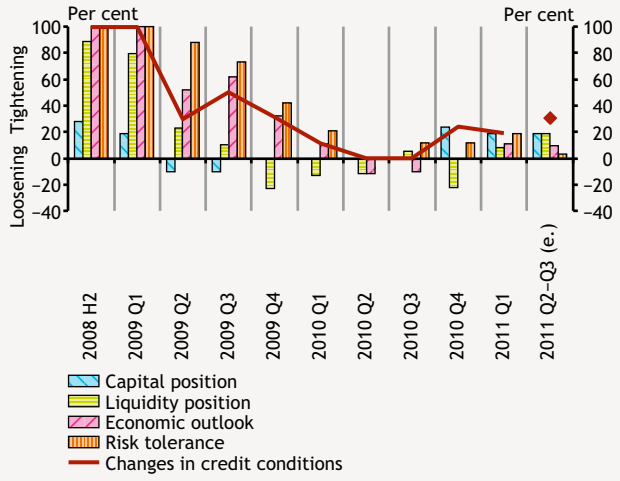
3.6 Credit conditions of corporate loans

Chart 3-11
Interest rate spread on corporate loans by currency



Note: Spread above the moving average of the 3-month BUBOR and EURIBOR, respectively.
Source: MNB.

Chart 3-12
Changes in credit conditions and factors contributing to changes in corporate loans



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

In the case of corporate loans, the interest rate spread above the interbank rates has been unchanged at 2.5 and 2.6 percentage points since the second half of 2010 for loans denominated in both HUF and EUR (Chart 3-11). Taking into account that the loan loss ratio has increased significantly (standing at 230 to 250 basis points) since the onset of the crisis, the current spread can be considered low, especially in the case of EUR-denominated loans, where the costs of both FX and external funding have increased markedly as well.

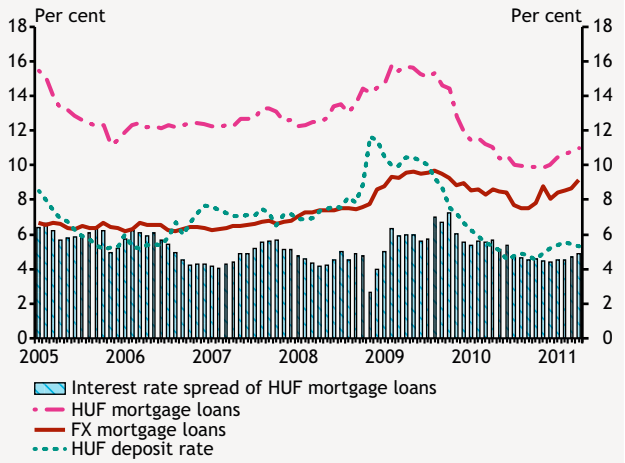
Based on MNB's most recent lending survey[4], corporate access to credit became harder in the first quarter. A net 19 percent of banks[5] reported that they had tightened credit conditions further (Chart 3-12), and are considering further tightening over the next six months. Fundamentally, banks finance only the more creditworthy corporate clients, while a sharp competition is prevailing on this segment. Banks are confined to lending to such clients with low interest rate spreads, which explains why the average spread remains unchanged despite the tighter credit conditions. Overall, the increase in demand for credit of clients that are currently creditworthy is likely to bring about a turnaround in lending. Meanwhile, the number of such clients should grow due to a pick-up in economic activity.

[4] The MNB's questionnaire survey: Senior Loan Officer Survey on Bank Lending Practices.
http://english.mnb.hu/Kiadvanyok/hitelezesi_felmeres/mnben_hitelezesi_felmeres_201105

[5] Net percentage balance of respondents tightening/easing credit conditions weighted by market share.

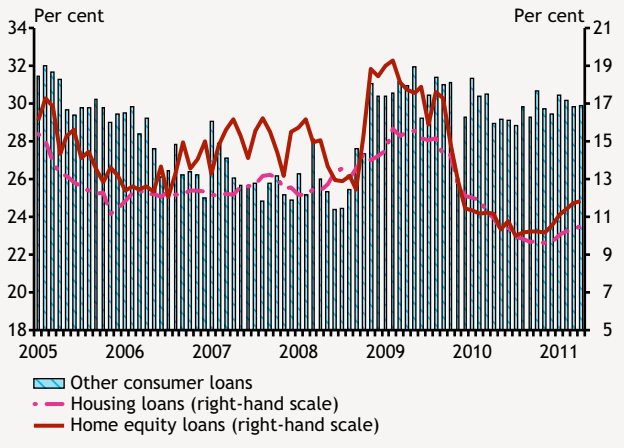
3.7 Credit conditions of household loans

Chart 3-13
Annual percentage rate (APR) on mortgage loans



Note: Since the banning of foreign currency denominated mortgage lending (August 2010) the data refers to loan switching.
Source: MNB.

Chart 3-14
Annual percentage rate of charge (APR) of housing and consumer loans



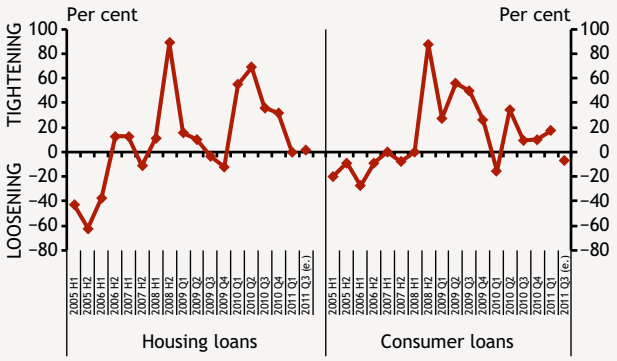
Source: MNB.

The credit conditions of mortgage loans to households were tightened further in the first four months of 2011. A striking difference relative to 2010 is that it is mainly the cost of credit that has gone up, while non-price conditions have remained unchanged. Between late 2010 and April 2011, the APR on mortgage loans has risen by over one percentage point (100 basis points) and is currently standing at an average 11 percent (Chart 3-13). The higher APR is attributable, in part, to an increase in the central bank's base rate. However, even if we assume that base rate hikes have passed through entirely into the cost of credit, the increase in the APR has been nearly half a percentage point higher than that (Chart 3-13).

Within mortgage loans, the cost of home equity loans has risen by approximately 170 basis points; the corresponding figure for housing loans is 90 basis points (Chart 3-14). The APR on uncovered consumer loans rose significantly in January and has been standing at 30 percent ever since. There has been no substantial change in the level of APR since 2009 (Chart 3-14). As the interest on uncovered loans is sticky, a rise in the APR in January could be mainly attributable to the end-of-year special offers running out.

Based on the lending survey, there have been no material changes in the credit conditions of housing loans and consumer loans, nor do banks expect any significant changes over the next six months (Chart 3-15). Supply constraints has emerged in price conditions in the last quarter following tightening in non-price conditions earlier.

Chart 3-15
Changes in credit conditions to the household sector



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

4 Macroeconomic overview

4.1 Aggregate demand

In the first few months of 2011 the global economy continued its recovery in the wake of the 2008-2009 crisis, albeit with strengthening upside risks. While the benefits of the improving global activity were reflected in the rebound of domestic GDP, amidst continuing weak domestic demand the muted growth observed in Hungary was still weaker than the average by international comparison. Protracted balance sheet adjustments combined with the fragile labour market environment, subdued lending activity and rising inflation are restraining the recovery of domestic consumption, while the reduction of income tax rates at the beginning of the year has not yet translated into a perceivable boost in demand. Although external demand is expected to slow down in the coming quarters, the expansion of domestic export sales and the duality observed in growth may remain strong.

Chart 4-1
Changes in Hungarian GDP
(2005–2011)

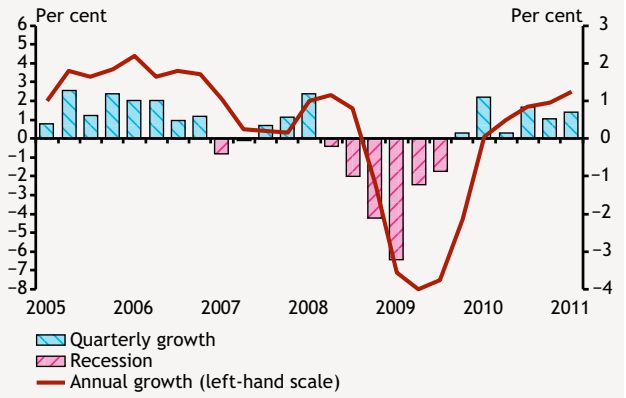
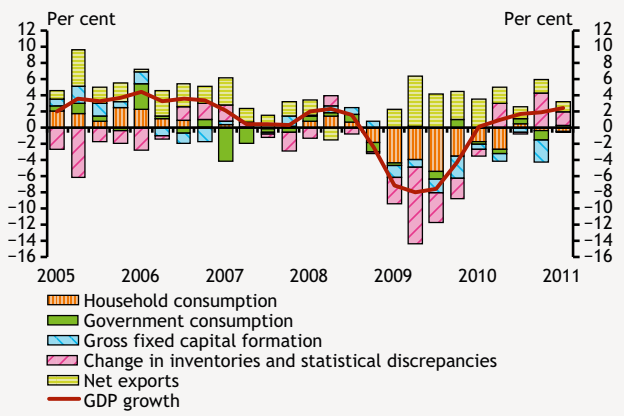


Chart 4-2
The structure of yearly GDP change in Hungary
(2005–2011)



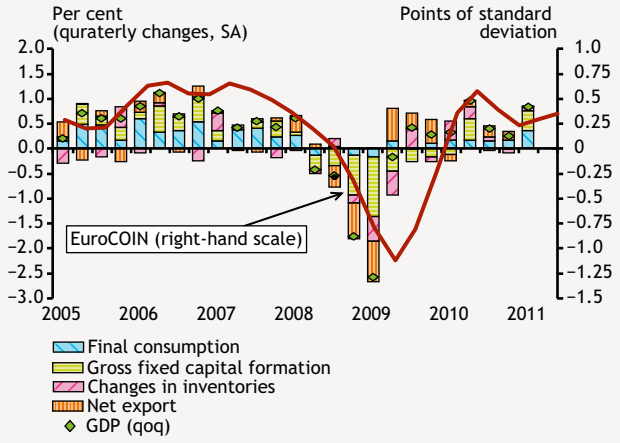
Hungarian economic growth started to pick up in the first few months of 2011. Gross domestic product in 2011 Q1 was 0.7 percent higher than at the end of the previous year (Chart 4-1). In addition to the favourable external environment, a number of one-off factors – which, back in 2010 Q4 exerted the exact opposite effect on GDP (shutdown of industrial production in December, postponement of year-end bonuses) – also contributed to the acceleration of growth. With these effects petering out, GDP dynamics may decelerate once again as early as the next quarter.

Growth remains characterised by a strong duality. In line with the continued improvement of global activity, domestic export sales display dynamic expansion; thus growth continues to be determined mainly by the positive contribution of net exports (Chart 4-2).

Domestic demand did not change notably in the first few months of 2011. Post-crisis balance sheet adjustments and the normalisation of labour market conditions may take longer than we expected, while the continuing decline in lending is hindering the economic recovery in general. Under these circumstances, the reduction in the personal income tax rate for the time being has not exerted a noticeable effect on the consumption and investment demand of households. The growth contribution of the inventories and statistical discrepancy remains high, which implies the increased estimation uncertainty of the main demand variables.

Chart 4-3
Changes in GDP in the euro area and the EuroCOIN* indicator

(2005—2011)



** The (New) EuroCOIN is a monthly indicator moving together with the trend (cleaned of short-run noises) of euro area GDP growth. The indicator is computed by CEPR from monthly data with dynamic factor model (http://eurocoin.cepr.org/). Data for 2011 Q2 is the average of the April-May period.*

Chart 4-4
Changes in the most relevant European confidence indicators

(2005—2011)

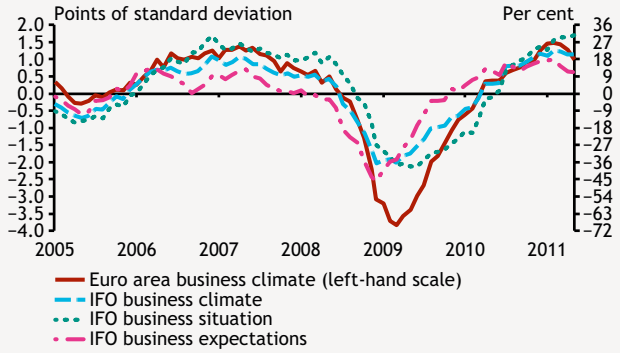
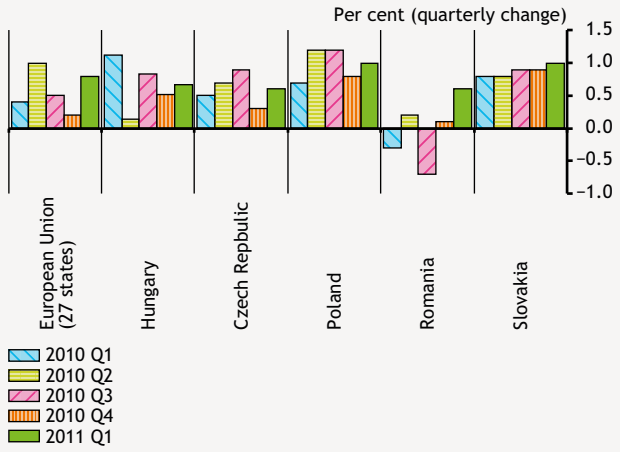


Chart 4-5
Economic growth in the region



4.1.1 EXTERNAL DEMAND

The global economy continued to improve at the beginning of 2011, with growth rates already approaching pre-crisis levels. Although the differences in growth between individual regions have moderated somewhat, growth paths continue to exhibit marked dissimilarities. Developing countries, which often post double-digit growth, have started to show some signs of overheating, while the output of developed countries is still below potential.

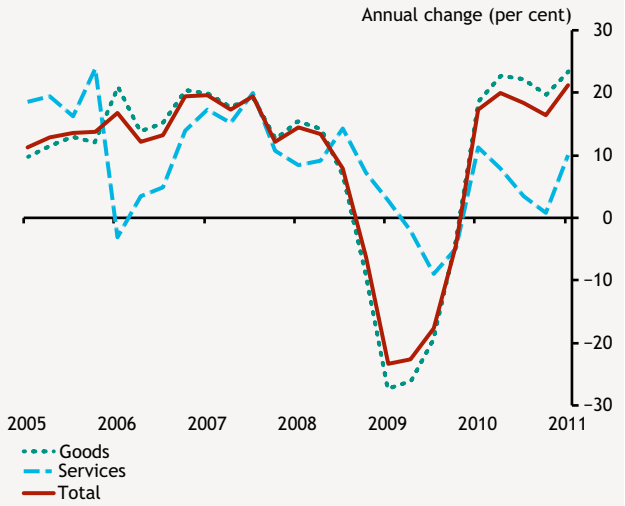
While the normalisation of labour market conditions typically lags behind the turnaround in economic activity, current developments in developed economies point to an even slower improvement in unemployment than that observed during previous crises. In addition to a weak employment environment, the lending activity of banks is picking up rather slowly, restraining the recovery of domestic demand even further. Despite the slow acceleration of domestic consumption, global trade has quickly returned to pre-crisis levels. Exports of our main European partners (especially Germany) were boosted spectacularly by the exports directed to the developing economieswith accelerated growth (Chart 4-3).

In the overall favourable environment of external demand, however, several risks have materialised in recent quarters, posing a threat to sustainability. Persistent rises in commodity prices could impede actual demand and even the potential growth of developed countries, while the sovereign debt problems faced by states on the euro area periphery carry the risk of contagion. Through supplier connections, the natural disaster hitting Japan may also exert adverse effects on the European production sector, restraining GDP growth even in the short run.

The intensification of the risks to growth is also evident in the changes observed in the most important European confidence indicators over the previous quarter. While indicators measuring business confidence continue to exhibit historically high values, their levels have been broadly adjusted due to deteriorating expectations since the beginning of the year (Chart 4-4).

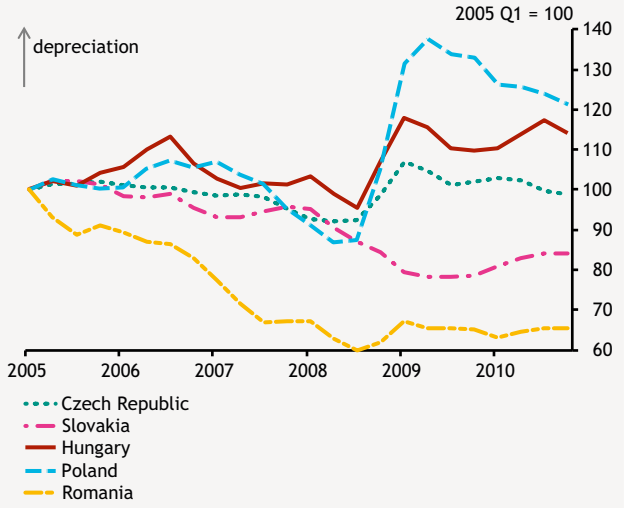
During the year of the crisis and in the first phase of the recovery, significant differences were generated in the performance of regional economies by the adjustment pressures stemming from accumulated pre-recession public and private debt, the leeway for economic policy in risk management and the asset-price adjustments observed. In line with European developments, these differences have gradually diminished in recent quarters (Chart 4-5). Growth is generally driven by the rapid expansion of export sales,

Chart 4-6
Hungarian export growth
*(2005–2011, in euro terms)**



** Preliminary data for 2011 Q1.*
Source: Balance of payments.

Chart 4-7
ULC-based real exchange rates in the region*



** Relative to 36 main industrial countries.*
Source: European Commission.

while high unemployment, accelerating inflation and the need for fiscal consolidation, which surfaced in other countries of the region as well, all restrain the growth rate of domestic demand. Parallel to the upswing, countries in the region have seen substantial working capital inflows again, which could improve the growth potential of these economies even over a short-term horizon.

4.1.2 HUNGARIAN FOREIGN TRADE

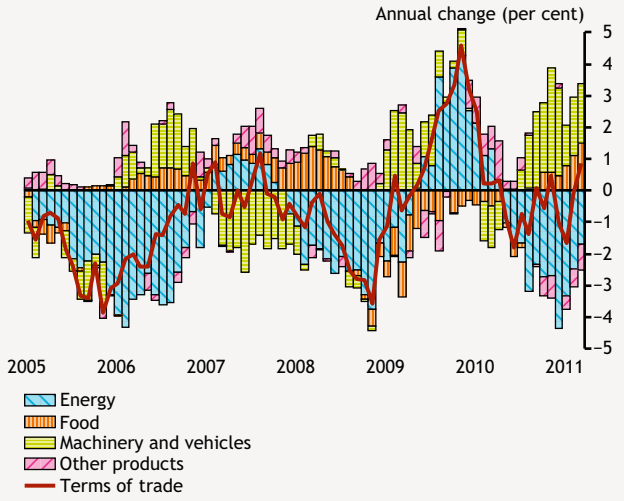
Following the deceleration observed in late 2010 – mainly reflecting temporary factors – export figures at the beginning of 2011 were subject to significant adjustments. The growth rate of export sales exceeded the dynamics of pre-crisis years, while the conference tourism related to the EU presidency may have materially contributed to the expansion of the less prominent service exports (Chart 4-6). The stronger-than-expected export dynamics can be attributed to the unexpectedly favourable developments in the global business cycle where, while developing countries are gaining ground, demand effects continue to materialise mainly through trade relations with developed European economies. Even our competitiveness indicators proved to be better than the regional average last year, a factor that increased our export market share further (Chart 4-7).

Supply problems in the wake of the natural disaster hitting Japan may not only have an adverse impact on our external markets, but also on the production of our domestic export companies, thus the contribution of export sales to growth may decline temporarily in Q2.

In addition to the upswing in exports, the rapid expansion of domestic import demand was boosted by the import requirements of the major investment projects in the manufacturing (mainly automobile) sector that are close to completion. This effect was partly mitigated by the fact that imports of energy (mainly natural gas) declined amidst rising commodity prices, and thus a portion of domestic consumption could rely temporarily on domestic supplies. Although subdued retail consumption continues to exert a downward pressure on import dynamics, imports could in fact demonstrate dynamic growth even in the coming quarters owing to export sales, which are still expected to exhibit double-digit growth, and to the large volume of manufacturing investment projects which, due to machinery investments, have a high import demand.

The deteriorating effect of rising energy prices on the terms of trade are increasingly reflected in domestic import prices. Since this has largely been offset so far by the increasing prices of machinery and transport equipment as well as food products (the former mostly due to composition

Chart 4-8
Yearly change of terms of trade



effects), when compared to the period of the last commodity price explosion in 2007–2008 the terms of trade have not yet worsened significantly at the level of the national economy (Chart 4-8). Despite favourable shifts in export prices, a persistent rise in energy prices may gradually impair the terms of trade over the short run.

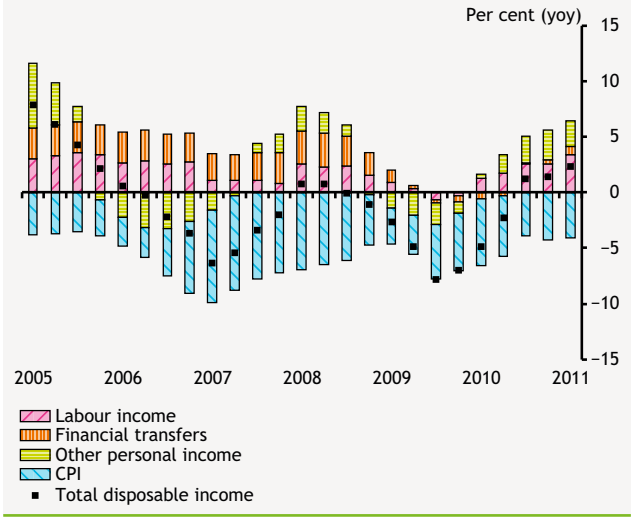
Notwithstanding the temporary export contraction and the expected deterioration in terms of trade, in the context of continuing subdued internal demand, the foreign trade balance may, as in the past few years, display a significant surplus over a short-term horizon. Net exports may remain the primary driving force of growth in the coming quarters.

4.1.3 HOUSEHOLD CONSUMPTION

So far, the reduction of the personal income tax rate at the beginning of the year has not translated into perceivable growth in retail consumption. The consumption spending of households has barely shown improvement since late 2009. The substantial excess income from the decrease in the tax burden and the payment of bonuses postponed from 2010 have not generated a noticeable shift in retail turnover, with retail sales continuing to decline in the first few months of the year. Nevertheless, demand for services may have picked up somewhat. The rebound in demand manifested itself not only in internal markets, but also in international relations, boosting the value of domestic households' tourism imports. All in all, however, the consumption spending of households also decreased slightly in the first quarter of this year.

Slower-than-expected consumption dynamics may have resulted from the fragile labour market environment, subdued changes in business incomes, a continuing decline in the lending activity of banks, accelerating inflation and from precautionary considerations, which have been on the rise again since the beginning of the year.

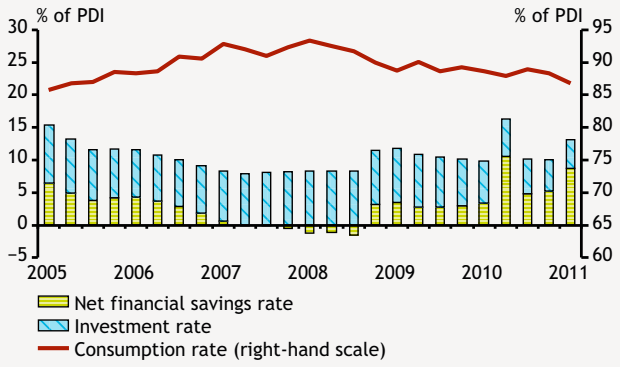
Chart 4-9
Changes in household income



The upturn in labour incomes substantially increased the real disposable income of households. At the same time, owing to the deterioration of entrepreneurial incomes related to the sectors serving the weak domestic demand (construction, agriculture, trade), other incomes of households in the first few months of the year have been probably more adverse than our earlier expectations (Chart 4-9).

Almost two years following the upturn of the real economy, employment remains close to the trough it reached during the crisis, The slowly improving employment situation and the recent exacerbation of macroeconomic risks may have materialised in the re-intensification of precautionary considerations. While the consumption rate declined slightly

Chart 4-10
Use of household income*
(2005–2011)



** MNB estimate. The balancesheet identity holds for annual averages.*

Chart 4-11
Changes in GKI consumer confidence index and its components

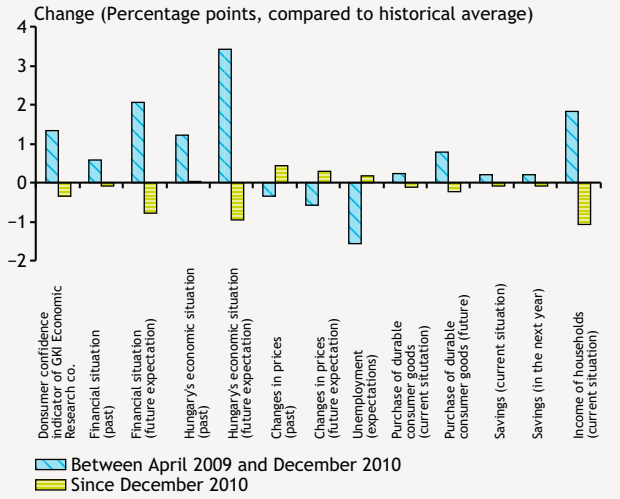
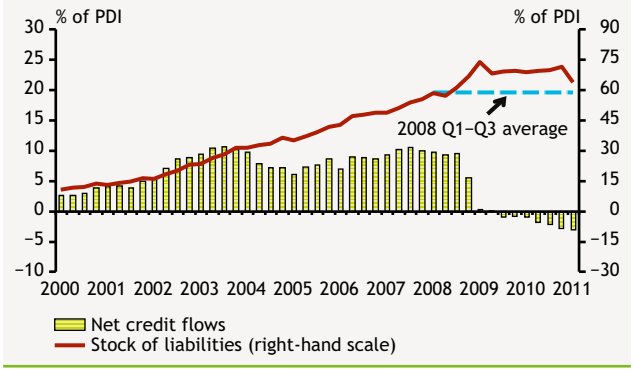


Chart 4-12
Quarterly net increase of loans to households from domestic financial intermediaries
(2005–2011)



in Q1, the willingness to save increased further, even relative to its elevated pre-crisis levels. Besides precautionary considerations, this latter shift may have been supported by the reduction in personal income tax rates at the beginning of the year, which primarily benefited households with higher incomes and lower consumption rates (Chart 4-10).

The effects of declining current incomes and intensifying precautionary considerations are also reflected in the deterioration of the domestic confidence indicator observed at the beginning of the year. Besides future expectations and the more negative perceptions regarding the current income position, rising inflation worsened the purchasing power of incomes and hence also contributed to a more restrained consumption path (Chart 4-11).

Households continue to repay more loans than they newly borrow (Chart 4-12). Excluding exchange rate effects, household lending is characterised by contracting portfolios, mainly affecting foreign currency loans, both housing loan and consumer loan products (Chart 4-13). Although HUF-denominated (mainly consumer) lending increased slightly, overall this does not mean bank lending makes a significant contribution to boosting household consumption. Both demand and supply factors played a role in the weak lending activity. The fragile labour market environment, the uncertainty of macroeconomic prospects and the protracted balance sheet adjustment of households reduce household demand, while supply is also inhibited by the restrained risk appetite of financial intermediaries. Moreover, the weakness of the real estate market is not helping housing loans either.

Given that we do not expect a material improvement either in labour market conditions or in lending activity, consumption is likely to remain subdued. Notable changes may be brought about by the expected payment of private pension fund yields in the second half of the year.

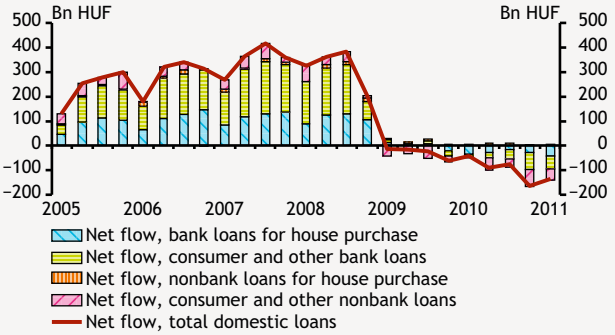
4.1.4 PRIVATE INVESTMENT

After nearly two years of continuous decline, private investment recorded growth in 2011 Q1. The improvement in investment activity is predominantly related to the large investments of some manufacturing firms; outside of this sector, investment dynamics remain largely sluggish (Chart 4-14).

The current pick-up in investment projects is lagging substantially behind the turnaround in the real economy. This can be attributed to the combined effect of a number of factors:

Chart 4-13
Quarterly net increase of loans to households from domestic financial intermediaries

(2005–2011)



Note: Loans granted by banks, foreign branches, cooperative credit institutions and other financial intermediaries. Seasonally unadjusted change in outstanding amounts, with rolling exchange rate adjustment.
Source: MNB.

Chart 4-14
National investment in machinery and equipment; manufacturing investment

(2001–2011, year-on-year)

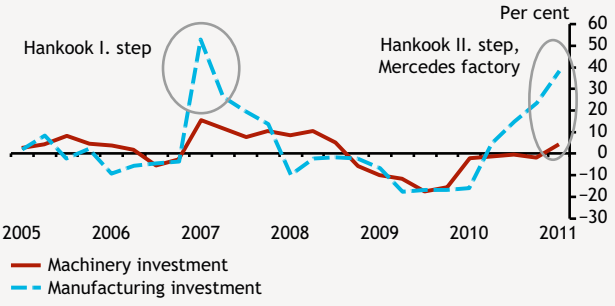
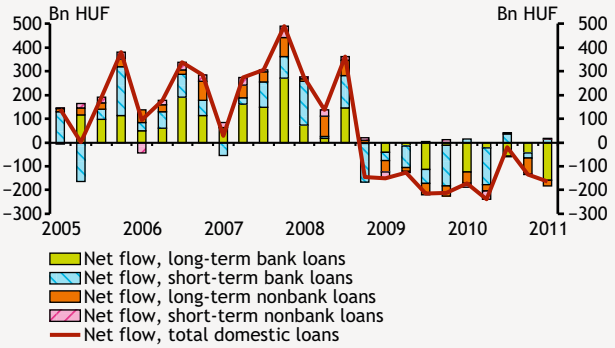


Chart 4-15
Quarterly net increase in loans to non-financial corporations from domestic financial intermediaries



Note: Loans granted by banks, foreign branches, cooperative credit institutions and other financial intermediaries. Seasonally unadjusted change in outstanding amounts, with rolling exchange rate adjustment.
Source: MNB.

- so far, growth has been limited to the export sector; moreover, the recovery is still surrounded by strong upside risks;
- the substantial amount of free capacities generated during the crisis are being depleted only gradually;
- corporate lending is weak in general;
- real estate prices have been on the decline in recent quarters.

Despite a slow improvement in the business cycle, corporate lending – which has been weak since the outbreak of the crisis – is showing no signs of a turnaround (Chart 4-15). In 2011 Q1 the total corporate loan portfolio of domestic financial intermediaries contracted by HUF 164 billion, nearly 2 percent. While short-term lending increased slightly, the portfolio of long-term foreign currency loans – a key factor in financing investment projects – dropped substantially as a net result of poor investment demand and banks' protracted balance sheet adjustments. Although international experience suggests that a pick-up in lending typically lags behind an economic recovery, overall Hungary is facing the increased risk of a 'creditless recovery'.[6]

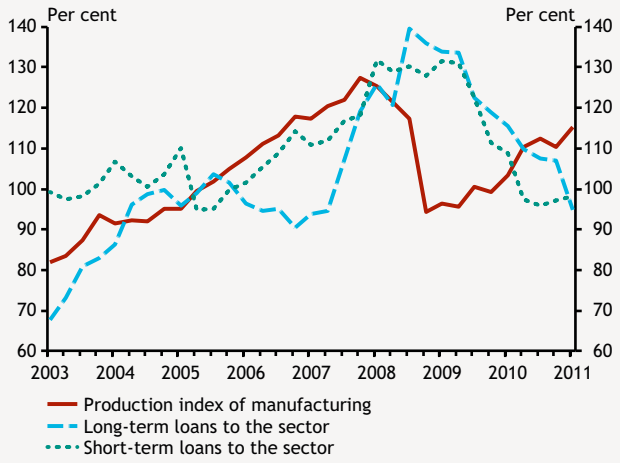
Among the sectors of the national economy, the subdued investment activity of the current recovery is best illustrated by the steady acceleration in the manufacturing sector (Chart 4-16). While the portfolio of short-term loans mostly financing current assets has grown moderately since 2010 H2, the stock of long-term investment loans fell sharply in 2011 Q1 as well. Except for the announced investment plans in the manufacturing sector, continuing developments can be expected in the coming quarters. As a result of subdued lending and the weak prospects for demand, manufacturing firms may prefer to increase their capacity utilisation further instead of making new investments.

In terms of sectors manufacturing for the domestic market, the poor demand outlook and the historically low capacity utilisation are dampening investment activity. Notwithstanding the aforesaid, manufacturing investment projects, financed by large-scale direct capital investment, may boost private investment again in the coming quarters.

Housing market indicators measuring retail investment continued to deteriorate in early 2011 (Chart 4-17). Given the sharp decline in construction permits issued, this downward trend is expected to continue over the next few

[6] See the April 2011 issue of the Report on Financial Stability.

Chart 4-16
Changes in production and loans outstanding of the manufacturing sector
(2005 = 100 percent)



Source: CSO, MNB.

Chart 4-17
New dwelling construction permits, dwellings put to use

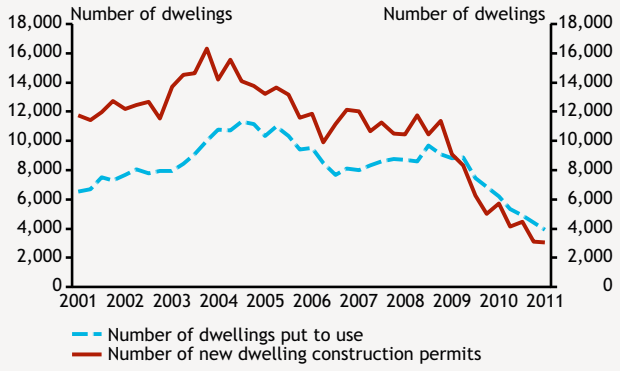
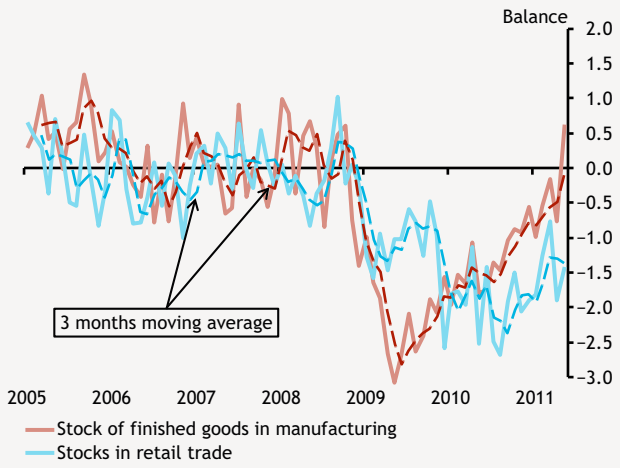


Chart 4-18
Changes is stocks according to ESI questionnaires



quarters. Households' income consumption data suggest that the substantial cutback in household investment will constitute an important part of retail balance sheet adjustments in the post-crisis years (Chart 4-10).

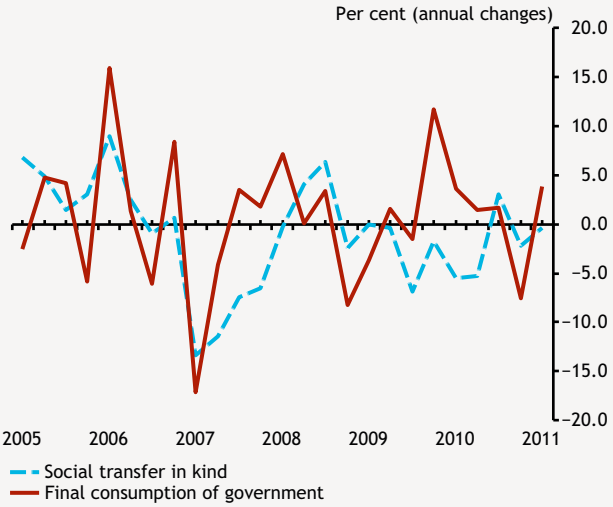
4.1.5 INVENTORY ACCUMULATION

After the rapid destocking observed during the crisis, companies have normalised their inventory levels during the recovery in recent quarters. Reflecting the uncertainty surrounding the recovery process and the rising costs of working capital loans, these replenished inventory levels are generally lower than those seen in pre-crisis years. The duality observed in growth can also be detected in the inventory accumulation behaviour. Inventory levels in the manufacturing sector may gradually return to their historical average, whereas, amidst weak domestic demand, commercial inventories could remain below their pre-crisis levels on a permanent basis (Chart 4-18). Over the short term, developments in the inventories of the national economy may also be restrained by the decline in imports in the context of high commodity prices and the resultant consumption of domestic inventories. Overall, the contribution of inventories to growth may remain slightly positive in the coming quarters.

4.1.6 DIRECT CENTRAL GOVERNMENT DEMAND

Direct central government demand has broadly declined in recent quarters, which is consistent with the government's focus on attaining public deficit targets as a top priority. Community consumption was driven by the decline in the material costs of the public sector and the restart of public employment programmes at the beginning of this year. As was the case in previous years, it is mainly projects financed by EU funds that represent notable new investments by the sector, while the implementation of a number of major government projects may be postponed to the next few years in line with the revision of project plans. In the short run, the announcement of new public employment programmes may stimulate government consumption again; however, government measures aimed at curtailing budgetary spending are likely to curb direct central government demand (Chart 4-19).

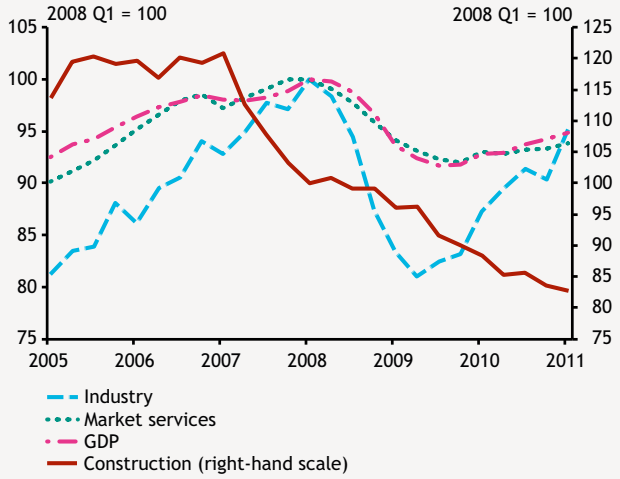
Chart 4-19
Changes in government consumption
(2005–2011)



4.2 Production and potential output

Although GDP continued to increase in the first half of 2011, it is still well below its pre-crisis peak. Industrial production remains the main engine of the recovery which, owing to robust global demand, has accelerated almost incessantly since the beginning of 2009. By contrast, the sectors relying on domestic demand continue to record poor performances. So far, the supply of production factors has not exhibited material growth and accordingly, the potential growth rate may be rather muted at this time.

Chart 4-20
GDP and the value added of main private sectors*
(2005–2010)



** Chain-linked volumes. GDP is measured at market prices, sectoral value added is measured at basic prices.*

At the beginning of 2011 the value added generated by the national economy continued to rise, but it is still far below its pre-crisis peak.

The upturn observed at the beginning of the year was mainly driven by industrial production which grew steadily owing to a boom in external demand. The sector received a short-lived boost from the reversal of the dip observed in late 2010 for temporary reasons.

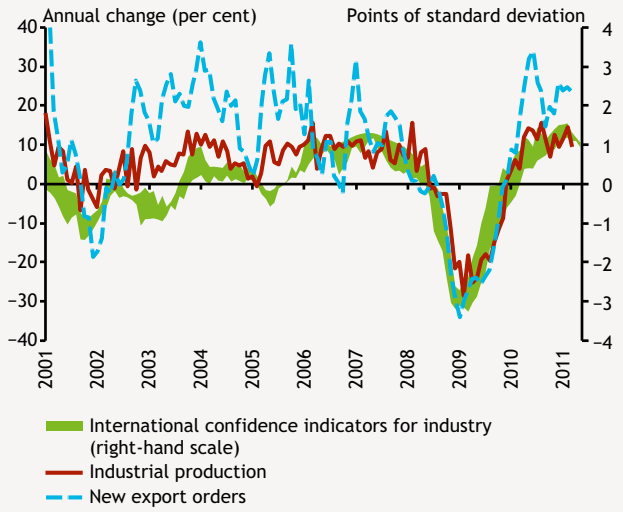
In contrast, the performance of sectors relying on domestic demand was subdued. Fuelled by the increasing transportation needs of industrial production, only the transportation sector was able to record perceivable growth. The reduction of the PIT rates has failed to boost retail sales, which continue to stagnate. (Chart 4-20).

The downturn in construction activity persisted in the first few months of the year, in line with an almost incessant decline in the value added by the sector over the past four years.

For the time being, the performance of agriculture this year can be assessed with uncertainty. Unfavourable weather conditions significantly deteriorated the output of the sector in 2010, reducing the Hungarian GDP figure by 0.4 percentage points. Internal flooding, which persisted throughout the autumn sowing period, may have reduced farm lands in the case of some crops (mostly winter wheat) in 2011; however, based on the weather conditions prevailing in the first half of the year, yields may in fact improve substantially relative to last year. Overall, agricultural output is expected to increase markedly compared to the low base in 2010.[7]

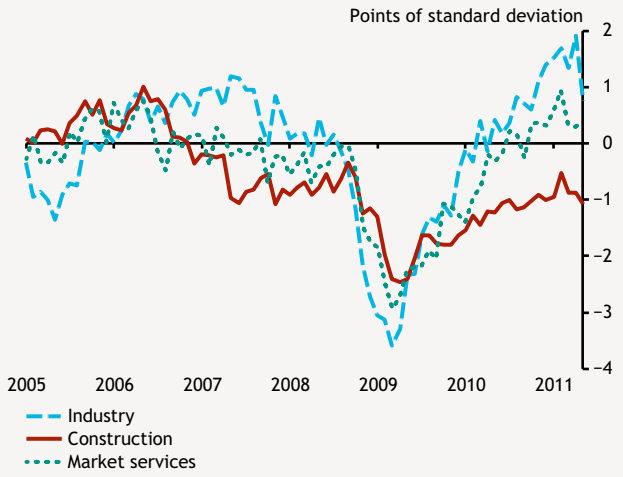
[7] According to regular statistical practice, the initial national account figures of the year merely provide an estimate of annual agricultural performance, which can be revised substantially in light of actual crop yields.

Chart 4-21
Short-term indicators of industrial production*
(2001–2011)



** The band of confidence indicators is constructed from the normalized values of the EABCI, Ifo and OECD CLI survey indicators. The series of new export orders is a three-month moving average.*

Chart 4-22
ESI confidence indicators of the private sector*
(2005–2011)



** The series are normalized. The series of market services is the average of indicators for retail and other services, weighted with value added shares.*

Industrial production may have continued to expand in 2011 Q2, albeit at a slower pace than at the beginning of the year (Chart 4-21). International confidence indicators moderated slightly, which may point to an easing of global activity. The slight deterioration of business sentiment could be attributed to the fact that the natural disaster hitting Japan affected its economic performance. Another problem may arise from a potential worldwide shortage of top-of-the-line spare parts manufactured by some Japanese companies. According to press accounts, in an effort to prevent a shortage of spare parts, several automobile factories restricted their production across Europe (including Hungary).

It could also be indicative of slower growth in industrial production that expansion of the sector may have been temporarily boosted by one-off factors at the beginning of 2011, such as the upsurge in production following the holidays taken in December 2010.

Domestic sales of the sector dropped further in early 2011, which suggests that within this sector there may still be pronounced differences in the situation of export companies and those producing for the domestic market.

In 2011 Q2 the business conditions of the services sectors did not improve further (Chart 4-22). According to confidence indicators, changes in demand at the beginning of 2011 may have fallen short of the expectations of service providers. Despite the reform of the personal income tax regime, the first half of 2011 did not see a material improvement in household consumption. At the same time, lending activity is restrained and the downturn in the real estate market continues. The combination of these factors restricted the growth of the services sector in 2011.

The construction industry faces grim prospects. The sector's contract portfolio continued to deteriorate in 2011 Q1. The housing market is still stagnating and government investment projects may decline in 2011 compared to the relatively high base in 2010. Only some developments financed by EU funds and certain industrial investment projects may cushion the decline experienced by the construction industry.

Chart 4-23
The evolution of long term unemployment

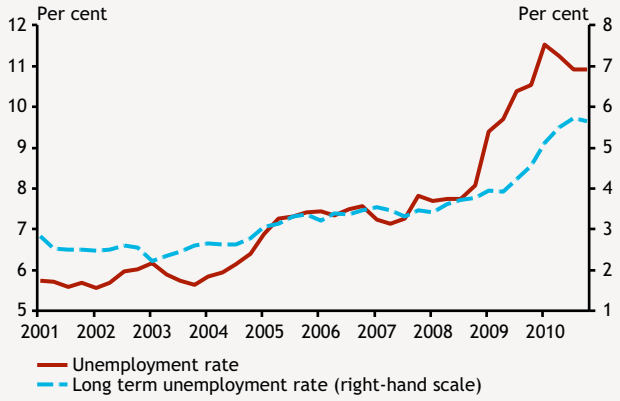
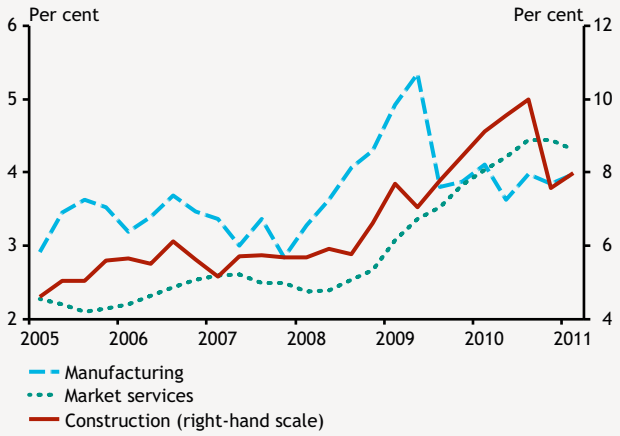


Chart 4-24
Corporate bankruptcy rates*

(2005–2011)



** Ratio of bankrupt companies relative to the number of companies four quarters before.*

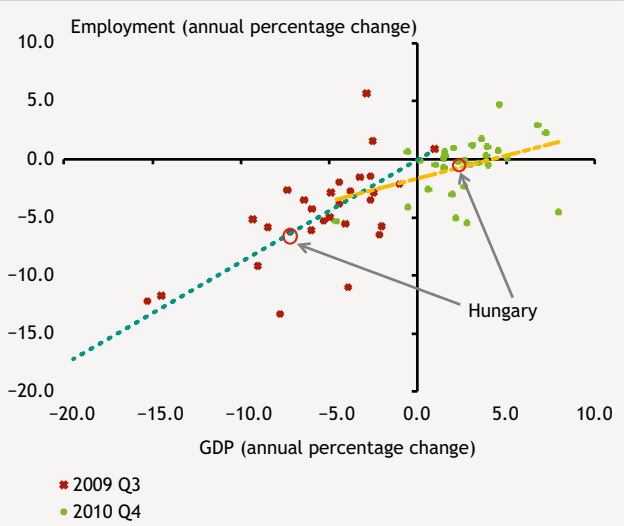
Based on developments in the main sectors, GDP growth may have decelerated in 2011 Q2. The expansion of industrial production may have abated with the phasing out of temporary effects, while growth in the services sectors was hampered by weaker domestic demand.

In addition to actual production, the outbreak of the global financial crisis in autumn 2008 led to a substantial deterioration in the potential growth rate of output as well. For the time being, potential output may increase only modestly since the supply of production factors remains weak. The recovery in corporate capital accumulation is a slow and gradual process; indeed, with the exception of some major investment projects, the downturn continues. The number of long-term unemployed is still high, and for those unemployed this could lead to the erosion of skills and lower chances of employment (Chart 4-23). Finally, corporate bankruptcy rates continue to exceed the pre-crisis average by far, although recent quarters have seen some signs of stabilisation. Corporate defaults may lead to the depletion of capital stock and decelerate the growth of production (Chart 4-24).

4.3 Employment and the labour market

The expansion of employment follows a recovery of economic activity only slowly and with a lag. Accordingly, the private sector has shown only a slight increase in employment. Developments in public employment are driven by the phasing out of former public employment programmes and the launch of new ones. Parallel to the expansion of the labour force, the unemployment rate remains historically high, while signs of a significant increase in job demand have so far failed to materialise. The labour market remains extremely slack.

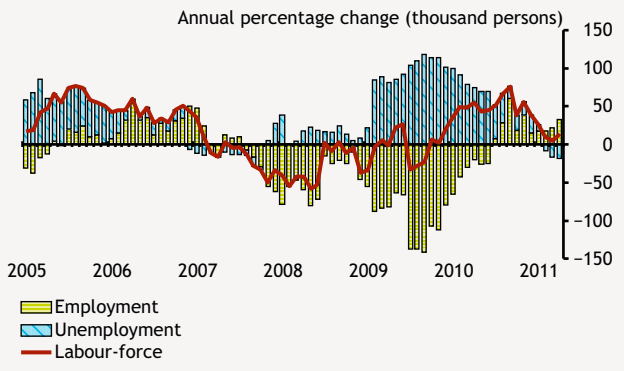
Chart 4-25
Relationship between the evolution of GDP and employment in Europe



Previous crises have demonstrated that following a recession, the recovery of employment is typically slow and lags behind developments in economic activity. The normalisation of the labour market can be particularly slow after financial crises. Based on the data of recent quarters this phenomenon has been observed in most European economies (Chart 4-25). While most economies registered positive GDP growth as early as 2010, on average, employment stagnated. Activity and labour market developments observed in the last period in the Hungarian economy are in line with this global trend.

In 2011 Q1 domestic employment fell short of our expectations. This can be attributed to the delay in public employment programmes at the beginning of this year, which led to a significant decrease in the employment of the government sector. Meanwhile, private sector employment showed a slight increase. In line with the favourable industrial production this was mostly due to the manufacturing sector.

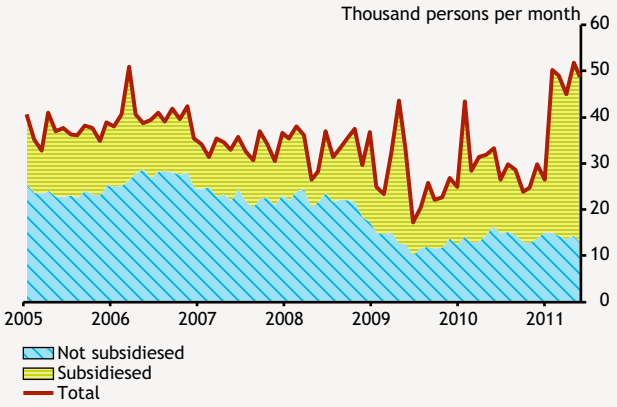
Chart 4-26
Evolution of labour-force and components
(2005–2011)



On the back of measures taken in recent years with a view to stimulating labour market participation (raising the retirement age, tightening of disability retirement), domestic activity has been rising steadily in the past one and a half years (Chart 4-26). In the first few months of 2011 this upswing appeared to falter, which may be due to the delayed launch of public employment programmes scheduled for this year. The previous measures may still boost activity, while they are also reinforced by the measures announced by the government in the past quarter to stimulate the labour market.

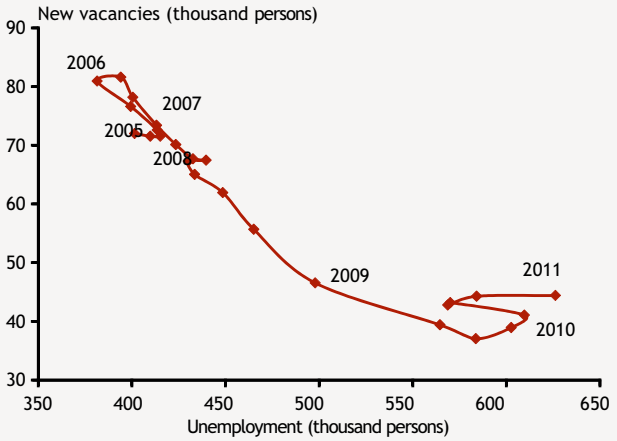
Amidst the increasing labour supply, changes in labour demand are extremely slow and display the same duality as observed in relation to growth. While in 2011 Q1 the

Chart 4-27
Announced new vacancies
(2005–2011)



Source: NFSZ.

Chart 4-28
Evolution of the Beveridge curve*
(2005–2011)



** The Beveridge curve shows the number of new (unsubsidized) private sector vacancies relative to registered unemployment.*

employment expectations of industrial firms rose to historically high levels, the values of the corresponding indicator in the services sector were close to the averages of recent years. Accordingly, a significant pick-up in labour demand is expected mainly in the manufacturing sector in the short run.

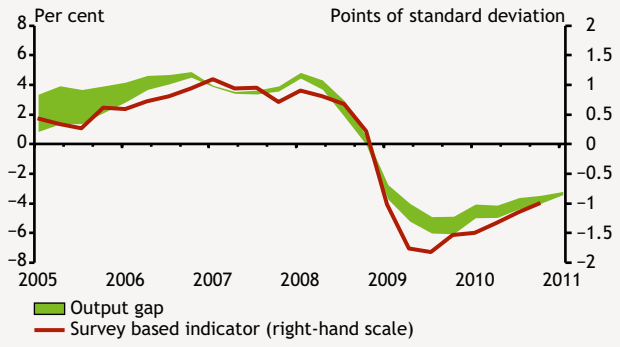
At the same time, based on data released by the national employment service, the recovery in labour demand may prove to be a long process. The growth recorded in the number of new job openings since it bottomed out during the crisis is almost exclusively attributable to grant-funded position offers (Chart 4-27).

As a result of the growing number of active job seekers and the sluggish recovery in labour demand, unemployment remained at all-time highs. Consequently, the number of unemployed individuals per job vacancy is still high. Loose labour market conditions continue to prevail and the Beveridge curve shifted to the right (Chart 4-28).

4.4 Cyclical position of the economy

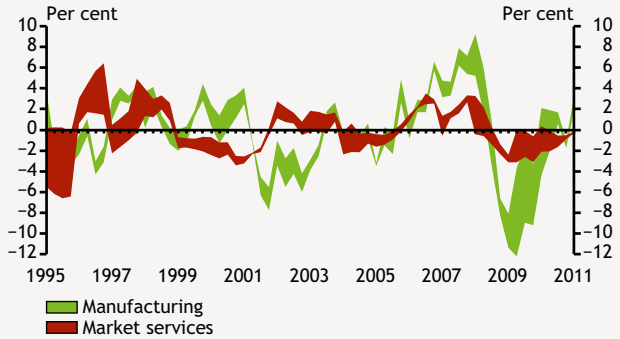
Our current estimate suggests that domestic output may fall short of its potential level by more than three percent. The improvement observed in the cyclical position of the economy is primarily related to the performance of the export sector, which proved to be even better than expected. The cyclical position of our external markets and hence, that of domestic exports, may have reached average values at the beginning of 2011. At the same time, the most important components of internal demand remain far below their trend values, which may continue to exert strong downward pressure on prices. The capacity utilisation of industrial firms producing for external demand may have already surpassed its long-term average, whereas the services sectors and those producing for domestic consumption may still have considerable free capacities.

Chart 4-29
Evolution of the output gap*
(2005–2011)



** The band of output gap estimates is derived from various methodologies for measuring the output gap. The survey based indicator is derived with principal component analysis from data indicating capacity utilization in the private sector.*

Chart 4-30
Capacity utilisation in the private sector*
(1995–2011)



** Percentage deviations from the trend. The bands are derived from various methodologies capacity utilization measures.*

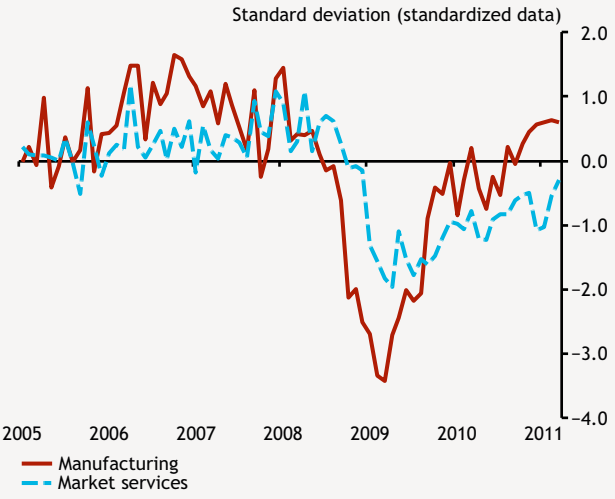
In the past quarter the slow improvement of the Hungarian economy's cyclical position may have continued (Chart 4-29). However, our current estimates indicate that the output of the real economy may have fallen short of its potential level by more than 3 percent. The narrowing of the output gap ensued from the favourable external demand environment, and hence, the even better-than-expected performance of exports. External demand and consequently exports may have approached their potential levels at the beginning of 2011. As an indication of the narrowing of the global output gap, global inflation has also been on the rise in the course of the past period parallel to the increase in economic output, primarily as a result of increasing commodity prices.

Owing to weak internal demand, the cyclical position of domestic absorption items barely improved and may have remained negative in early 2011. Core inflation data received since the publication of the March issue of the *Report* indicated steeper-than-expected price increases, which allows us to conclude that the output gap, and hence its price reducing effect, may have been somewhat more moderate than our previous estimates.

The heterogeneity characterising the economy as a whole is also evident in investment. While the cyclical position of corporate investment may have approached its trend (mainly due to exports), persistently poor real estate market figures suggest that retail investment trails far behind its potential levels.

Our assumption on the output gap is supported by indicators measuring the capacity utilisation of individual sectors. Indeed, at the beginning of 2011 manufacturing resources

Chart 4-31
Overtime per person per month in the private sector*
(2005–2011)



** Three-month moving averages of seasonally adjusted and standardized data.*

contributed to production with capacity utilisation exceeding the historical average, whereas the capacities of the services sectors (which are typically aimed at the domestic market) were below historical levels (Chart 4-30). Overtime data, which measure the intensity of the two sectors' workforce, point to a similar phenomenon. While overtime in the manufacturing sector fell sharply in the first quarters of the crisis, it consistently exceeded its previous averages already in the first few months of 2011. Meanwhile, overtime work in market services has significantly and persistently fallen short of pre-crisis levels since the outbreak of the crisis (Chart 4-31).

4.5 Costs and inflation

Since the beginning of the year, inflation and also core inflation have been on a steady rise. This is primarily fuelled by the inflation-boosting effect of high commodity prices, while domestic inflationary pressures remain low. We can conclude this from the fact that the rise in core inflation is mainly related to the surging prices of processed food products, while other core inflation items – those sensitive to demand – reflect subdued price increases. The low inflationary pressure exerted by wages contributes to the latter. Except for a number of one-off effects, loose labour market conditions in the private sector exert robust downward pressure on wages, which has led to persistently low wage dynamics in the regular wages of the private sector.

Chart 4-32
Growth in regular wages of market services
(2005–2011)

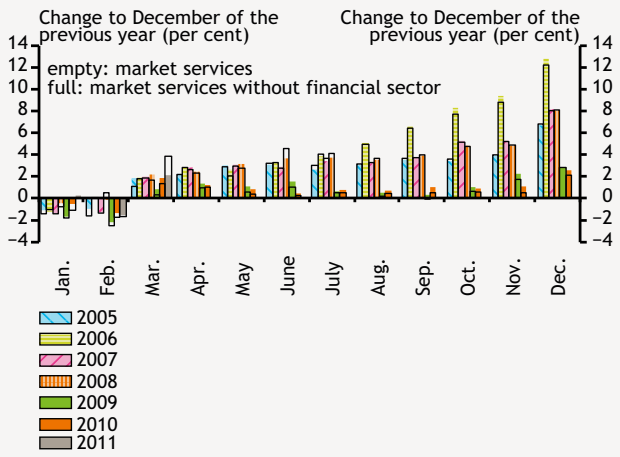
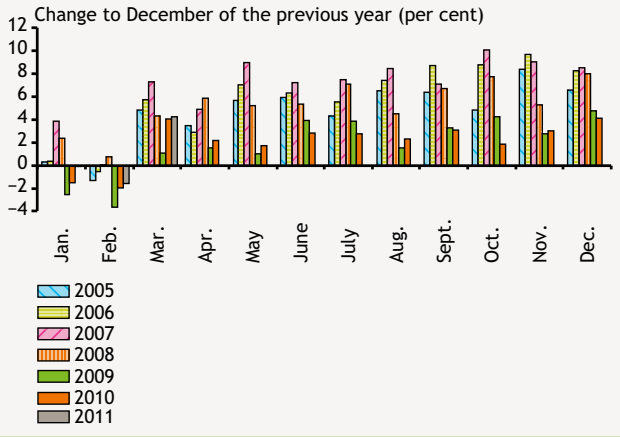


Chart 4-33
Changes in regular wages of the manufacturing sector
(2005–2011)



4.5.1 WAGES

In 2011 Q1 wage increases accelerated in the private sector. Although developments in wage indices were substantially distorted by the payment of last year's bonuses at the beginning of the year, even excluding this effect, wage dynamics picked up somewhat. Rising wage outflows in regular wages are predominantly related to financial service providers; other than that, the rest of the service providers continued to record only moderate wage increases (Chart 4-32). Since, in our view, the profitability of financial service providers does not justify wage increases in excess of 20 percent, we assume that the increase observed in regular wages can be attributed to reallocations between bonuses and regular wage components. The wage increases granted to employees in the manufacturing sector are still within the 4-5 percent range; significantly lower than pre-crisis values (Chart 4-33).

In the context of increasing labour costs and stagnating productivity growth, unit labour costs increased slightly in 2011 Q1. However, since the increase in unit labour costs remains far below the historical average, there are still no signs of perceivable cost-side pressures from the labour market (Chart 4-34). Although the wage growth recorded in Q1 was somewhat stronger than we expected – filtering out the distortion effect caused by financial service providers – the increase in real wages continues to fall short of productivity growth.

Wages in the public sector remain extremely restrained. The base effects of last year's wage supplements reduced gross average wages, while the increase in regular wages can be attributed to statistical composition effects

Chart 4-34
Development of labour costs, productivity and ULC (unit labour costs) in the private sector

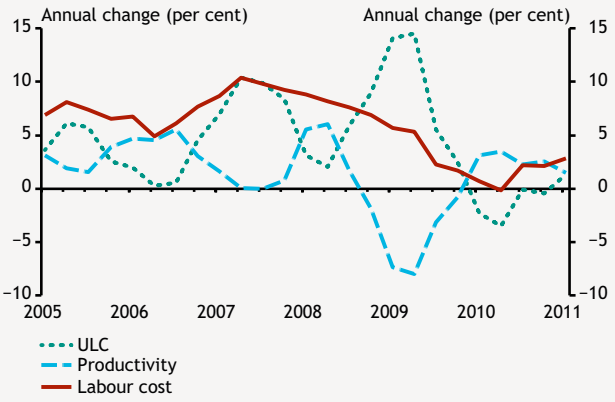
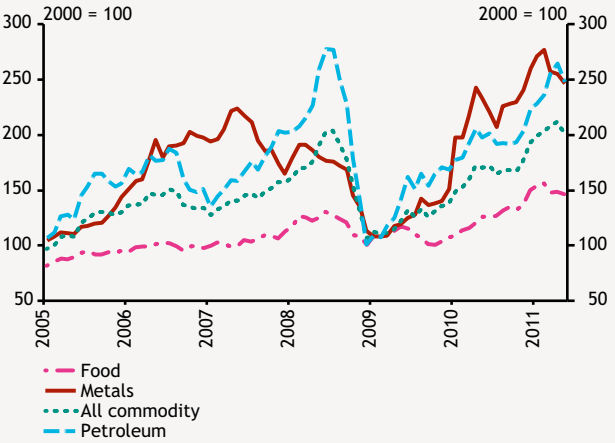


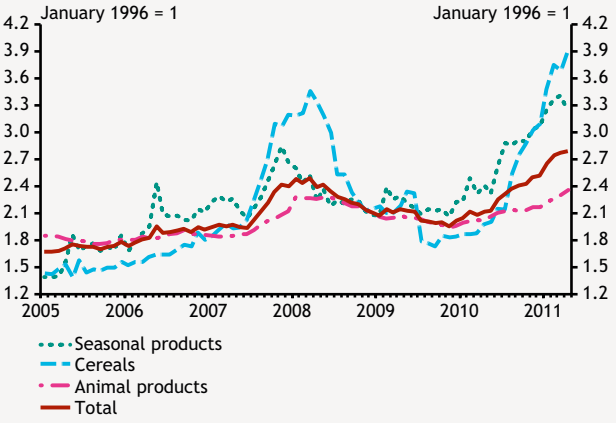
Chart 4-35
Developments in global commodity prices in euro



Source: IMF.

Chart 4-36
Agricultural producer prices

(price level compared to January 1996)



Seasonal products: fruit, vegetables, potato, cereals: wheat, oil seeds; products of animal origin: pork, poultry meat, egg, milk; weighting was based on the estimated size of the effects on the consumer price index.

stemming from the phasing out of public employment programmes at the end of the year (employees with lower than average wages dropped out of the observation).

Overall, loose labour market conditions continue to exert strong downward pressure on wages and inflationary pressures from the labour market can be considered low.

4.5.2 IMPORT PRICES

Simultaneously with the global recovery, increased price pressures began to emanate from global market prices from the beginning of 2009, which affected a wide range of commodities (Chart 4-35).

In the case of food products, price increases were exacerbated by supply problems arising from unfavourable weather conditions in the context of a rebound in demand. Overall, the cost shocks generated by food products exceeded even the levels seen during the upsurge in commodity prices in 2007–2008. In the case of oil, geopolitical factors may also have contributed to the increase in prices. Since the March 2011 *Report*, the inflationary pressure of commodity prices has intensified.

The effects of commodity prices were passed through to processed import products only moderately. The increase seen in inflation in the euro area resulted primarily from rising commodity price pressures, while core inflation remains low.

4.5.3 PRODUCER PRICES

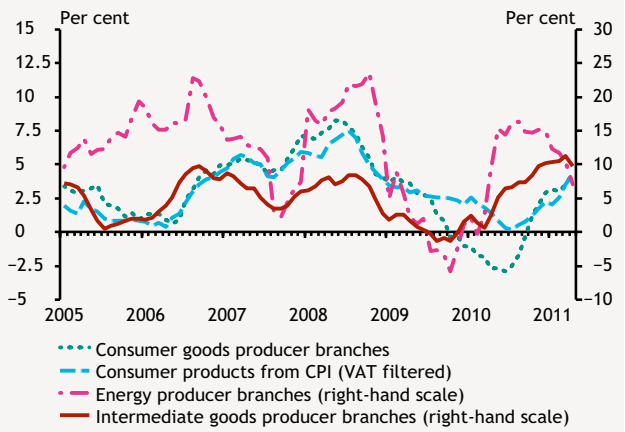
In recent months, agricultural producer prices have been on the rise in Hungary. As a result of adverse weather conditions in 2010, agricultural crop yields dropped below the average of recent years, and the ensuing supply problems put strong upward pressure on prices. The increase mainly affected cereals, fruits and vegetables, while the price increase observed in the case of products of animal origin was moderate (Chart 4-36).

The impact of high commodity prices can be perceived in a broader spectrum of the industrial production chain. From 2010 H2, sharply rising producer prices were also observed among companies producing for further processing and for consumption (Chart 4-37).

4.5.4 CONSUMER PRICES

Rising costs were also reflected in consumer prices. Inflation began to rise again from the beginning of the year (Chart 4-38). Similar to European developments, domestic inflation was mainly fuelled by commodity price pressures; however,

Chart 4-37
Industrial producer prices and consumer prices
(annual change)



Note: Consumer prices refer only to products produced by the industry.

Chart 4-38
The consumer price index and core inflation
(annual change)

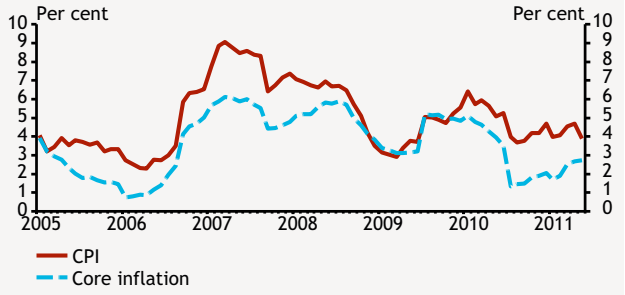
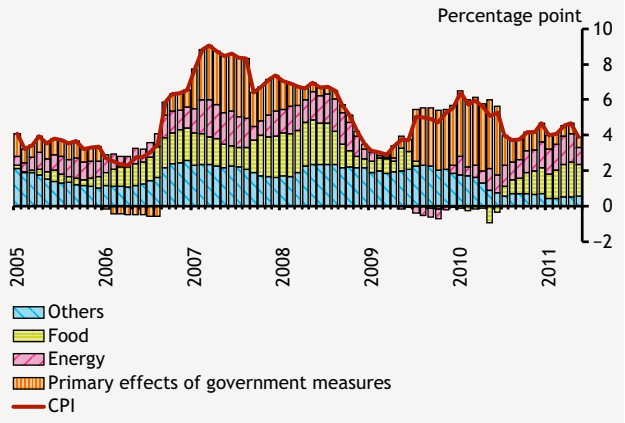


Chart 4-39
Decomposition of consumer price index



strong cost shocks gave rise to acceleration in core inflation as well. The acceleration in core inflation came almost exclusively from the sharp increase in processed food prices; other than this, price changes remained at historically low levels. In May, inflation declined significantly compared to the previous month, caused by base effect and – partly due to statistical effects[8] – low price dynamics of unprocessed food prices (Chart 4-39).

In line with the weak domestic demand, the inflation of market services remained subdued. Although the price increases recorded in March and April somewhat exceeded those observed last year in general, owing to the fact that early-year price increases – which are highly significant within annual price increases – were rather subdued, the price index of market services stayed within the range of 2-2.5 percent.

The prices of tradables have changed only moderately in recent months. From the beginning of the year this product category was characterised by strong heterogeneity. While the prices of durable goods fell, the prices of non-durables increased. Statistical effects contributed to the latter in April.[9]

High commodity prices passed through to the prices of processed foods, giving rise to accelerated inflation in this product category from the beginning of the year. In February and March one-off factors, for example markedly high sugar prices, also contributed to the price increases. Policy interventions, which took place both at the domestic and at the European level with a view to mitigating this effect, may translate into an adjustment of sugar prices in the coming months. On balance, although the magnitude of the current commodity price shock surpasses that experienced in 2007–2008, for the time being the upward price pressure of the shock has been reflected only slowly and moderately in processed food consumer prices amidst weak demand (Chart 4-40).

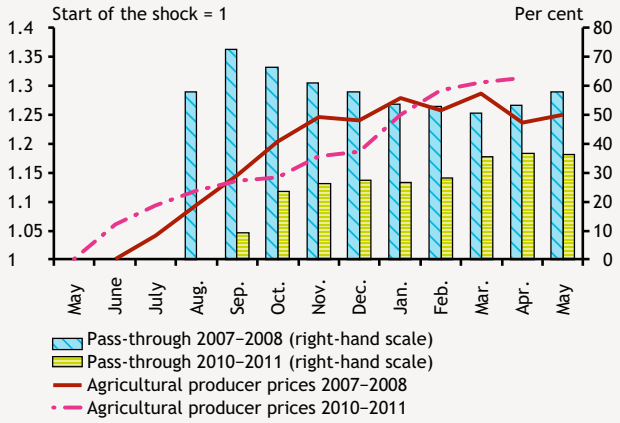
The increasingly fierce price competition in the tobacco market continued to push down the prices of tobacco products, which are core inflation items. Given the intense competition, the figures do not even reflect the upward pressure of the January excise tax increase.

As regards items outside of core inflation, higher oil prices triggered an increase in fuel prices almost immediately,

[8] The index calculation methodology of seasonal products changed at the beginning of the year. The previous practice used variable weights, the weights of certain products in the product category changed within the year between months. From this year onwards, however, the calculation is based on fixed weights, the weights do not change within a given year in the groups. This change mainly affects the groups of seasonal fruits and vegetables.

[9] The reason for this is the fact that as of this year, the practice of carrying forward seasonal prices to the out-of-season period has changed, which mainly affected clothing items. However, this should be viewed as a one-off effect; consequently, we do not expect any further inflationary effects throughout the summer months.

Chart 4-40
The pass-through of agricultural producer prices to the consumer prices of process food*



** The pass-through shows the change in price level of processed food compared to the agricultural producer price level of 6 previous months.*

Chart 4-41
Range of underlying inflation indicators

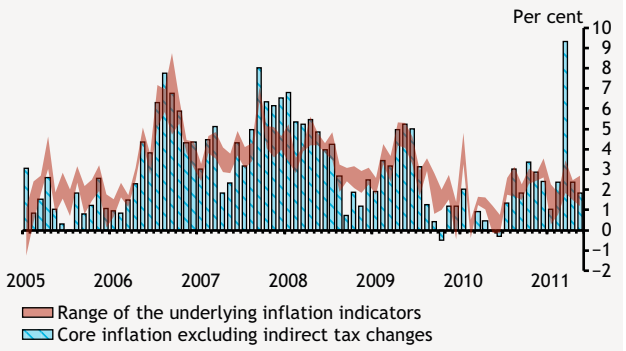
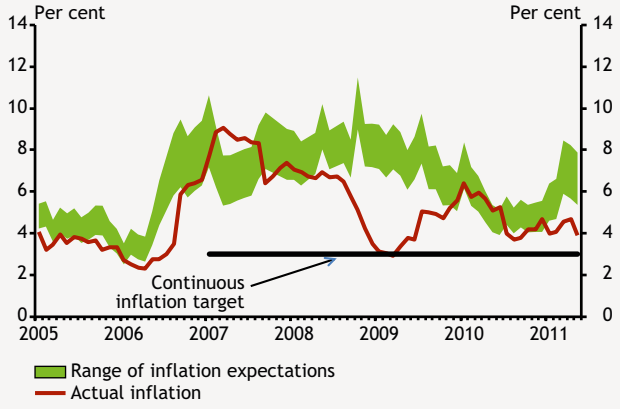
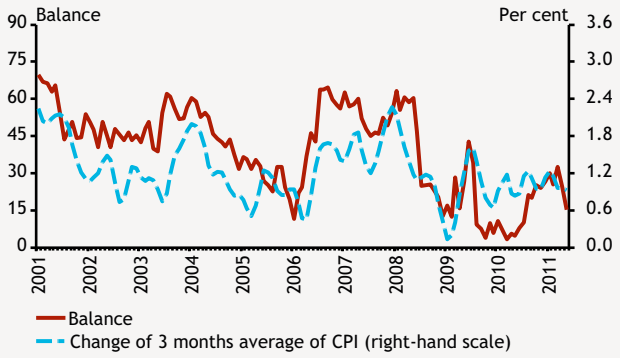


Chart 4-42
Households' inflation expectations



Source: MNB calculations based on data from the EU Commission.

Chart 4-43
Expected changes in retail sales prices in the next 3 months* and actual inflation



** Balance is the difference between the proportion of corporations expecting price increase and price decrease.*
Source: GKI.

while the early-year price increases affecting administered gas and district heating prices fell short of the levels observed in the past in the context of similar cost shocks. Parallel to agricultural prices, the prices of unprocessed foods have been rising steadily.

Overall, the inflation developments of recent months have been determined by cost shocks, while domestic demand pressures are considered low. This is confirmed by the fact that underlying inflation indicators have remained subdued since mid-2010 (Chart 4-41). The annual price index may gradually decline in the coming months. This decline will be mainly driven by base effects in the case of foods, and by the extension of subsidies on gas and district heating prices until the end of summer.

4.5.5 INFLATION EXPECTATIONS

Households' inflation expectations declined continuously from the onset of the crisis up until mid-2010. At this point the decreasing trend was broken, and at the end of 2010 the indicators measuring inflation expectations started to rise again. Generally speaking, household expectations respond sensitively to rising food and energy prices, thus the increase observed is likely to have stemmed mainly from the cost shocks increasing inflation (Chart 4-42).

From the perspective of final consumer prices, the inflation expectations of the trade sector may also have a decisive role, as they may convey information about the opportunities of the sector to increase prices. In line with the growing costs, retailers have increased their price-hike expectations continuously since the beginning of the year, which in the last two months were adjusted downwards somewhat. On the one hand this can be attributed to the gradual fading out of the effects triggering cost shocks; on the other hand, the continuing price-reducing effect of weaker-than-expected retail figures may also have led to more restrained inflation expectations (Chart 4-43).

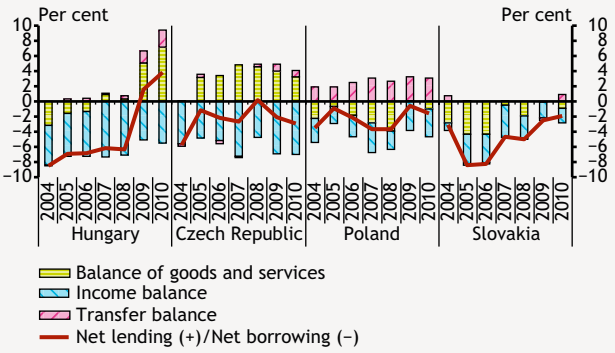
5 The balance position of the Hungarian economy

5.1 External balance and financing

The strong duality characterising growth has led to a significant improvement even in our external position. The extremely strong adjustment in the behaviour of domestic players during the crisis yielded the best external balance by regional comparison. The improved balance of goods and services was a decisive contributor to the formation of net financing capacity, while the increased savings of the private sector played a major role in respect of financing positions. Given that the duality in growth is expected to dissipate only slowly, the economy may sustain its financing capacity in the coming quarters.

Chart 5-1
External financing capacity and its components in international comparison

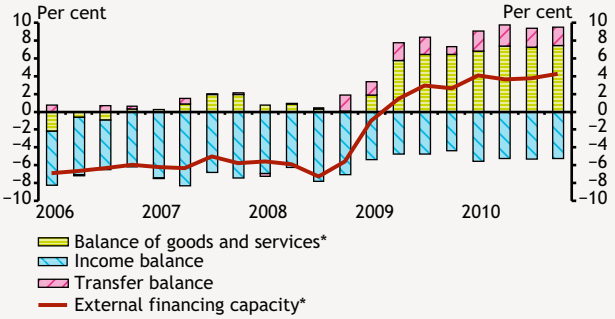
(GDP proportionate data)



Source: Eurostat, central banks.

Chart 5-2
The change of the main components of external financing capacity

(seasonally adjusted, GDP proportionate data)



** Data adjusted for the import increasing effects of the difference caused by import prescheduled due to Hungary's accession to the EU and the customs warehouses wound up on account of the accession, as well as the Gripen fighters.*
Time series are adjusted directly for seasonal effects, thus the sum total of external financing capacity does not necessarily correspond to the adjusted values of the external financing capacity.

In 2010 the surplus of the balance of goods and services exceeded 7 percent of GDP which, combined with the more than 2 percent surplus of the transfer balance, was more than enough to offset the roughly 5.5 percent deficit of the income balance (Chart 5-1). As a net result of these factors, in 2010 the external financing capacity of Hungary was close to 4 percent of GDP. This implies that following the crisis Hungary recorded the most robust external adjustment among the Visegrád countries, not least because of the high initial level of its external financing need.

In 2010 the deficit of the income balance increased slightly. After the sharp fall experienced during the period of the crisis, corporate profits started to climb as early as 2010 and as a consequence, income outflows related to direct capital investment dominated. Meanwhile, the special sectoral taxes and the bank tax affecting a part of foreign-owned companies reduced the level of revenue outflows. The material contribution of the transfer balance to the high external financing capacity mainly resulted from a marked increase in the EU transfers reflected in the capital balance (Chart 5-2).

Very favourable even by international standards, the benign external position observed in 2010 mainly reflects the private sector's increased financial savings. Despite the government measures taken last year, the SNA deficit of the general government increased slightly, while the private sector built up its financial savings.

Macroeconomic developments observed in 2011 Q1 point to a further improvement in the external balance. According to data pertaining to the first few months of the year, the position of the private sector continued to improve, while

that of the general government deteriorated. Owing partly to government measures (reduction of the personal income tax rate), the net savings of households increased slightly; at the same time, a deterioration was observed in the position of the general government. Somewhat higher-than-expected budgetary expenditures also contributed to the latter. The improvement in the balance may also have reflected the continuously improving export opportunities of the corporate sector driven by external demand and the restrained investment activity.

Compared to the nearly 4 percent external surplus registered on the basis of the macroeconomic approach, as regards the financing side the Hungarian economy recorded a somewhat smaller external financing capacity in 2010, amounting to 1.7 percent of GDP.

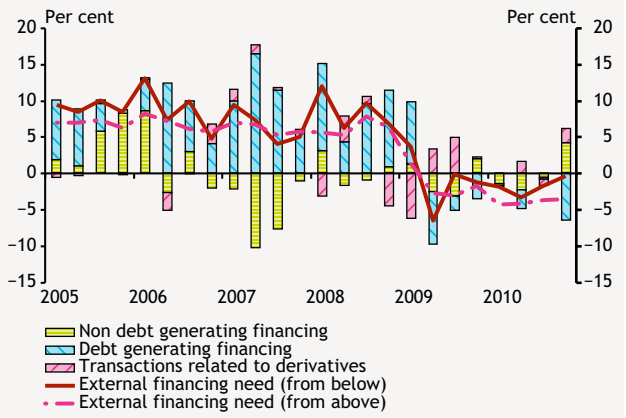
The contribution of *non-debt generating funds* to financing was practically zero in 2010. In comparison to the outflows registered in 2009, the positive balance of direct capital investment (calculated together with inter-company loans) was a favourable change; nevertheless, last year net direct capital inflows could only offset the outflows affecting equity portfolio investment.

Inter-company loans recorded lower outflows than last year, which was a major contributor to the improvement of direct capital investment from its trough in 2009; meanwhile, both the FDI inflows to Hungary, and the foreign direct investment of Hungarian corporations abroad increased slightly.[10] Equity capital to Hungary did not fall sharply even during the crisis; however, reinvested earnings fall significantly short of their former levels, which is also related to the deteriorating profit levels observed during the crisis.

In 2010 further outflows were recorded for *debt-generating funds* (Chart 5-3). In 2010 the decline in debt-generating financing was a process driven primarily by the banking system, while the consolidated general government – mainly owing to the external borrowing of the central bank – increased its debt-generating funds from abroad to a modest extent. At the beginning of 2011 this process, most prevalent at the end of 2010, was reversed and largely levelled off, and accordingly, in 2011 Q1 the external debt of the banking sector increased while that of the consolidated general government decreased.[11]

Chart 5-3
Changes in the financial account

*(GDP proportionate data)**



** The financing requirement calculated by a bottom-up method corresponds to the total of the external financing requirement and the BOP balance of statistical errors and residuals.*

[10] The assessment of financing developments in 2009 is rather difficult because due to a one-off transaction, official statistics registered substantial inflows for inter-company loans from parent to subsidiary on the one hand, and substantial outflows for equity capital on the other hand. The modification of the multinational corporation's financing structure should be taken into account in the assessment of fundamental developments. Our analysis is based on the adjusted figures.

[11] At the end of 2010 the banking sector reduced its short-term external liabilities and replaced them largely by the foreign currency liquidity received from the MNB. The latter funds were obtained by the MNB from abroad, primarily through repo transactions. This process levelled off in January 2011 when the banking sector started borrowing external funds once again, and in turn, the MNB reduced the foreign currency funds obtained from abroad.

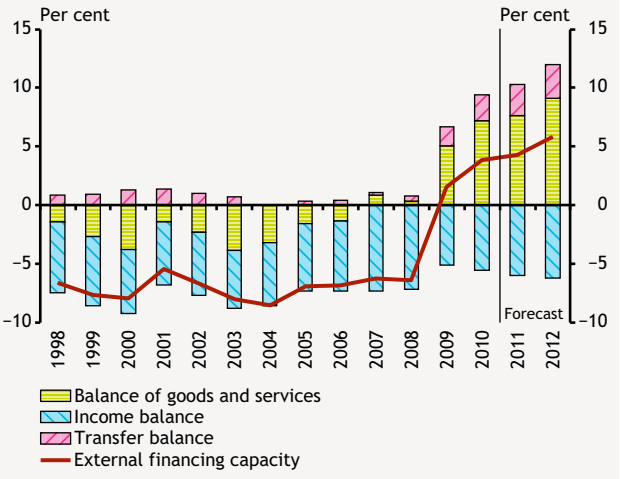
From the aspect of vulnerability, indicators related to external debt and liabilities have been given special focus; although still high by international standards, in 2010 they stabilized and even improved somewhat. Amidst the outflow of debt-generating funds, by the end of 2010 net external debt declined slightly and stood at around 52 percent of GDP. Despite the outflows, the revaluation resulting from the weakening of the exchange rate did not allow for a more pronounced decline. In view of the data available up to Q1, the stronger exchange rate and the improving GDP, the net external debt of Hungary may have decreased slightly more since the end of the year.

5.2 Outlook of external finance position

The Hungarian economy's external position may further improve in the upcoming years, with the improving balance of goods and services and increased inflows of transfers from the European Union being the main driving forces behind this improvement, only partially offset by the growing income balance deficit. The country's net financing capacity may exceed 4 percent of GDP in 2011, and may approach 6 percent of GDP in 2012 primarily thanks to the further improvement in the balance of goods and services.

Our forecast for the balance of goods and services surplus increased further in comparison to the previous *Report on Inflation's* forecast. In the case of exports, besides the positive factual data, the shifting of the export structure towards developing countries and auto industry investments gradually morphing into production may also play a role in additional dynamic growth. Due to weak domestic demand (consumption and investment), import growth fell slightly short of export growth.

Chart 5-4
The structure of external financing capacity
(as percentage of GDP, per cent)

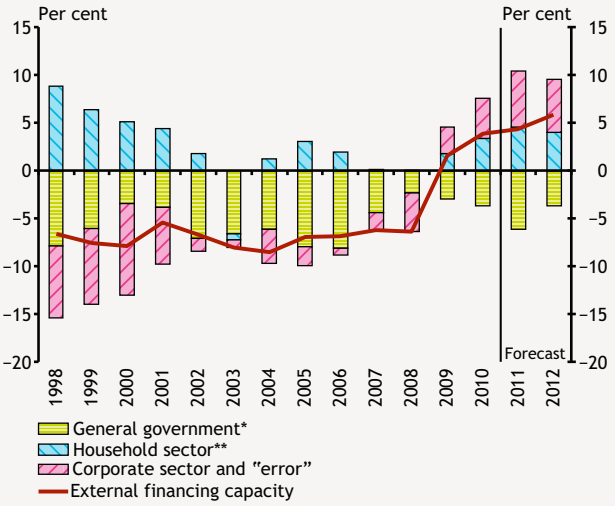


Regarding the income balance deficit, we continue to expect an increase parallel to the economic upswing, somewhat dampened by special taxes. In case of income related to non-debt investments, we continue to expect a rise in expenditures, in line with our earlier forecast. Compared to the previous forecasting round, yields have fallen slightly, however our forecast regarding debt-related flows of income has not changed in essence (Chart 5-4).

EU transfers, having played an essential role in the transfer balance, have increasingly contributed over the past years to the improvement in the external balance position. According to our forecast, positive developments may endure until the end of the 2013 EU budgeting period, thus the transfer balance may increase Hungary's external financing capacity by 2.5-3.5 of GDP, which represents a slight increase compared to our earlier forecast.

Examining the savings position of the various economic sectors, we can see that the improvement in Hungary's external financing capacity in 2011 was determined by a substantial improvement in the private sector's position, parallel to a strong deterioration of the SNA-type general

Chart 5-5
Net financing capacity of specific sectors
(as percentage of GDP, per cent)



** In addition to the central government, 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 but formally implemented under PPP schemes. The augmented SNA deficit takes into account private pension savings.*
*** Net financial saving consistent with the SNA deficit does not contain private pension savings. The official financing saving of households (in the financial account) is different from data on the chart.*

government position.[12] As for the budget in a broader sense, it was the fiscal easing resulting primarily from tax cuts (personal income tax and corporate tax) and the disbursement of real yields booked for this year that define fundamental processes, while both the household and the corporate sector substantially increased their net financial savings. The further improvement in the external position in 2012 is clearly the result of the improved general government balance – primarily linked to the measures implemented in the context of the Széll Kálmán plan –, while the private sector's adjusted net savings decreased slightly (Chart 5-5).

In case of households, this year's growth in net savings stems in part from higher income resulting from tax cuts, in part from the portion of real yields not spent on consumption, in part from the strengthening precautionary savings motive and finally, from a credit environment that remains grim. As a result of the fundamental developments in net household savings, broadly the same level is expected for 2012, while the value reflected in the indicator consistent with the SNA deficit is somewhat lower, due to the phasing out of the one-off effect resulting from the disbursement of real yields in 2011. In the corporate sector, improving profitability, subdued investment activity and dynamically increasing EU transfers could maintain the net savings position over the upcoming years; however, it is set to decrease slightly in 2012 compared to this year.

Table 5-1
Changes in net financial saving of households
(as percentage of GDP)

	2009	2010	2011	2012
Net financial saving in the financial accounts	3.4	4.6	−5.4	4.0
– *Accrual basis accounting of the second pillar*	*1.6*	*1.2*		
\+ *Wealth effect due to leaving the second pillar*			*9.3*	
\+ *Savings from disbursement of real yields*			*0.7*	
Financial saving consistent with augmented SNA deficit	1.8	3.4	4.6	4.0

[12] Similarly to the previous *Report on Inflation*, in this analysis we have once again adjusted general government and household sector data by the transfer of private pension fund assets, which is clearly a temporary factor. Translated into practice, this means that the wealth accumulated in pension funds – amounting to nearly 10 percent of GDP – appears as a negative household transaction in official statistics, and thus the sector's net savings may turn out to be even lower than −5 percent of GDP, while the general government statistic will state a budgetary surplus. For more detail on methodology, see the April 2011 issue of the MNB Bulletin: Zsuzsa Kékesi and Gábor P. Kiss: The reversal of the pension reform 1998 from a short-term perspective.

5.3 Fiscal position and outlook

The 2011 ESA balance of the general government is expected to indicate a surplus due to the transfer of private pension fund portfolios as extra revenues. One-off extra revenues, however, mask long-term developments, which would have resulted in a higher deficit level than last year. In order to meet the 2.5 percent deficit target of the Government by 2012, in addition to the full implementation of the Széll Kálmán plan and the Convergence Programme, the stability reserves established in 2011 should be cancelled and the underlying expenditure cuts should be enforced over the long term.[13] The augmented SNA indicator that captures underlying fiscal developments shows fiscal easing in 2011, which is expected to be followed by fiscal tightening in 2012 according to the announced programmes.

5.3.1 DEVELOPMENTS IN FISCAL DEFICIT INDICATORS

Given that the surplus expected in the 2011 ESA deficit is the result of one-off extra revenue not to be replicated in 2012, the measures of the Széll Kálmán plan and the Convergence Programme are necessary to ensure a government deficit close to the Maastricht criterion. Excluding the one-off effects, the 2011 augmented SNA deficit indicates that the position of the general government deteriorated compared to 2010. This can be attributed primarily to the fiscal easing entailed by the developments in income taxes. However, as a result of the substantial fiscal adjustment, in 2012 the SNA indicator is set to improve significantly.[14] Based on the size of the cyclical component, the deficit could drop to around 2 percent in 2012 if the economic recession of recent years stops exerting a markedly negative fiscal effect through revenues. Accordingly, if no other interventions affect the fiscal path besides the measures considered in the forecast, and the economy returns to its estimated trend, the government deficit could drop to a level of around 2 percent.

[13] In line with our forecasting method, we only took account of measures which are likely to be accepted and sufficiently detailed to estimate their fiscal effects.

[14] The augmented SNA-deficit does not take into account those one-off revenues and expenditures in 2011, which considered to be financing transaction (portfolio revenue, debt assumption and buyout of PPP investment projects), but the real yield of private pension funds payable to households considered to be a budgetary expenditure. Accordint to the June 14 communiqué of the Hungarian Financial Supervisory Authority the portfolio handed over from private pension funds to government accounts for 10.4 percentage of GDP. From this amount the government repays the real yield to private pension funds who will transfer itt o households. According to preliminary data we estimate the amount of real yields to 0.9 percentage of GDP. In ESA-methodology the portfolio revenue improves the public balance (by 9.5 percentage of GDP), buti n the augmented SNA-balance this does not count as a revenue, while the real yield payments is government expenditure, because only these payments have effect on the disposable income of private sectors.

Table 5-2
General government balance indicators
(as a percentage of GDP)

	2010	2011	2012
ESA balance	−4.3	2.4	−3.2
Augmented SNA balance	−3.4	−6.1	−3.7
Cyclical component	−2.6	−1.9	−2.0
Cyclically-adjusted augmented SNA balance	−0.8	−4.2	−1.8

According to ESA methodology, in 2011 there may be a budget surplus of 2.4 percent, stemming primarily from the portfolio revenues from private pension funds which, based on the latest data will improve the balance by 9.5 percent of GDP. One-off items, however, mask long-term developments, which would have resulted in a higher deficit level than last year. This can be attributed primarily to the fiscal easing entailed by the developments in personal and corporate income taxes.[15]

The cyclically-adjusted, augmented SNA balance, which better reflects the medium-term general government position without additional governmental measures, points to a significant deterioration in the general government's structural position in 2011. Indeed, in addition to financing one-off expenditures and improving the balance, the one-off revenues will also be used to cover current expenditures and to offset the personal income tax reduction.

As the amount of temporary revenues will decline substantially in 2012, deficit reduction measures are needed, which the budget will attempt to achieve by the expenditure cuts effected through the stability reserve, the Széll Kálmán plan and the Convergence Programme. Those measures considered in our rule-based projection improve the balance by 1.6 percent of GDP. The balance of local governments is expected to follow the cyclical pattern previously observed; accordingly, in 2012 their deficit may decline by 0.4 percent of GDP, primarily through expenditure cuts. As a consequence of the factors outlined above, our forecast indicates that a 3.2 percent ESA deficit may be achievable in 2012.

In addition to the government measures and the reduced deficit of local governments, the phasing out of the capital transfer related to real yields in private pension funds paid to households in 2011 also contributes to an improvement in the 2012 augmented SNA balance compared to 2011. The cyclical component suggests that major part of the 2012 deficit can be attributed to the economic recession

[15] The transformation of the personal income tax system reduces tax revenues by around 1.8 percent of GDP. Since the preferential corporate tax rate was extended only in the second half of last year, it will have an additional effect of 0.3 of GDP in 2011.

Table 5-3
The main components of the ESA-SNA bridge in 2011
(as a percentage of GDP)

	2011
1. Portfolio revenue from private pension funds	9.5
2. Refundable to former member of private pension funds	0.9
3. Debt assumption from MÁV	−1.1
4. Debt assumption from BKV and changes in PPP contracts	−1.0
5. Total (1+2+3+4)	8.3
6. Minor differents	0.2
7. Total ESA-SNA bridge (5+6)	8.5

experienced in recent years, in particular, to changes in tax revenues. If the performance of the economy converges to its medium-term level and the fiscal path is not affected by further measures, the deficit may reach a level close to 2 percent of GDP.[16]

In 2011 the fiscal impulse amounts to 2.5 percent of GDP. This indicator captures the fiscal effect on the income of the other sectors measured by the change in the primary augmented SNA balance. According to this result the disposable income of the private sector will be significantly increased by the government compared to the previous year. This fiscal expansion is realized primarily through cuts in income taxes of both households and the corporate sector, but it is also increased by the capital transfer related to real yields in private pension funds paid to former members. Contrary to this expansion, the fiscal impulse is −2.3 percent of GDP in 2012, since government spending to the private sector is much lower due to adjustment measures.

5.3.2 CHANGES IN OUR FORECAST COMPARED TO 2011 TARGET

According to our forecast, the 2011 surplus of the general government may reach 2.4 percent of GDP, slightly more than the 2.2 percent surplus consistent with the expected fiscal impact of the Convergence Programme and the 2 percent surplus explicitly indicated by the Convergence Programme.

The similarity across the above expectations stems from two factors: a shared view of the basic economic trends,

[16] In this context it should be emphasised that the calculation of the cyclical component of the budget is shrouded in considerable uncertainty. Our expectations about the balance achievable over the medium term are somewhat complicated by the fact that the cyclically-adjusted 2012 SNA balance includes the special taxes affecting the financial sector and other specific sectors, since these revenues cannot be classified as financing items. By our understanding, only half of the special taxes imposed on the financial sector will be maintained in 2013. *Ceteris paribus*, the decline in revenues from special taxes may increase the medium-term deficit by 0.8 percent; on the other hand, in addition to the measures of the Széll Kálmán plan and the Convergence Programme reflected in our baseline scenario, additional savings can be achieved in 2012 and further measures of around 1 percent of GDP are indicated in the two programmes.

Table 5-4
Comparison between the budgetary forecast of the Convergence Programme (CP) and that of the MNB for 2011
(ESA-balance as a percentage of GDP)

	According to CP	MNB
1. Budgetary bill and MNB forecast in 2011 Q3	−2.9	−2.7
2. Higher portfolio revenue from private pension funds	7.0	7.6
3. Changes in assessing of budgetary developments since autumn 2010	−0.7	−0.7
4. Debt assumption (MÁV and BKV) and PPP contracts	−2.0	−2.0
5. Stability reserve	0.9	0.1
6. Expected balance (according to CP and the current Report) (1+...+5)	2.2	2.4
7.Official target (Convergence Programme)	2.0	

and that the differences in assumptions on the extent to which the stability reserve and the assets transferred by 2nd pillar pension schemes would improve the general government balance, cancel each other out. Since the approval of budgetary law and the *Report on Inflation* published in December 2010, the sentiment of the MNB and the government about the underlying fiscal developments altered basically in the same way. Both the Convergence Programme and the MNB anticipate lower tax revenues than those assumed by the budget act, partly due to the base effect of last year's data, and partly due to consumption dynamics being slightly worse than expected. The stability reserve was established by the Government at approximately 0.9 percent of GDP in order to offset the revenue shortfall. The Convergence Programme assumes that the reserve will be cancelled, and hence it reckons with a corresponding decline in spending, allowing for a 2 percent surplus.

For the time being, our forecast solely reflects savings supported by sufficiently detailed measures and by the fiscal savings observed since February, which, taken together, represent 0.15 percent of GDP. If the reserve is cancelled as expected, it may improve the balance by a further 0.6 percent. In our understandings the cancellation of the reserve will not reduce the deficit by 0.9 percent is that the taxes component of the cancelled expenditures will also be eliminated.

Our forecast is above the target set by the Convergence Programme because we expect the assets transferred by 2nd pillar pension funds to exceed the expectations of the Government: while the Convergence Programme assumes this revenue item will surpass the corresponding budget revenue item by 7 percent of GDP, the actual excess revenue may reach 7.6 percent according to the June 14 communiqué of the Hungarian Financial Supervision Authority.

5.3.3 MEASURES AFFECTING FISCAL PATH WILL REDUCE DEFICIT SIGNIFICANTLY IN 2012

A decline in temporary revenues in 2012 would lead to a substantial increase in the government deficit. The Government intends to offset this by the measures adopted under the Széll Kálmán plan, the Convergence Programme, and by making the savings achieved by the stability reserve sustainable. Although the programmes will increase expenditures in 2011 through the assumption of one-off expenditures, according to our forecast they will reduce the deficit by 1.6 percent of GDP in 2012. Our forecast reckons with the implementation risks surrounding the measures; however, once these risks are disregarded, the balance-improving effect of the measures may even reach 2.4 percent of GDP in 2012. However, there is an upside risk that the measures may lead to additional expenditures in the form of expenses aimed at increasing employment on the one hand, and as some kind of benefits provided to those being excluded from the current social care system on the other hand[17]. The magnitude and structure of the measures also have an impact on the macroeconomic path with a negative secondary effect on the budget in the short term, primarily as a consequence of declining consumption and slower wage increases driven by the expected higher labour supply.

A. The Széll Kálmán plan (announced in March 2011)

The rule-based fiscal forecast presented in the March issue of the *Report* only took into account the parts of the Széll Kálmán plan which were sufficiently detailed to calculate the relevant fiscal effects. By now most measures have been revealed in detail as part of the Convergence Programme, which means that the effect we were able to anticipate in our 2012 forecast amounts to 1.1 percent of GDP, up by 0.8 percent of GDP compared to the March forecast. This effect, however, is smaller than the 1.9 percent deficit reduction cited by the Government, for three reasons:

a) A precise evaluation and consideration of certain measures in our forecast continue to be impossible for lack of important details about their implementation. Examples include the transformation of wage-substituting benefits and the scheduled cap on social and family allowances. Taken together, the budgeted gross effect of these measures would amount to 0.2 percent of GDP. Once precise details are announced in respect of the measures affecting these areas, our forecast is expected to shift towards a lower deficit.

[17] As a result of the measures considered in our forecast, by the end of 2012 nearly 300,000 people may be excluded from financial social benefits, while the scheduled transformation of wage-substituting benefits excluded from our forecast could add 120,000 more people to this figure.

Table 5-5
Estimated budgetary effects of the Széll Kálmán plan
(as a percentage of GDP)

Expected measures	Gross deficit reducing effect expected by the Government	Gross deficit reducing effect expected by the MNB	Net deficit reducing effect expected by the MNB (exclusing direct taxes)
I. Employment and labour market	0.65	0.40	0.27
II. Pension system reform	0.31	0.26	0.26
III. Public transport	0.15	0.10	0.09
IV. Higher education	0.04	0.04	0.03
V. Pharmaceutical subsidies	0.28	0.18	0.16
VI. State and municipal financing	0.11	0.09	0.07
VII. Pension Reform and Debt Reducing Fund	0.30	0.31	0.25
Total	**1.83**	**1.38**	**1.13**

b) In the case of several measures, our assessment of the achievable balance improvement is smaller than that of the Government; for instance, in the areas of health-care, disability pensions and public transportation we forecast a lower total improvement than the Government by 0.3 percent of GDP.

c) Finally, part of the expenditure reduction generates a direct shortfall in taxes (in the case of taxes and contributions payable on social expenditures for example), the effect of which amounts to 0.25 percent of GDP.

B. The Convergence Programme

On the one hand, the Convergence Programme puts forward balance-improving measures stretching even beyond the Széll Kálmán plan in 2012; on the other hand, it undertakes substantial one-off extra expenditures in 2011. The 2011 balance is set to deteriorate significantly (by 1 percent of GDP) on the back of two non-recurring measures: the debt consolidation of the Budapest Transport Company (BKV) and the buyout of some PPP investment projects.[18] This latter factor improves the expected budget balance since it will no longer be necessary to pay the annual commitment fee to PPP partners.

The greatest contributor (0.3 percent of GDP) to the 2012 deficit reduction is the fact that in 2012 material and personnel costs are planned to be maintained at their 2011 nominal level in the central government sub-system and in the total general government, respectively. As regards the rest of the Programme's scheduled measures, the tightening of bad debt write-offs and the transformation of the product fee system are not detailed enough to estimate their fiscal effect.

[18] Taking over the debt of MÁV (Hungarian State Railways) was public information and thus it was included in our March forecast.

Table 5-6
Budgetary effects of incorporated fiscal measures
(as a percentage of GDP)

	2011	2012
Széll Kálmán plan	0.1	1.1
Convergence Programme	–1.9	0.3
Stability reserve	0.1	0.1
Total incorporated measures	–1.7	1.6

C. The stability reserve

Relative to all the above, an additional effect would be the cancellation of the stability reserve – which was set up in 2011 amounting to HUF 250 billion – in line with the Convergence Programme. Until a final decision is made regarding the cancellation of the reserve, in keeping with our forecast method we take into account only a smaller portion of the reserve (HUF 38 billion) as having a balance-improving effect.[19] Nonetheless, if the reserve is cancelled as expected, the deficit projected for 2011 and 2012 may be reduced substantially, by an additional 0.6 percent of GDP respectively.

D. Measures not included in our forecast

In the baseline scenario of our forecast we only took account of the measures detailed enough to estimate their fiscal effect. As regards the Széll Kálmán plan, the two non-quantified measures in the forecast (transformation of the system of wage-substituting benefits and the definition of an upper ceiling for the amount of family allowances) could amount to 0.2 percent of GDP according to Government plans, while the tightening of bad debt write-offs in corporate taxation as per the Convergence Programme could improve the balance by 0.1 percent of GDP.[20] If the stability reserve is in fact blocked and the block is upheld in the 2012 budget, based on the above next year's expenditures may be reduced by an additional 0.6 percent of GDP.

Table 5-7
Potential additional effects conditional on the publication of detailed measures
(as a percentage of GDP)

	2011	2012
Széll Kálmán plan	0.0	0.2
Convergence Programme	0.0	0.1
Stability reserve	0.6	0.6
Total	0.6	0.8

[19] Out forecast incorporates that part of the potential deficit-reducing effect of the stability reserve which is underpinned by detailed measures and the budgetary developments of recent months, ie. the expenditure decrease of Extrabudgetary Funds and the curtail of consumer price support of transport companies.

[20] The Convergence Programme also outlines plans about the transformation of the product fee system; however, for lack of specifics we are unable to prepare even a rough estimate about the potential fiscal effect.

5.4 Expected developments in government debt

At the end of 2010 gross general government debt amounted to 80.3 percent of GDP, which, under our projection, marks a peak in the debt ratio, as we expect a decline in debt relative to GDP from 2011. The lower debt ratio can be attributed to a pick-up in economic growth and the effects stemming from the transformation of the pension system.

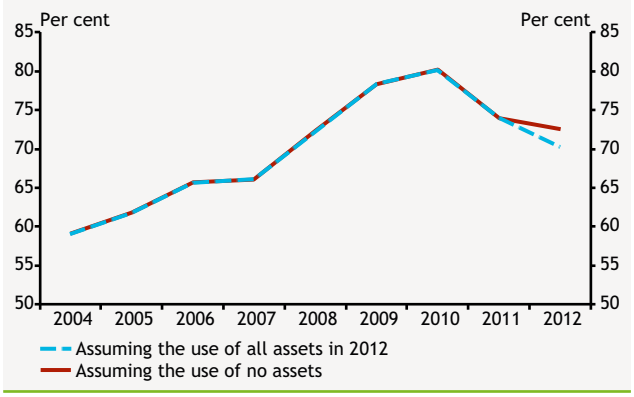
Although the factors normally influencing the debt (i.e. public deficit, exchange rate, yields) would increase the debt rate slightly, due to the transfer of the private pension fund portfolio into state ownership the debt-to-GDP ratio is expected to decrease by 6 percentage points to 74 percent in 2011.

Within the portfolio transferred from the private pension funds, government securities promptly decrease the gross debt rate by 4.2 percent of GDP after they are redeemed, while other parts of the portfolio will belong to the Pension Reform and Debt Reducing Fund. The Fund will be able to contribute to reducing the debt ratio gradually by using these instruments, rather than issuing new debt to cover part of the government's financing need. Under our assumptions for the public deficit and the net issuance of government bonds the amount of used assets from the Fund may account for 3.5 percent of GDP in 2011 (of which 1.9 percent is included in the budgetary act).

At the end of 2011 the government is still likely to have a sizeable reserve for financing purposes amounting to 3.6 percent of GDP. This sum is made up of the Pension Reform and Debt Reducing Fund and deposits accumulated earlier as unused parts of IMF and EU loans. Earlier we estimated this reserve at 5 percent of GDP, but the purchase of MOL shares decreased the reserve and this effect was only partially offset by the higher than expected portfolio revenue.

If the debt manager uses these assets to cover the financing need in the near future, then it can partly replace the renewal of redeeming debt, and would thus decrease the debt rate. The timing of the use of assets will not affect the debt rate available over the medium term. On the other hand, purchasing the MOL shares increased our debt path expectations over the medium term relative to what would have been the case had these funds been used by the debt manager to replace debt security issues.

Chart 5-6
Gross public debt
(as a percentage of GDP)



Changes in the debt figure following 2011 will be determined by the rate of use for the remaining deposits. If the debt manager does not deplete the available funding reserve, the debt ratio could decline by 1 percent of GDP in 2012, provided that our expectations about the government deficit and the unchanged exchange rate hold true. The use of deposits for financing purposes may reduce the ratio of debt to GDP at the end of 2012 by an additional 1-2 percentage points.

6 Special topics

6.1 The size of fiscal multipliers in the Hungarian economy

Quantifying the macroeconomic effects of both the Széll Kálmán Plan and the Convergence Programme is a central issue in forecasting real economic output for the coming years. While no information was available on actual plans in the previous quarter, the current period has given us the opportunity to estimate the expected impacts on growth in light of the now published and detailed action plans.

Budgetary consolidation is currently being carried out in many of the world's economies, hence the increasing number of studies published in this field as forecasters at other central banks and international institutions are also trying to appraise the effects fiscal measures might have on growth.[21] Their assessments generally utilised two distinct types of modelling, one of which has to do with traditional macroeconometrics, whereas the other deals with dynamic stochastic general equilibrium models (DSGEs). A key advantage of the traditional macroeconometric toolset is its excellent short-term forecastability and the fact that these models allow for an accurate modelling of national account identities, thus making it easier to ensure data consistency in the short term. However, a considerable drawback of these models is their lack of endogeneity as far as the handling of expectations is concerned, even though expectations – e.g. how is the financing of certain actions being rationalised, to what extent can individual measures be considered enduring or transitional, etc. – might play a crucial role in evaluating a fiscal policy measure. Participants of the economy may react upon an anticipated, permanent measure very differently than they would on a surprise action that is deemed temporary. In Hungarian economic history we have even witnessed that in response to the austerity measures of 2006 households chose to take on more debt rather than lowering their rates of consumption, presumably because they had misinterpreted the measures as being provisional.

[21] For instance, refer to pl. Coenen, G., C. Erceg, C. Freedman, D. Furceri, M. Kumhof, R. Lalonde, D. Laxton, J. Lindé, A. Mourougane, D. Muir, S. Mursula, C. de Resede, J. Roberts, W. Roeger, S. Snudden, M. Trabandt and J. in 't Veld (2010): 'Effects of Fiscal Stimulus in Structural Models', *IMF Working Paper,* No. 10/73, International Monetary Fund.

However, come 2008 they reacted to further fiscal cuts by reducing consumption expenditures – partly because of liquidity constraints but probably also because expectations on future earnings have turned gloomier.

In addition to traditional macroeconometric models, recent years have seen a rise in the application of dynamic stochastic general equilibrium models, or DSGEs. Compared with their econometric counterparts, DSGE models entertain a less accurate fit to data series and are not as effective in short-term forecasting, but they have an appealing and theoretically consistent modelling framework. This consistency has to do with the endogenous approach with which DSGE models handle expectations, by having the behaviour of individual macro variables derived from the optimal choices of economic agents. In the medium-sized DSGE models developed by the early 2000s, fiscal policy featured in a simplified form. In order to stand up to the new challenges, this called for a supplementation of DSGE models with key fiscal policy instruments: income and consumption taxes, consumers with liquidity constraints and government investment.

The two branches of modelling, therefore, have different strengths: conventional models provide a firmer grasp on direct impacts on demand, whereas DSGE models put more emphasis on assessing the impacts that an enduring change in government behaviour could have on the behaviour of other agents of the economy. At the same time, however, both models fall short in the sense that they concentrate mainly on interpreting cyclical effects and are unable to decipher what impacts government measures on labour market activity may have on potential long-term growth.

Both types of tools are available to MNB as well. Our DELPHI model belongs to the category of macroeconometric models, one in which long-term is characterised by a neoclassical growth model block, whereas short-term dynamics are provided for the model by behavioural equations reflecting economic relations but also containing, in part, ad-hoc equations of error correction. As for the DSGE model category, in the following we will be using a somewhat modified version[22] of the model used by the Fiscal Council[23] that we call the Fiscal Policy Model or FPM.

Fiscal multipliers – an international comparison

For the purpose of the following study, the fiscal multiplier refers to the percentage change in GDP upon calibrating the

[22] In order to have the Fiscal Council's model better represent our approach to monetary transmission, we have amended it to include consumption-related imports and elements taking into consideration the exchange rate exposure of FX-loans.

[23] Baksa, Dániel, Szilárd Benk and Zoltán M. Jakab (2009): 'Does the fiscal multiplier exist? Fiscal and Monetary Reactions, Credibility and Fiscal Multipliers in Hungary', lecture held at a conference of the Hungarian Society of Economics, Budapest, December, URL: http://media.coauthors.net/konferencia/conferences/1/Baksa_Benk_Jakab_MKE_revised_10_12.pdf.

magnitude of a measure so as to result in an increase (decrease) relative to GDP of 1% in the budgetary position. The measure is anticipated (credible) and is scheduled to remain in effect for a minimum of five years. On the basis of recently published studies[24] we compared fiscal multipliers used in various models, and attempted to draw conclusions as to what factors might be influencing the deviations between different results. Having also looked at various measures, we found comparable data for the following three types of action under the scope of econometric models: increase in employees' personal income tax, increase in consumption tax (e.g. VAT) and cuts in public (Government) spending. The somewhat more recent inquiries conducted using DSGE models also showed the decline in the governmental transfer fee paid to households as a separate item.

Results suggest that the macroeconometric and DGSE models, the two most frequently used model types, yield fiscal multipliers that are considerably different. Losses realised under short-term growth are significantly higher in the case of macroeconometric models. As these models are essentially retrospective, agents of the economy take longer to adjust to changes in fiscal policy. Given that DSGE-type models are more forward-looking, accommodation to changes in fiscal stimuli can take place earlier. Another significant factor is that a segment of households (those prone to optimisation) regard today's fiscal adjustments as future cuts in tax liability and use the resulting positive wealth effect while making decisions (Ricardian equivalence). However, this forward-looking attitude and the resulting consumption-smoothing behaviour are only bestowed upon households without liquidity constraints. Thus in the short term, the so-called Keynesian effects dominate these models as well.

According to Table 6-1, fiscal multipliers of macroeconometric models show a particularly high level of heterogeneity between countries; and for both model types as far as demand shock is concerned, there is a big difference between the sizes of fiscal multipliers for countries that are large but closed versus those that are small but open. In an open economy, parts of a government-induced fallback in demand will affect foreign goods, thereby improving net export figures. For models in which increasing indebtedness also means increasing risk

[24] Henry, Jerome et al. (2008): 'The impact of government budgets on prices: Evidence from macroeconometric models', *Journal of Policy Modelling*, vol. 30 (1), Table 1.
Coenen, G. et al. (2010): 'Effects of Fiscal Stimulus in Structural Models', *IMF Working Paper*, No. 10/73, Table 2 (QUEST, OECD Fiscal, NAWM, GIMF_USA).
Stähler, Nikolai and Carlos Thomas (2011): 'FiMod — a DSGE model for fiscal policy simulations', *Discussion Paper Series 1. Economic Studies*, No. 06/2011, Deutsche Bundesbank, Table 2 (FIMOD).
Klyuev, Vladimir and Stephen Snudden (2011): 'Effects of Fiscal Consolidation in the Czech Republic', *IMF Working Paper*, No. 11/65, Table 2 (GIMF_Cseh).

Table 6-1
The effect of a GDP 1% fiscal restriction on the GDP level in the macroeconomic models
(Per cent)

	Increase in personal income tax		Increase in VAT		Cuts in government consumption	
	1st year	2nd year	1st year	2nd year	1st year	2nd year
Belgium	−0.15	−0.23	−0.02	0	−0.87	−0.5
Germany	−0.62	−0.91	−0.55	−0.53	−1.18	−1.07
Italy	−0.13	−0.45	−0.33	−0.52	−0.98	−1.44
Portugal	−0.39	−0.67	−0.17	−0.41	−1.23	−1.49
Spain	−0.50	−1.00	−0.20	−0.65	−1.22	−1.46
EMU (AWM)	−0.34	−0.63	−0.28	−0.76	−1.05	−1.62
DELPHI	−0.59	−0.56	−0.62	−0.65	−0.71	−0.68

Table 6-2
The effect of a GDP 1% fiscal restriction on the GDP level in the DSGE models
(Per cent)

	Increase in personal income tax or healthcare contribution			Increase in VAT			Cuts in government consumption			Decrease in governmental transfer fee		
	1st year	2nd year	3rd year	1st year	2nd year	3rd year	1st year	2nd year	3rd year	1st year	2nd year	3rd year
QUEST	−0.3	−0.4	–	−0.25	−0.25	–	−0.8	−0.8	–	−0.6	−0.6	–
OECD Fiscal	−0.25	−0.4	–	−0.2	−0.3	–	−0.9	−0.08	–	−0.2	−0.3	–
NAWM	−0.1	−0.1	–	−0.2	−0.3	–	−0.8	−0.8	–	−0.2	−0.1	–
FIMOD	−0.16	−0.18	−0.23	−0.11	−0.05	−0.02	−0.6	−0.4	−0.3	–	–	–
GIMF_USA	−0.25	−0.3	−0.15	−0.35	−0.3	−0.1	−1.1	−0.9	0.1	−0.8	−0.7	0.05
GIMF_Cseh	−0.13	−0.32	−0.43	−0.12	−0.17	−0.13	−0.4	−0.25	−0.1	−0.23	−0.21	−0.13
FPM	−0.25	−0.34	−0.42	−0.21	−0.2	−0.17	−0.53	−0.39	−0.3	−0.23	−0.04	0.08

premiums, government adjustments can mitigate demand effects even by means of lowering such premiums.

Comparing the GDP effects under each measure in Table 6-2, we find that the setback is most extreme in the case of the government consumption shock for Year 1. In Year 3, however, there is a change in ranking, and the increase in distortionary taxes results in the largest decrease in GDP. The measures thus have varying impacts.

- The reduction in government consumption and governmental transfer fees has an immediate negative impact on aggregate demand, but this will ease over time, as decreases in spending will also cause the government to demand less financing, which, while mitigating the risk premium, also allows for a lower nominal interest rate. Domestic demand will then receive a healthy boost as a result of the diminishing crowding-out effect and a lower nominal interest rate.

- As for increasing taxes on labour, a key aspect of the underlying impact mechanism is that in terms of consumption goods the yield of hours worked decreases because of the higher taxes. As a result, labour supply

declines, production costs rise and eventually supply is reduced.

- Increases in VAT have a similar impact but with a less severe negative impact on output, since capital goods – as opposed to consumption goods – are not burdened by the new tax, thereby raising the capital intensity of production.

All in all, we can conclude that the view on fiscal multipliers acquired using the MNB's current toolset is very similar to what can be achieved using models calibrated to similar small-sized, open economies. Multipliers of the FPM and DELPHI models are in line with those of other models in their respective categories. Results obtained with our FPM model are closest to those pertaining to the GIMF model that is calibrated for the Czech Republic, a country most similar to Hungary in terms of its open economy and structure.

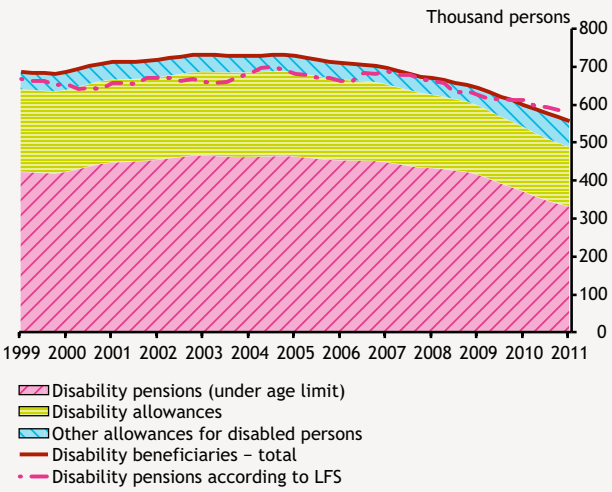
Nevertheless, the two models delineate a rather wide scope for the extent of presumable effects, largely depending on how forward-looking the actors of the economy are, how fast they can adjust and to what extent they take the government's future decreased demand for financing into account when making their decisions today. Given the current state of the Hungarian economy, we believe that forward-looking behaviour smoothing consumption is met with obstacles that are higher than usual. The high unemployment rate and the restrained lending activity of banks both indicate stronger liquidity constraints,[25] as a result of which direct demand effects may be amplified.

The forecast in the *Report* assessed the impacts of individual measures in a more detailed breakdown than the one presented above; the multipliers were within the range marked out by our two models.

[25] See Bouthevillain, C. and G. Dufrénot (2010): 'Fiscal multipliers in times of crisis and non-crisis: are they different? The French case', *Working Paper*, No. 286, Banque de France.

6.2 Employment opportunities for disability pensioners

Chart 6-1
Changes in the number of disability pension beneficiaries



Source: Central Administration of National Pension Insurance, Labourforce Survey.

According to the latest OECD figures for 2006, the share of disability pensioners in the total working-age population was nearly 10 percent, exceptionally high by international comparison. Government measures of recent years have reduced the total number of early disability pensioners by approximately 100,000, lowering the above figure to around 8 percent. Based on the current plans of the Government, the overhaul and further tightening of the disability pension system may affect approximately 200,000 people, which could push the share of disability pensioners even below the EU average over the coming years.

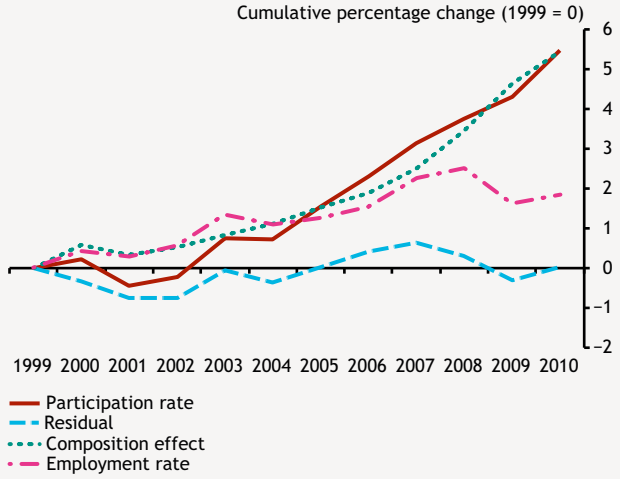
The increase in the activity rate of the past one-and-a-half years may be driven, among other factors, by the tightening of disability pension conditions (stricter assessment and the rehabilitation programme introduced in 2008). Our assessment of medium-term employment and unemployment may be substantially affected by the impact on the activity rate of the planned further tightening of the disability pension scheme and the expected additional number of people employed over this period. This Special Topic attempts to assess, based on past experience, the employment opportunities of disability pensioners re-entering the labour market.

The issue can be examined by using the decomposition method devised in Kátay and Nobilis (2009)[26]. Changes in the activity rate stem primarily from changes in the composition of the population. This method attributes the change in composition to a few, clearly identifiable factors such as changes in the population's age composition or changes in the average education level of age groups.

In order to demonstrate the effects of the disability pension scheme reform we used a sample narrowed down to the 40-54 age group as our basis, given that this age group was not affected by the impact of changes in the retirement age, and was presumably also exempt from the impacts of other factors determining changes in the activity rate (demographics, studies, education, other transfers).

[26] Kátay, G. and B. Nobilis (2009): 'Driving Forces Behind Changes in the Aggregate Labour Force Participation in Hungary', *MNB Working Papers*, 2009/5.

Chart 6-2
Trends in the participation rate and its main factors
(40 to 54 age group)



Composition effect: changes in the active population due to changes in the population's age composition, education level, schooling, or entitlement for social benefits.
Residual: effects of other factors not explained by the composition effect.

The activity rate of the age group increased sharply in the 2000s (Chart 6-2). This stems almost entirely from changes in the composition of the age group. At the same time, this increase in activity did not entail a similar acceleration of the employment rate.

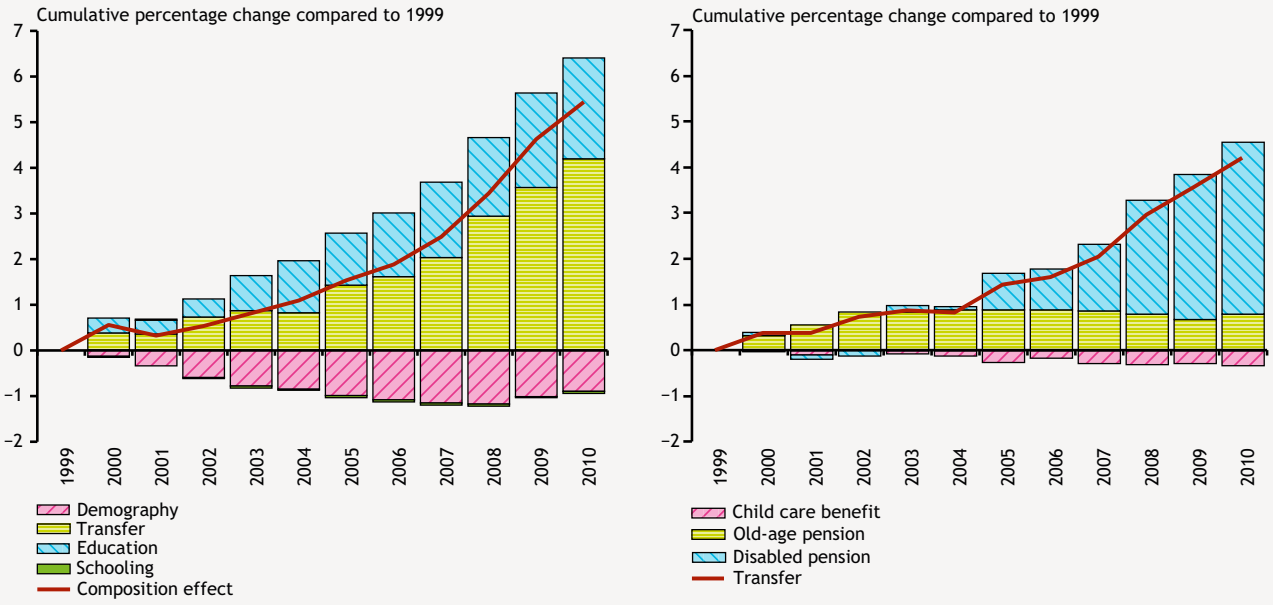
What factors contributed to the changes in the group's composition?

- The change in the age composition reduced the activity rate (in the 2000s the generations reaching retirement age comprised a greater number of people than those reaching the age of 40).

- This was offset by an improvement in the average education level of the generation above 40, which generally goes hand-in-hand with higher labour market activity.

- The greatest change resulted from the tightening of social transfers, which forced an increasing number of people to actively seek employment (Chart 6-3 left-hand panel). This tightening was attributable to the raised retirement age, to a lesser extent, and more to the tightening of the disability pension eligibility criteria (Chart 6-3 right-hand panel).

Chart 6-3
Decomposition of the total composition and the transfer effect



Transfer: the effect of the tightening of social transfers.

Chart 6-4
Changes in activity and employment rate of groups with different education levels in the 40-54 age-group

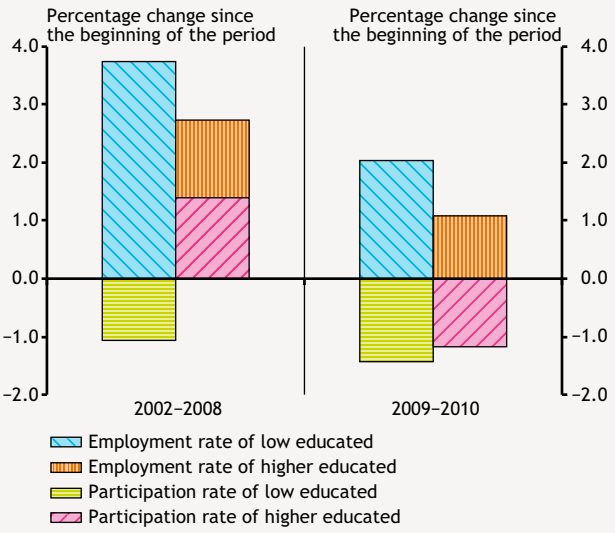
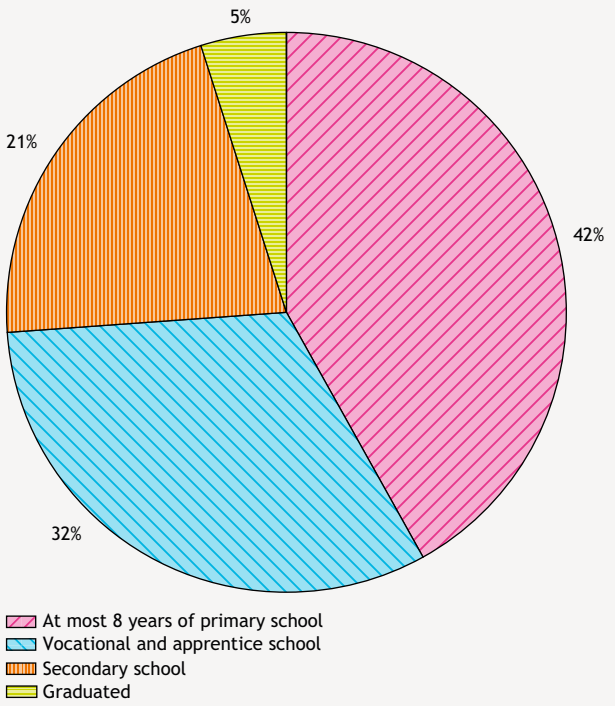


Chart 6-5
Distribution of invalidity pension beneficiaries according to education level



Source: Labour survey, weighted data.

Based on the above, the increasing activity rate within the age group was essentially the outcome of disability pensioners re-entering the labour market.

Looking at the changes in the activity rate of the 40-54 age group in a breakdown by education, it is evident that the rise in the activity rate of medium and highly qualified individuals goes hand-in-hand with an increase in their employment rate (i.e. their higher productivity enabled them to find employment). It is worth emphasizing that after 2002, growth in the employment rate was half that of the participation rate, which means that every second person entering the labour market could actually find a job. In contrast, while the activity rate of persons with low qualifications increased, their employment rate stalled, and deteriorated substantially during the crisis (Chart 6-4). In short, the probability of finding a job was largely affected by skills and education.

Based on 2010 data from the Labour Force Survey, people with low education (having graduated at most from elementary school, Chart 6-5) account for approximately 40 percent of disability pension beneficiaries. This distribution enables us to draw some conclusions about the impact of the tightening of the disability pension scheme on employment. Based on labour survey data, 15 percent of the existing number of invalidity pensioners below retirement age have a job, i.e. they are actively employed. There is therefore no additional labour supply effect in their case; their income, however, is reduced by the amount of pension previously received. Nonetheless, other disability pensioners re-entering the labour market contribute to a gradual increase in the activity rate, even though they are likely to remain unemployed over the short term due to the sluggish increase in labour demand in the recovering economy. Based on these results, people with low qualifications comprising 40 percent of the group are not expected to contribute to improving potential private sector employment to a significant extent. The lion's share of this group may be employed in the framework of public labour programmes, while a smaller, albeit not insignificant slice may inflate the long-term unemployment figure. The employment opportunities of the higher-qualified group, accounting for 60 percent of the total group, are more or less identical to the opportunities of the previously active unemployed, which means that approximately half may find employment over the medium term.

As a net result, our forecast suggests an increase in the unemployment rate parallel to an increase in the activity rate compared to the scenario without a reform. The Non-Accelerating Inflation Rate of Unemployment (NAIRU) would level off from 2012 as potential growth gradually resumes,

however, the new unqualified active labour flowing into the market poses an obstacle here for the time being. The improvement in employment will first appear in the public sector in the context of public labour programmes, and may be followed by a more dynamic increase in the private sector employment rate as a result of decreasing real wage dynamics stemming from higher labour supply.

It is important to note that the conclusion above was drawn from past experience. The crisis affected the labour market in several ways that can influence our results. Job-finding probability of the unemployed deteriorated considerably, a significant part of whom became long-term unemployed, eroding their skills. Companies mostly laid off their low-productivity workers and now they are left with or have started to employ the high-productivity ones as the recovery set in. This only worsens the chances for new labour market participants. However, labour market programmes and training might improve the productivity of individuals that were absent from the labour market for a long time, which in turn might increase their chances of finding a job.

Boxes and Special topics in the Report, 1998–2011

February 2005

May 2005

August 2005

Boxes:

Special topics:

November 2005

Boxes:

May 2006

Boxes:

May 2008

Boxes:

August 2008

Boxes:

November 2008

Boxes:

February 2009

Boxes:

May 2009

Boxes:

August 2009

Boxes:

November 2009

Boxes:

February 2010

Boxes:

June 2010

Boxes:

August 2010

Boxes:

November 2010

Boxes:

March 2011

Boxes:

June 2011

Boxes:

Appendix

MNB OCCASIONAL PAPERS 2007–2011 English language issues)

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

OP 59. Hornok, Cecília-Zoltán M. Jakab-Máté Barnabás Tóth (2007): Adjustment of global imbalances: Illustrative scenarios for Hungary

OP 60. Benk, Szilárd-Zoltán M. Jakab-Mihály András Kovács-Balázs Párkányi-Zoltán Reppa-Gábor Vadas (2007): The Hungarian Quarterly Projection Model (NEM)

OP 61. P. Kiss, Gábor (2007): Pain or Gain? Short-term Budgetary Effects of Surprise Inflation – the Case of Hungary

OP 62. Kopits, George (2007): Fiscal Responsibility Framework: International Experience and Implications for Hungary

OP 66. Eppich, Győző-Szabolcs Lőrincz (2007): Three methods to estimate the whitening-related distortion of the wage statistics

OP 67. Zsámboki, Balázs (2007): Basel II and financial stability: An investigation of sensitivity and cyclicality of capital requirements based on QIS 5

OP 68. Vadas, Gábor (2007): Wealth Portfolio of Hungarian Households – Urban legends and Facts

OP 70. Holló, Dániel-Mónika Papp (2007): Assessing household credit risk: evidence from a household survey

OP 73. Reppa, Zoltán (2008): Estimating yield curves from swap, BUBOR and FRA data

OP 75. Lublóy, Ágnes and Tanai Eszter (2008): Operational Disruption and the Hungarian Real Time Gross Settlement System (VIBER)

OP 76. Király, Júlia-Nagy Márton-Szabó E. Viktor (2008): Contagion and the beginning of the crisis – pre-Lehman period

OP 77. Horváth Hedvig-Szalai Zoltán (2008): Labour market institutions in Hungary with a focus on wage and employment flexibility

OP 78. Varga, Lóránt (2009): The Information Content of Hungarian Sovereign CDS spreads

OP 80. Bodnár, Katalin (2009): Exchange rate exposure of Hungarian enterprises – results of a survey

OP 81. Munkácsi, Zsuzsa (2009): Export structure and export specialisation in Central and Eastern European countries

OP 87. Attila Csajbók–András Hudecz–Bálint Tamási (2010): Foreign currency borrowing of households in new EU member states

MNB WORKING PAPERS 2007–2011

MNB Working Papers communicate the results of academic research within the central bank and present new, substantive scientific achievements. The series is published only in English from year 2005.

WP 2007/1. Molnár, József–Márton Nagy–Csilla Horváth: A Structural Empirical Analysis of Retail Banking Competition: the Case of Hungary

WP 2007/2. Benczúr, Péter–István Kónya: Convergence, capital accumulation and the nominal exchange rate

WP 2007/3. Vonnák, Balázs: The Hungarian Monetary Transmission Mechanism: an Assessment

WP 2007/4. Jin-Chuan Duan–András Fülöp: How Frequently Does the Stock Price Jump? – An Analysis of High-Frequency Data with Microstructure Noises

WP 2007/5. Benk, Szilárd–Max Gillman–Michal Kejak: Money Velocity in an Endogenous Growth Business Cycle with Credit Shocks

WP 2007/6. Erhart, Szilárd–Jose-Luis Vasquez-Paz: Optimal monetary policy committee size: Theory and cross country evidence

WP 2008/1. Naszódi, Anna: Are the exchange rates of EMU candidate countries anchored by their expected euro locking rates?

WP 2008/2. Valentinyi-Endrész, Marianna–Zoltán Vásáry: Macro stress testing with sector specific bankruptcy models

WP 2008/3. Csávás, Csaba: Density forecast evaluation and the effect of risk-neutral central moments on the currency risk premium: tests based on EUR/HUF option-implied densities

WP 2008/4. Csajbók, Attila: The use of staff policy recommendations in central banks

WP 2008/5. Campolmi, Alessia: Oil price shocks: Demand vs Supply in a two-country model

WP 2008/6. Kátay, Gábor–Zoltán Wolf: Driving Factors of Growth in Hungary – a Decomposition Exercise

WP 2008/7. Bakos, Péter–Péter Benczúr–Dóra Benedek: The Elasticity of Taxable Income: Estimates and Flat Tax Predictions Using the Hungarian Tax Changes in 2005

WP 2008/8. Kátay, Gábor: Do Firms Provide Wage Insurance Against Shocks? – Evidence from Hungary

WP 2008/9. Jakab M., Zoltán–Balázs Világi: An estimated DSGE model of the Hungarian economy

WP 2009/1. Reppa, Zoltán: A joint macroeconomic-yield curve model for Hungary

WP 2009/2. Tonin, Mirco: Minimumwage and tax evasion: theory and evidence

WP 2009/3. Frömmel, Michael–Norbert Kiss M.–Klára Pintér: Macroeconomic announcements, communication and order flow on the Hungarian foreign exchange market

WP 2009/4. Prades, Elvira–Katrin Rabitsch: Capital liberalization and the US external imbalance

WP 2009/5. Kátay, Gábor–Benedek Nobilis: Driving Forces Behind Changes in the Aggregate Labour Force Participation in Hungary

WP 2010/1. Vonnák, Balázs: Risk premium shocks, monetary policy and exchange rate pass-through in the Czech Republic, Hungary and Poland

WP 2010/2. Reiff, Ádám: Firm-level adjustment costs and aggregate investment dynamics – Estimation on Hungarian data

WP 2010/3. Karádi, Péter–Ádám Reiff: Inflation asymmetry, menu costs and aggregation bias – A further case for state dependent pricing

WP 2010/4. Jakab M., Zoltán–Henrik Kucsera–Katalin Szilágyi–Balázs Világi: Optimal simple monetary policy rules and welfare in a DSGE Model for Hungary

WP 2010/5. Rabitsch, Katrin: The role of financial market structure and the trade elasticity for monetary policy in open economies

WP 2010/6. Alessia Campolmi–Harald Fadinger– Chiara Forlati: Trade policy: home market effect versus terms of trade externality

WP 2010/7. Rezessy, András: Analysing currency risk premia in the Czech Republic, Hungary, Poland and Slovakia

WP 2010/8. Bokor, László: Optimality criteria of hybrid inflation-price level targeting

WP 2010/9. Philip Du Caju–Gábor Kátay–Ana Lamo–Daphne Nicolitsas–Steven Poelhekke: Inter-industry wage differentials in EU countries: what do cross-country time varying data add to the picture?

WP 2010/10. Yuliya Lovcha–Alejandro Perez-Laborda: Is exchange rate – customer order flow relationship linear? Evidence from the Hungarian FX market

WP 2010/11. Jakab M., Zoltán–Éva Kaponya: A Structural vector autoregressive (SvaR) Model for the Hungarian labour market

WP 2010/12. Gábriel, Péter: Household inflation expectations and inflation dynamics

WP 2011/1. Endrész, Marianna: Business fixed investment and credit market frictions. A VECM approach for Hungary

WP 2011/2. Naszódi, Anna: Testing the asset pricing model of exchange rates with survey data

WP 2011/3. Naszódi, Anna: Beating the Random Walk in Central and Eastern Europe by Survey Forecasts

WP 2011/4. Campolmi, Alessi–Stefano Gnocchi: Labor Market Participation, Unemployment and Monetary Policy

WP 2011/5. Campolmi, Alessia–Ester Faia–Roland Winkler: Fiscal Calculus in a New Keynesian Model with Labor Market Frictions

QUARTERLY REPORT ON INFLATION

June 2011

Print: D-plus

H–1037 Budapest, Csillaghegyi út 19–21.