MAGYAR NEMZETI BANK

QUARTERLY REPORT ON INFLATION

November 2002

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of the Magyar Nemzeti Bank
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Published by the Magyar Nemzeti Bank
Krisztina Antalffy, Director of Communications
1850. Budapest, Szabadság tér 8-9.
www.mnb.hu

ISSN 1419.2926

The new Act on the Magyar Nemzeti Bank, enacted by Parliament and effective as of 13 July 2001, defines the primary objective of the Bank as the achievement and maintenance of price stability. Using an inflation targeting system, the Bank seeks to attain price stability by implementing a gradual, but firm disinflation programme over the course of several years.

In order to provide the public with a clear insight into the operation of central bank policies and enhance transparency, the Bank publishes the "Quarterly Report on Inflation", covering recent and prospective developments in inflation and evaluating the macroeconomic developments determining inflation. This publication summarises the projections and deliberations that underlie the decisions of the Monetary Council.

The Monetary Council, the supreme decision making body of the Magyar Nemzeti Bank , will carry out a comprehensive review of the expected development of inflation once every three months, in order to establish the monetary conditions that are consistent with achieving the inflation target. The first section of the publication (released on 5th of November) is the Statement of the Monetary Council, containing its current assessment of economic perspectives and the grounds for its decisions. This is followed by an analysis prepared by the Economics Department on the outlook for inflation and the underlying principal macroeconomic developments. The expected path and uncertainty of the exogenous factors used in the projection reflect the opinion of the Monetary Council.

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Statement by the Monetary Council

11 November 2002

At its meeting of 11 November 2002, the Monetary Council discussed the Economics Department's forecasts of economic developments and approved the November 2002 issue of the *Quarterly Report on Inflation* for publication.

Considerable upside risks to inflation...

Inflation has continued to moderate in recent months, prices rising by 4.6% in September year on year. In the Monetary Council's evaluation, however, there have been significant upside risks to inflation.

...due to the unsustainable increase in domestic demand over the long term

The rapid expansion of domestic demand is the most important among the factors exposing the economy to inflationary risks. Whereas the international business climate remains unfavourable, domestic demand has been rising above its long-term sustainable rate, mainly due to the increase in household expenditure. Although some sectors of the economy are faced with selling problems on account of weak external demand, there appear to be signs of excess demand in areas crucial for the disinflation process, primarily in sectors selling their output to the domestic market. This adds to inflationary pressures and leads to a rapid rise in Hungary's current account deficit, which may exceed 5% of GDP in 2002, despite continued weak corporate sector fixed investment demand.

Rapid real wage growth encourages expansion of demand

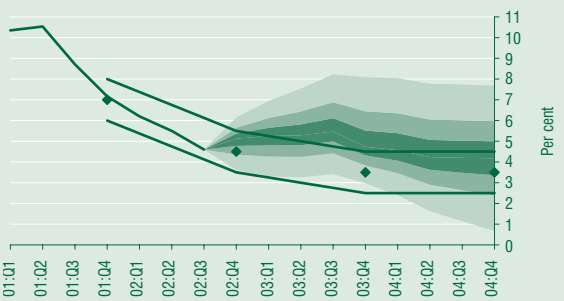
The most powerful driving force of the fast increase in domestic demand has been the massive expansion of household income. Despite the tightening of monetary conditions in the past 18 months the rate of private sector nominal wage growth has been slowing only modestly, jeopardising international competitiveness. Over the past year, real appreciation has been induced by faster increase in real wages than in productivity, simultaneously with a nearly flat nominal exchange rate. Public sector wages have been rising by 30% annually. The Government's measures aimed at reducing the tax burden have also contributed to the increase in net earnings.

The current rate of private sector wage growth is unsustainable

The rate of wage growth is likely to slow in 2003. The draft for next year's Budget does not contain a significant increase in public sector employees' wages. Nevertheless, annual average nominal wage growth is expected to be around 17% as a consequence of the full-year effects and earlier commitments, such as the

Inflation projection fan chart*

Percentage changes on a year earlier



** The fan chart shows the probability distribution of the outcomes around the central projection. The central band with the darkest shading includes the central projection. The entire coloured area covers 90% of all probabilities. Outside the central projection (centred around the mode), the bands represent 15% probability each. The uncertainty intervals have been estimated relying on the Bank's historic forecast errors and the uncertainties perceived by the Monetary Council regarding the current forecast. The year-end points represent the fixed inflation targets (7%, 4.5%, 3.5% and 3.5%, respectively for December 2001-2004); while the straight lines mark the ±1% tolerance intervals on either side of the target rates.*

adjustment of public servants' salaries. In the Monetary Council's view, a much lower wage growth than this is required, in order to be able to achieve the inflation targets without substantial real economic sacrifices. Therefore, the Council supports the Government's and employers' joint recommendation of a 3%–4.5% gross nominal wage increase in 2003.

Rapidly rising household debt exerts upward pressure on domestic demand

Another key component in the expansion of domestic demand is the decline in households' net financial savings. A better outlook for income, decreasing nominal interest rates and the wide availability of government subsidised credit have led to a rapid rise in the stock of lending to households. The rise in household debt is a natural trend, which is taking the structure of Hungarian household wealth closer to that in Europe. However, the increased access to subsidised credit and the fast income growth have caused the process to accelerate, which is another source of inflationary pressure.

No rapid recovery in investment expected

Other components of domestic demand are expected to continue to grow at a subdued pace. In terms of the draft Budget, government will moderate its investment spending. Due to sluggish activity in Europe and the utilisation of manufacturing capacities, activity in the corporate sector is forecast to increase only slowly.

Fiscal policy is to contract domestic demand growth

The increase in the risks to inflation has been partly due to the expansionary fiscal policy in 2002. Most of the growth in demand could be attributed to higher wage and transfer payments and a drop in the debt burden, which continue to determine a great proportion of fiscal expenses and receipts in the course of 2003. In terms of the draft Budget, the government seeks to reduce the budget deficit in 2003 to the level defined by the Medium-term Economic Policy Programme. Available information suggests that the planned measures will likely curb aggregate demand by 1.2% of GDP.

Wage increases are the greatest risk to inflation

Thus, fiscal policy seeks to facilitate meeting the inflation target via dampening domestic demand growth. However, over the short term, the deficit will only be lowered in respect of expenditure items that have less significant bearing on inflation, while items with a direct impact on household income will continue to increase. The MNB's inflation forecast, based on the assumptions of moderate wage growth, fiscal tightening and that last month's average exchange rate and oil price remain unchanged, is around the still acceptable rate of 4.5% in December 2003 (at 4.6%), and falls within the upper section of the target range in 2004 (4.2%). In 2003, the overall risks to inflation are weighted to the upside, due primarily to uncertainty around the path for wage growth.

Investor sentiment depends on the prospective date of joining the euro

Recent uncertainty about the date of Hungary's joining the euro has significantly influenced changes in both the exchange rate and the yield curve. Progress made with the negotiations in preparation of Hungary's European Union entry, and the favourable outcome of the Irish referendum on the Treaty of Nice, have increased the probability of an early entry. Improvement in investor sentiment has also been reflected in the strengthening of the exchange rate.

Monetary conditions should remain tight

The risks to inflation are high. Although the recent tightening of monetary conditions will reduce the probability of inflation exceeding the target, the Monetary Council currently sees no room for easing monetary conditions.

Magyar Nemzeti Bank
Monetary Council

Summary Table of Projections

Percentage changes on a year earlier unless otherwise indicated

	2002	2003	2004
CPI			
December	**5.3**	**4.6**	**4.2**
Annual average	**5.4**	**5.2**	**4.3**
Economic growth			
External demand	(-2.3) - **(-1.9)** - (-1.6)	3.0 - **4.7** - 5.9	4.0 - **6.2** - 8.4
Manufacturing value added	(-1.5) - **(-0.5)** - 0.3	3.0 - **4.7** - 6.0	5.0 - **7.0** - 9.0
Household consumption[1]	9.1 - **9.4** - 9.7	6.1 - **7.3** - 8.5	2.9 - **3.9** - 5.0
Gross fixed capital formation	5.5 - **6.5** - 7.5	2.5- **4.3** - 6.1	2.0 - **4.2** - 6.4
Domestic absorption	5.2 - **5.6** - 6.0	3.8- **4.9** - 6.0	2.6- **3.7** - 4.8
Exports	4.0 - **4.8** - 5.6	4.0 - **5.7** - 7.0	7.0 - **9.7** - 13.0
Imports	7.8 - **8.4** - 9.0	5.0 - **7.1** - 9.0	6.5 - **8.7** - 11.5
GDP	3.0 - **3.2** - 3.4	3.5- **3.9** - 4.3	3.7 - **4.2** - 4.7
Current account deficit[6]			
As a percentage of GDP	4.8 - **5.2** - 5.7	5.0 - **5.5** - 6.0	4.3 - **5.2** - 6.0
EUR billions	3.2 - **3.5** - 3.8	3.6 - **4.0** - 4.4	3.4 - **4.1** - 4.8
General government			
Demand impact (as a percentage of GDP)	3.3 - **3.4** - 3.5	(-0.8) - **(-1.2)** - (-1.4)	-1.4[2]
Labour market (private sector) [3]			
Wage inflation	13.0 - **13.4** - 13.8	6.0[4]	6.0[4]
Employment	(-0.4) - **(-0.2)** - 0.0	(-0.2) - **0.3** - 0.8	0.4 - **1.2** - 2.0
Real exchange rate[5]	11.1 - **11.7** - 12.3	(-0.7) - **(-0.2)** - 0.3	(-3.0) - **(-2.2)** -.(-1.4)

[1] Household consumption expenditure
[2] Assumption, see Chapter II.1
[3] Average of manufacturing and market services unless otherwise indicated
[4] Assumption, see Chapter III.
[5] On ULC basis, manufacturing, an increase is an appreciation
[6] Based on the 2002 methodology

I. Inflation

Chart 1-1 CPI and core inflation
Percentage changes on a year earlier

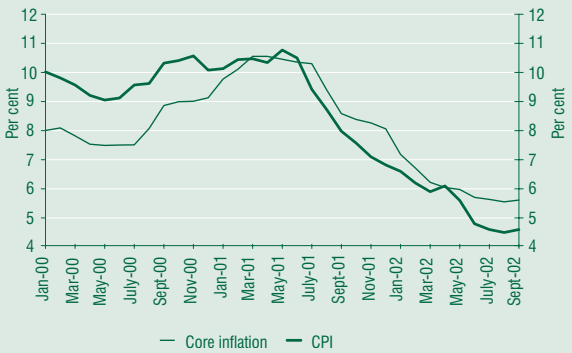


Chart I-2 Inflation in tradable goods prices
Seasonally adjusted, annualised month-on-month growth rates

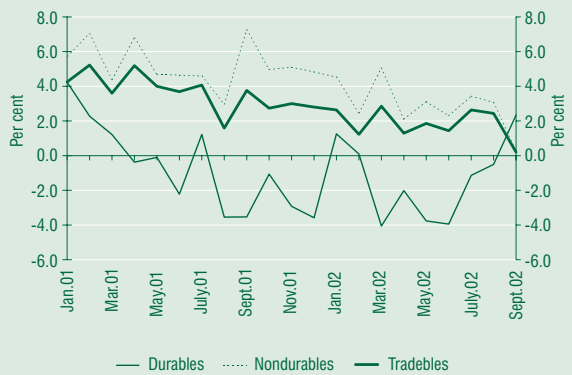
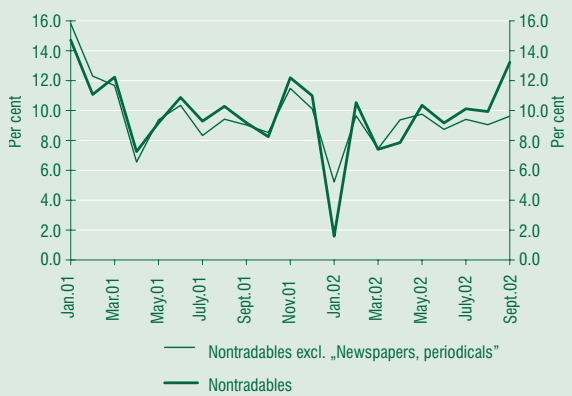


Chart I-3 Inflation of market services prices
Seasonally adjusted, annualised month-on-month growth rates



I. 1 The previous inflation projection versus the actual data

In 2002 Q3 the Consumer Price Index stood at 4.6%. Disinflation in consumer prices continued in the third quarter, with the index down by 0.9 percentage points on the rate for Q2. In contrast, core inflation declined only moderately in a quarter-on-quarter comparison, and the index remained flat at 5.6% during the quarter. It should be stressed, however, that just as the CPI, the core inflation index also declined significantly over the previous few quarters.[1]

I. 1. 1 Assessment of third-quarter data

The decline in the CPI seen in the third quarter was primarily due to one-off exogenous shocks, while inflation of groups that are most relevant from the point of view of monetary policy (such as tradable goods and market services) can be said to have remained flat.

Although the annual tradables price index was lower than in Q2, month-on-month developments suggest that the deflation process, which gained momentum in the wake of the monetary regime change last May, was interrupted in the last quarter. Third-quarter data reflect a reversal in disinflation in durable goods prices, and monthly growth rates are evidence of acceleration for the third consecutive month in September. In contrast, inflation in nondurable goods prices remained flat during the quarter and fell off in September.[2]

Inflation in nontradable goods prices, most sensitive to the inflationary effects of domestic demand and inflation inertia, showed stagnation and slight acceleration during Q3. It is important to note, however, that the sharp acceleration of price increases in September is mainly attributable to a one-off price hike in the CPI item „Newspapers, periodicals". Apart from this effect, nontradable inflation showed stagnation in September as well.

Inflation in processed food prices moderated in Q3, although the rapid rise in domestic demand and wages also had an impact on this group, just as on tradables and market services. The decline in the prices of this group was probably due to the ripple effect of the summer deflation in unprocessed food prices.

[1] The 4.9 percent October data has been published after finalising our Report. According to our preliminary assessment, new pieces of information were in line with the developments described above.
[2] The September fall in nondurables and, consequently, tradables inflation is due to a large price fall in a single CPI item (holiday abroad), which can be considered as noise.

Inflation of unprocessed food prices considerably slowed down, due to the negative price shock seen between May and August. The negative price shock lasted as long as September, when prices resumed rising. This trend can be best traced in changes in the consumer price of pork, the most significant factor in the inflation of this product group. Deflation of pork prices ended in August, and September witnessed an over 6 percent rise in a month-on-month comparison. In September, the domestic producer price for pork exceeded the price level for Europe.

The drop in unprocessed food prices experienced in the period from May to August was not unique in an international comparison. In the wake of the inflationary shock early in the year, unprocessed food prices also was a lasting fall within the euro area, before turning up again in the middle of the summer. The latest international statistics also suggest that unprocessed food price inflation has been gathering pace.

In addition to deflation in unprocessed food prices, the other one-off factor, exogenous to monetary policy, which contributed to the third-quarter decline in inflation was a drop in regulated prices, due to the cancelling of a charge payable by households that owned television sets. This measure is estimated to push down this year's CPI inflation rate by 0.3 percentage points.

The exogenous factors exerting upward pressure on inflation included a rise in the price of petrol, due primarily to the rise in the world oil price and the weakening of the euro, as well as the increase in tobacco price inflation, due to the August rise in the excise duty on tobacco.

I. 1. 2 The previous inflation projection versus the actual rate

In 2002 Q3, both actual CPI inflation and core inflation were 0.1 percentage point lower than projected in the August Report. The table of the projections versus the actual data shows, however, that the prices of the product groups most relevant from the point of view of monetary policy rose faster than projected.

Five product groups showed major differences between actual and projected rates. Most of the deviation could be attributed to the lower-than-expected inflation of unprocessed food prices. In addition, alcohol, tobacco and regulated prices also increased less sharply than expected, while the actual rate of inflation was higher in respect of tradable goods and market services.

The differences between the actual and projected rates can be explained partly by the assumptions underlying the projections and partly by the shortcomings of the projection model. The following section will take a closer look at the reasons for the discrepancies.

I. 1. 3 Evaluation of assumptions underlying the August projections

The forint/euro exchange rate and imported inflation in tradables prices, two key exogenous variables, exerted downward pressure on inflation during 2002 Q3. By contrast, the dollar/euro exchange rate and world oil prices exerted inflationary pressures.

As variations in the dollar/euro exchange rate and the world oil price does not take long to feed through into fuel prices,

Chart I-4 Food price inflation
Seasonally adjusted, annualised month-on-month growth rates

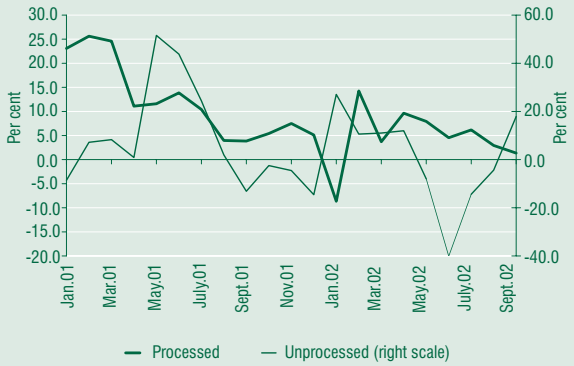
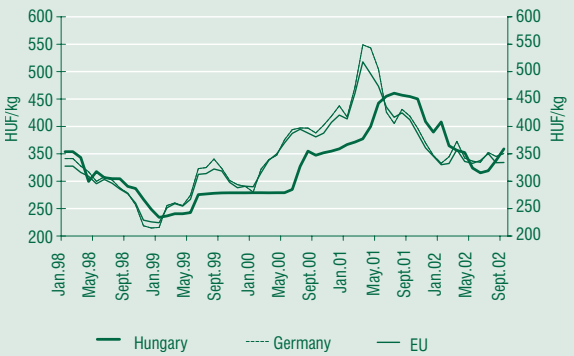


Chart I-5 Producer price of pork *
(HUF)



* Quality "E", HUF/kg, AKII data

Chart I-6 Unprocessed food price inflation in Europe and Hungary
Seasonally adjusted, annualised month-on-month growth rates

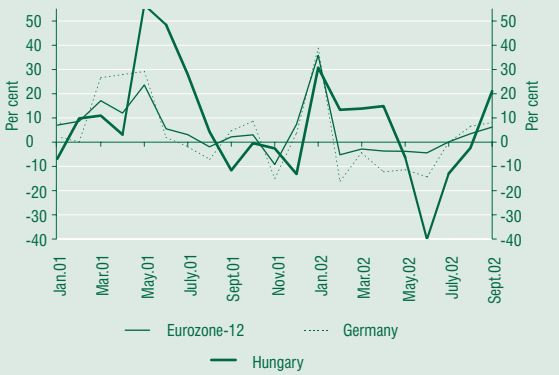


Table I-1 Central inflation projection and actual data in 2002 Q3

Category	Weight (%)	Actual data	August projection	Difference	Effect of difference on CPI
		Percentage changes on a year earlier, %			
Food	19.0	2.0	3.4	-1.3	-0.26
Unprocessed	6.2	-4.3	-0.7	-3.6	-0.22
Processed	12.8	5.1	5.3	-0.2	-0.03
Tradables	27.0	2.3	2.1	0.2	0.06
Market services	19.4	9.0	8.6	0.4	0.09
Market-priced energy	1.5	2.3	3.6	-1.3	-0.02
Vehicle fuels	5.2	1.8	1.0	0.8	0.04
Alcohol and tobacco	9.1	9.3	10.4	-1.1	-0.10
Regulated prices	18.9	3.8	4.2	-0.4	-0.07
CPI	***100.0***	**4.6**	**4.7**	**-0.1**	**-0.14**
Core inflation	68.2	5.6	5.7	-0.1	-

Table I-2 Assumptions of the August projection and actual data in 2002 Q3

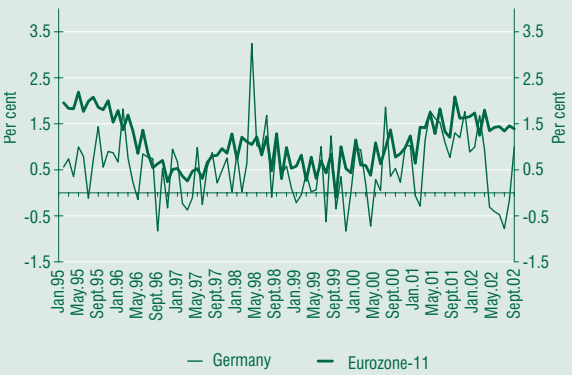
	Assumption used in the August *Projection*	Actual data
Forint/euro exchange rate (HUF)	246.6	245.2
Dollar/euro exchange rate (cent)	99.2	98.3
Brent oil price (dollar/barrell)	25.8	27.0
Imported inflation of tradables prices (%)*	0.50	0.02
Household consumption expenditure (%)**	10.0	*9.6*
Gross private sector wages growth (%)**	13.0	*13.4*

* COICOP term: Non-energy industrial goods, Eurostat NewCronos code: igoodsxe; mean of annualised month-on-month growth rates.

** Percentage changes on a year earlier; estimate of actual data in 2002 Q3.

Chart I-7 Inflation in the price of German and euro area tradable goods

Seasonally adjusted, annualised month-on-month growth



the difference between the actual and assumed values of these two factors may explain the higher-than-expected inflation in vehicle fuel prices. By contrast, the disinflationary impact caused by the strengthening of the forint/euro exchange rate and the decline in imported tradables inflation can only be expected to appear over the longer term.

Information on household expenditure and private sector wages in the third quarter is not yet available. Nevertheless, the data released so far indicate that neither of these will significantly divert from the Bank's previous expectations.

I. 1. 4 Reasons for the difference between the projection and actual data

Changes in the exogenous variables examined above do not fully account for higher-than-anticipated actual inflation in the price of tradables and market services in the third quarter. Considering the difference the followings can be supposed.

First, the projection of tradables prices is based on the assumption that imported inflation, a factor influencing the course of domestic prices, moves in correlation with the largest trading partner's, Germany's tradables prices. However, the drop in German prices seen in April-August was extremely sharp, and it did not seem to feed through into neither domestic nor euro area tradables prices. As German tradable price movements are seen to be more volatile and be exposed to individual shocks relative to euro area tradables inflation, the current projection is based on tradables prices in the euro area.

Second, the discrepancy between the projected and actual rates suggests that the previous projections for tradables and market services prices underestimated the inflationary pressure exerted by robust growth in domestic demand and wages. The current projection pays greater attention to the inflationary pressure via these two channels.

That actual unprocessed food prices were lower than forecast could be attributed to the fact that, although the negative price shock dates back to as early as June, due to the strong volatility typical of this group deflation was not expected to be lasting. Accordingly, the August Report used a cautious assumption about the development of agricultural prices, which have the greatest influence over unprocessed food prices, and expected the negative price shock to end sooner.

At the time of making the August projection, information on the events with the greatest impact on alcohol and tobacco prices and regulated prices, such as the increase in the excise duty on tobacco and the cancellation of charges payable by television set owners, had already been available. The discrepancy between the projections and actual data arises in both cases from the relevant expert's estimates. The estimate for the impact of the excise duty rise shows that the increase was expected to affect prices sooner, whereas, in reality, the full impact will only unfold in the course of October and November. As far as the group with regulated prices is concerned, the Bank's estimate for the impact of the cancellation of television charges was lower than the value eventually calculated by the Statistical Office.

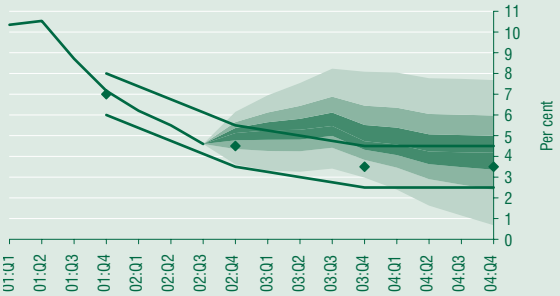
I. 2 Projecting the consumer price index

The current projection has been prepared consistent with the macroeconomic course described in Chapters II.-III. The CPI is projected to be 5.4% in December 2002 and 4.6% in December 2003. The current projections for both dates are higher than those of the August *Report*, indeed the CPI gets close to the 5.5% upper limit of the target range this December, and the inflation projection for next December is above the upper limit.[3]

The current projection of the December 2002 CPI figure has increased since the August *Report* despite the fact that the actual CPI for the third quarter of 2002 proved to be below our previous forecast. One factor at work in this rise is that, as noted in the previous section, the favourable data for this summer were primarily due to impermanent price developments of volatile items falling outside the scope of monetary policy. Another factor is that our "rules" for assumptions on exogenous variables implied that in this *Report* we used a relatively high oil price and weak dollar assumption all leading to a higher short term forecast (see more on this later).

This is the first *Report* that also forecasts inflation in 2004. The need that inflation should also be projected in the longer term arises as the full impact of the developments most relevant for inflation in 2003 will only unfold over the longer term. Thus, when judging monetary policy decisions, it may be useful to look further into the future. In the Bank's projection, CPI is at 4.2% in December 2004, close to the upper limit of the target range.

Chart I-8 Inflation projection fan chart* (year-on-year change, %)



* The fan chart shows the probability distribution of the outcomes around the central projection. The entire coloured area covers 90% of all probabilities. Outside the central projection (centred around the mode), the bands represent 15% probability each. The uncertainty intervals have been estimated relying on the Bank's historical forecasting errors and the uncertainties perceived by the Monetary Council regarding the current forecast. The year-end points represent the fixed inflation targets (7%, 4.5%, 3,5% and 3.5% for December 2001-2004), while the straight lines mark the ±1% tolerance intervals on either side of the target rates. The fan chart is always based on the quarterly CPI projections, so the end-of-the-year (December) target points are not directly comparable to quarterly data points.

Table I-3. Central CPI projection

	Weights	2002					2003					2004				
		Actual data			Projection											
	(%)	Q1	Q2	Q3	Q4	Dec.	Q1	Q2	Q3	Q4	Dec.	Q1	Q2	Q3	Q4	Dec.
Food	19.0	8.5	6.0	2.0	3.0	3.6	2.9	2.7	4.7	4.3	4.3	4.3	4.3	4.5	4.5	4.5
Unprocessed	6.2	9.5	5.3	-4.3	-0.9	0.8	-1.8	-0.2	6.6	5.2	5.0	4.9	4.7	4.7	4.7	4.7
Processed	12.8	7.9	6.1	5.1	4.9	5.0	5.1	4.1	3.9	3.9	4.0	4.0	4.1	4.4	4.4	4.4
Tradables	27.0	3.3	2.6	2.3	2.0	1.9	1.8	1.8	1.5	1.2	1.0	0.8	0.5	0.4	0.5	0.5
Market services	19.4	9.2	8.9	9.0	8.9	8.8	9.3	9.3	8.6	7.7	7.4	6.8	6.3	6.0	6.0	6.1
Market-priced energy	1.5	0.0	1.9	2.3	4.0	4.2	3.6	3.0	3.6	3.6	3.6	3.9	4.3	4.6	4.9	4.8
Vehicle fuels	5.2	-9.1	-7.3	1.8	11.4	13.8	12.9	8.2	4.2	1.1	1.1	3.3	3.6	3.5	3.5	3.4
Alcohol and tobacco	9.1	9.4	9.1	9.3	11.1	11.3	10.0	11.6	10.8	9.2	9.1	9.1	7.8	7.6	7.5	7.5
Regulated prices	18.9	7.9	7.2	3.8	3.3	3.3	4.0	5.1	6.6	6.1	6.0	6.2	5.8	6.0	5.8	5.8
CPI	**100.0**	**6.2**	**5.5**	**4.6**	**5.1**	**5.3**	**5.3**	**5.3**	**5.5**	**4.7**	**4.6**	**4.6**	**4.2**	**4.2**	**4.2**	**4.2**
Core inflation estimate		*6.7*	*5.9*	*5.6*	*5.7*	*5.7*	*5.7*	*5.7*	*5.2*	*4.6*	*4.5*	*4.2*	*3.8*	*3.7*	*3.7*	*3.8*
Annual average price index				***5.4***					***5.2***					***4.3***		

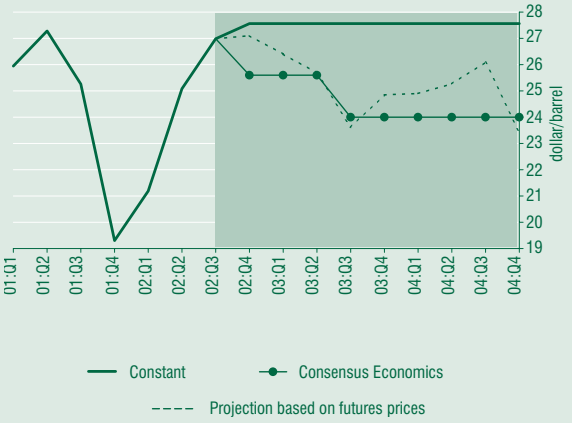
I. 2. 1 Assumptions of the central projection

The current central projection is based on assuming gross wage growth in the private sector to be at 6% in 2003. Nevertheless, the ripple effects on demand and costs of the upsurge in wage and income growth experienced in 2002 are also taken into consideration.

In case of the oil prices we used, as previously, the highest price scenario of a number of available forecasts, for considerations of risk management. Just as at the time of the August

[3] The 4.9 percent October consumer price data was in line with our projection, and there is no need to modify our forecast.

Chart I-9 Assumed Brent oil price developments



* Constant: October average (27,6 dollar/barrel); Consensus Economics path is based on the September 16 survey; Futures prices path is based on 5 November market prices.

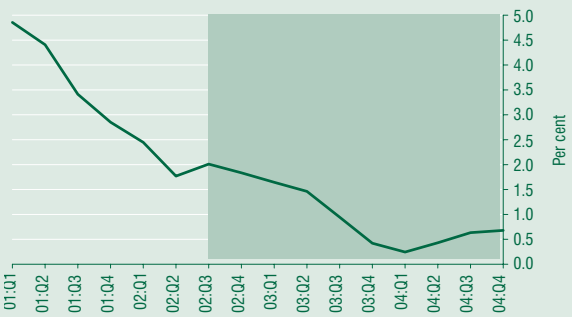
Table I-6 Assumptions of the central projection

	August 2002 projection		Current projection		
	2002	2003	2002	2003	2004
Forint/euro exchange rate	246.6*	246.6	243.6*	243.6	243.6
Dollar/euro exchange rate (cent)	99.2*	99.2	98.2*	98.2	98.2
Brent oil price (USD/barrel)	25.8*	25.8	27.6*	27.6	27.6
Imported inflation (annual average of annualised monthly growth rates)	0.4**	0.5**	1.4**	1.1**	1.1**
Gross wage growth in private sector (%)	13.0	5.0	13.4	6.0	6.0
Growth in consumption expenditure (%)	9.8	7.1	9.4	7.3	3.9

* Assumptions for the remainder of the year.

** The assumptions of the August projection apply to German tradable inflation, while for the current projection they apply to euro area tradable inflation.

Chart I-10 Projections for tradables price inflation
Seasonally adjusted, annualised quarter-on-quarter growth rates



Report, this involves a constant path fixed at the mean for the latest month (October).[4]

The current *Report* is different in that it estimates the rate of imported inflation using the Euro area rate of tradables price inflation rather than the German one, for reasons presented in the previous Chapter. However, the projection rule that the monthly growth in the inflation of Euro area tradable goods prices is in line with the historical average has remained unchanged. Our assumption on the exchange rate pass-through has also remained unchanged, but it is important to note that the anti-inflationary effects of nominal appreciation are dampened in 2003 by the ripple effects of the currently experienced high growth in wages and consumption.

The forint/euro exchange rate, in accordance with a constant assumption for monetary policy, and the dollar/euro exchange rate are fixed at the average rate of October. The numerical assumptions of the current and the August *Reports* are shown in the table below.

I. 2. 2 Details of the central projection

In the Bank's experience, methods based on expert information and process inertia have a better forecasting power over the one to two quarter horizon than economic theory-based models. Therefor the short-term forecasts for one and two quarters ahead are separated from medium-term forecasts used on the one-to-two year horizon.

Short-term forecast

Based on developments seen between July and September, the CPI is expected to rise during the final quarter. In particular, the price index for tradable goods is expected to be flat to falling in the next two quarters, as indicated by data on the third quarter and according to the short-term forecast based on the inertia of inflation process.

The price index for market services remained static in the final quarter, in a month-on-month comparison. Yet this is only expected to last during the last quarter of 2002, as the path for unit labour costs derived on the basis of the wage growth assumption will begin to exert downward pressure on inflation.

Medium-term forecast

Tradables price inflation is expected to moderate during the period to end-2003. The factor in the decline lies primarily in the Bank's wage cost and consumption assumptions for 2003, in addition to the direct impact of the earlier appreciation of the exchange rate. However, the impact of the 2001 appreciation will taper off in 2004, simultaneously with a pick-up in quarterly wage growth, pushing up quarterly rates in 2004.[5]

Market service prices will follow a similar trend with the only difference being that in early 2003 the disinflationary pressure of low wage costs on the demand side will be offset, to some extent, by the full-year effect of the upsurge in consumption in 2002.[6] As a combined result of these two opposing factors, the

[4] The effects of the decrease in the price of vehicle fuels observed in late October and early November are analyzed among the risk factors.

[5] As part of the 2003 Budget Act, the consumption tax on coffee and gold will be abolished in January 2004, which is expected to exert slight downward pressure on the price index.

[6] The factors to blame for the higher price index of market services in early 2003 also include the cancellation of the preferential VAT classification of goods transport.

rate of inflation for the year as a whole is predicted to rise until mid-2003, despite the decline in quarter-on-quarter rates, expected as early as the start of 2003. The full impact of low wage growth assumed for 2003 will only be felt after mid-2003, leading to a fall in inflation in the course of 2004 and a slight increase towards the end of the forecast horizon.

The inflation differential between market services and tradables prices is another good illustration of the full-year effect of the 2002 consumption shock in 2003. As market service prices tend to be more vulnerable to changes in demand, the inflation differential will widen in early 2003, to fall off again by late 2004. The nominal appreciation experienced in 2001 also influence the inflation differential by decreasing the inflation of tradable goods.

After discussions with agricultural experts, the Bank's assumption for the price of pork, accounting for a major share of unprocessed food products, is for moderately rising prices beginning from the second half of 2003 and lasting until the end of the forecast horizon. This is a cautious estimate, which assumes that domestic prices, despite the current situation, will not persistently break away from the euro area price level and that there is no evidence of any increase in the price level in European markets. The estimate for the price of wheat also reflects the Bank's expectation of a rising price level before the end of the forecast horizon.

All this will naturally feed through into processed food prices as well, but manufacturing wage costs also play a significant role. This is the reason why, just as in the case of tradables and market services, the price index for this group declines until late 2003, before it begins to climb up slowly in the course of 2004.

As far as the alcohol and tobacco group is concerned, tobacco prices are crucially affected by an intended increase in excise duties in April 2003, as indicated by the 2003 Budget Act.[7] The planned increase on its own will raise the rate of inflation by 0.3 percentage points in December 2003, as staff's preliminary tests suggest that the duty rise will fully feed through into consumer prices. The low estimates of motor fuel price indices in 2003 are due to the assumption that the planned duty rise will not take place in 2003, but only in early 2004.

The August projection for the inflation of regulated prices is maintained for technical reasons. This is based on the assumption that, with the planned taxation changes included, regulated prices will largely develop in accordance with the inflation target. The only departure from this rule occurs when there is reason to do so on account of price increases postponed from 2002.

As no information is currently available concerning the evolution of regulated prices in 2004,[8] the technical rule adopted is that they will change at the same rate as market service prices.

Chart I-11 Projection for market services inflation
Seasonally adjusted , annualised quarter-on-quarter growth rates

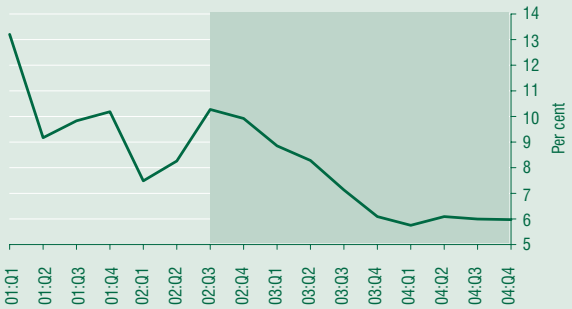
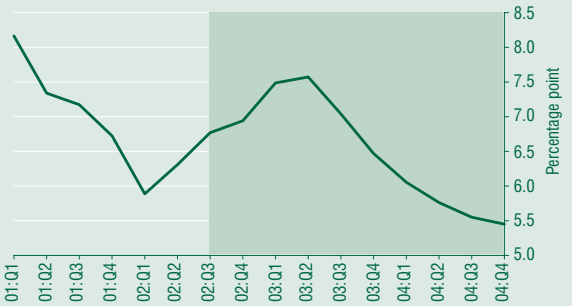


Chart I-12 Inflation differential between market service and tradables prices
Difference of year-on-year indices



[7] Although the Bank has no information on 2004, it assumes an increase in the price of cigarettes of an average rate for the tobacco group, scheduled in April for technical reasons.
[8] The Bank assumes that the zero-rate VAT classification of pharmaceuticals and textbooks will be abolished, consistent with European Union regulations.

Table I-5 Bounds of the bands in the fan chart
Changes on a year earlier

	90% lower	60% lower	30% lower	**Central path (mode)**	30% upper	60% upper	90% upper
2002 Q4	3.6	4.4	4.8	**5.1**	5.4	5.7	6.2
2003 Q1	3.3	4.3	4.8	**5.3**	5.7	6.1	6.9
2003 Q2	3.3	4.2	4.8	**5.3**	5.8	6.4	7.5
2003 Q3	3.4	4.4	5.0	**5.5**	6.1	6.9	8.2
2003 Q4	3.0	3.8	4.3	**4.7**	5.5	6.4	8.1
2004 Q1	2.4	3.5	4.1	**4.6**	5.4	6.4	8.0
2004 Q2	1.6	2.9	3.6	**4.2**	5.1	6.0	7.8
2004 Q3	1.1	2.6	3.5	**4.2**	5.0	6.0	7.7
2004 Q4	0.7	2.4	3.4	**4.2**	5.0	6.0	7.7

Table I-6 shows how deviations by the projected key variables from the basic assumptions affect the rate of inflation.

Table I-6 Changes in the central projection under a variety of scenarios

Factors	**Scenarios***	**Deviation from central projection**** (percentage points)	
		December 2003	*December 2004*
Private sector wage growth	Annually one percentage point higher gross wage growth on average in both years	0.23	0.29
Change in regulated prices	One percentage point higher rate of increase in both years	0.22	0.21
Forint/euro exchange rate	One percentage point weaker exchange rate throughout the full forecast horizon	0.15	0.08
Brent oil price	One dollar per barrel price higher throughout the full forecast horizon	0.08	0.01
Imported inflation	Half a percentage point higher price level throughout the full forecast horizon	0.14	0.02
Pork price	One percentage point higher price level throughout the full forecast horizon	0.04	0.00

**For each scenario, the shocks are assumed to occur from January 2003.*
*** Difference of year-on-year indices.*

I. 2. 3 Uncertainty surrounding the projection and some alternative paths

The Bank believes that the *size* of the uncertainty surrounding the central projection does not significantly differ from the value deriving from the volatility of historical observations. The only exception seems to be the short-term projection for oil prices based on the technical rule, which is surrounded by larger-than-usual uncertainty, due to the geopolitical situation.

In the Monetary Council's view private sector wages and oil prices have significant influence over the *direction* of the uncertainty. The assumption for wage growth poses upside risk to the central inflation projection both in 2003 and 2004. This risk, which is especially high in 2003, is offset by the downside risk to the projected global oil price profile over the full forecast horizon.

The upside risk to inflation associated with private sector wage growth is grounded in the possibility that unless economic agents change their behaviour, in other words, unless there is a change in the past labour market trend, the Bank's projected wage growth profile will be significantly higher than the central projection, especially in 2003.

The risk to the oil price projection is governed by both a short-term and a long-term trend. On the one hand, while the staff were finalising the projection, global oil prices began to sink as of late October. As a result, Hungarian petrol prices also began to fall in late October and early November, in addition to a weakening of the dollar. Provided that these trends continue until the year-end, the December CPI will be 0.2 percentage points lower than the estimated 5.3%.

On the other hand, the central projection is based on a higher oil price scenario over the full forecast horizon, due to considerations of risk management. This constitutes a downside risk over the longer term, as market indicators, such as analysts' consensus forecast and futures prices, all point to the likelihood of a lower oil price. The distribution in the fan chart is determined by this asymmetrical uncertainty over the longer term.

On the whole, the uncertainty about wages and oil prices constitutes a downside risk to the central projection for the CPI at end-2002 and to an upside risk in 2003, while the risks around the end-2004 projection are broadly neutral.

The direction of the risks is also reflected in the probability distribution. Accordingly, the probability that the price index exceeds the upper limit of the target range is at roughly 20% this December, and 70% at end-2003. The probability that inflation will fall below the lower limit of the target range is marginal in both years. In contrast, the corresponding figures for December 2004 show a much more balanced picture, with 40% probability that the price index exceeds the upper limit and 20% that it moves below the lower limit.

Demand and Output

II. 1 Demand

The Bank has revised down its current forecasts of economic growth for both 2002 and 2003 by more than half a per cent relative to the August *Report*. The major difference between the current and the previous projection reflects the Bank's assessment of future developments in external demand. Information which has become available for 2002 since the previous *Report* suggests that, following a pick-up in the second quarter, external demand will likely stagnate in the second half. The current forecast for 2003 also contains a somewhat more moderate increase in external demand. From among the GDP items on the uses side, this projected lower external demand has had a downward effect on the Bank's forecasts of exports and corporate investment and, on the production side, on its forecast of manufacturing value added.

According to actual data for the first half, Hungarian economic growth has been driven by the very high level of household consumption in 2002. Investment has been a less robust contributory factor. Net trade has dampened the rate of economic growth a little. The Bank expects the above developments to continue in H2, with a higher negative net trade balance. The high negative value of inventories and the statistical error in H1 suggests inconsistencies between the uses and production sides. Due to the problems with measuring gross domestic product, the Bank sees it a legitimate choice to base the forecast of GDP in the *Report* primarily on its projection for the production side, following a cautious central bank approach. The uncertainty in aggregate GDP figures, however, do not cause a problem in forecasting inflation, as according to the Bank, household purchased consumption will likely be a driving force of movements in prices on the 1 to 2-year horizon.

The Bank's forecast for 2003 is conditional, as, we assumed a very modest increase in corporate sector gross wages as a basis. The current lower expected economic growth for 2003 relative to the previous forecast reflects the lower outturn for growth in investment and exports, in addition to a somewhat more modest actual level of household demand than previously thought.

In 2004, domestic demand will likely grow at a more modest rate compared with the previous year, but this will be offset by a pick-up in external demand, with the result that economic growth may turn out to be higher over the year as a whole.

Chart II-1 Quarterly GDP growth projection
(Annualised quarter-on- quarter growth rates)

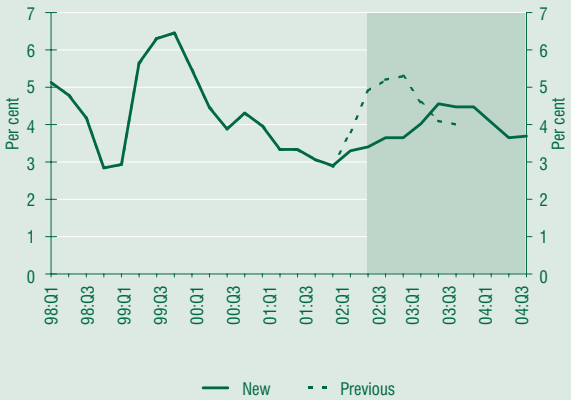


Table II-1 Growth in GDP and its components
Percentage changes on a year earlier

	Actual	Projection		
	2001	2002	2003	2004
Household consumption	5.0	8.3	6.4	3.4
Household consumption expenditure	5.6	9.4	7.3	3.9
Social transfers in kind	2.5	3.5	2.5	1.3
Public consumption	4.4	2.8	1.5	1.5
Gross fixed capital formation	3.5	6.5	4.3	4.2
'Final domestic sales'*	4.6	7.3	5.4	3.5
Inventory investment and other non-specified use**	(-41)	(-45)	(-20)	(+20)
Domestic absorption	2.0	5.6	4.9	3.7
Exports	9.1	4.8	5.7	9.7
Imports	6.3	8.4	7.1	8.7
GDP	***3.7***	***3.2***	***3.9***	***4.2***

* Final domestic sales = household consumption + public consumption + gross fixed capital formation.
** This reflects the statistical error which may be significantly negative in 2002.

Chart II-2 Business expectations index of the German IFO Institute

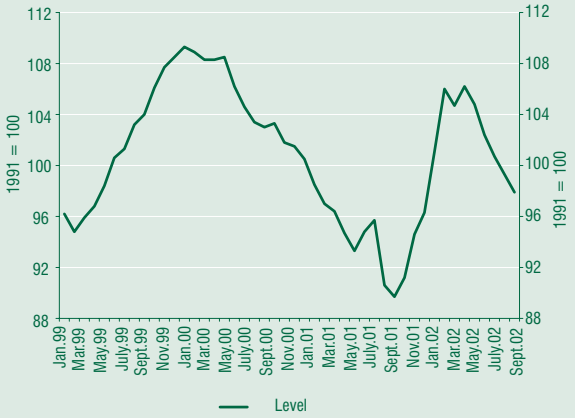


Chart II-3 Current and previous projections for external demand

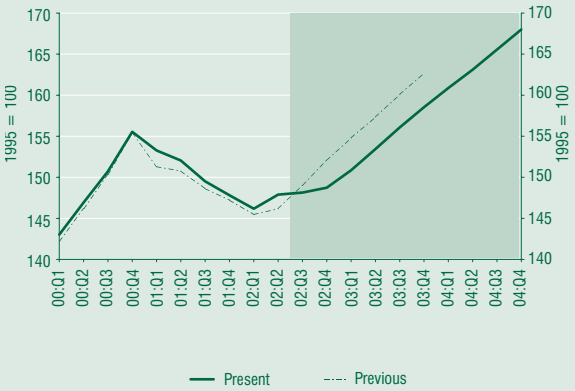


Table II-2 Various forecasts of effective external demand for Hungarian goods and services*

	2002		2003		2004
	Current	Previous	Current	Previous	Current
MNB forecast	-1.9	-0.9	4.7	7.1	6.2
EC	-1.1	1.1	5.9	7.3	7.1
OECD	-1.4	2.1	5.5	7.4	7.6
IMF	-0.4	1.8	5.7	6.4	-

* Weighted import growth of Hungary's 11 major trading partners, in per cent.

Sources: EC – Economic Forecast (November 2002 / April 2002)
OECD – STEP October 2002 / Economic Outlook March 2002)
IMF – World Economic Outlook (October/April 2002)

II. 1. 1 External demand

Whereas the 15 EU member states' GDP grew at a slow but steady rate in the first half of 2002, imports by Hungary's most important trading partners rose above expectations in the second quarter, following a massive decline in the first quarter.[9] Third-quarter industrial production data of the euro area showing stagnation and the subdued level of German new orders suggest that the anticipated strong pick-up fails to start in 2002 H2. Consequently, robust import growth registered by Hungary's trading partners in Q2 is seen as a one-off event. This view is underpinned by the fact that, based on the evidence of business confidence surveys, corporate managers have grown increasingly less optimistic about their outlook for the future since mid-year, despite their expectation of a marked pick-up in the second half.

Over the shorter-term, the Bank's forecasts of external demand are fundamentally determined by stagnating European business activity and uncertainties facing large firms. The combination of these factors has resulted in a deeper decline in external demand in 2002 on the annual level relative to the forecast in the previous *Report*.[10] However, the effect of these factors is likely to wear off in the medium term, and external demand may start to return to around trend from early 2003. The negative impact on the economy of corporate scandals in the United States, which has been transmitted to Europe through corporate bond spreads, as well as the higher price of oil on account of global political tensions, are slackening the pace of this recovery. The Bank expects lower annual average growth in external demand than other institutions.

II. 1. 2 Fiscal stance

The Bank's analysis of inflation and economic growth focuses on the impact of fiscal policy on domestic demand. This impact is characterised not so much by the current figure for the official deficit as by changes in the general government's SNA-based primary balance, regularly estimated by the Bank for analytical purposes.[11]

The expansionary impact of fiscal policy is estimated to be 3.4% of GDP in 2002. In view of the fiscal measures and latest announcement by the government, the demand impact is revised slightly up relative to the projection of the August *Report.* This is because the increase in receipts due to a number of minor items will be exceeded by the extra expenditure accounting for 0.7% of GDP. [12]

Simultaneously with the drafting of the *Report* , the Government and Parliament debated the legal acts that would deter-

[9] Import demand of Hungary's 11 major trading partner is considered as the effective external demand for Hungarian goods export.

[10] Technically, upward revisions to 2001 data also lead to lower growth in 2002.

[11] Introduced in 1998, it was first systematically applied in the Bank's 1999 *Annual Report.* For more details, see the *Manual to Hungarian Economic Statistics.*

[12] The expenditure related to agriculture and natural disasters is expected to be higher than forecast in August, not only with respect to the central budget, but also due to accounting for some of the Hungarian Development Bank (MFB) loans as subsidies, which have been estimated on the expected amount of losses calculated after the audits. On the other hand, the Magyar Nemzeti Bank has no complete information on the underlying content of the announced debt settlement (nearly 3% of the GDP), while it includes transfers to MFB. The only information in the announcment which required a change in the August estimate was accounting of sports-related investment (amounting to 0.2% of GDP).

mine the course of next year's fiscal developments. Relying on partial information, the Bank staff have made a preliminary estimate of the size of the expected fiscal demand impact, based on next year's draft budget, the tax bills and other official government documents. [13]

In the central projection, fiscal policy current demand by 1.2% of GDP in 2003. The underlying factor is that certain measures passed by the government during 2002, such as the rise in public servants' wages and the tax refund on minimum wages, will by themselves constitute significant upward pressure on the demand impact in 2003. The fiscal policy envisaged in the 2003 Budget will substantially contract the demand impact so that it will amount to 1.2% of GDP as a combined result of the two opposing developments.

There may be a difference between the expected demand impact and the central projection in 2003, due to the uncertainties surrounding macroeconomic developments and fiscal policy measures which are currently difficult to anticipate. Taking these into view, the Bank expects the contractionary impact on demand to be in a range between 0.8%–1.4% in 2003.

Table II-3 Expansionary impact of general government on demand – central projection
As a percentage of GDP

	2000	2001	2002***	2003***	2004***
	Actual		Preliminary estimate	Projection	PEP
1. Change in SNA operational deficit (2+3)*	**-0.9%**	**1.7%**	**3.5%**	**-1.3%**	**-1.5%**
2. Indirect demand impact (change in real interest expenditures)	-0.3%	-0.3%	0.1%	-0.1%	-0.1%
3. **Direct impact (4+5)** ***(change in SNA primary balance)***	**-0.6%**	**2.0%**	**3.4%**	**-1.2%**	**-1.4%**
4. Change in GFS primary balance	1.2%	0.5%			
5. Change in other factors (SNA corrections)**	-1.8%	1.5%			

* Calculation of the operational deficit has been based on the assumption that neither inflation compensation incorporated in interest nor its within-year fluctuations affect demand. Accordingly, the real interest rate has been smoothed using moving averages.
** Other factors represent those channels of tightening or widening demand that are not reflected in the official primary balance. These factors include the effects on demand of the Hungarian Development Bank (MFB), ÁPV Rt, the National Motorways Company (NA) and deposit accounts.
*** The estimate refers to the whole demand effect, and it does not contain every detail.
The (+) sign denotes an expansion of demand, and the (–) sign denotes contraction. Subtotals may not always add due to rounding.

In the absence of official decisions and information, the Bank's assumption of general government contractionary direct impact on demand is 1.4% in 2004, deriving from the Government's Pre-accession Economic Programme.

It is particularly relevant for the Bank's forecast of labour market developments, presented in Chapter III, that net labour income growth may be 2.4 percentage points stronger than gross labour income growth. Basically, this will be caused by the full-year effect of the tax reduction implemented in September; and the balance of next year's government decisions, including a higher increase in the ceiling of contribution payments, the freezing the family tax allowance, etc., is expected to have a rather muted effect on incomes. Explanation for this is that other measures resulting in a decline in tax receipts, for example, the reduction in health contribution rates, continua-

[13] The items of information available for the staff on 5 November 2002, the date of closing calculations, included the budget and taxation bills submitted to Parliament, as well as the draft government proposal on the 'Tasks and financing relating to the development and maintenance of the national road network between 2002 and 2006'.

tion of the pension reform, will not have any major impact on the difference between gross and net labour income.

Government sector wages and transfers directly influence household demand. Revising up slightly the forecast of the general government gross wage bill, the Bank expects an increase of 31.3% in 2002. In the current estimate, the gross wage bill rises by another 17.1% in 2003, caused basically by the full-year effect of the 50% increase in public servants' salaries. Apart from these factors, the Bank has only taken into account the final implementation of public servants' salary increase in 2003 H2. Naturally, this will have a full-year effect on 2004, which may be realised on top of the neutral (i.e. proportionate with GDP) wage increases.

In 2002, the increase in government transfers to households is expected to be significantly higher than the Bank's earlier forecast of 17.3%. In addition to one-off transfers to old-age pensioners, one-month benefits to families, increases in the family allowance and scholarships, a decision was made by the Government to offer the purchase in cash from individuals their existing shareholdings in agricultural cooperatives. The combination of these factors will likely raise transfer growth to 19.0%. Beyond the full-year effects, the Bank's forecast contains mostly government measures affecting pensioners (the one-week amount of 13th month pension and the announced 8.4% increase in old-age pensions calculated on the basis of the Swiss index). However, due to the absence of one-off expenditures, such as payments to cooperative stakeholders and one-off pensions, the nominal increase in transfers will likely slow to 5.5%.

The Bank expects the volume of broadly defined public fixed investment to increase by 20%–25% in 2002. Staff do not currently have detailed information in respect of plans for 2003. The proposed expenditure cuts in the central budget are likely to reduce public investment spending. But fixed investment activity of local authorities and accrual-based spending on motorway construction are difficult to anticipate. On balance, investment spending is expected to fall next year. This may be reflected gradually in the statistical data released by the CSO, due to the usual timing differences in recording on account of technical reasons. Therefore, the level of fixed investment activity, as measured by the CSO, will likely be slowed in 2004 by the envisaged curtailment of spending in 2003.

Table II-4 Net income, consumption expenditure and investment spending
Year-on-year percentage changes

	Household real net income*	Consumption expenditure	Investment spending
2002	12.6	9.4	20 - 30
2003	5.8	7.3	5 - 10
2004	5.1	3.9	0 - 5

* Real net income has been approximated with the sum of net wage bill and social transfers in cash.

II. 1. 3 Household consumption, savings and fixed investment

In the Bank's current forecast, real consumption expenditure rises by 9.4% this year, associated with an increase in the rate of accumulation and a fall in the financial savings rate. A 7.3% increase in consumption expenditure pertains to a lower growth in private sector wages in 2003, described at *Labour market and competitiveness* part. In the central projection, household consumption expenditure increases by 3.9% in 2004.

The current forecast of the increase in consumption expenditure is lower than in the previous *Report*. This is explained by the evidence of data released since then, indicating a lower-than-expected increase in consumption in the second quarter

(during the first half the consumption expenditure increased by 9.1%).[14] Due to the massive increase in public servants' salaries at year-end and the reduction in tax imposed on the minimum wage, the usual sentiment indicators must be taken into account with restraint. Consequently, the Bank's short-term forecasts have been based to a greater extent on developments in income. Based on these considerations, consumption expenditure growth is expected to gather strength in Q3–Q4, with the carry-through effect of this being likely reflected in 2003 Q1 data as well[15].

The effect of significant increase in income makes more difficult to the forecast of consumption expenditure both 2002 and 2003. This is due to the fact we have no experience on the size of households' smoothing behaviour in such amount income shock (the increase in general government sector wages in Q4 and the change to the tax on minimum wages). The year-end extra income is expected to pay to households characterised by higher marginal propensity to consume thus we apply higher consumption propensity during this period than generally used in our model. In medium term consumption growth will likely return to the trend of income growth and it will likely develop closely aligned with the former on the forecast horizon.

Although the extent to which households will spend their surplus income earned in 2002 Q4 will strongly influence developments in the savings rate in the year as a whole, it will likely remain well below the previous year's even assuming a modest increase in consumption in Q4. The rise in investment spending and the accumulation rate both may be higher than the Bank forecast earlier based on households' low propensity to save in the first nine months of the year, high income growth and the increase in consumption remaining a little below income growth as well as the fast build-up in property loans.

Investment in property accounts for a substantial share of household investment expenditure. As household investment is published by the CSO within the household income balance sheet with a substantial lag, the Bank derives its data using the number of completions and the number of building permits. The number of newly issued permits followed a stable course during the first three months of 2002, relative to the previous years. Average completion time is estimated at 1 to 2 years, so the upsurge in the number of building permits seen in 2000 has only fed through into the number of completions during 2001 and 2002. Both in 2001 and 2002, growth in the number of building permits slowed down relative to the previous years. In view of the average completion time, investment spending is projected to grow at a rate of 5 to 10% in 2003 and 0 to 5% in 2004.

The uncertainties surrounding the forecasts of consumption expenditure for 2002 and 2003 are strongly influenced by the distribution of consumption arising from additional income between 2002 Q4 and 2003 Q1, i.e. the extent to which households will smooth their consumption. If households characterised by even higher marginal propensity to consume will be the major beneficiaries of this additional income, then con-

Chart II-4 Household real net income and consumption expenditure
Annualised quarter-on-quarter changes

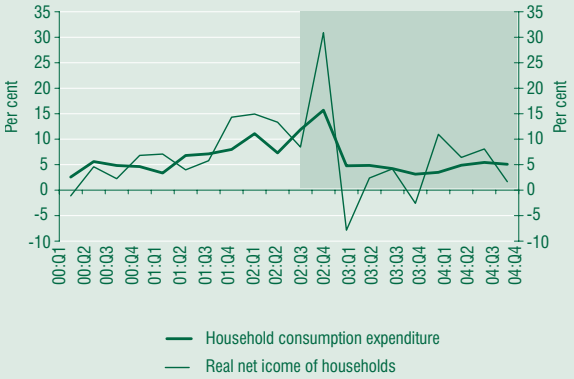
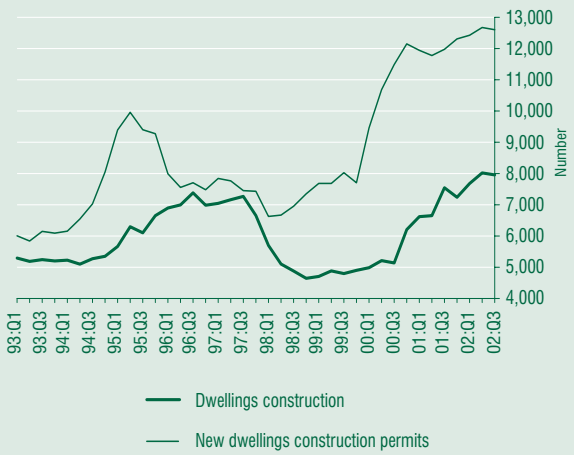


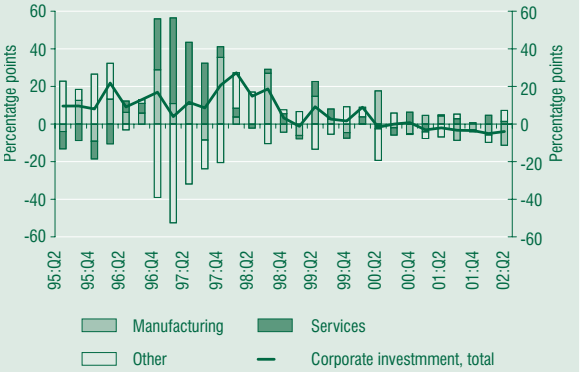
Chart II-5 Dwelling construction and construction permits



[14] Although the GKI household confidence index was at its highest level to date in Q3, the index generally follows consumption expenditure with lag (see MNB Background Studies 2/2001), and it actually fell in September.

[15] Information about retail trade turnover, most relevant to consumption expenditure, are only available up to August. Although monthly data are very noisy, retail trade in August appear to reinforce the Bank's forecast of a pick-up in consumption expenditure in Q3.

Chart II-6 Corporate fixed investment in a breakdown by sub-sector*
Annualised quarter-on-quarter contributions to growth



* The times series for both corporate investment and its components are MNB estimates (for more details, see Manual to Hungarian economic data).

Chart II-7 Current and expected capacity utilisation in manufacturing
KOPINT survey

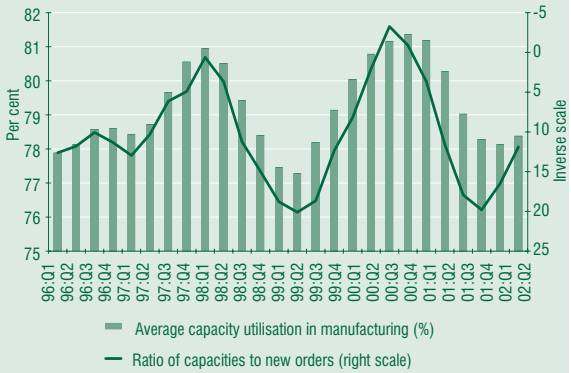


Chart II-8 Whole-economy fixed investment and investment imports
Annualised quarter-on-quarter growth rates

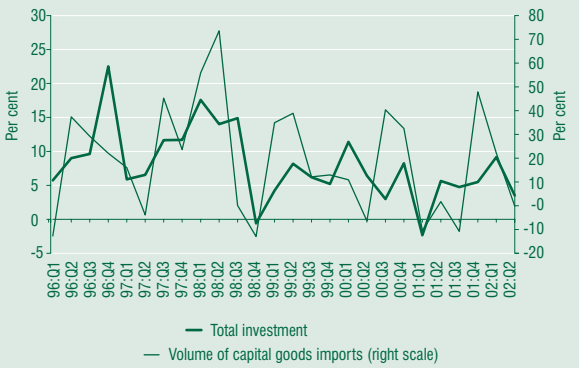
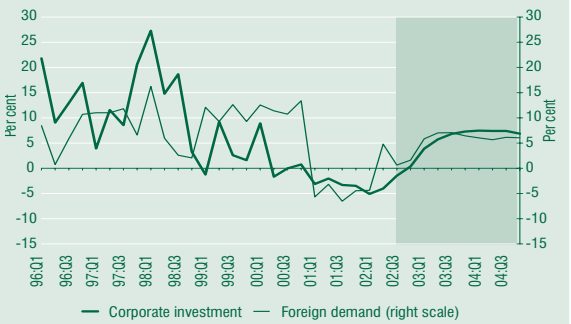


Chart II-9 Forecasts of corporate fixed investment and external demand
Annualised quarter-on-quarter growth rates



sumption may be higher in 2002, and lower in 2003, than the Bank's central projection.

II. 1. 4 Corporate investment

Consistent with external economic activity edging up more slowly this year, the Bank has revised down a little its forecast of business fixed investment. In 2002, corporate investment is expected to fall by 3,4%, in contrast with increases of 3% and 7,2% in 2003 and 2004 respectively.

Actual data for the second quarter show that the decline in corporate investment, which started at end-2000, continued. In the first half of 2002 corporate investments decreased by 3,7%. Moreover, the pace of this decline barely slowed relative to the previous period. This suggests that assessments of sales perspectives did not improve significantly in Q3. Within corporate investment, it was primarily the level of manufacturing investment sensitive to swings in external business activity, which fell to an extent unseen since 1995. Services sector corporate fixed investment activity stalled in the period.

Major uncertainties remain in the assessment of developments in corporate investment over the short term. According to the survey conducted by GKI, Hungarian business expectations improved in Q3, which, however, must have reflected the delayed effects of the recovery of industrial output in the early months of the year, (given that the indicator is assumed to be lagging in nature).[16] The Kopint Datorg's survey on the other hand showed a slight deterioration of business confidence in Q3.

That two of the generally useful Kopint survey based capacity utilisation measures has recently moved into opposite directions also shows the uncertainty of the current outlook. The measure for capacity utilisation started to fall again in the latest quarter indicating an increase in superfluous capacities. As a result of the current data revision, the previously monitored rise of capacity utilisation in H1 appears to be only a slight slowdown in the decreasing trend. However, the expectations concerning the future developments of capacity utilisation are still highly optimistic and forecast an increasing demand for new capacities. Imports of capital goods were stagnating in Q2 following a period of solid expansion, which is again considered as a sign of decreasing corporate investment. In a word, the question whether the fall in business investment has already bottomed out is still hard to answer.

In the Bank's current forecast, the growth rate of corporate investment is lower in 2002 relative to the earlier forecast, due to a slower-than-expected recovery of external demand. Taking into account the actual data for Q2, which turned out to be lower than previously thought, corporate investment is likely to fall in 2002. In the Bank's expectations, corporate investment will only pick up in 2003, consistent with the improvement in external cyclical conditions.

II. 1. 5 Inventory investment

According to the evidence of GDP data for Q2, the item 'changes in inventories and statistical error' reduced GDP growth significantly, by 3.1 percentage points, in the period relative to a year

16 On the predictive power of business surveys conducted by GKI and Kopint, see MNB Background Studies 3/2002.

previously. In addition to information about changes in inventories, the CSO records under this heading the differences between accounting for GDP growth on the production and uses sides. However, in the CSO's treatment of the two items are not separated. Consequently, the Bank uses other statistical data to analyse movements in corporate inventory levels.

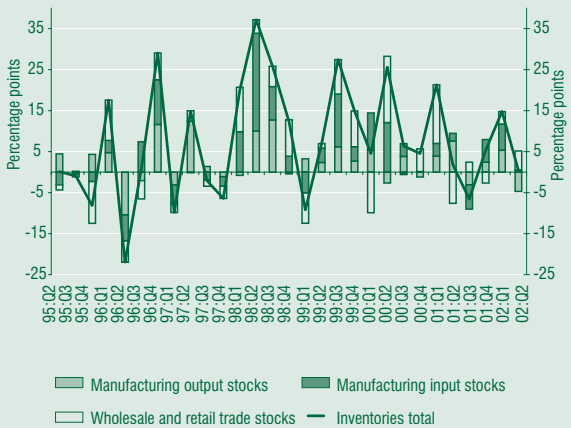
Analysing the historical time series of direct statistical data on inventories, total inventories rose gradually in the period since 1995, with rare occurrences of a fall in their level. The rising trend of inventories may have been closely related to the uninterrupted rise in output. However, it was noted in the August *Report* that the growth rate of inventories lagged behind output growth (i.e. there was a fall in the inventories-to-output ratio) in past years, which presumably was facilitated by development of selling and production networks.

The historical falls in inventory levels is a proof of adjustment efforts by companies struggling with difficulties in sales. In the past five years, inventories fell only twice relative to the previous quarter – in 1999 Q1 and 2001 Q3, i.e. during the Russian financial crisis and the current slowdown in business activity. During these episodes, companies probably judged that the level of their inventories were excessively high compared with their sales, and they decided to reduce the costs associated with maintaining inventories by running down their stocks.

Measured at constant prices, business inventories were flat in 2002 Q2, the CSO release of statistical data for inventories showed.[17] That means that there were no significant changes in inventories in that period. As situation in 2001Q2 was similar to that, the contribution of inventory changes to the annual growth of GDP seemed to be negligible in 2002Q2 according to the CSO inventory statistics. Therefore, the Bank assumes the statistical error to have caused a significant reduction on the uses side of GDP in the previous quarter.

Inventories stagnating in Q2 following the pick-up early in the year may be a sign that companies continue to be pessimistic about their future sales prospects. Moreover, manufacturing inventories actually fell in the period, which, in view of the external determination of the industry, may indicate that domestic companies expect external business conditions to deteriorate in the near future.

Chart II-10 Inventory changes in manufacturing and trade
Annualised quarter-on-quarter contributions to growth



II. 1. 6 External trade

The sluggish pace of recovery in external business conditions, the unfolding effects of the real appreciation which started last year and the dynamics of domestic demand are the most major factors determining developments in Hungarian foreign trade. In 2002 our central projection for the annual growth rate is 4.8 per cent in the case of exports and 8.4 per cent in the case of imports. The growth rates for 2003 are 5.7 and 7.1 per cent respectively, while for 2004 they are 9.7 and 8.7 per cent. [18]

As was discussed in the previous *Report*, the high growth rates registered in the first half of this year did not reflect turns

[17] For more dteails about the different statistics on inventories, and the difficulties of deflating see the Chapter 9. of the Manual to Hungarian Economic Statistics.

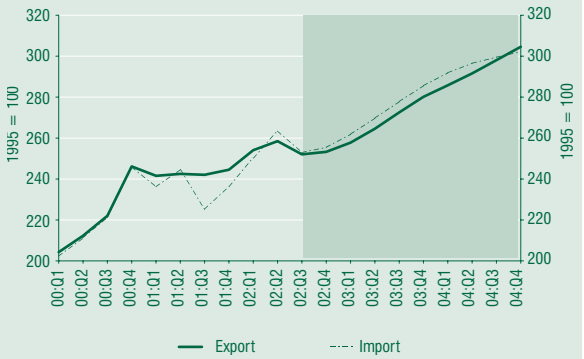
[18] In the preparation phase of this report the September foreign trade data were published. Based on those, the value of exports seemed to stagnate in Q3 while that of imports was on the rise. Using an estimated unit value index for Q3, export volume increased by 5-6 per cent in the first three quarters of 2002, while import volume increased by 7-8 per cent.

in business activity, but rather the effects of individual factors. The influences of a weaker external demand relative to earlier expectations will be reflected in goods exports growth in H2. Moreover, the volume of services exports has been rising much more slowly than that of goods exports in the course of 2002, due to the particularly low outturn for tourism revenue. In the light of these, the Bank expects whole-economy exports to be lower in 2002 relative to the forecast in the previous *Report*, despite strong growth in goods exports in H1. In 2003, the rate of export growth is also expected to be lower, by as much as 2 percentage points, in comparison with the forecast in the August *Report*, mainly on account of a more robust real appreciation relative to earlier expectations. Nevertheless, a recovery is anticipated in 2004, when the driving force of external demand will be stronger and the effect of real appreciation less robust.

The effects of the factors determining the import path are far more complex. Although the expansion of domestic absorption is likely to be lower in 2002 relative to the previous forecast, backed by the high growth rates in H1, the annual growth of imports will hardly be lower than that presented in the previous *Report.* In 2003 along with higher household consumption and considerably lower fixed capital formation domestic absorption will almost remain intact compared to the previous forecast, however due to the different import content of its two components the growth rate of imports can even be 1 percentage point lower. From 2004, economic growth is likely to be driven by exports, rather than by domestic demand, on account of lively external business activity. The growth rate of domestic demand is now seen to slow down considerably relative to 2003, but import growth may remain high due to the import needs of rising goods exports.

With a more modest rise in the export path, marginally diminished import growth may worsen the trade balance in 2002-2003. The deficit is expected to remain high in 2004, but the growth of exports could outperform that of imports, since the growth rate of domestic demand will exhibit a sizable drop in 2004.

Chart II-11 Exports and imports of goods and services



II. 1. 7 External balance

The Bank estimates the current account deficit to be higher both in 2002 and 2003 relative to the forecast in the previous *Report.* Explanation for this higher-than-expected deficit is to be found in the increase in the general government borrowing requirement as a percentage of GDP and the lower net financing capacity of households.

In the Bank's current forecast, the current account deficit amounts to 3.5 billion in 2002 (5.2% of GDP). The rise in general government borrowing requirement is estimated to be nearly 3% in proportion to GDP. An expected fall in household savings will likely result in a slight change in the net position of the private sector. With a lower economic growth in comparison with the previous year, household sector consumption and investment are expected to rise more strongly than disposable income. Companies' net financial position in a proportion to GDP is likely to remain broadly unchanged relative to the previous year, as the Bank estimates their disposable income to be little different from its value as a share of GDP,

but they will likely cut back on their investment spending and run down their stocks.

In the current forecast, the external borrowing requirement rises slightly in proportion to GDP in 2003. General government borrowing requirement will likely fall much less, by 1.2 % of GDP, relative to the forecast in the previous *Report*. The deterioration in the private sector's financing capacity is expected to be more pronounced. Net savings of households will likely fall further as a percentage of GDP, consumption and accumulation growth will be higher than that of disposable income, which, though still high, will be more modest than in the previous year. Encouraged by a pick-up in external business activity, companies' are expected to raise spending on fixed investment, which will be associated with a slight increase in the sector's borrowing requirement.

The Bank does not anticipate an additional increase in the external borrowing requirement in proportion to GDP in 2004. It is currently assumed that the general government borrowing requirement will fall by 1.5% in proportion to GDP, consistent with the medium-term economic policy objectives. The current estimate contains a decrease in the private sector financing capacity requirement, as companies' fixed investment activity will likely gather momentum.

Table II-1 The current account deficit and financing capacity of sectors

	2001	2002	2003	2004
	Estimates	Forecasts		
I. General government*	(-5.0)	(-7.8)	(-6.6)	(-5.1)
II. Private sector (1+2)	3.5	2.8	1.4	0.2
1. Households	5.2	2.6	2.2	2.0
2. Corporate sector**	(-1.7)	0.2	(-0.8)	(-1.8)
Financing requirement (I.+II.)* **	**(-1.5)**	**(-5.0)**	**(-5.2)**	**(-4.9)**
Current account balance	**(-2.1)**	**(-5.2)**	**(-5.5)**	**(-5.2)**
– in Euro billions	***(-1.2)***	***(-3.5)***	***(-4.0)***	***(-4.1)***

Based on the 2002 methodology of C/A.
* Specially constructed indicator to describe the net saving position of general government. It is different from the general government balance.
** Financial and non-financial corporations combined. Government spending on motorway construction is included in data on the general government sector.
*** On a cash-flow basis. The external financing requirement also includes both the current and capital account balances.

II. 2 Output

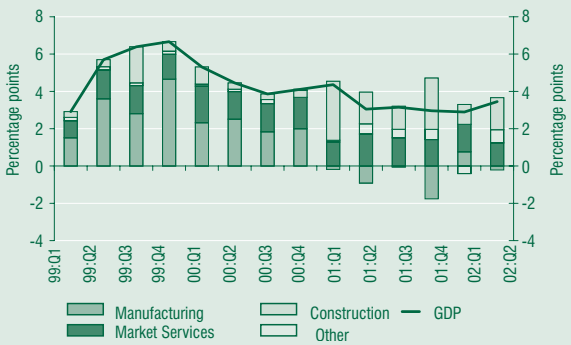
On the production side, the Bank has revised down its forecasts of both manufacturing and services sector value added relative to the previous Report. Manufacturing value added is currently expected to fall slightly in 2002 and to rise by around 4,7% in 2003 and by 7% in 2004. The revision to the forecast of external demand and lower-than-expected actual data for the second quarter both played a role in the Bank altering its earlier expectation. Services are expected to increase around 4% in 2002 and around 4,5% both in 2003 and 2004. This rate is significantly lower than previously envisaged.

Developments on the production side in Q2 continued to be shaped by stagnating industrial output and robust increases in market services and construction value added. Manufacturing gross output barely rose in the first half of the year, the outturn for August remaining near the level registered in March.[19] The pick-up in activity observed in the early part of the year, induced by strong performances within machinery and equipment, particularly those by agricultural machinery and motor vehicle manufacturers, has lost some of its momentum in recent months. This reinforces the Bank's view that domestic output may not break away permanently from developments in external business activity. Another factor suggesting the weak link between manufacturing output and domestic demand is that output of consumer goods has been falling gradually in recent months.

The Kopint Datorg's business tendency data indicate that, on balance, the assessment of short-term outlook for output growth deteriorated in Q3. According to the survey, companies judged

Chart II-12 Composition of the production side of GDP

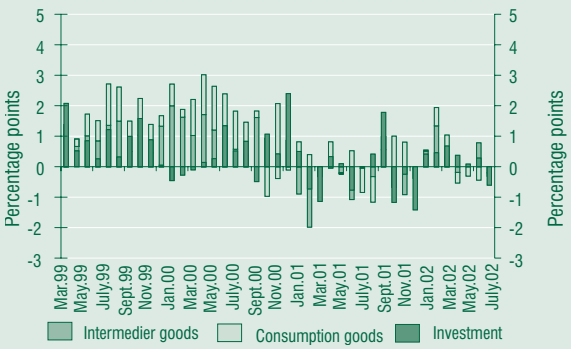
Annualised quarter-on-quarter contributions to growth



*The category 'Other' also includes public sector value added, in addition to mining, and electricity, gas, steam and water supply.

Chart II-13 Grouping industrial output growth by final use

Annualised quarter-on-quarter contributions to growth



* Smoothed data.

[19] The published data on industrial production in September did not alter our view of weakening growth: the strong monthly data had only a limited effect on quarterly developments.

Chart II-14 Gross manufacturing output and value added
Annualised quarter-on-quarter growth rates

Chart II-15 Forecasts of manufacturing value added and external demand

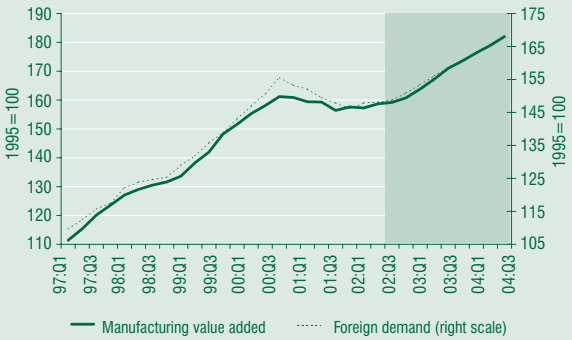


Chart II-16 Growth in market services in a breakdown by sector
Annualised quarter-on-quarter contributions to growth

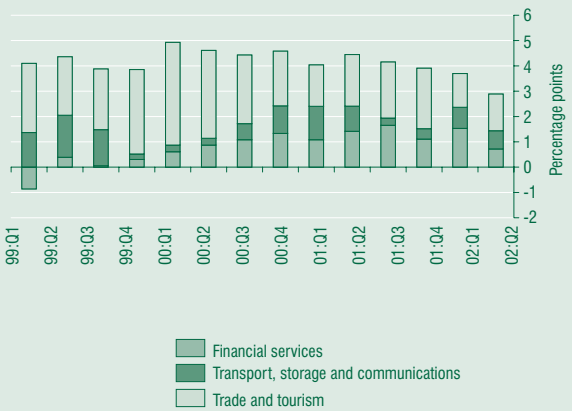


Chart II-17 Construction value added
1995 = 100

the perspectives of domestic sales and Eastern exports less favourably in Q3 than earlier, and their outlook for EU exports were broadly comparable with those in the previous quarter. Although sentiment indicators are considered to have less forecasting power around turning points, the sharp change in the positive expectations noted earlier may suggest a further slowdown in manufacturing production for the rest of the year.

In contrast with the Bank's earlier expectation, the level of manufacturing value added fell slightly in Q2 relative to the previous quarter, and in the first half of 2002 it was 1% lower than the previous year level. This meant the gap between growth in output and value added continued to widen. Explanation for the rising gap is that, within manufacturing, output has recently been rising in industries registering a relatively smaller value added ratio (for example, machinery and equipment). Given the Bank's expectation that machinery and equipment will continue to be the driving force of any pick-up in industrial activity, the current forecast reflects the expectation that the gap between growth in output and value added will remain.

In the current forecast, manufacturing value added falls slightly in 2002. The Bank expected a small increase in August Report; however, the lower-than-anticipated actual data for Q2 and the forecast of a more modest external demand suggest a slower pick-up in manufacturing activity for the remainder of the year. Consistent with developments in external demand, the Bank expects manufacturing value added to grow by 4.7% in 2003 and by around 7% in 2004.

Market services value added continued to expand by around 4% in Q2. However, the pace of this growth slowed relative to the previous quarter. In its August forecast, the Bank expected growth to continue edging up, explained by the expansion of consumption demand. Actual data for Q2, in contrast, show that the effect of consumption demand on developments in market services was smaller than the Bank previously envisaged. This appears to be reinforced by growth in market services in a breakdown by sector. Value added in trade, and hotels and restaurants, directly influenced by household consumption, rose only slightly in Q2, at rates below those recorded in earlier periods.

Taking the above factors into account, market services are only expected to rise by 4% in 2002 and by around 4.5% both in 2003 and 2004.

Although construction value added accounts for only some 5% of total GDP, it nevertheless made a strong contribution to GDP growth with a growth rate of above 15% earlier this year. The robust upsurge in construction activity continued in Q2, but the rate of this growth slowed relative to Q1. There was also a fall in new orders for the sector's output. This suggests that we may have seen the peak of the current cycle in construction. The combination of public motorway construction and homebuilding has been giving an impetus to the construction cycle. As growth in these two activities are only expected to slow down in 2003, the Bank forecasts the high growth rate of construction value added to remain in the course of this year. In the current forecast, construction output grows by above 15% in 2002, by 10% in 2003 and by around 5% in 2004.

III. Labour market and competitiveness

Private sector wage growth continued to be strong in mid-2002. This meant that there appeared to be no firm evidence of wages adjusting to the lower inflation environment. Actual data have been released since publication of the previous *Report* show the continuation of past trends – manufacturing sector wage inflation slowed a little, with the number of employed persons falling further; in market services, the rate of wage growth stabilised a high level, in addition to a rise in employment.

Although the tendency of nominal appreciation of the forint vis-à-vis the euro has stopped in 2002, unit wage cost based real appreciation and the deterioration in competitiveness have continued, due to continued high growth in wages and modest gains in productivity.

Reflecting the request of the Monetary Council, wage forecast for next year, similarly to the previous *Report*, is based on the assumption that private sector gross wages will be raised only very modestly in 2003. However, the Bank has revised up its conditional forecast of gross wage growth from 5% to 6%, in line with the Government's proposal for gross wage increases.

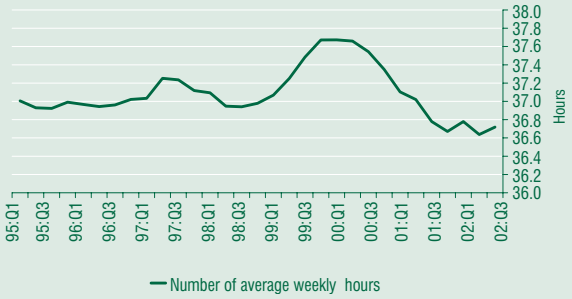
The current forecast for 2004 is based on the assumption that, taking into account the pick-up in economic growth and gains in productivity, there is no substantive reason to anticipate a slower net real wage growth relative to the conditional forecast of the previous year. Therefore, in the forecast both gross and net nominal wages rise by 6%.

Table III-1 Labour market data
Year-on-year change, per cent

MNB estimate	Forecast					
		August 2002 *Report*		November 2002 *Report*		
	2001	2002	2003	2002	2003	2004
Manufacturing						
Employment*	-0.7	-2.2	-0.2	-1.8	-0.6	1.3
Wage inflation	14.4	12.0	4.8***	12.3	5.7***	5.1***
ULC**	9.7	7.5	-2.4	9.2	0.1	-1.4
Market services						
Employment*	2.9	1.0	0.9	1.4	1.2	1.2
Wage inflation	14.7	13.9	5.2***	14.4	6.3***	6.8***
ULC**	11.1	8.2	0.9	9.8	2.5	3.2
Manufacturing + market services						
Employment*	1.1	-0.6	0.4	-0.2	0.3	1.2
Wage inflation	14.5	13.0	5.0***	13.4	6.0***	6.0***
ULC**	10.2	7.6	-0.6	9.3	1.3	1.1

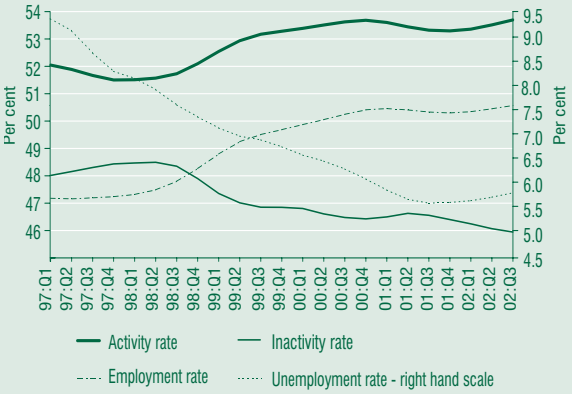
* The *Report* contains an adjustment for changes in the number of full-time employees.
** ULC denotes nominal changes in the unit labour cost based on value added.
*** Conditional forecast.

Chart III-1 Average weekly number of hours worked by manual workers in manufacturing*



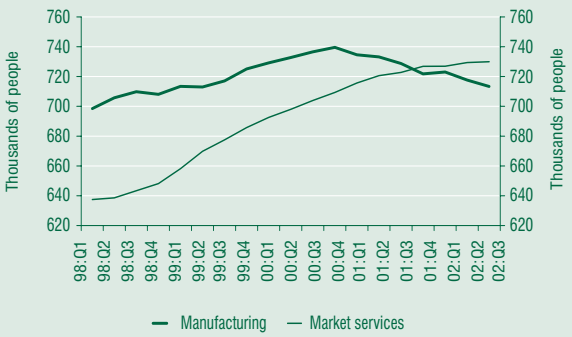
* Seasonally adjusted data, recalculated using statistical methods, for businesses employing more than 5 people (source of original data: CSO). Actual data are available up to August; September data are estimated based on statistical methods.

Chart III-2 Labour market indicators*



*Source of original data is the Labour Force Survey of the Central Statistical Office. Derived from the seasonally adjusted and smoothed data.

Chart III-3 Changes in the number of full-time employees*



* Seasonally adjusted data, calculated using statistical methods, for businesses employing more than 5 people (source of original data: CSO).

III. 1 Use of labour

The decline in the average number of hours worked and the intensity of labour use in manufacturing has stopped in the summer of 2002. This is important, as variations in the average number of hours worked is generally an early indicator of changes in demand for labour and employment. However, due to the noisiness of the time series the quarter in which the trend reversal is likely to occur cannot be clearly judged.

In the third quarter of 2002 the employment ratio and the proportion of economically active persons within the working-age population rose slightly and inactivity fell.

The decline in manufacturing employment continued in the third quarter of 2002, which, apart from the temporary increase early in the year, was uninterrupted since the end of 2000.[20] However, there appeared to be divergent trends within manufacturing – employment has been stagnating in 2002 in machinery and equipment, following the decline in the previous year, in contrast with other sub-industries, where there has been a steady fall.

More lively domestic business activity on account of the rapid increase in household demand has also been reflected in the rise in market services sector employment. However, market services are very heterogeneous and the rise in employment in particular areas whose activities for the most part are synchronised with turns in the business cycle has stopped in the course of 2002 (for example, employment has fallen in real estate and business activities).

In 2002, the level of manufacturing employment turned out to be somewhat higher than the Bank's previous forecast, due to data for the third quarter and revision to the time series. For 2003, the Bank expects external demand to be slightly lower than outlined in the August *Report* and has revised down a little its forecast of manufacturing employment accordingly. However, the number of employees is expected to rise from the second half of 2003, which determines the forecast for 2004 as well.

Similarly to manufacturing, services sector employment appears to be slightly higher in 2002 on account of new actual data and revision to the time series relative to the previous forecast. The Bank's view of domestic demand, a factor strongly determining employment conditions, has remained virtually unchanged – employment is expected to rise evenly in 2003 and 2004. However, certain events currently under way within service activities, closely related to the cyclical fluctuations in business demand, are uncertainties indicating the possibility of a somewhat more modest increase in workforce.

In view of all these, private sector employment is likely to fall marginally in 2002, followed by a slight increase in 2003 and a more pronounced one in 2004.

20 Based on institutional labour force statistics. On the basis of CSO data up to August; September data have been estimated using statistical methods.

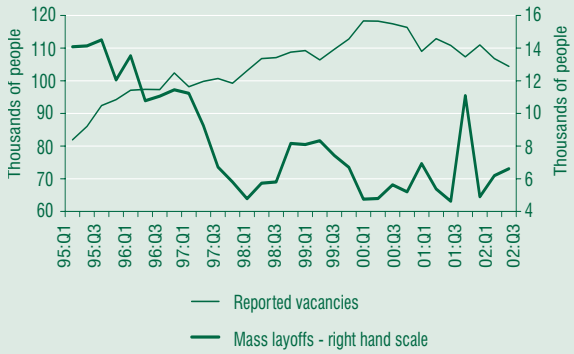
III. 2 Labour market reserves and tightness

The unemployment rate increased in 2002 Q3, which may signal a turnaround in the labour market following stagnation in the previous year. So far, the drop in employment has resulted in an increase in inactivity.

However, mass layoffs rose slightly in Q3, whereas the number of reported vacant positions continued to decline.

In view of all these factors, the Bank does not expect capacity shortages on the aggregate level of the private sector. However, there appear to be signs of bottlenecks developing in individual sectors, activities and regions. This may influence future developments in wage inflation.[21]

Chart III-4 Reported vacancies and mass layoffs*



* Data reported for the given quarter and the number of people affected, seasonally adjusted (source of original data: National Employment Office). Actual data are available up to August; September data are estimated based on statistical methods.

III. 3 Wage inflation

Data for recent months suggest that, more than a year after the exchange rate band widening, there appears to be no solid evidence of nominal wage adjustment and that wage inflation has only been moderating at a slow pace.

In the third quarter of 2002, wage inflation both in manufacturing and the services sector was slightly higher than forecast in the previous *Report*, which provides enough reason to be somewhat more cautious in respect of expectations for the remainder of the year.[22] Using the latest available data, the Bank re-estimated the genuine upward effect of minimum wage increases on overall wage levels. Consequently, the current estimate of recent market services wage inflation is a little higher than previously.[23]

Over the past year, the Bank's forecasts have been based on the economic assumption that weak external business conditions, the appreciation of the forint and faster-than-anticipated disinflation would prompt companies, particularly those in manufacturing, to arrest growth in the nominal costs of labour on account of the implications for profitability. However, nominal wage adjustment has turned out to be slower than the Bank earlier envisaged. Previous *Reports* provided a detailed account of factors explaining continued high wage inflation (for example, the effect of relative wage levels, labour market bottlenecks, the effect of minimum wage increase, the balance sheet channel, alternatives for short-term adjustment, etc.). But preliminary data for 2001 corporate tax returns appear the confirm the Bank's earlier expectation that profitability may have fallen significantly at the aggregate level of manufacturing. Nevertheless, the data suggest a high degree of heterogeneity in developments in manufacturing sector profitability and in the extent of this deterioration across the various activities. This may have contributed to wage adjustment suffering a delay.

[21] In the survey of income levels conducted by Hay Group involving 200 companies, 60% of companies indicated to have run into quantitative and qualitative hurdles in the labour market. See Világgazdaság, 16 October 2002.

[22] On the basis of CSO data up to August; September data have been estimated using statistical methods.

[23] For a detailed description see the Section 15 of the *Manual to Hungarian Economic Statistics.*

In view of all these events, the Bank currently forecasts wage inflation to be 13.4% in 2002, as the most likely scenario. Wage inflation is now seen to moderate somewhat during the remainder of the year, to around 12.3% in manufacturing and to 14.4% in market services.

Similarly to the approach of the previous *Report*, staff have assumed an only very modest increase in corporate sector gross wages in 2003, taking the Government's medium-term programme as a basis,. The essence of this assumption is that the Government's proposal for gross wage increase will be accepted at the Reconciliation Council and that labour market participants will consider the effect of the planned reduction in personal income tax. However, the Bank has revised up from 4%–5% to 6% its conditional forecast of annual average wage inflation relative to the previous *Report*.[24] In view of the fact that past years' wage increases have broadly matched, or exceeded, the proposed maximum increases at wage negotiations, and interpreting the Government's recommendation of 3-4.5% increase accordingly, the Bank has revised up its conditional forecast of average annual wage increase to 6%, taking into account the 1–2 percentage points upward effect of previous year's wage increases.

The Bank's forecast for 2004 is based on the assumption that, taking into account the expected pick-up in economic performance and improvements in productivity, it is unjustified to expect a net real wage increase of less than in the previous year. With no specific information available, the Bank expects the net effect of any 2004 tax measures to be neutral. Consequently, net and gross wages will likely grow at comparable rates. On balance, the Bank forecasts both gross and net nominal wages to increase by 6.0%.[25]

The Bank's wage inflation forecast for 2003 contains some risk of a shift towards higher wage growth. An opening of the gap between net and gross wages in favour of the former, similar to the one reflected in the current estimate for 2003, occurred only once, in 1997. However, the available data provide evidence that this failed to interrupt the gradual decline in gross wages, proceeding simultaneously with the fall in inflation, unlike the one contained in the current forecast for 2003 driven by developments in net wages.[26] Uncertainties surround the likely outcome of wage negotiations in the Interest Reconciliation Council. Although according to a recent corporate survey of TÁRKI the differential between current and future expected wage growth has been rising steadily in 2002, the Bank's analyses show that the survey results only have a short-term predictive power, in line with international experience.[27] Nevertheless, the number of companies expecting lower-than-average wage growth rose in the October survey relative to the previous one conducted in July.[28]

[24] The earlier conditional forecast of 4%–5% reflected a 3% wage increase, in accordance with the Government's programme, and the effect of previous year's wage increases, estimated to be 1–2 percentage points. But the proposal for wage increase, submitted by the Government to the wage negotiations, has been raised to 3%–4.5%.
[25] According to the Bank's calculations, this year's individual wage settlements may be largely equal to the annual average wage increase, given the insignificant full-year effects of very modest wage increases.
[26] It should be noted, however, that at the wage negotiations in 1997 the faster increase in net wages probably did not receive similar attention as the one it currently receives.
[27] Survey of inflation expectations by TÁRKI, October 2002.
[28] See *What do business wage expectations show?* in the section Special topics

The average labour cost is expected to increase at a 1.5 percentage points slower rate relative to the expected rate of wage inflation in 2002, due to the fall in employers' social security contribution payments on gross wages.[29] According to the draft submitted to Parliament, next year the amount of the itemised health contribution will fall within labour cost components above gross wages,[30] which will likely cause the average labour cost to increase at a some 0.4 percentage points slower rate relative to the expected rate of wage inflation. For the lack of facts, the Bank does not expect a further reduction in addition items to gross wages in the wage costs in 2004.

III. 4 Productivity and unit labour costs

The effect of external demand expanding at a slower rate than expected was also reflected in second-quarter data on manufacturing productivity. Although these were evidence of a rise in relation to the previous year, the pick-up in activity was smaller compared with the Bank's earlier forecast.[31] Productivity gains registered by market services were also short of the forecast in the August *Report*.

In the current forecast, productivity in the private sector increases by around 2%–2.5% in 2002, and by 4%–4.5% in 2003 and 2004, somewhat more modestly relative to the previous forecast.

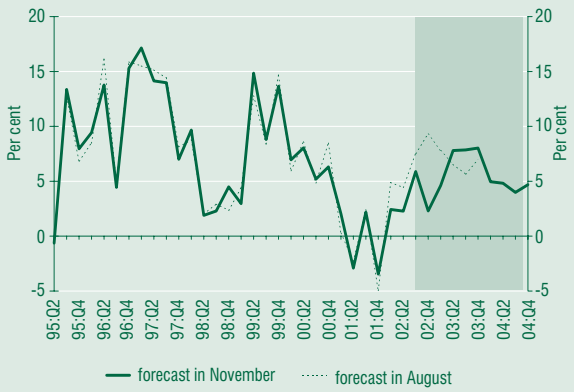
The relationship between average labour cost and developments in productivity determines variations in nominal unit labour costs. The rate at which unit labour costs grew in 2002 Q2 slightly exceeded the Bank's expectations.

In the new central projection for 2002, the increase in nominal unit labour costs slows only modestly, from 10.2% in the previous year to 9.3%. The major explanation for the smaller decrease than had been expected earlier is the revision to the Bank's forecast of the increase in value added. The forecasts for 2003, which reflects the assumption of moderate wage growth, and for 2004 contain a 1.1%–1.2% increase in nominal unit labour costs, significantly lower than those observed in previous years.

III. 5 Competitiveness

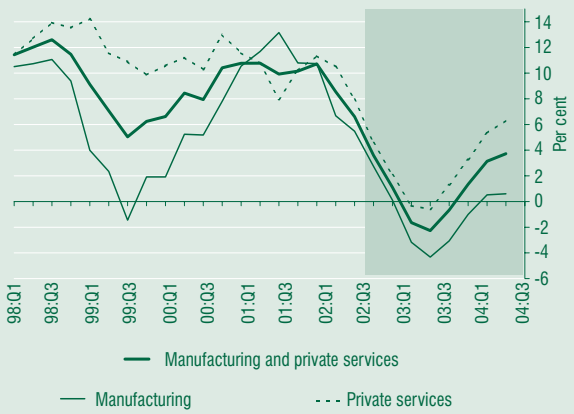
2002 Q2 witnessed conflicting developments in competitiveness indicators for manufacturing. First, unit labour costs in manufacturing continued to rise rapidly relative to Hungary's competitors. Second, however, price based real appreciation appears to have stalled. But whereas

Chart III-5 Productivity in manufacturing *
Annualised quarter-on-quarter growth rates



* Calculated from seasonally adjusted data.

Chart III-6 Unit labour costs
Annualised quarter-on-quarter growth rates*



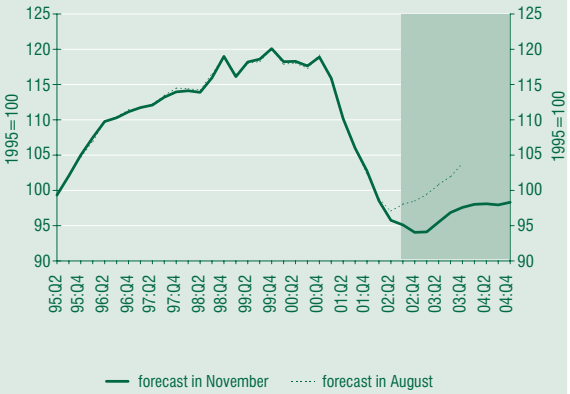
* Seasonally adjusted data. Changes are smoothed using a trinomial centred moving average. On a value added basis.

[29] In addition to gross wages, labour costs include other costs of the employee arising in connection with employment, including employer's contributions paid on wages and other taxes, as well as other benefits to employees above basic salary (for example, benefits in kind, social benefits, luncheon vouchers, subsidies connected with travel to work and training, etc.)

[30] Itemised health contributions to be paid by employees are expected to fall from HUF 4,500 to HUF 3,450. See Section 204 of Chapter XI of the draft bill on 'Amendments to laws on taxes, contributions and other payments to the central budget'.

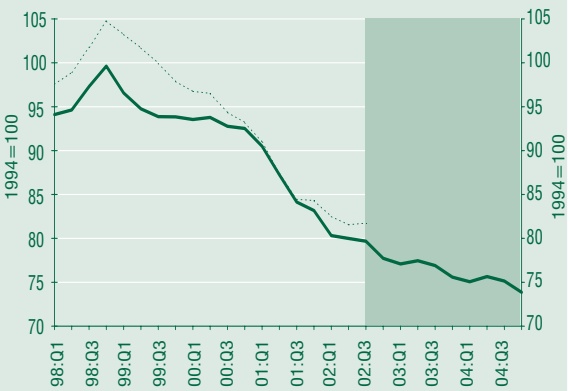
[31] Given the availability of actual data on value added only up to 2002 Q2, the latest actual data on productivity and unit labour costs also refer to this period.

Chart III-7 Unit labour cost based real effective exchange rate in manufacturing*



* Increase denotes real depreciation

Chart III-8 Price based real effective exchange rate indicators*



* Increase denotes real depreciation.

in 2001 nominal appreciation also played an important role in the increase in Hungarian unit labour costs relative to those of competitors, in 2002 nominal appreciation has stopped, with uninterrupted high wage growth and modest gains in productivity causing the trend to continue. In the Bank's current assessment, the recent slower-than-expected wage adjustment and considerably higher real appreciation relative to previous expectations may lead to a deterioration in Hungary's external equilibrium position on the forecast horizon. For 2003 and 2004 due to the assumption of low wage increase we expect real appreciation to stop and then turn to slight real depreciation.

The deterioration of manufacturing competitiveness due to high domestic unit labour cost dynamics in Q2 was further reinforced by a stronger forint exchange rate vis-ŕ-vis the euro relative to the forecast in the August *Report*. As a consequence, appreciation of the unit labour cost based real exchange rate turned out to be nearly 2% higher than the Bank's earlier expectation, and so the high rate of real appreciation, seen towards the end of the previous year, did not slow.

However, real appreciation of the price based real exchange rate indicators slowed considerably in mid-2002, primarily on account of low inflation data released around mid-year. Whereas the rate of consumer price based real appreciation, measured on the basis of annualised percentage changes, fell below 2% in Q2–Q3, manufacturing price based real appreciation virtually came to a halt.

Developments, which may show positive signs in the short term depict a less favourable picture looking from a wider perspective. First, the current rate of wage growth is not expected to moderate during the remainder of 2002 and the unit labour cost based real appreciation to slow down markedly. Second, as an acceleration of inflation dynamics is expected in the near future, further slowdown in price based real appreciation, observed in the previous few quarters, are not envisaged either.

In its earlier analyses of competitiveness,[32] the Bank argued that manufacturing unit labour costs fell by 23%–24% relative to Hungary's competitors in the period between 1995–2000, which suggested substantial available reserves during the disinflation process. The Bank's previous calculations were based on the assumption that a fairly strong wage adjustment would start in 2002 and, due to this, the real exchange rate would appreciate at most by 13%–14% in 2001–02. In the current forecast, the unit labour cost based real exchange rate appreciates by a total 20% in 2001–02. This is some 6–7 percentage points higher than forecasted a year earlier.[33] As a consequence of a slow wage adjustment, the Hungarian economy may deplete its earlier competitiveness reserves by the end of 2002.

As the effect of the real exchange rate on external balance is not immediate, the much stronger-than-anticipated real appreciation in 2002 is likely to have a more pronounced impact next year, when the current account deficit is expected to rise further. Another factor adding to the strength of unfavourable conditions for external balance is that no signs

[32] See MNB Background Studies 2001/3.
[33] See *Quarterly Report on Inflation*, issues 4/2001 and 2002/1.

of a pick-up in external business conditions have appeared yet (see Chapter 2.1).

As mentioned previously, the current forecast for 2003 contains a very modest increase in gross wages. This assumption will have important implications for manufacturing sector competitiveness.

The Bank currently forecasts the unit labour cost based real appreciation to stop in 2003, as a result of gross wages rising at a very slow rate and productivity growth edging up. Although in 2004 the rise in wage costs will likely gather speed, faster gains in productivity will be an offsetting factor, and so a more than 2% real depreciation is expected.

The consumer price based real exchange rate is expected to appreciate strongly, by 8%, in 2002 as a whole. In 2003–04, however, the Bank anticipates the rate of this real appreciation to slow considerably, by around 2%–3%.

IV. Monetary developments

IV. 1 International economic environment and risk perception

The European Central Bank has maintained its key interest rate at 3.25% over the past few months. Although the euro area rate of inflation (August: 2.1%; September: 2.1%; October (preliminary): 2.2%) exceeded in the previous quarter the official tolerance limit, the Governing Council views the overall risks to price stability as balanced over the medium term. While rapid growth in liquid financial assets, service price inertia, the level of oil prices and wage growth may impede a reduction in the consumer price level, the appreciation of the euro and the moderate rate of aggregate demand growth may be downward pressure on prices in the medium term.

All factors considered, economic agents seem to expect a prolonged start to recovery, simultaneously with the presence of weak inflationary pressure, and a resultant drop in short-term interest rates. This is suggested by certain forward market prices, such as the price of three-month Euribor futures contracts, which appears to incorporate a 25-basis-point interest rate cut the ECB is expected to make by the year-end. In addition, over the past few months yields on ten-year government bonds have also declined, although to a much smaller extent than US bonds yields. This might imply an improvement in market participants' view of long-term growth prospects within the euro area, relative to those in the US.

The euro and the dollar exchange rates are governed by a combination of factors. One key factor is the outlook for long-term economic growth within the two economic regions. Although the third-quarter preliminary estimate for US GDP growth increased by 3.1% on a year earlier, the news and data reported over the past three months provide no sufficient basis for reasonably predicting the date, extent and durability of the American economic recovery. Continuing uncertainty about growth prospects, the steady rise in the budget deficit due to an upsurge in government spending and the 13 year low in the consumer confidence index in October continue to be significant risk factors. Accordingly, the Fed lowered its key rate by 50 basis points to 1.25%, on 6 November. Interest rates, already low compared to European rates, may reverse the direction of capital flows even in the short run, diverting them towards the European economic region. This may be further stimulated by the news of the American current account deficit in the order of 5% of GDP, and the net external debt amounting to one-quarter of GDP, which undermine the sustainability of balanced growth. In addition, the P/E index of US stock

market-traded equities is 25% higher on average than the corresponding index in Europe, which is another indication of a possible pick-up in European investments. As a combined result of all these factors, the dollar was on a par with the euro in late October and early November.

In addition to economic activity in the developed countries, investor sentiment about the Hungarian economy and investing in Hungary may also be affected by events occurring in emerging markets. The past three months have seen no such disturbance in the countries belonging to this category that would have significantly raised the risk premium required on Hungarian investments.

On balance, the overall assessment of future global economic growth did not improve due to the factors discussed above. International investors' propensity to take on risks fell in the three months to mid-October, which is illustrated well by the increase in US high-risk corporate bonds spreads. Movements in the EMBI index, a gauge of emerging-country risk perceptions, were extremely volatile in the period. At the beginning of November, the index stood at the level seen a quarter earlier.

In addition to country-specific news and data, Hungary's risk assessment is mainly shaped by events in Central and Eastern Europe. Affecting the perception of risks facing the region, in early August the rating agency Standard & Poor's downgraded from A+ to A- Poland's long-term domestic currency sovereign credit and senior unsecured debt ratings. Meanwhile, Poland announced that it would launch its programme for membership in the euro area in 2005. The country envisages to implement austerity measures in order to curtail its fiscal deficit with the aim of meeting the criteria of accession. By contrast, the Czech Republic has not yet committed itself to a fast track of accession to the euro area. Referring to the delay in the implementation of structural reforms and the high fiscal deficit, in early November Standard & Poor's lowered the Czech Republic's short and long-term domestic currency sovereign debt. The EU Commission's Annual Report published in October, conveying a positive message, and the successful Irish referendum held on the Treaty of Nice were the strongest factors influencing assessment of countries about to join the European Union in the near future. During the weeks preceding the Irish referendum, uncertainty caused the required risk premium to rise a little above its previous level, then it fell back significantly in response to the success of the referendum.

Since August neither developments in global indicators of risk nor country specific news have caused any dramatic change in Hungary's risk perception. Although the fiscal and current account deficits have increased significantly in recent months, the required risk premium on Hungarian government securities has not risen. The average spread on foreign currency bonds issued by the Hungarian state earlier has remained largely unchanged since August. However, the international ratings agency Fitch has recently warned Hungary that the country's deteriorating equilibrium indicators could influence negatively its credit rating.

Chart IV-1 The ECB's main refinancing rate and euro area short-term market yields

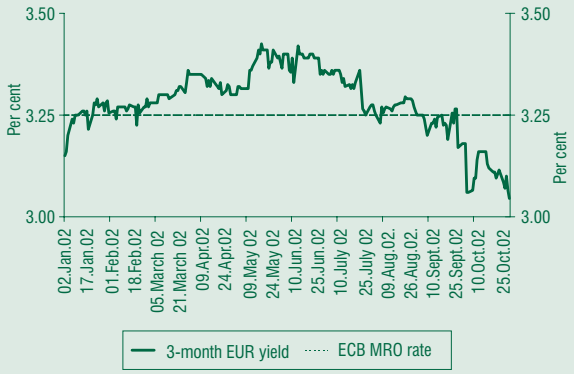
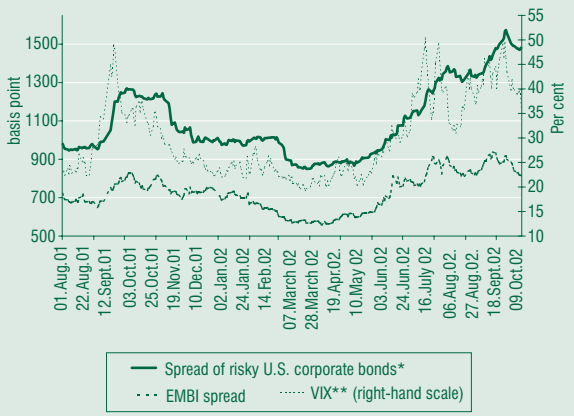
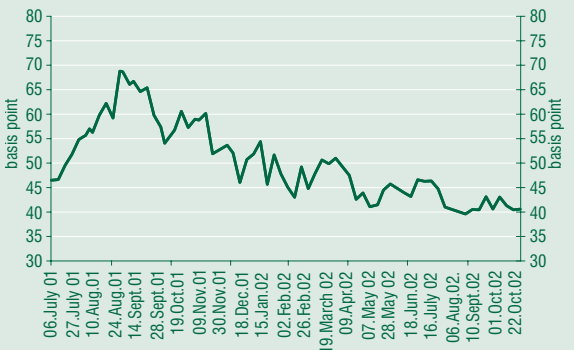


Chart IV -2 Global risk indicators



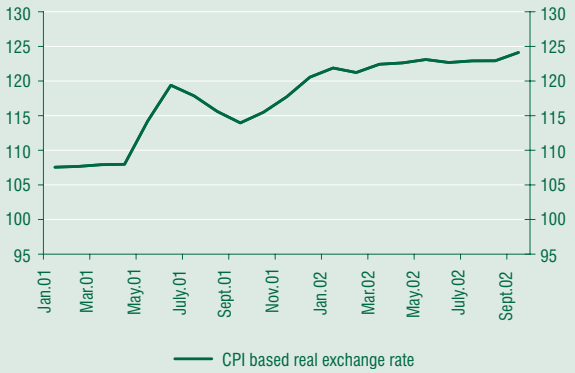
*S&P U.S. Industrial Speculative Grade Credit Index
** S&P 100 index option implied volatility

Chart IV -3 Spread on Deutsche mark-denominated Hungarian sovereign bonds



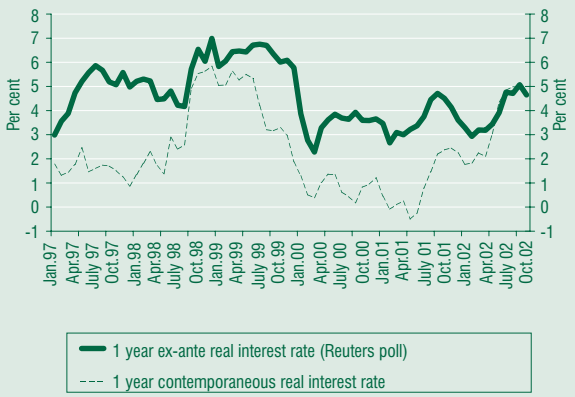
IV. 2 Interest rate and exchange rate developments

Chart IV-4 Changes in the real exchange rate*
1997=100



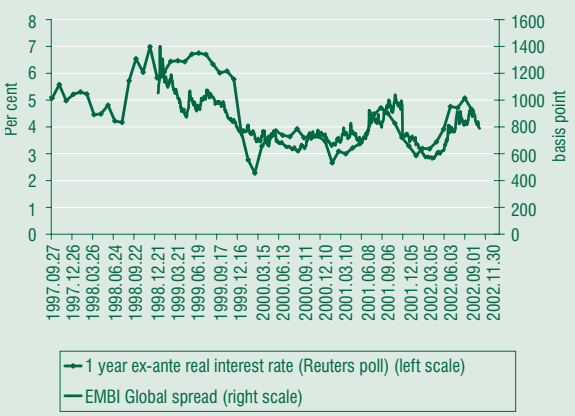
* CPI-based real exchange rate relative to the euro.

Chart IV-5 Changes in one-year ex ante and contemporaneous real interest rates *



**Ex ante real interest rate:* equals the monthly average rate of one-year zero coupon yields deflated by analysts' one-year forward-looking inflation projection for any given month polled by Reuters. In the Reuters survey, economists forecast inflation at the end of the current and forthcoming year in addition to projecting average inflation for the current and the forthcoming year. The one-year forward-looking projection over the aforementioned horizons is derived from the average using polynomial fitting.
**Contemporaneous real interest rate:* equals the monthly average of one-year zero coupon yields deflated by the current twelve-month CPI.

Chart IV-6 Ex ante real interest rate and the EMBI spread



The National Bank has maintained its key policy rate at 9.5% since 9 July 2002, and the exchange rate has also varied within the range of 240–245 forints per euro since early in the year.

Actual changes in monetary conditions can be captured by a combined analysis of real interest rate and real exchange rate developments. After last year's strong appreciation due to a strengthening in the nominal exchange rate, the CPI-based real exchange rate contributed only slightly to the change in monetary conditions in 2002. The real exchange rate appreciated by roughly 2% between January and September relative to the euro. As the nominal exchange rate remained on the whole unchanged, this shift reflects the remaining inflation differential between Hungary and the euro area.

From the perspective of economic agents' consumption and investment decisions, the ex ante real interest rate, derived as the difference between the current nominal rate and the expected inflation rate, appears to be the most relevant measure of real interest rates. Consequently, the Bank's assessment of monetary conditions primarily relies on this indicator. In addition, this analysis presents a contemporaneous indicator of real interest rates, calculated as the current nominal rate less the actual inflation rate. The contemporaneous real interest rate is commonly used in practice due to the difficulties inherent in measuring inflation expectations. Although not economically meaningful, the coincident real interest rate is a good approximation of the ex ante real interest rate within a stable inflation context, but during periods of disinflation it can stay persistently below the economically relevant ex ante real rate.

Over the past few years, ex ante real interest rate fluctuated in a broad range of 2.5 to 7%. In the period since the widening of the exchange rate band it has moved in the somewhat narrower range of 3%–5%. The level of interest rates influences future inflation via two channels. First, it affects investment and saving decisions, consequently aggregate demand. Second, the level of forint interest rates influences the exchange rate, which has an impact on the future path of inflation both directly, via the import price feed-through, and indirectly, through changing the real exchange rate. The Monetary Council must consider both factors in its interest rate decisions.

During the period following the band widening real interest rates moved in strong correlation with risk indicators. Real interest rates in turn tended to change consistent with domestic economic developments. Immediately after the band widening, the central bank regarded it as its main task to clearly express to market participants its commitment to the proclaimed disinflation programme. To this end, policy rates have only slowly followed the decline in expected inflation. Reduction in interest rates was also delayed by the increase in the exchange rate risk premium in the wake of the band widening and events undermining global investor sentiment (such as the crises in Turkey and Argentina and the terrorist attack on the US). However, an improvement in risk perception first seen in December 2001 also gave momentum to interest rate moves. In the period between the band widening and February 2002,

the Bank lowered its policy rates by a total of 275 basis points, while one-year inflation expectations fell by roughly 230 basis points and inflation by 410 basis points.

The interest rate cycle turned around when the Monetary Council raised rates on 21 May. A fast expansion in household income and indications of robust domestic demand growth unsustainable over the long term jeopardised the inflation target, necessitating an increase in the level of real interest rates. As this rise in the interest rate level coincided with an increase in the required risk premium, monetary tightening did not exert upward pressure on the exchange rate.

Determinants of the exchange rate

In the period since August 2002, the exchange rate of the forint has been relatively little affected by changes in global risk appetite and investor sentiment about emerging markets. Indeed, the exchange rate of the forint against the euro was influenced predominantly by factors governing prospective dates of joining the EU and EMU. On the whole, the exchange rate proved to be less volatile than during the previous quarter, and it was somewhat stronger in late October than in early August.

Between August and September, the exchange rate moved within the 243–246 forint per euro range, and reported macroeconomic data carried no information that could have significantly affected expectations about economic developments. After late September, the exchange rate was largely governed by the uncertainty surrounding the outcome of the 19 October Irish referendum on the Treaty of Nice. According to market participants' expectations, a negative outcome in the vote could have postponed the dates of EU enlargement and EMU entry. The uncertainty about the outcome was reflected in the weakening of the exchange rate in early October, also reinforced by a number of analyses released at the start of the month, stressing the risk of a negative outcome. In the end, the positive outcome of the referendum led to a considerable rise in the exchange rate, pushing it up to around HUF/EUR 240 at -early November.

As market participants realised that a weakening in the exchange rate would entail higher inflationary risk, which would in turn warrant an interest rate move by the central bank, nominal rates were in negative correlation with the exchange rate. Accordingly, the weakening in the exchange rate triggered a rise in the three-month interest rate and vice versa. Moreover, expectations of a rise in interest rates by themselves exerted corrective pressure on the exchange rate, leading to the relative stability of the exchange rate over the past few moths. This is probably why the nominal exchange rate withstood the worsening in investor sentiment that occurred in mid-July and September and why other adverse events have also had only limited repercussions.

Expectations of future movements in monetary conditions

Expectations of future exchange rate movements have on balance remained broadly unchanged – according to Reuters' poll of forecasts, economists anticipate the exchange to appreciate a little by end-2002 and to weaken slightly by end-2003, relative to the forecast in August. However, the latest revision to expectations is not seen to be substantial. This also shows that there has not been an event in the past three months which

Chart IV-7 Exchange rate of the forint

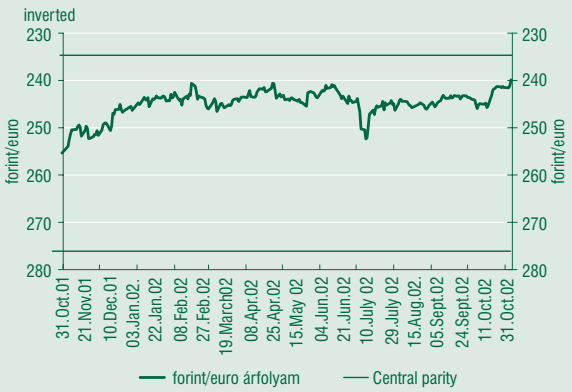


Chart IV-8 Three-month interest rate differential vis-à-vis the euro area

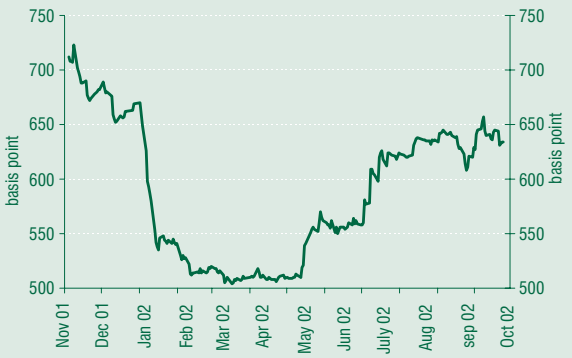


Chart IV-9 The central bank policy rate and short-term yields

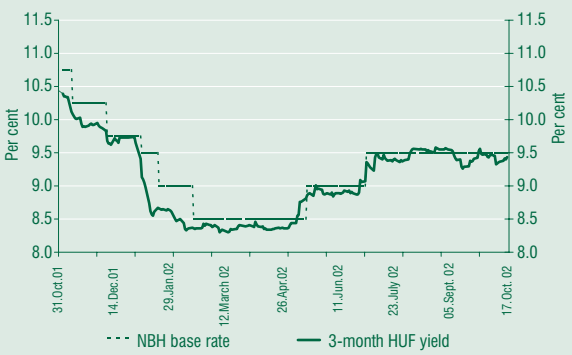


Chart IV-10 The forint exchange rate and analysts' expectations of future exchange rate movements

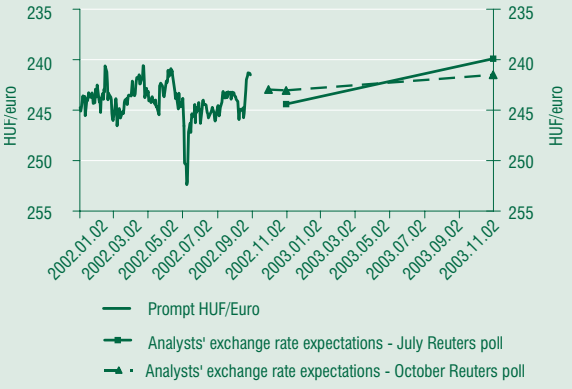


Chart IV-11 The central bank base rate and interest rate expectations based on the yield curve and Reuters' poll

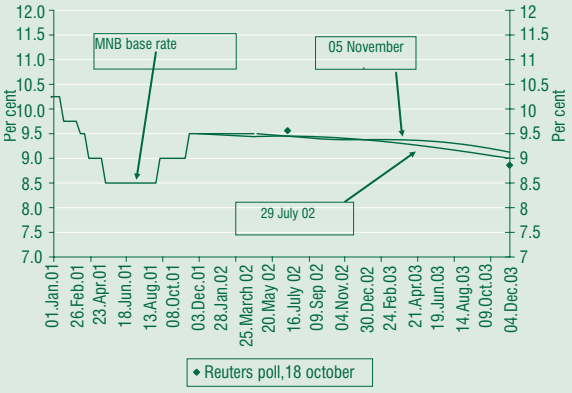
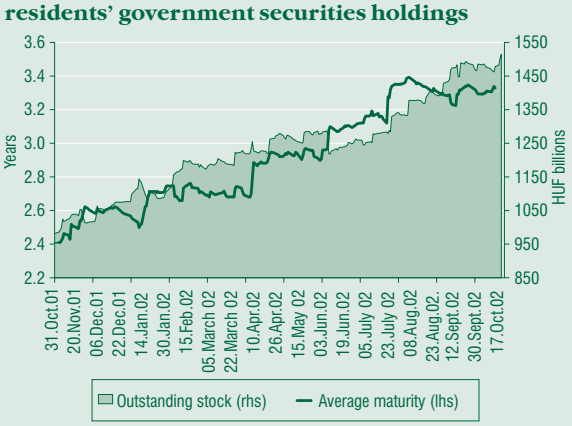


Chart IV-12 Volume and average maturity of non-residents' government securities holdings



could influence permanently longer-term expectations of the exchange rate.

Although expectations of a central bank rate increase emerged on several occasions in the period August–October (see the notes above), at the end of October market observers expected central bank interest rates to remain unchanged until end-2002, according to evidence provided by the Reuters poll and the yield curve. For end-2003, analysts consensus view and zero-coupon yields both appear to support the expectation of a 50 basis point reduction in the Bank's main policy rate.

IV. 3 Capital flows

Banks' open foreign exchange position increased significantly, by around HUF 150 billion in the period since July, reflecting a massive increase in demand for forint of participants outside the banking market. This increase concentrated in August and October, forint demand being negative in September.

Higher net forint demand developed as a result of interaction between opposing trends – Hungary's current account deficit rose further in July, the seasonally adjusted deficit for the third quarter being nearly five times as muchof that registered in the same period of the previous year. But this current account deficit, high even in relation to earlier years, was more than offset by inflows of portfolio investment, and by salient purchase by non-residents of government securities. Government securities holdings of non-residents rose by some HUF 260 billion in July–October, indicating an exceptionally rapid rate of growth relative to earlier years. The increase in holdings was accounted by entirely by purchases of long-term government securities, particularly those with maturities of 2–5 years. This suggests that the fall in yields within that maturity segment of the yield curve was mainly attributable to a decline in yields required by foreign investors (see Chapter IV.4).

Data on other components of forint demand, available up to August 2002, reveal that, in addition to high purchases of government securities, a number of factors also contributed to the fall in net forint demand. The decline in companies' net foreign currency borrowings, seen in the previous 18 months, continued in the period under review. There was also a fall in net forint borrowings, in addition to that in net foreign currency borrowings, consistent with the sector's low fixed investment demand.

July–August inflows of non-interest sensitive capital were weak as well – as seen in the preceding few months, foreign direct investment fell short of the levels characterising earlier years mainly due to the decline in investments in Hungary. The other two components of net portfolio investment, i.e. equity securities and forint deposits, registered negative values in July–August.

On the whole, high demand for forint was mainly due to unusually strong purchases by non-residents of government securities, as the current account deficit, and both other interest sensitive and non-interest sensitive items all contributed to the increase in the supply of forint.

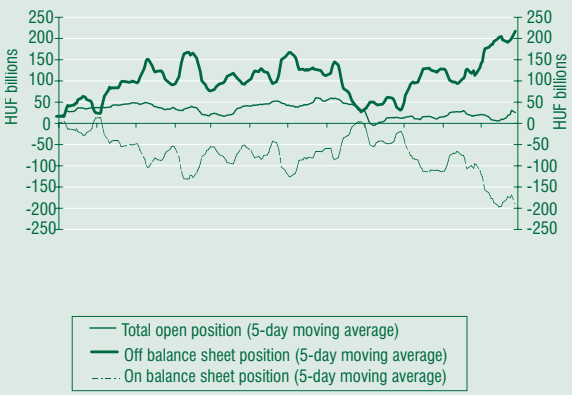
Table IV-1 Components of foreign exchange market demand and supply*
HUF billions

	2001				2002			
	Q1	Q2	Q3	Q4	Q1	Q2	July	Aug.
I. Current and capital accounts adjusted for foreign exchange balance of consolidated general government (1+2–3)	*–52*	*–124*	*79*	*–97*	*–133*	*–252*	*–58*	*–19*
1. Current account	–63	–195	71	–131	–137	–301	–53	–22
2. Capital account	15	39	23	16	13	15	2	1
3. Foreign exchange balance of consolidated general government	3	–32	14	–19	9	–34	7	–2
II. FDI inflow (excluding privatisation revenue)	*126*	*179*	*108*	*155*	*42*	*113*	*25*	*–2*
III. Forint demand arising form conversion of domestic foreign currency deposits	*–28*	*–15*	*–6*	*–111*	*58*	*–62*	*18*	*–6*
1. Business sector	*–20*	*–21*	*2*	*–64*	*25*	*–70*	*12*	*–10*
2. Household sector	*–8*	*6*	*–8*	*–47*	*34*	*8*	*6*	*4*
IV. Net portfolio investments (1+2+3)	*90*	*212*	*–134*	*85*	*214*	*–5*	*9*	*80*
1. Government securities	90	196	–79	136	144	32	31	120
2. Equity securities	6	–10	8	–15	12	–30	–11	–4
3. Forint deposits	–6	26	–62	–36	58	–7	–11	–36
V. Corporate foreign currency borrowing (1+2)	*–84*	*–128*	*–44*	*–62*	*–202*	*–44*	*–44*	*5*
1. Domestic	–10	5	19	–12	45	55	24	18
2. Foreign	–74	–134	–63	–50	–247	–99	–68	–13
VI. Forint demand of other credit institutions	*12*	*37*	*50*	*99*	*23*	*119*	*31*	*45*
VII. Other	*47*	*18*	*20*	*132*	*5*	*60*	*4*	*21*
VIII. Net forint demand outside the banking sector (VIII = I + … + VII)	112	178	73	201	7	–70	–15	124
IX. Purchases of foreign currency by central bank**	*178*	*165*	*47*	*40*	*0*	*0*	*0*	*0*
X. Change in banks' on-balance sheet long foreign currency position (VIII - IX)	–65	13	26	161	7	–70	–15	124

*The positive sign denotes demand for forints while negative sign denotes supply.
** From 2001 Q2, the item 'central bank purchases of foreign currency' represents no intervention, but simply the Bank's pre-announced purchases of equal daily amounts of foreign currency.

Banks hedged most of their on-balance sheet foreign currency exposures by opening currency forwards. This is an indication of the banking sector's aversion to running exchange rate risks.

Chart IV-13 Commercial banks' open foreign currency position
Excluding MFB



IV. 4 Long-term yields and inflation expectations

Yields fell modestly in the government securities market in the period August–October 2002, which brought the earlier upward trend to an end. Government bond yields at maturities of over one year rose 100–200 basis points in the first half, with a correction of 30–45 basis points between July and end-September. Yields saw a temporary reversal in the early part of October, but, following the Irish national referendum, they fell to even lower levels. This downward trend of yields was closely related to Hungary's improving prospects to join the Economic and Monetary Union (EMU), more exactly, the reduction in uncertainties surrounding the likely date of entry.

The risk that Hungary would only be able to meet the Maastricht criteria much later than the target date has diminished since the Government announced its Pre-Accession Economic Programme (PEP). In the first half, yields rose primarily on account of the inconsistency developing between the inflation targets and lavish fiscal policy as well as real wage growth. In May–June, the issue of budget deficit became extremely problematic; however, the fiscal path, projected by the

PEP, showed the Government's strong commitment, and therefore it helped to reduce uncertainty. The Irish ratification of the Treaty of Nice and the agreement achieved in October in the European Council about the financing requirements of the enlargement eased further concerns about the expected date of accession to the EU, which directly affect entry into the EMU as well.

Entry into the EMU may influence nominal yields through a number of channels. Foreign investors' expectations of future yields are shaped by returns achievable in other currencies, the expected depreciation or appreciation of the forint and the risk premium. For foreign investors, predictable fiscal and inflation convergence as well as a realistic accession timetable may reduce uncertainty and thus the required risk premium through the higher predictability of exchange rate. In addition to these, global risk assessment may also determine some part of the risk premium.

Domestic investors purchase government securities at a level of nominal yields which compensates them for anticipated inflation, in addition to the required real yield. They are affected by accession to the EMU through inflation expectations. Simultaneously with all these events, expected developments in the economic policy mix also influence yield expectations – with the projected fiscal tightening, the planned disinflation path may also be achieved by lower future real interest rates.

Government bond yields in the euro area were primarily governed by short-term interest rate expectations during the period under review (see section IV.1). The (implied) forward yield curve, which best reflects interest rate expectations, became steeper due to a 50-basis-point drop at the short-term end of the curve. The decline in euro yields does not account for the drop in forint yields, as implied forint forward yields fell most significantly at the two to four year section rather than at the short, zero to 2 year maturities. Also, the drop was larger than that of euro yields. As global and emerging market risk measures do not indicate an increase in international investors' risk appetite either, they also fail to explain the decline in yields (see section IV.1)

It seems likely that non-resident investors' large-scale purchases of government bonds with a remaining term to maturity of 2 to 3 years, (see section IV.3), were motivated by a shift in exchange rate expectations and a decline in exchange rate risk. An additional factor must have been the relatively low volatility of the exchange rate in recent months.

Although government bond purchases by non-residents were a key factor in the shift in the yield curve, it seems worthwhile to examine whether a change in inflation expectations, which has a more direct bearing on yields required by residents, could also have played a role. The Reuters survey of analysts' inflation expectations suggests that there has been no significant shift on the 1-to-1.5-year horizon. Even though inflation was better than expected throughout the summer, this was primarily due to food and regulated prices, which explains why only the end-2002 inflation expectation fell sharply, from 5.8% in June to 5% in September. By contrast, expectations for end-2003 remained virtually unchanged, with the market consensus remaining in the range of 4.78 to 4.95% ever since June.

The staff have no information on inflation expectations for 2004 and 2005. Nevertheless, long-term expectations are not

Chart IV–14 Monthly average benchmark yields

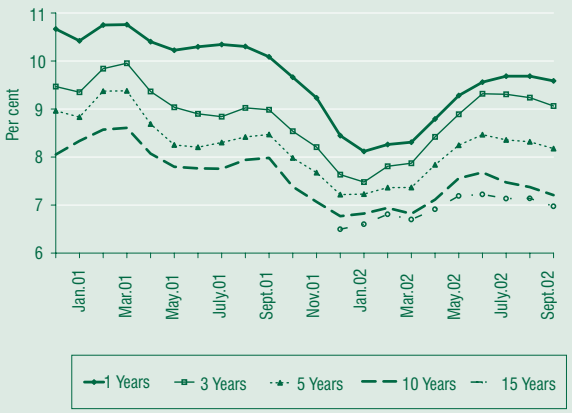


Chart IV–15 One-year forward yield curves

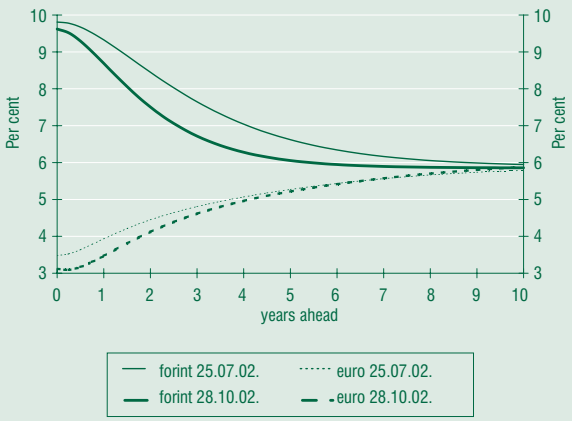
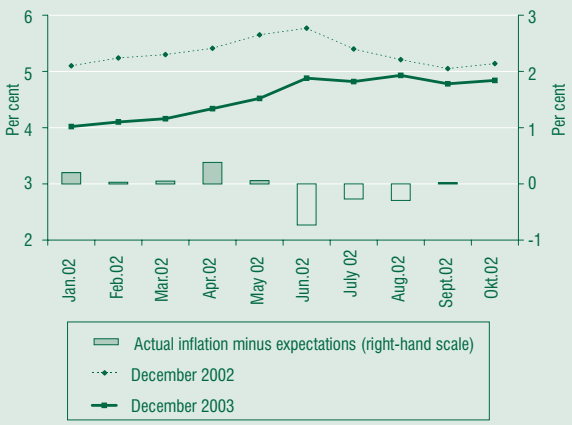


Chart IV–16 Analysts' inflation expectations



likely to change considerably, as changes in inflation expectations are usually associated with specific events and the release of macroeconomic data and trigger rapid shifts in yields. In contrast, the drop in yields seen in the past few months was a gradual process linked to non-residents' purchases.

Compared with the Bank's conditional projection, the market expects a lower path for inflation in 2003. This is especially the case for 2003 Q2 and Q3, when the course of inflation derived from the Reuters survey lies near the lower limit of the range comprising 30% of possible outcomes around the Bank's central projection.[34] At the end of 2003, there is no significant difference between the two paths. The key difference between the two projections is that the conditional projection is based on a constant nominal exchange rate assumption, while the market's forecast also contains exchange rate expectations. Theoretically, the lower market expectations could be attributed to analysts' exchange rate expectation for end-2003 being stronger (at 241.5 HUF/EUR) than the Bank's assumption (of 243.6 HUF/EUR). However, the difference is negligible compared with the 0.3-0.6 percentage point gap between the two projections for inflation.

Chart IV–17 Course of inflation consistent with analysts' expectations and the inflation target range

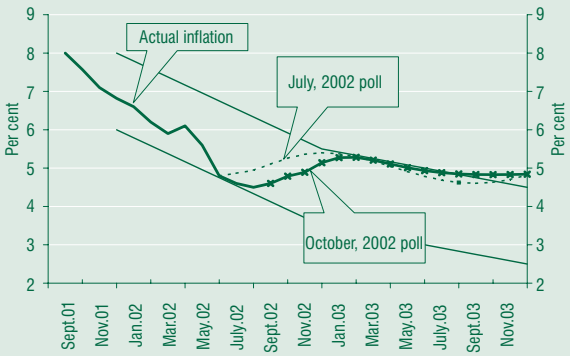
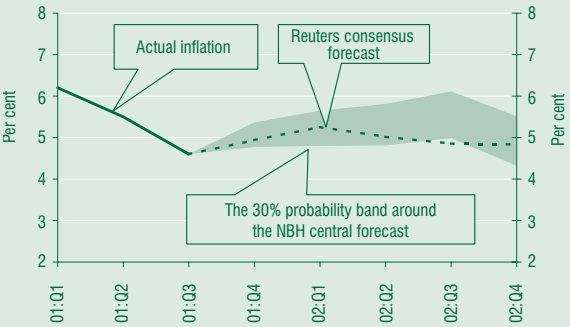


Chart IV–18 Analysts' inflation expectations and the Bank's conditional projection



[34] Although the Reuters survey contains no direct information on expectations in the period between two Decembers, the average expected inflation of 5% in 2003 clearly shows that market analysts expect no lasting upsurge in inflation during the course of the year. An at-length description of the technique used to interpolate the Reuters data is given in Chapter 19 of the Bank's *Manual on Hungarian Economic Statistics* (http://www.mnb.hu/dokumentumok/kezikonyv_magyar_gazd_hu.pdf).

V. Special topics

V. 1 What do business wage expectations show?

In this *Report*, private sector wage growth is assumed to be only very modest in 2003. The background to this is that economic agents are likely to change their behaviour experienced earlier and, in making their decisions on next year's wages, they will take into account an expected opening of the gap between net and gross wage growth in favour of the former. Accordingly, the very slow decrease in gross wage inflation relative to the cyclical slowdown in global business activity, disinflation and the sustained appreciation of the forint, experienced in the past few years, would be followed by a sudden, massive drop in the rate of wage growth (see Chapter III). In view of the high uncertainty surrounding the path of wage growth in the coming period, it is useful to examine 'alternative' indicators which may help to anticipate potential variations in economic agents' behaviour and expectations.

Commissioned by the Magyar Nemzeti Bank, TÁRKI has collected data since March 1999 in that he framework of a questionnaire-based survey of corporate managers' expectations of inflation and wage growth, closely linked together. Now that the sample period is sufficiently long to meet the minimum requirement for statistical analyses, Bank staff are currently examining the extent to which data deriving from the survey can be used in forecasting. According to the preliminary results, the data deriving from the survey can be used within limits, only over the short term and illustratively in forecasting work, consistent with international experience. In this sense, the Bank already uses the poll results in preparing forecasts. The examinations have proved that there exists some co-movement between businesses' expectations of variations in wage inflation, i.e. the difference between observed and expected wage growth, and quarterly developments in wage inflation.

Survey evidence showed a stagnation of the observed wage growth in the course of 2002, followed by a slight drop of a few tenths of a percentage point in the October poll.[35] In the

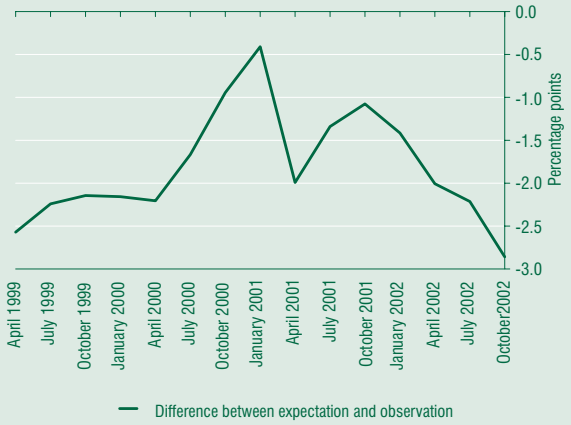
[35] According to the survey evidence, growth in private wages in 2001 and 2002 was much lower relative to that provided by the CSO institutional labour statistics. This appears to be consistent with staff's assumption that the price of labour actually did not rise at the rate reflected in the CSO release of data, due to the distorting effects of the minimum wage increase and changes in the composition of labour and, therefore, the Bank's estimate of actual wage growth is lower than the CSO's gross average earnings index, after eliminating the statistical distorting effects. Businesses observed even lower of wage growth, however, than that estimated by the Bank. The average of strongly fluctuating monthly differences was 2–2.5 percentage points earlier. This, however, appears to have fallen slightly in the last one to 12–18 months. Supposedly, part of this difference was attributable to the full-year effect of wage increases.

history of the survey, expectations of future wage growth turned out to be systematically lower than observations, consistent with experience with questions about current and future developments in prices. From early 2002, the rising gap between current and expected wage growth, i.e. the indicator showing a relationship with quarter-on-quarter percentage based changes in wages, has been widening continuously, this trend remaining uninterrupted in October. Based on all these, the latest survey conducted in October signals a marginal drop in wage inflation for the final quarter of 2002, consistent with the Bank's forecast.

However, staff also observed that the proportion of businesses anticipating slower wage growth relative to the average of expectations increased in the October survey compared with the July survey.[36]

The poll results suggest a gradual shift among businesses towards expectations of lower wage growth; however, signs of a sudden, dramatic slowdown in the rate of wage growth have not appeared yet.

Chart V-1 Expected slowdown in wage inflation*



* Difference between expectations and observations of wage growth.

Chart V-2 Distribution of wage growth expectations in the July and October TÁRKI survey

V. 2 Should we expect a revision to 2002 GDP data?

Preliminary GDP data for 2002 H1 would yield higher economic growth deriving from the uses side than from the production side, which indicates inconsistencies between the production and uses sides. This may give rise to later substantial revisions to this year's GDP data. The following is an analysis of the CSO's practice in revising GDP data, i.e. the extent to which preliminary data differ from final data. The article provides the initial results, or 'stylised facts', of a research project currently under way in the Bank.

International analyses provide evidence of substantial revisions to developed-country GDP data as well. According to some inquiries, follow-up revisions are random in certain countries, for example, in the US, whereas they may be partly anticipated in other countries, for example in Italy, Japan or the UK.[37] Quarterly GDP data for this group of countries contain a systematic error which is corrected in later releases; the use of information becoming available afterwards is not the single main reason for the difference between the preliminary and final data.

In accordance with international practice, the CSO makes several revisions to gross domestic product data published in its preliminary release.[38] These revisions are performed primarily on account of receipt of new information, although there may be occurrences of methodological changes or cor-

[36] It should be added that the sample is not representative, either in respect of sectoral breakdown or corporate size based on the numbers of staff.

[37] Atkinson, P. and York, R. (1999) 'The reliability of Quarterly National Accounts in Seven Major Countries: A User's Perspective' OECD Economics department Working Papers No. 171. Faust, J., Rogers, J. and Wright, J. (2000) 'News and Noise in G-7 GDP Announcements' Board of Governors of the FED International Discussion Papers No. 690.

[38] For more details, see Hüttl and Pozsonyi: 'Gondolatok a felülvizsgálati politikáról' (Some thoughts on revision policy), *Statisztikai Szemle* 8/2001. *MNB Quarterly Report on Inflation, February 2002, 'Effects of the revisions of GDP data on the Bank's forecasts'.*

Chart V-3 Preliminary GDP growth rates and revisions

Yearly data 1994–2000

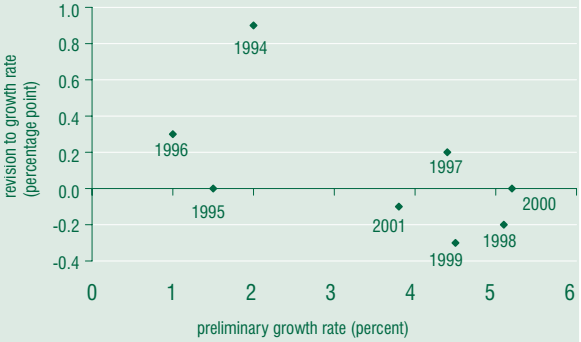


Chart V-4 Preliminary GDP growth rates and revisions

Quarterly data, 1998–2000

rections of potential errors as well. In compiling GDP data, the consistency between quarterly and yearly statistics must also be created during the process known as other technical corrections. In the period under review, the CSO generally does not revise data published earlier, when releasing within-year data. However, data released quarterly are revised on the basis of yearly data.[39]

Chart .3 summarises changes in final data relative to the preliminary release. The data were revised substantially between the two releases only once, in 1994; revisions during the subsequent period were not systematic, and they caused deviations of maximum 0.3 percentage points both on the upside and the downside.

As quarterly data were only available for analysis for the period 1998–2000, they provided no suitable basis for inferences. The quarterly data for these three years show a systematic discrepancy – the first releases of quarterly GDP data rose more strongly in the three years under review relative to the final data. In 1998 and 1999, the yearly data were also revised down from the preliminary estimate, which means that the quarterly data were corrected in the same direction as the annual data. The revision to the quarterly data was larger than that to the yearly data – whereas the yearly data were revised by 0.2–0.3 percentage points, the individual quarterly growth rates were revised by as much as half a percentage point.

In Hungary, the relative measure, i.e. that compared with the rate of growth, of revisions to GDP data remains below that experienced in developed countries. This gap between revisions does not indicate any qualitative differences between the national statistical systems – it is rather linked with the practices in use. Staff's preliminary results do not provide evidence that in Hungary the annual rate of GDP growth would be substantially revised in the future; however, the quarterly data may deviate considerably from the preliminary releases.

[39] Preliminary data on yearly GDP data are released 3–4 months following closure of the reported year, then revised data are published twice. The second preliminary release is available 10 months after the reported year, after early processing of tax returns. The third release which includes final data calculated after the consistency analyses, is available on the 16th of the month following the reported year.

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