QUARTERLY
REPORT
ON INFLATION

December
1999

the second quarter to 28.1%, that is to EUR 2.1 billion (USD 2.2 billion) within the total stock of EUR 7.5 billion (USD 8 billion). This was mostly the result of a rise in the NBH's foreign reserves, due to a substantial capital inflow (and concession revenues) in the third quarter. This is also the first quarter for a long time at the end of which the NBH took a net creditor position vis-à-vis non-residents.

Foreign debt denominated in foreign currencies by sector

	December 1998		June 1999		September 1999	
	EUR billion	%	EUR billion	%	EUR billion	%
(1) Gross foreign debt (=1a+1b)	19.9	100.0	22.5	100.0	22.6	100.0
(1a) NBH and government	11.3	56.6	12.9	57.1	12.7	56.4
NBH	10.0	50.3	9.9	43.9	9.5	42.3
Government	1.3	6.3	3.0	13.2	3.2	14.1
(1b) Private sector	8.6	43.4	9.7	42.9	9.8	43.6
Credit institutions	4.7	23.5	5.0	22.3	4.8	21.2
Corporate sector	3.9	19.8	4.6	20.6	5.1	22.5
(2) Net foreign debt (=2a+2b)	7.6	100.0	8.0	100.0	7.5	100.0
(2a) NBH and government	2.8	36.6	3.0	37.2	2.1	28.1
NBH	2.0	25.8	0.5	5.8	-0.6	-8.5
Government	0.8	10.8	2.5	31.5	2.7	36.6
(2b) Private sector	4.8	63.4	5.0	62.8	5.4	71.9
Credit institutions	1.9	24.2	1.7	21.8	1.8	24.3
Corporate sector	3.0	39.2	3.3	41.0	3.6	47.6

ability decrease exceeding EUR 400 million. First and foremost, this shows a rise in foreign reserves, thus it is not related to the private sector. In the private sector in the third quarter both the banking sector and the corporate sector were net borrowers of EUR 375 million (USD 392 million) combined together. The government borrowed EUR 400 million as a syndicated loan in the third quarter, part of which, however, was quoted by resident banks.

Repayments, however, far exceeded new borrowings, and as net foreign capital inflow into government securities amounted only to EUR 50 million (USD 53 million), the NBH and the government were net lenders (or repaid earlier loans) to a significant extent in contrast to the first half of the year.

As far as the private sector's credit transactions are concerned, there was a net outflow of nearly EUR 240 million in the first six months of the year, mainly due to the substantial rise in loans granted by the Hungarian subsidiaries of foreign companies to their mother companies.

In the third quarter, however, net borrowing amounted to nearly EUR 500 million. Following normalisation of the Kosovo conflict, the region became relatively stable again, which naturally helped restore foreign investors' confidence. Total debt-generating and non-debt generating net capital inflow, however, fell short of the current account deficit by approximately EUR 150 million. This gap was closed by the positive balance of both the capital account and net errors and omissions in the third quarter of the year.

3 Changes in foreign liabilities and assets

Net foreign debt of the Hungarian economy decreased to EUR 28.1 billion (USD 30 billion) by the end of the third quarter from EUR 28.4 billion (USD 29.3 billion) at the end of the second quarter. This reduction can mostly be explained by the appreciation of the euro against other major currencies (first of all the US dollar).

The EUR 0.3 billion rise in gross foreign liabilities is mainly the result of the growth in non-debt generating investments (FDI, portfolio investment) of non-residents. The EUR 0.6 billion increase of gross foreign assets is basically entirely due the growth of foreign reserves.

At the end of the third quarter, gross foreign liabilities amounted to EUR 44.9 billion (USD 47.9 billion), while gross foreign claims on non-residents reached EUR 16.8 billion (USD 17.9 billion).

Gross foreign debt denominated in foreign currency increased only slightly (by less than EUR 0.1 billion) in this quarter. The share of the NBH and the government in the gross foreign debt of EUR 22.6 billion (USD 24.1 billion) was EUR 12.7 billion (USD 13.6 billion), which represents a share of 56.4%, that is there was basically no change compared to the second quarter. This is not the case as far as net foreign debt denominated in foreign currency is concerned, in which case the combined share of the NBH and the government decreased from 37.2% at the end of

Foreign liabilities and assets

EUR billion

	Dec. 1998	June 1999	Sept. 1999
(1) Gross foreign liabilities (=1a+...+1d)	**38.6**	**44.6**	**44.9**
(1a) Foreign debt denominated in foreign currency	19.9	22.5	22.6
– Portfolio debt	9.4	11.1	10.5
– Other debt	10.5	11.5	12.1
(1b) Forint denominated foreign debt	1.1	1.3	1.3
(1c) Foreign direct investment in Hungary	15.6	17.8	17.9
– Equity capital	13.7	15.3	15.3
– Intercompany loans	1.9	2.5	2.6
(1d) Portfolio investment into equities by foreigners in Hungary	2.0	3.0	3.1
(2) Gross foreign assets (=2a+...+2d)	**13.4**	**16.2**	**16.8**
(2a) Debt of non-residents vis-à-vis Hungary	4.2	5.5	5.4
– Portfolio debt	0.2	0.6	0.8
– Other debt	4.1	4.9	4.6
(2b) International reserves	8.0	9.1	9.6
(2c) Direct investment of residents abroad	1.1	1.6	1.7
– Equity capital	1.0	1.2	1.2
– Intercompany loans	0.1	0.4	0.4
(2d) Portfolio investment into equities by residents abroad	0.1	0.1	0.1
Net foreign liabilities (=1–2)	**25.2**	**28.4**	**28.1**
Net foreign liabilities denominated in foreign currency (=1a–2a–2b)	**7.6**	**8.0**	**7.5**

The "Quarterly Report on Inflation" is a publication of the National Bank of Hungary. which aims to inform the public on a regular basis about recent and expected developments in inflation. as well as about the central bank's assessment of the macroeconomic process determining inflation. The aim is for the goals of monetary policy to reach a wider public than before. such that the central bank's actions become easier to follow and interpret. This publication focuses essentially on the description and analysis of current developments of a given period. The economic and financial concepts and relationships determining future developments in inflation considered relevant by the central bank were presented in our first issue.[1] hence their detailed description is not given here.

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[1] The first issue of the "Quaterly Report on Inflation" (November 1998) is available on the home page of the National Bank of Hungary.

be regarded as a correction of last year's extraordinarily high financial savings. At the same time, the development of financial institutions brought about a decline in the number of liquidity constrained households, hence the propensity to consume can also increase at an aggregate level, which leads to a permanently lower net financing capacity.

There was a dynamic income growth in the corporate sector, which was accompanied by moderate investment growth and declining inventories. Based on business cycle indicators reflecting corporate profitability and expectations, growth prospects are improving and an increasing number of enterprises anticipate rising profitability.

The permanently high domestic demand, rising foreign demand and increasing orders indicate that economic growth is picking up. Surveys suggest that capacity utilisation is reaching the level observed in the first half of last year. Based on this, higher investment growth and a rising corporate financing requirement are forecasted. At the same time, the tendency of household consumption growth to exceed income growth seems to be long-lasting. Thus, the favourable equilibrium conditions of economic growth have also to be provided by the public sector in the future.
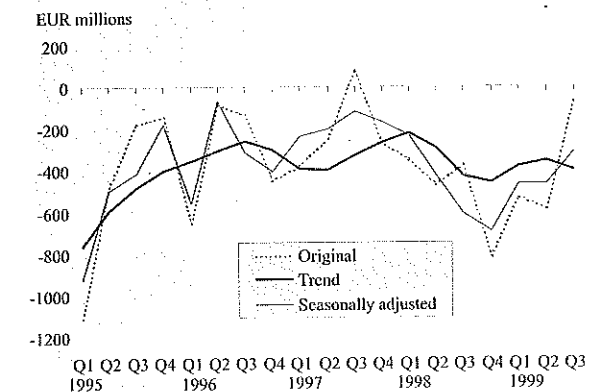
2 The current account and its financing

In the third quarter the current account deficit calculated on the basis of balance-of-payments statistics methodology amounted to EUR 70 million only (also 70 million expressed in US dollars due to the currency composition). The 1999 cumulated deficit already falls behind that of the same period of 1998 as a result of the much lower-than-expected deficit in the third quarter, though at the end of the first six months the cumulated deficit exceeded that of last year by nearly EUR 300 million.

The improvement in the trend gained from seasonal adjustment is not as large yet as that in the original and seasonally adjusted time series.[3] At the same time it is unlikely that the current account deficit will exceed the 1998 deficit by the end of the year, since, despite the current deterioration of the terms of trade which is expected to continue in the fourth quarter, foreign demand has increased (mainly due to a pick-up of economic growth in the European Union) and foreign investor confidence has improved compared to the fourth quarter of last year (N.B. the Russian crisis).

The current account deficit was again easily financed by non-debt generating net capital inflow in the third quarter. It must be noted, however, that both the approximately EUR 240 million (USD 255 million) non-debt foreign direct investment and the nearly EUR 100 million portfolio share investment was lower than the average values of the first two quarters. As far as debt-generating capital inflows are concerned, there was a net li-

[3] It is true though that our seasonal adjustment method does not follow fast changes at the end of the period in the trend. However, the chart indicates that the seasonally adjusted time series of the current account shows an improvement.

The current account

EUR millions

Original
Trend
Seasonally adjusted

Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3
1995   1996   1997   1998   1999

Main components of the current account

EUR million

	1998 Q1–Q2	1998 Q3	1998 Q1–Q3	1999 Q1–Q2	1999 Q3	1999 Q1–Q3
1 Goods	−757	−646	−1,403	−970	−471	−1,441
Revenues (export)	8,937	4,419	13,357	9,431	5,134	14,565
Expenditures (import)	9,694	5,066	14,760	10,401	5,605	16,006
2 Services	391	330	721	131	434	565
Tourism, balance	606	497	1,103	579	602	1,181
Other services, balance	−215	−167	−382	−448	−168	−616
3 Income	−862	−330	−1,192	−660	−293	−953
on debt-generating investment, balance	−483	−180	−663	−371	−179	−549
on non-debt generating investments, balance	−379	−149	−529	−289	−114	−404
4 Current transfers	402	267	669	371	261	632
Current account (1+2+3+4)	−826	−379	−1,205	−1,128	−70	−1,198

Financing of the current account deficit

EUR million

	1998 Q1–Q2	1998 Q3	1998 Q1–Q3	1999 Q1–Q2	1999 Q3	1999 Q1–Q3
(1) Current account deficit	826	379	1,205	1,128	70	1,198
(2) Total financing	496	255	751	1,523	−77	1,445
– non-debt generating (=2b.2+2c.1)	699	147	845	1,484	338	1,822
– debt-generating (=2a+2b.1+2c.2)	−203	108	−95	39	−415	−376
(2a) NBH and government	−1,246	558	−687	278	−901	−623
(2a.1) Credit transactions	66	−498	−432	845	−196	649
– of this government	1,099	−697	402	138	51	189
(2a.2) International reserves	−1,311	1,056	−255	−568	−705	−1,273
(2b) Private sector	957	−455	502	735	470	1,206
(2b.1) Credit transactions	753	−458	295	−71	375	304
– Credit institutions	1,095	−613	482	−160	141	−18
– Corporate sector	−342	155	−187	89	234	323
(2b.2) Portfolio investment	203	3	206	806	96	902
– Credit institutions	−9	−4	−13	−6	10	5
– Corporate sector	213	7	219	812	85	897
(2c) FDI	785	152	937	510	353	863
(2c.1) Equity capital	495	144	639	678	242	920
(2c.2) Intercompany loans	290	8	297	−168	111	−57
(3) Capital account	95	72	167	−133	95	−38
NEO (=1−2−3)	236	52	287	−262	52	−210

V. External equilibrium

Net financing requirement and the seasonally adjusted current account deficit as a percentage of GDP*

Per cent

M J S D M J S D M J S D M J S D M J S
1995 · 1996 · 1997 · 1998 · 1999

Legend: Net external financing requirement; Current account
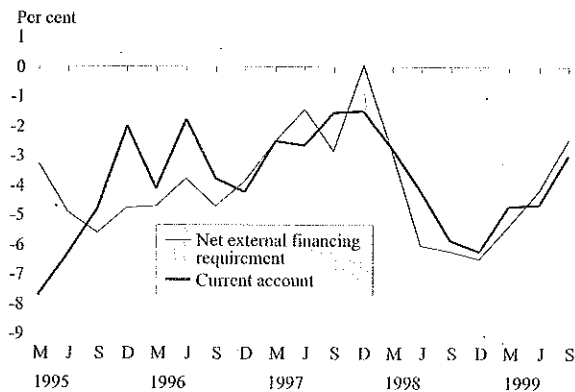
* The net financing requirement shows the economy's savings and investment balance, which determines a theoretical current account.

Operational savings and investment by sectors as a percentage of GDP[1]

	1997 year	1998 Q1	1998 Q2	1998 Q3	1998 year	1999 Q1	1999 Q2	1999 Q3
Gross domestic product[2]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
+net income transfers	-3.1	-1.8	-5.3	-3.3	-3.6	-3.1	-4.0	-2.5
+unrequited transfers	2.2	2.0	2.1	2.6	2.2	2.6	2.2	2.3
Disposable income	99.1	98.7	96.9	99.4	98.2	99.5	97.4	99.7
– households	70.3	75.4	69.9	71.3	70.8	75.6	70.4	69.5
– corporate sector	13.1	9.8	12.7	12.3	13.0	13.1	14.7	14.2
– public sector	15.6	13.5	14.2	15.7	14.4	10.8	12.7	16.1
Final consumption	72.6	79.8	71.3	73.1	72.9	79.3	72.6	73.4
– private consumption	62.0	68.6	62.1	62.1	62.4	67.5	61.5	62.4
– public consumption	10.5	11.2	10.5	11.0	11.0	11.8	11.1	11.0
Gross savings[2]	26.5	18.9	25.5	26.3	25.3	20.2	25.3	26.4
– household savings	8.3	6.8	9.4	9.2	8.6	8.1	8.9	7.1
– corporate savings	13.1	9.8	12.7	12.3	13.0	13.1	14.7	14.2
– public savings	5.1	2.3	3.4	4.7	3.6	-1.0	1.7	5.1
Net capital transfers	0.5	0.2	0.1	0.3	0.1	0.1	-0.1	0.4
– households	-1.1	-1.0	-1.0	-1.8	-1.0	-0.9	-1.3	-1.3
– corporate sector	-1.6	-1.2	-1.4	-2.5	-1.2	-1.0	-1.3	-1.8
– public sector	27.4	22.6	30.7	28.5	29.2	25.2	30.2	27.0
Investment	4.8	4.4	4.4	3.6	4.1	4.2	6.6	5.3
– household investment	18.7	15.5	22.6	21.5	21.7	18.7	20.4	19.0
– corporate investment and inventories	3.9	2.7	3.7	3.9	3.3	2.4	3.3	2.7
– public investment	4.1	2.7	-3.1	-2.4	-3.9	-5.0	-4.9	-8.1
Net foreign financing requirement	2.7	2.7	2.1	5.9	4.7	4.1	2.2	1.4
Financing capacity of households	-4.5	-4.8	-8.9	-7.4	-7.1	-4.6	-4.3	-1.8
Financing requirement of the corporate sector	-0.4	-1.6	3.4	-0.8	-1.5	-4.4	-4.4	0.0
Financing requirement of the public sector								

Note: NBH estimate. Owing to rounding, the total of the parts may differ from the total presented in the table.

1 Net savings

The deteriorating trend of the current account observed in 1998 reversed in 1999. Since the beginning of the year the current account has been slowly improving, and this improvement accelerated in the third quarter. The seasonally adjusted series shows that in the third quarter the external financing requirement of the economy fell to approximately 2.5% of GDP. The improvement in the current account balance was a result of the declining net financing capacity of households, the slightly decreasing financing requirement of the government and the considerably lower external financing requirement of the corporate sector.

The increased financing requirement of the government in the first quarter of 1999 was followed by a continuous decrease during the year. The improvement in the budget was the result of an increasing share of public sector income from GDP, whose growth started to pick up in the third quarter following low revenue growth in the first half of the year. Public investment expenditure also declined as a percentage of GDP. The change in the fiscal financing position during the year was partly caused by one-off factors, which led to a substantial rise in the financing requirement in the first quarter, but the expenditure cuts in the rest of the year corrected this rise. In addition, the intra-year fluctuation of GDP growth resulted, as an automatic stabiliser, in a worse financial position at the beginning of the year and in a better one in the second half of the year.

The decline in the private sector's financing requirement was due to contrary developments. While the net financing position of households decreased in the first half of the year, that of the corporate sector improved quarter by quarter. The financing capacity of households was also at a low level in the third quarter, because household real investment went up, and households increased their consumption by 5.3% despite their income rising less than the growth rate of GDP. A large part of the deterioration in the net financing capacity of households during the year can

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[1] Indicators are near to the accrual approach. Savings do not contain the forint effects arising from exchange rate changes on household deposit and credit portfolios. Interest expenditure in the general government balance (GFS deficit less proceeds of privatisation) is presented using the accrual approach.

[2] Gross savings = disposable income (gross, that is, it includes the value of depreciation in the given year) less final consumption. Disposable income includes the sum of the value of the gross domestic product of the given period and the balance of the income transfers and unrequited transfers to non-residents and from non-residents to Hungary (according to balance of payments statistics).

Contents

the sharp rise of inflation in the summer. This effect was, however, hardly felt in terms of domestic sales prices, and on the basis of specific labour costs it was not felt at all, as the rise of inflation was primarily not the result of a sharp increase of sales prices or increasing cost-side inflationary pressure, but of the change in the subsidy system associated with consumption. Since this does not influence the profitability of producers, it had no impact on the competitive strength of the entrepreneurial sector.

In the third quarter of 1999, the forint was officially devalued by 1.7% compared to the previous quarter. Since the position of the foreign currency hardly changed within the band (it was continuously near the strong edge), and no significant US dollar/euro cross-rate movements occurred, the nominal effective devaluation approximated the declared one, and the forint was, in the nominal effective sense, devalued by 1.5% compared to the previous quarter.
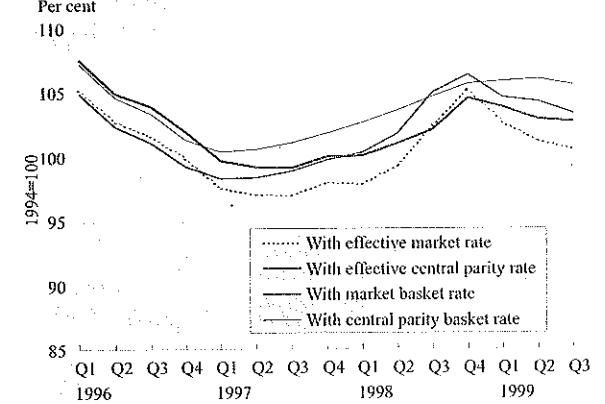
The real exchange rate based on consumer prices appreciated by more than 1% compared to the previous quarter. However, the greatest role in this third-quarter appreciation was played by the temporarily increasing trend of the consumer price index associated with specific effects, which cannot be considered as definitive from the point of view of long-term changes in competitive strength.

The increase in the domestic sales price index of manufacturing industry, including basically the products tradable in foreign markets is, in the long term, defined by foreign inflation and the expected devaluation of the forint, which results in a stable long-term real exchange rate based on the domestic sales price index of manufacturing industry. In the third quarter of 1999 this index appreciated by 0.5% compared to the previous quarter, but it is still relatively depreciated compared to the period before the Russian crisis.

According to the real exchange rates based on specific labour costs, as a result of the outstanding productivity increase of manufacturing industry seen in the third quarter, the rate of real depreciation accelerated again. Therefore, the indices based on net and gross output returned to the trend of a very high rate of depreciation seen in 1997.

Analysing Hungary's competitive strength compared to the various regions, we find that the appreciating tendency compared to the developed countries since the fourth quarter of 1998 has continued, which, as indicated above, was primarily due to the acceleration of domestic consumer inflation explained by transitional factors, while the influence of the strengthening of the forint within the band seen since the Russian crisis and that of the weakening of the euro against the US dollar had practically no impact in the last quarter. The extent of the appreciation compared to the developed countries was more than 1% within one quarter. Compared to the countries of Southeast Asia, the third quarter saw a reversal of the depreciating tendency compared to the drastic appreciation after the crisis. This was primarily due to the appreciation in relation to China and Hong Kong. Compared to the east-central European region, the second quarter saw a definite turning point, and the appreciating tendency experienced since the Russian crisis came to a standstill. This was primarily due to a real depreciation in relation to Slovakia and the Czech Republic, which resulted from the strengthening of these countries' currencies against the forint.
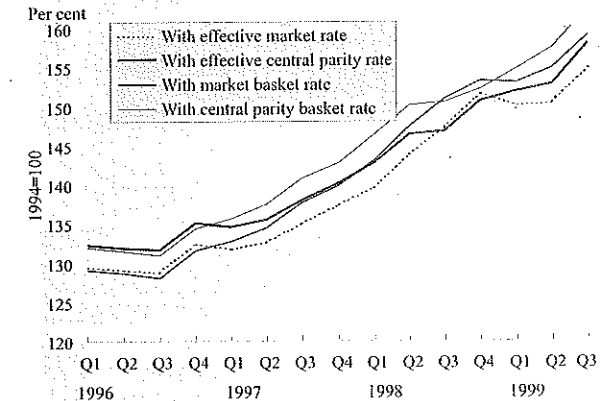
The evolution of the real exchange rate based on domestic wholesale price index in manufacturing industry
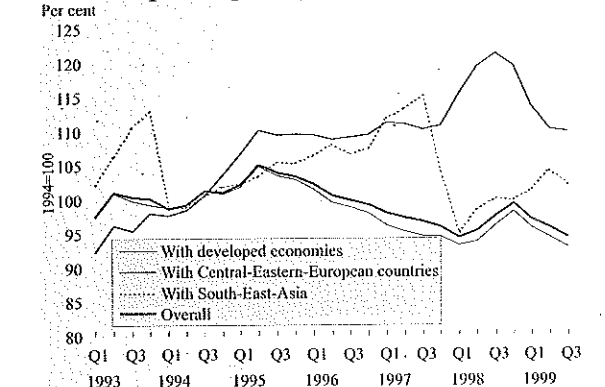

The evolution of the real exchange rate based on unit labour cost calculated with value added
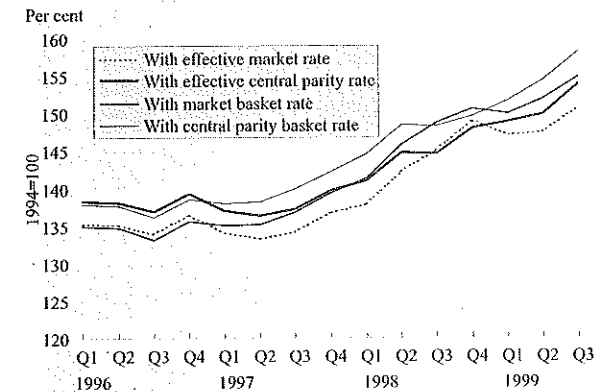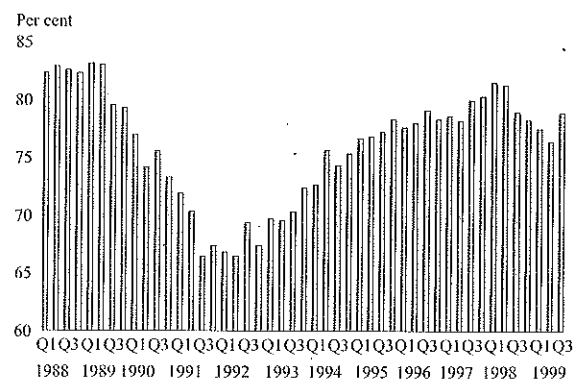

The evolution of the real exchange rate based on unit labour cost calculated with gross output

The evolution of the real exchange rate based on consumer prices against difference regions
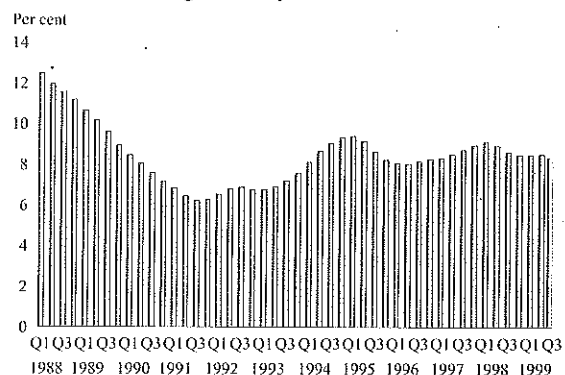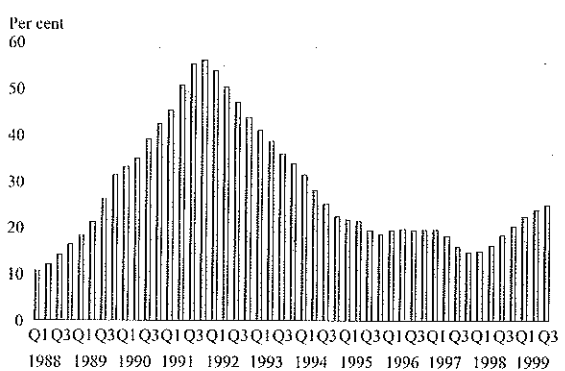
Average capacity utilisation in manufacturing industry*

Per cent

Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3
1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

* Seasonally adjusted. Source of the basic data: Kopint-Datorg.

Proportion of enterprises with lack of capacity in manufacturing industry*

Per cent

Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3
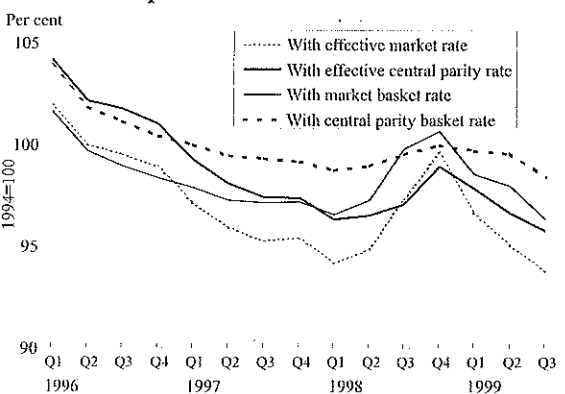1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

* Seasonally adjusted. Source of the basic data: Kopint-Datorg.

Proportion of enterprises with redundant capacity in manufacturing industry*

Per cent

Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3Q1Q3
1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

* Seasonally adjusted. Source of the basic data: Kopint-Datorg.

The evolution of the real exchange rate based on consumer prices

Per cent

- · · · · · With effective market rate
- —— With effective central parity rate
- —— With market basket rate
- - - - With central parity basket rate

1994=100

Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3
1996   1997   1998   1999

eration throughout several quarters of the increase of working hours relative to the growth of the labour force, explained by the fact that the expanding machine manufacturing enterprises are likely to have had ample labour reserves for a long time. Taking into account that wage inflation in machine manufacturing adjusted with the number of working hours can also be considered really high, these data jointly imply labour bottlenecks in existing enterprises.

2 Capacity utilisation

In the third quarter of 1999 average capacity utilisation increased in manufacturing industry[1] and this broke the decreasing tendency intensified one year ago by the change in the domestic and external market situations. The level of average capacity utilisation rose to about the level of 1998, alongside intensified demand and increased production of manufacturing industry and a more moderate growth of investment than in the previous year.

In spite of the improvement of average capacity utilisation and the continued production increase as expected, enterprises continue to forecast significant capacity underutilisation in relation to the orders received for the next half-year. In metallurgy and metal processing, the proportion[2] of enterprises forecasting capacity underutilisation compared to expected demand is higher than the average for the sector (54%), where problems mostly arise in connection with quality and the outdated nature of capacities. Redundant capacities are also significant in the construction industry (59% of enterprises forecast capacity underutilisation). Out of all production-hindering factors lack of demand continues to dominate, although this has decreased in the past few months, while the lack of capacity still proves to be an insignificant hindering factor. The proportion of enterprises facing a lack of capacity slightly decreased in the third quarter. In relation to demand, enterprises of the textile and clothes industries indicated an above-average proportion of low capacities (18%).

3 Competitiveness

The most important factor influencing the real exchange rate indices has been the fact that after last year's real depreciation of the exchange rate compared to the previous trend and the first-half sharper appreciation compared to the previous trend, the exchange rate is approximating the expectations of the medium-term trends. The index based on the consumer price approximates the trend characterised by the annual 2–3% real appreciation trend, while the indices based on labour costs approximate the previous real depreciating trend. In the last quarter, the appreciation of the CPI-based indices was relatively high, due to

[1] The big multinational companies productive in the Hungarian market, with a few exceptions, do not participate in the survey forming the source of the information. (Situation and Short-term Outlook of Manufacturing Enterprises, Autumn 1999. Quarterly Economic Survey by Kopint-Datorg, October 1999).
[2] Proportions weighted by the number of staff.

Summary

The main goal of the National Bank of Hungary is the **sustainable reduction of inflation** to the level of the European Union. Predictability, low interest rates and a low inflation environment together facilitate long-term, high economic growth. The exchange rate regime based on a crawling band with preannounced devaluations is intended to help achieve the inflation target set by the monetary authorities, and it furthers a nominal path of the economy which does not jeopardise equilibrium, while ensuring the convergence of domestic inflation to the inflation rate of Hungary's major trading partners.

Inflation continued to decline in the first half of 1999. In July, however, it started to rise and in October the rate of inflation reached 10.5%. This rise in inflation was due to developments beyond the control of monetary policy, namely the change in the medicine subsidy system, as well as the increase in the world price of oil and commodities. It is important to emphasise that inflation continued to decline in the group of *industrial products* (excluding energy sources), which are directly disciplined by the exchange rate, as well as in the category of *market services,* which react most sensitively if demand exceeds supply. The rise in energy prices hit the economy as a supply-side shock, which raises production costs. This inflationary pressure cannot be alleviated with demand-side measures; hence all monetary policy can do is reduce the spill-over effects and prevent the development of a potential cost-price spiral.

The rise in the consumer price of medicine does not affect the long term inflationary process directly, as it does not imply a cost increase for producers. Apart from medicine, regulated services also had a negative influence on the disinflation process, as their inflation rate (18.5%) far exceeded average inflation. In the category of non-regulated products and services the growth rate of prices continued to be slow (8.6%).

Thus, the recent unfavourable inflation indicators were the result of **one-off effects beyond the control of monetary policy**. The NBH's **core inflation indicator** (currently 8.7%) reflects the trend of the inflationary process and has been decreasing. In the near future the coordination of inflationary expectations will be crucial for the continuation of the declining trend of inflation and for the achievement of the disinflationary path set by the monetary authorities. If wage demands in the labour market and prices set by producers are based on this year's high CPI inflation, then these backward-looking inflationary expectations may become self-fulfilling, or the inflation target can be achieved only at a lower employment and output level. The government will strictly limit the inflation of regulated prices, the component which was mostly responsible for this year's high CPI inflation rate. The targeted growth rate of public sector wages and pensions is also intended to help achieve a lower inflation rate. Monetary policy can influence the inflationary expectations of economic agents by setting the exchange rate path. The monthly devaluation rate of the forint was further reduced

by 0.1% to 0.4% as of October 1, 1999, which implies an annual nominal devaluation of less than 5%.

As far as long term factors are concerned, developments in *supply and demand* continued to facilitate the disinflation process. Real growth of GDP accelerated in the third quarter of 1999 – it was 4.5% according to our estimates. This higher growth rate was mainly due to a pick-up in foreign demand (13.1%), whereas domestic absorption increased only moderately (2.6%). The favourable composition of growth led to a significant improvement in the current account in the third quarter of the year.

Economic growth was mostly influenced by the business cycle position of Hungary's major trading partners. Economic growth in the European Union is picking up, and import demand also increased in this region. Domestic foreign trade data reflect partly these favourable external developments and partly the capacity increasing effect of new investments. As far as central and east European economies are concerned, there are signs that the recession is coming to an end. Export both to CEFTA economies and to Russia increased in the third quarter.

The slowdown in the growth of domestic demand can **mainly** be attributed to **the corporate sector**. The growth rate of investment demand declined considerably as a result of less favourable sales prospects. In private sector dominated industries, the growth rate of fixed investment was 5.5% compared to the third quarter of 1998. In the second half of 1999, higher economic growth is expected as a result of rising foreign demand and continuously increasing domestic consumption, which encourages investment. Significantly rising aggregate corporate profitability is also favourable for financing the higher growth in investment demand. The first signs of this could be observed already in the third quarter. Although growth indices still show a low rate of expansion compared to 1998's extraordinarily high investment activity, there is already a clear expansion compared to the first two quarters of 1999. The demand growth of the corporate sector was also reduced by exceptionally high inventories in the third and fourth quarters of 1998 following the collapse of eastern markets. These inventories were gradually reduced, so inventory growth became negative due to the base effect.

There are major changes in the adjustment of **households** to the business cycle. Although household real income growth declined even further (2.2%) according to our estimates, households are trying to maintain a relatively high consumption growth rate (5.3%). This implies, on the one hand, that the reduction in real income growth, which was particularly significant in the third quarter, is regarded partly as temporary by households, and, on the other, that a large share of formerly liquidity-constrained households have now access to consumer loans as a result of financial sector development. Hence, households can maintain their desired consumption despite the lower income growth, which is regarded as temporary. In the second and third quarters, loan-financed consumption made up 1% of income.

Along with the fast growth of lending activity, the gross savings of households declined (to 10.6% of GDP, from 13.2% in the third quarter of 1998). There was a substantial change in the composition of gross savings – partly due to the introduction of a VAT refund, housing investment postponed from last year increased household investment significantly, while the high growth of investment led to a drop in the financial saving rate (to 3.2%). Compared to last year's financial saving rate fluctuating around 7%, this is a substantial decline, but we also have to take into consideration that last year's savings rate far exceeded that of the previous years (around 5%) and this year's development can be regarded as a correction. Nonetheless,

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percentage point in the third quarter. The sharp rise of the wage index of the segment representing almost 12% of all persons employed in the market sector can be associated with transitional effects which cannot be concluded from our data, as well as with the ongoing growth of the telecommunications sector. As this sector requires a highly qualified intellectual and manual workforce, the appearance of potential *bottlenecks* can be expected here as opposed to the recent growth of the demand for labour seen in the commercial sector. Although we cannot assume a clear picture until the wage indices for the next period are released, we cannot exclude that the labour market bottlenecks in this area of market services as well as certain manufacturing industries will result in relatively high wage indices.

We must pay attention not only to changes in the wage indices of the market services, but also to those of the manufacturing industries. Although in the third quarter, as opposed to the previous periods, the average of the market sector was not dominated by machine manufacturing industry wage indices or those of the closely associated manufacturing industry of basic metals, the wage index of these sectors, especially that of machine manufacturing, is still considered to be high. The question is to what extent the rise in productivity and the labour market bottlenecks are the cause of the continuously high level of the wage index. Here, we will, according to the method applied in our previous Report, analyse the changes in the amount of work forming the basis of the wages with the help of the average work-hour statistics completed by the full-time manual labour force. The length of the average working week can be considered as the appropriate index of productivity forming the basis of (performance-related) pay, as the productivity change, traditionally measured on the basis of per capita gross output or on that of added value, is partially the result of work-hour changes. On the other hand, the increasing intensity of workforce utilisation might imply bottlenecks, particularly when it is associated with an employment expansion.

If we consider working hours as the measurement units of the productivity shift we face the problem that the original wage data are not related to working hours. In this case the wage indices can be later adjusted by assuming that all manufacturing industry enterprises apply hourly wages in relation to the manual work force, and by adjusting the annual wage inflation indices with the annual average working hour indices. Our calculations suggest that the working hours increase in the case of manufacturing industry accounts for some 1.1% out of the 17.7% manual wage index, while it does not cause significant changes in the manufacturing industry average.

If we consider the changes in working hours as the indicator of intensity of workforce utilisation, it is again the *machine manufacturing industry* that deserves our attention, as the recent increase in the average working hours in machine manufacturing was associated with a dynamic growth of the manual labour force. The chart below illustrates that the increase in the average working hours in the last two quarters in machine manufacturing resulted from the fact that the growth of all working hours steadily exceeded that of the workforce, which means that the utilisation of the existing workforce continuously increased in spite of the dynamic employment of new staff. We can also observe the trend that, despite the positive economic situation, no examples have been seen since 1995 of such an excessive accel-

Average weekly working hours in manufacturing industry (hours per week)

Per cent
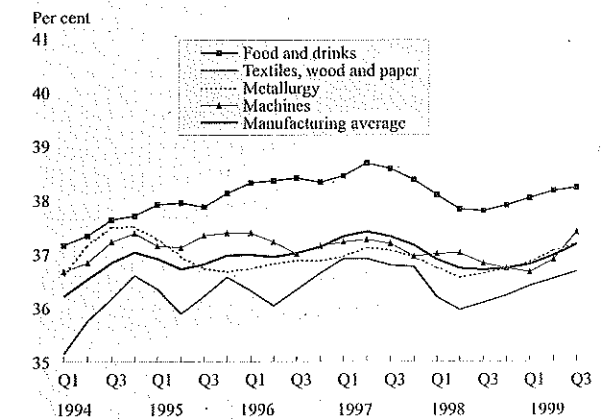
The effect of wage inflation and work-hour adjustment on the changes of manual wages in manufacturing industry, Q3 1999

	Wage inflation	Average monthly working hours	Adjusted wage inflation
	y-on-y growth rate, per cent		
Food, drink and tobacco products	13.7	−1.2	15.1
Textile, clothes, wood and paper	14.8	−0.9	15.8
Chemical industry	14.4	0.8	13.4
Precious metal and mineral product manufacturing	14.8	1.0	13.7
Metallurgy, metal processing industry	12.4	0.5	11.8
Machines	17.7	0.9	16.6
Other manufacturing industry	12.6	1.2	11.3
Total	**15.6**	**−0.1**	**15.7**

Change in full-time manual labour and the number of working hours in machines industry
(1993 Q2 to 1999 Q3, compared to the previous quarter, percentage)*

CHANGE IN TOTAL HOURS WORKED (Q/Q %)
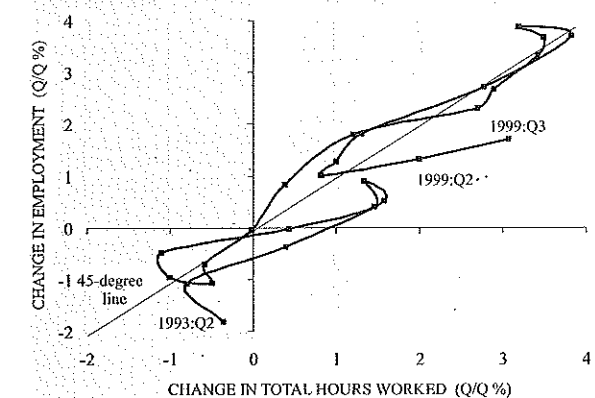
*Based on seasonally adjusted data. Along the 45-degree line the changes in the number of work force correspond to those of the number of working-hours, thus the amount of average working hours is constant. Below the line the number of the average working hours increases, above the line it decreases.

vices sectors. The spectacular increase of employment in the commercial sector was in harmony with the large-scale capacity growth we saw in the sector, and this might also have a potentially beneficial effect on the changes in the relationship between wages and prices. This is due to the fact that, in accordance with the statements of the Inflation Report issued in November 1998, the competitive product market and the size of the relevant labour reserves required for commerce will ensure that no wage or price inflation dangers can be expected in spite of this year's energetic growth of employment in the commercial sector.

1.2 Unemployment

The unemployment rate published in the residential survey of the CSO was 7.1% in the third quarter of 1999. The 0.6% decrease compared to the same period of 1998 means, however, a slight increase compared to the second quarter of 1999 (excluding seasonal effects). This slow-down in the fall of the unemployment rate seen since early 1998 can be considered a transitional phenomenon as the other indicators of the labour market did not point to any change in tendency. In fact, what we see is that the rate of vacant posts (calculated within employment) has been stagnating for a long time, and the similarly defined index of the *group lay-offs* is slightly increasing, while the rate of *recorded unemployment* continuously decreases. In spite of the interpretation problems related to the recorded rate (see Inflation Report, March 1999), this implies that the decreasing trend of the unemployment rate has not reversed. In addition, the stagnation of the vacancy rates and the increasing level of the lay-offs will probably not increase unemployment, but signal the buoyancy of the labour market flows and an increase of the fluctuation to a level which is general in other countries.

1.3 Earnings

According to the wage figures published by the CSO within the institution labour statistics, the third quarter saw gross nominal wages increase by 15.9% compared to the same period of 1998, which means, considering inflation, some 4.5% increase in gross real wages. The average figure for the national economy was produced, as we have seen in the previous periods, as the result of a relatively higher wage index (16.7%) in the public sector and a lower wage index (15.4%) in the private sector.

According to the wage inflation indices adjusted for the distorting effects of the intersectoral and intrasectoral composition shifts, the wage inflation rate of the market sector showed a slight increase in the third quarter. Analysis of the wage indices of the significant industries of the market sector reveals that the wage index of the market sector was not increased by the slightly reduced wage index of the manufacturing industry, but by the sharp increase of the *other market services*, whose definition excludes the commercial and vehicle repair sectors. Our calculations imply that this is primarily associated with the sectors of transportation, warehousing, post and telecommunications, as the over four percentage point increase of the wage index of the workforce employed in these industries was enough in itself to raise the aggregated wage index of the market sector by 0.5 of a

Changes in the unemployment rate*

Per cent

* Seasonally adjusted time series on the CSO publication "Labour Market Characteristics" calculated in a manner comparable in time. Unemployment interpreted in accordance with the ILO definition.

Wage inflation by sectors of the national economy *

Per cent

	1998			1999		
	Q3	Q4	Q3-Q4	Q1	Q2	Q3
Agriculture, fishing, forestry	16.4	16.1	16.5	14.5	15.2	13.5
Mining	5.1	5.9	11.3	13.6	18.4	13.8
Manufacturing	17.2	16.6	17.8	14.9	16.0	15.3
Electricity, gas, heat and water supply	18.7	17.7	19.3	15.6	16.4	17.1
Construction	15.1	14.1	16.2	13.7	10.7	13.4
Retail, maintenance of road vehicles, repairs	16.6	16.5	16.9	14.0	14.3	13.2
Accommodation services, catering	13.0	12.6	13.2	14.1	12.7	12.7
Transportation, storage and telecommunications	21.4	21.3	21.4	14.1	14.4	18.1
Financial activities and supplementary services	25.6	25.2	25.9	19.0	17.0	17.1
Real estate and economic services	32.0	31.9	30.4	21.8	17.0	16.0
Public administration, social security and defence	18.0	18.2	18.0	23.2	20.0	17.2
Education	19.6	15.9	21.4	22.7	19.0	18.3
Health and social services	15.4	9.4	16.2	15.9	12.3	12.6
Other	15.7	14.3	15.8	11.7	13.1	11.6
National economy total	18.2	17.0	18.7	16.8	15.9	15.5

* In the case of enterprises, the data in the table for 1998 apply to those employing over ten persons, whereas the data for 1999 apply to those employing over five persons. The data above represent the annual index calculated from the seasonally adjusted wage data. After the first quarter of 1999 they are calculated from the original data of comparable structure. All calculations are made by the NBH.

Wage inflation in selected sectors *

Per cent

	1999 Q1	1999 Q2	1999 Q3
National economy, total	16.8	15.9	15.5
Market sector	15.3	15.3	15.4
Manufacturing	14.9	16.0	15.3
Commerce	14.0	14.3	13.2
Other market services	16.8	15.3	16.8
Public services	21.3	17.8	16.3

* Annual indices calculated from the original data of comparable structure. All calculations made by the NBH.

more active consumer lending and the prospective rise in housing credits may result in a financial saving rate permanently lower than in previous years, which must be considered when formulating economic policy ensuring macroeconomic equilibrium.
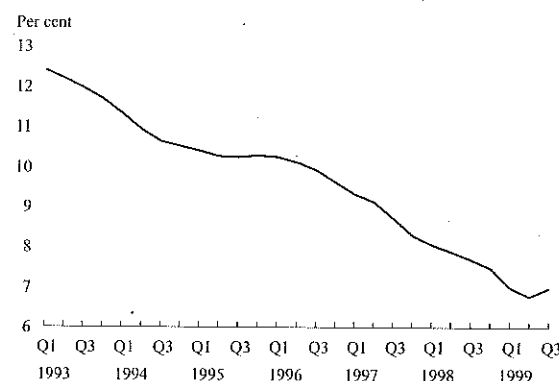
The demand-increasing effect of **the budget** in the first quarter was corrected in the second and third quarters of 1999, and as a result the budget had a neutral demand effect in the first three quarters of the year. This correction was partly due to the freezing of reserves in the budget (0.4% of GDP) and to a reduction in public sector investment. Despite the slower-than-expected economic growth and low inflation in the first half of the year, budget revenues increased as expected, the surplus growth of personal income taxes offset lower-than-expected VAT revenue. The pick-up of economic growth in the third quarter, however, had a favourable effect on VAT revenues.

As a result of last year's high investment activity, there was a significant expansion in **domestic supply** and **capacities**. Along with the upswing of economic growth, capacity utilisation indices in the manufacturing industry are rising, following relatively low capacity utilisation in the first three quarters of the year. There was no rise, however, in the share of companies with capacity shortages, and the share of companies with unutilised capacities further increased, which indicates a significant polarisation of sales prospects in the corporate sector. Potential workforce utilisation, however, increased as a lagged effect of last year's boom – the **unemployment rate** fell by 0.6% **to 7.1%** compared to the third quarter of 1998. This is a minor *rise* in the unemployment rate compared to the 6.8% level of the previous quarter. However, the halt in the declining trend of unemployment, observed since the beginning of 1998, is only temporary, as other labour market indicators do not signal a turning point in the trend.

Wage inflation declined further compared to 1998 (15.5%). There was a slight increase in the wage inflation rate of the private sector in the third quarter (from 15.3% in the second quarter to 15.4%), which can mostly be explained by wage inflation in *transportation, storage, postal and telecommunication* services. The more than 4 percentage point jump (to 18.1%) in these sectors' wage inflation is mostly attributable to the expansion in telecommunications services. As this industry requires highly qualified white and blue-collar workforce, *bottlenecks* might emerge in the future. The growth rate of wages in manufacturing industry declined somewhat (to 15.3%) compared to the previous quarter, but wage inflation is still above average (17.1%) in the machinery industry. The danger of a potential shortage of skilled workers is confirmed by the fact that high wage growth was accompanied by increasing hours worked, even with rising employment. Public sector wage growth (16.7%) is still higher than the economy's average, but the rate of growth declined further compared with the second quarter. Public sector employment decreased by nearly 3%, which provides additional workforce for the private sector's increasing labour demand.

There was a substantial improvement in the current account in the third quarter of 1999 due to the fast growth of net exports, the improvement is so significant that in the first three quarters the current account deficit (EUR 1,198 million) calculated on the basis of balance of payments statistics does not exceed the deficit recorded in the same period of 1998. Besides improving real economic transactions, income transfers were also lower in 1999 than in the previous year. As far as the composition of external financing requirement is concerned, the trend observed in the previous quarter continued. Further increases in net savings of the corporate sector offset the decreasing financing capacity of households, while there was a correction in the budget's high financing requirement of the first quarter. The expected rise in investment activity, however, will lead to a decline in corporate financing capacity, which will

only be partly offset by the fact that net household savings may increase compared to the year's unusually low level. When evaluating macroeconomic equilibrium prospects we also have to take into consideration that inventory growth was negative in the third and four quarters of the year due to the base effect. This is only a temporary phenomenon, as economic growth brings about higher inventory investment. Therefore, further adjustment of the budget is necessary in order to achieve high but sustainable economic growth.

The macroeconomic developments described above **do not permit looser monetary conditions**. For example, the disinflationary process was jeopardised by the high rise of oil prices and increasingly uncertain inflationary expectations, which may result in a potential slowdown of disinflation. As the central bank's interest rate steps can only influence future economic decisions, we must take into account that despite this year's favourable macroeconomic indicators, the high economic growth projected for 2000 is expected to bring about a fast rise in domestic demand, which makes it necessary to maintain monetary conditions similar to those of 1999. The increased volatility of the euro/dollar exchange rate due to the Y2K problem could move the forint's real exchange rate by several percentages following the change in the currency basket. This has to be taken into account when setting the exchange rate path. Decisions about the exchange rate path for 2000 will be made after the law on next year's budget determining the macroeconomic framework is accepted. The real exchange rate path consistent with the government's inflation projections allows an annual 2–3% appreciation on a CPI basis, which, in the NBH's view, is consistent with the permanent differences in the productivity growth of different sectors of the economy.

The **real interest rate** on three-month market instruments amounted to **4.5–5%** in the third quarter. Domestic interest rates were greatly influenced by the fact that foreign capital flows were directed mainly to developed economies, and due to worries about the Y2K problem short term investments became less and less attractive. Thus, the interest rate premium on short-term yields stabilised at a high level, despite significant foreign exchange interventions and a substantial drop in long-term yields. Therefore, because of the interest rate rise by basket currency countries, forint interest rates with maturities of 12-month and less fell only by 20–50 basis points, despite the cut in the monthly rate of devaluation.

As far as the interest rate policy of commercial banks is concerned, the spread between market and commercial bank rates stabilised at a relatively low level as a result of the competition for household deposits and corporate loans. Consumer lending continued to expand dynamically. The margin between lending and deposit rates is still very high, around 11 percentage points.

Expectations about long-term interest rates have reduced substantially in the past few months. This was mostly due to domestic factors, as the fall in yields can be linked to the publication of favourable macroeconomic data. The drop in long-term dollar and euro yields, as well as the 150 basis point decline in the EMBI+ indicator, reflecting the perception of international capital markets about emerging markets, also reduced domestic interest rates.

Both foreign and domestic investors have increased their forint investments in recent months. Foreign capital inflow preferred non-interest-sensitive investment. Foreign direct and portfolio investment was particularly substantial, which also led to higher central bank intervention in the interbank foreign exchange market. The surplus liquidity created by capital inflows was sterilised by the rise in the stock of the NBH's two-week deposit facility. Agents of the domestic real economy further increased the share of forint denominated assets in their portfolio. The growth rate of the narrow and wide monetary aggregates exceeded that

# IV. Supply factors

1 Labour market trends

The changes in the labour force during the third quarter of 1999 were in accordance with the tendency we saw in the previous periods. The strong growth of the employment and the decrease of the unemployment level continued, which resulted in a further increase of the activity rate. The picture is, however, more shaded due to the instability we saw in the changes of the unemployment rate in the third quarter, and to the positive distorting effect of the shift in the demographic composition of the population. As a result of the common effect of the economic recovery of the labour market and the demographic trends, the activity rate had reached 53.5% by the third quarter, which corresponds to value of early 1995.

1.1 Changes in employment

As was expected on the basis of the previous quarters, the specially dynamic rate of the employment growth at the beginning of the year reported in the household survey carried out by the CSO became somewhat corrected by the third quarter. Compared to the same period of 1998, the number of employees still shows a 3.1% increase. Consequently, the employment rate (the proportion of the employed to the population aged 15–74 years) approached 50%, a value last seen in 1993. In the background of the strong growth of employment there are demographic processes (the increase of the weight of the age group of 25 to 39 having the highest employment rates compared to the whole population) as well as the revived demand for labour due to the positive economic situation.

According to the institution labour statistics of the CSO for their survey of the public sector and non-profit organisations as well as enterprises employing more than five persons, the average of the national economy did not change in the number of employees compared to the third quarter of 1998. Behind this, however, we can see a dynamic increase of the employment level in the private sector and a nearly 3% decrease of employment in the public sector. In the private sector manufacturing industries continued to expand – as a result of a 7.7% increase of employment in the machine manufacturing industry and a 1.9% increase in the manufacturing of basic metals and metallurgy, employment in the manufacturing industries increased by 0.8%. Behind the average annual 5% increase of employment in the market services sector we find a 12% increase in the commercial and repair sector and an average 1.6% increase of employment in other market ser-

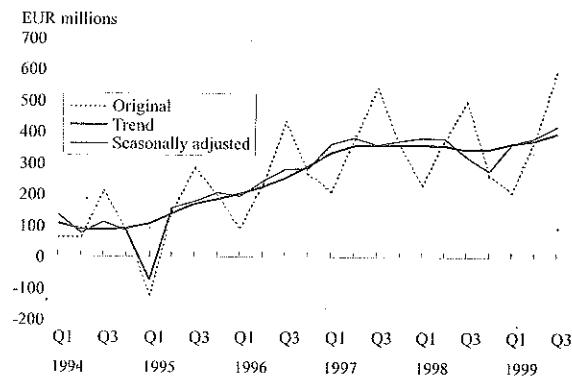**Changes in the number of employed***

Thousands
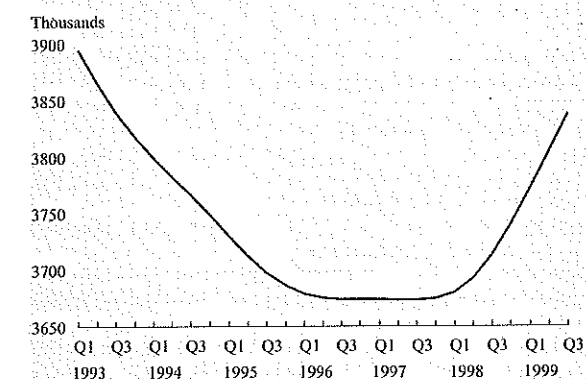
* Seasonally adjusted time series based on the CSO publication "Labour Market Characteristics", caclucated in a manner comparable in time.

Contribution of the different product groups to import growth

The evolution of travel balance

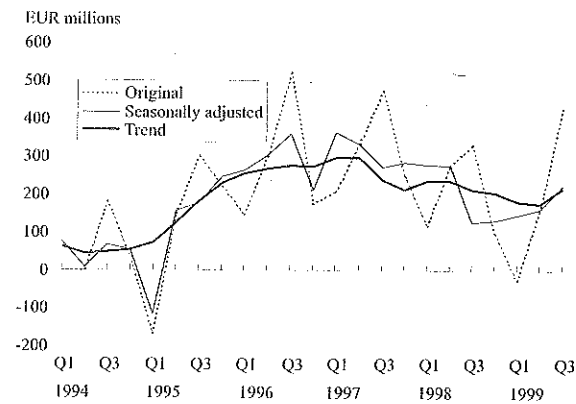
Services balance, 1994–99

Even though the trend of the trade of services was considered to be favourable in the third quarter, the cumulative balance of services exhibited a decrease of Euro 160 million compared to the first three quarters of 1998.

of nominal GDP, the real growth of M1 exceeded its growth rate in the third quarter of 1998 by 5.6%, while the real growth of M3 was 5% higher than in the same period a year earlier. Hence the velocity of money continued to slow.

The net financing requirement of enterprises decreased substantially during the year. The stock of loans and financial assets both increased. As far as the composition of new loans is concerned, there was a further shift towards foreign loans denominated in foreign currency, which can be explained by the interest rate premium stabilising at a high level.

Main macroeconomic indicators

	1997				1998				1999		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Growth rate (at constant prices)										
	Change over the same period of the previous year (%)										
GDP*	2.2	4.5	5.5	5.5	4.5	5.1	5.6	5.2	3.3	3.8	4.5
of this: domestic absorption	3.9	4.4	3.5	5.2	3.6	9.0	11.1	8.3	5.7	4.5	2.6
– final consumption	0.0	2.8	2.7	3.3	2.8	3.8	4.1	5.7	4.3	4.2	4.6
= household consumption	-0.8	2.4	2.2	2.7	2.8	4.1	4.4	6.1	4.2	4.5	5.3
– investment	22.0	9.8	5.6	8.7	6.7	26.1	30.5	13.0	9.2	5.3	-1.9
= fixed investment	4.4	14.6	14.3	5.3	7.0	12.7	18.1	8.2	6.4	6.8	4.2
export (GDP)	19.0	24.5	28.8	27.5	29.0	17.6	12.5	9.5	8.8	8.8	13.1
import (GDP)	22.6	24.4	24.5	25.4	25.1	25.5	24.5	16.1	12.9	9.8	9.0
Real effective exchange rate index**											
On CPI basis	-4.7	-4.1	-4.3	-3.5	-3.1	-1.2	2.1	4.4	2.7	0.2	-3.6
On PPI basis	-7.3	-5.5	-4.6	-1.9	0.3	2.3	5.6	7.4	4.9	2.0	-1.8
On unit labor cost basis (on value-added basis)	-0.9	-1.4	0.2	0.3	2.9	6.6	8.1	8.9	6.6	3.7	3.9
On unit labor cost basis (on gross output basis)	1.8	2.7	4.8	3.8	5.9	8.5	9.0	10.3	7.6	4.5	5.1
Deficit	*As a percentage of GDP*										
Balance of the budget (cash flow basis)***	-5.3	-3.8	-6.0	-4.2	-7.5	-2.8	-4.0	-4.7	-10.1	-4.6	-1.9
Primary balance of the budget***	4.5	3.3	1.2	3.4	1.9	2.6	1.8	0.6	-0.2	0.7	3.6
	USD billion										
Current account balance	-0.5	-0.3	0.1	-0.3	-0.4	-0.5	-0.4	-1.0	-0.6	-0.6	-0.1
Foreign direct investment (net)	0.5	0.3	0.3	0.6	0.3	0.5	0.2	0.4	0.3	0.3	0.4
Saving rate**** (%)	8.4	9.1	10.7	12.6	8.8	11.6	11.7	10.2	8.3	6.8	7.4
Unemployment rate* (%)	9.3	9.1	8.7	8.3	8.0	7.9	7.7	7.5	7.1	6.9	7.1
Gross average income per capita income\+\+											
(same period of the previous year = 100%)	25.7	21.4	21.2	21.1	21.2	19.2	18.1	15.5	16.7	16.0	16.0
Household real income											
(same period of the previous year = 100%)	-1.7	1.1	1.6	3.3	0.3	4.3	4.2	2.8	4.3	2.4	2.2

* NBH estimates.
** Positive figures indicate total depreciation; nominal exchange rate indices are calculated with market exchange rates from 1994; deflators refer to the manufacturing industry
*** Estimated values, as there are no appropriate quarterly data for local governments
**** Net financial savings of households as a percentage of total household income. Net financial savings do not include the sum of revaluations due to exchange rate changes and other factors.
* Based on the labour market survey of the Central Statistical Office according to ILO standards; unemployed persons as a percentage of the entire population; seasonally adjusted data.
\+\+ Central Statistical Office data, average income of full-time employees in the public sector and at businesses employing more than five persons until 1998 and more than 10 persons from 1999. Therefore, the 1999 data can only be compared to earlier data to a limited extent.

Main monetary indicators

	1997				1998				1999		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Change over the same period of the previous year (%)										
Inflation (consumer price index)*	18.8	18.7	18.0	18.4	16.4	14.2	12.5	10.3	9.3	9.1	10.9
Producer price index*	21.8	19.4	19.7	19.5	13.5	11.6	10.4	7.1	4.9	4.3	4.8
Devaluation rate of the forint's central parity	15.7	15.3	14.7	14.0	12.9	12.2	11.4	10.3	9.4	8.4	7.5
	Real growth of monetary aggregates*										
	Change over the same period of the previous year (%)										
M0	-1.8	-1.2	0.5	-2.2	1.7	3.3	5.8	5.1	8.5	7.9	3.9
M1	1.7	0.4	1.3	4.3	6.7	9.1	7.9	6.1	7.1	6.3	5.6
M3	-0.2	-1.0	0.0	1.0	2.3	4.0	4.6	4.4	8.0	7.1	5.0
M4	6.8	6.4	7.1	7.1	10.0	9.8	9.4	9.4	9.1	9.0	7.7
	Real growth of loans extended by credit institutions*										
	Change over the same period of the previous year (%)										
Corporate sector foreign + domestic	5.4	7.3	9.3	6.6	8.3	8.7	9.4	13.4	17.8	16.6	12.6
Corporate sector domestic	19.0	23.9	22.9	16.8	14.5	15.5	15.6	9.9	11.2	7.2	3.5
Household	-23.8	-20.5	-14.7	-13.2	-11.4	-2.4	2.1	0.8	10.7	14.0	17.2
	Interest rates (%)*										
Reverse repo/1 month deposit**	21.5	20.75	20.25	19.75	18.75	18.0	18.0	16.75	16.0	15.25	14.75
90-day treasury bill	20.76	20.07	19.41	19.28	18.8	17.34	19.27	16.21	15.62	14.71	14.00
12-month treasury bill	20.07	19.77	19.67	19.01	19.13	17.33	17.4	16.08	15.58	14.72	14.18
3-year treasury bond	16.73	17.42	18.08	17.97	18.36	16.56	16.23	14.8	13.25	13.6	13.64
BUX	5,414	6,795	7,693	7,999	8,656	7,806	4,571	6,308	5,490	6,486	6,747
Interest rate premium (bsp)***	376	338	257	459	363	363	674	533	530	551	563
	Conversion forint demand										
Conversion, USD million	471	799	1,816	330	2,448	929	-2,307	-208	358	250	1,260
Net foreign borrowing of the banking sector,**** USD million	-182	151	76	-115	452	-8	-632	-155	79	165	268
Net borrowing of the corporate sector*, USD million	-60	5	210	215	-56	87	128	431	-117	98	108

* At the end of the period.
** The maturity of the passive deposit facility was reduced from one month to two weeks from 8 January 1999.
*** Interest rate premium: excess yield on 3-month T-bill investment over the devaluation rate and foreign interest rates. The actual devaluation rate was modified with the official announcement of the change in the rate.
**** Excluding privatisation revenue.
* Including owner credit.

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tariffs. The growth rate of manufactured goods slightly decreased.

In accordance with the product group breakdown of imports by usage, the growth rate of imports of investment goods slightly decreased compared to the previous quarter. This might predict a slower rate of investments in the next period.

The slow-down in imports of consumer durables can be associated with the developments seen in retail statistics. At the same time, imports of non-durable consumer goods and intermediary products showed a definite acceleration. Analysing the contribution of the different product groups to import growth, the increasing role played by intermediary products is clear.

The strongly accelerated import growth rate in the third quarter was explained by this product group, which, taking into account the extremely strong rate of industrial production and the increasingly greater role of export sales, is expected to contribute to export growth in the future.

This is reinforced by the fact that, as our previous observations imply, when the contribution of the intermediary product group to the total import growth has increased, it was followed by an acceleration of exports with a slight delay.

Trade of services in the third quarter showed an improving trend in the case of both travel and non-travel services (actually, this was primarily due to a decrease of expenditures and not an increase of revenues).

This development is important particularly in the case of non-travel services, since with the exception of one quarter (fourth quarter of 1997) this trend has been continuously and strongly declining. At the same time, the trend of the travel balance also stagnated for a relatively long time (in 1997 and almost all of 1998), and a slight increase of the trend, naturally, does not mean we can argue that the long-term trend has changed.

However, we must highlight that, apart from the deteriorating effect of the Yugoslav events on the balance of services (especially regarding travel and transportation services), the first two quarters already show an improving and not a deteriorating trend.

In a seasonal comparison, the third quarter usually brings the highest revenue in the travel services, and this was the case this year as well. However, it is true that, despite certain events in the period attracting significant incoming tourism (the total solar eclipse and the Formula-1 race), it was decreasing expenditures and not increasing revenues which explain the improving balance.

Regarding some of the other services, the tendencies of the first half-year continued. In the case of construction services and technical and cultural services the third quarter was similar to the first two quarters, as regards both revenues and expenditures. The balance of other services, however, was definitely more positive – the improving balance of merchantine and business services was mainly the result of reduced expenditures, while the improving balance of transportation, and government services was caused by an increase of revenues.

Concerning the former services, it was the Yugoslav conflict that was mainly responsible for low revenues in the first two quarters (as it was transit transportation, especially water and rail transportation which suffered the most serious decline).
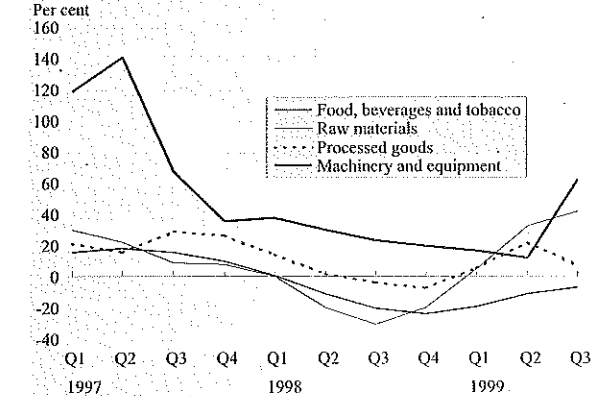
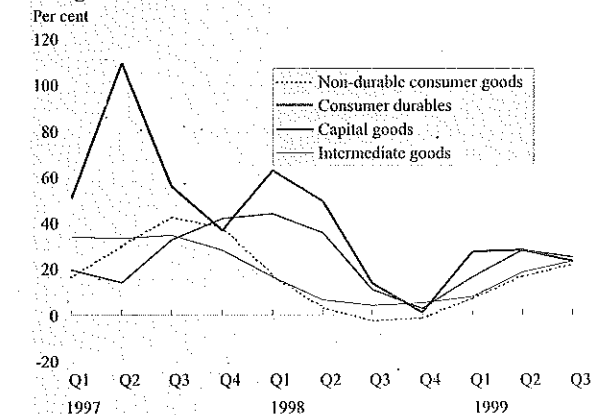**Annualised trend growth rates in different export categories**
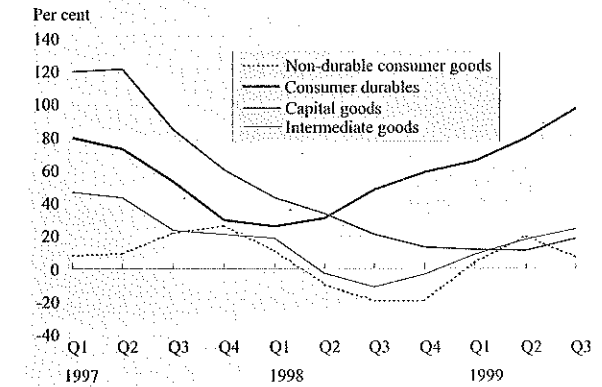
Contribution of the different product groups to export growth
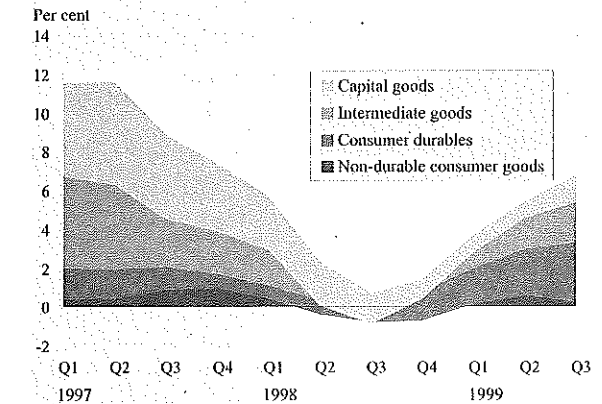
Export of different product groups
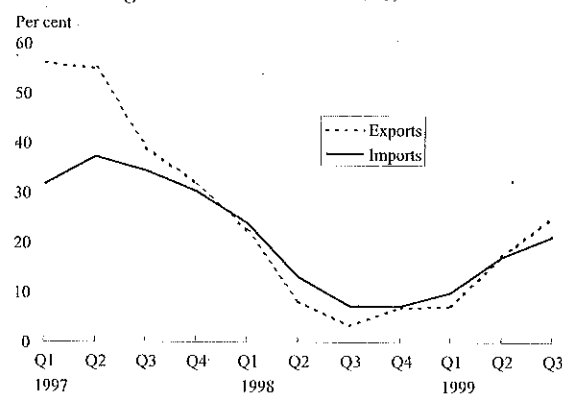(Annualized quarterly growth rates calculated from trends)

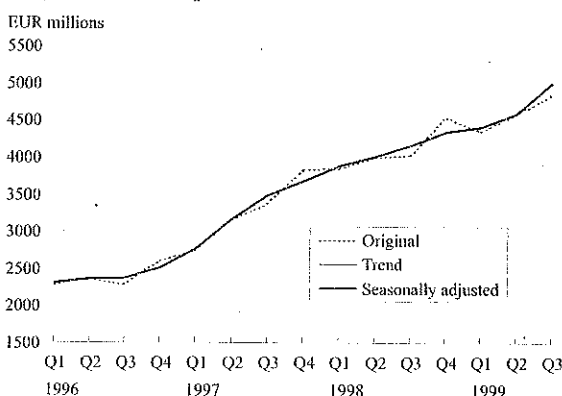**Annualised trend growth rates in the different import categories**

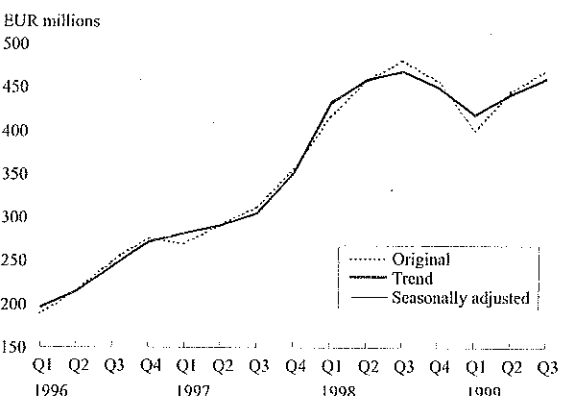## Trend of exports and imports based on customs statistics
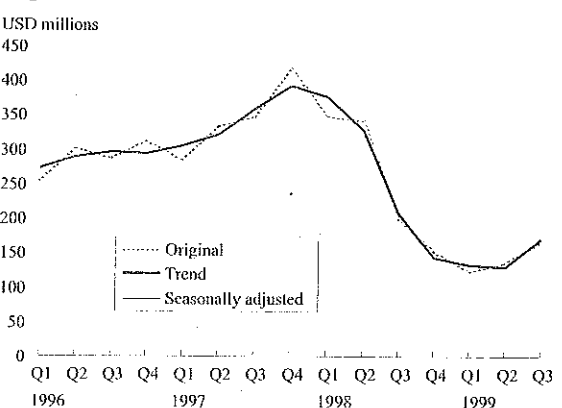(Annulized growth rates of trend in euro)

Exports to developed countries

Exports to the CEFTA region

Export to the CIS countries

The difference between the value and volume indices of export and the import growth rates can be explained by the deterioration of the terms of trade resulting basically from the suppressed prices in machinary and the beginning of the increase of energy prices.

The annualized quarterly growth rates of the value data show a strong acceleration of the export and import growth rates in the second quarter. No significant difference can be found between the growth rates of the two variables.

In the third quarter of 1999 exports amounted to Euro 5,790 million (USD 6,072 million) and imports totalled Euro 6,502 million (USD 6,819 million). As a result, the foreign trade balance, according to customs statistics, closed with a deficit of Euro 712 million (USD 747 million), which was Euro 99 million (USD 68 million) higher than in the same period of 1998.

The changes of exports by different country groups well reflected the changes in the external demand. The growth rate of exports to the developed countries showed a strong acceleration compared to the previous quarter. Exports to the CEFTA countries showed a continuous growth of demand after the through seen in the first quarter. The CIS countries, as was shown in the previous report, were characterised by stagnation in the first half-year, but the third quarter already saw signs pointing to improvement.

The product structure of exports shows that the growth rate of durable consumer goods continues to be the strongest, and that its rate accelerated significantly compared to the previous quarter. As our estimates imply that the demand for consumer durables slowed down in the Euro zone, a significant part of the Hungarian export is re-exported in this product category. In the case of investment goods, the turning point can be set between the second and the third quarters, since the growth rate of exports of investment goods, which had been continuously slower until that point, began to increase.

This coincides with the fact that investments slowed down in the Euro region in the second quarter. In the third quarter, however, demand for this product category is believed to have begun to revive.

The growth rate of exports of intermediary products also showed a slight increase compared to the previous quarter. The growth rate of non-durable consumer goods, however, slightly dropped. Despite the proportion (about 20%) of the export of the durable consumer goods this accounted for the majority of the export growth.

The second most important factor of the growth was provided by the intermediary goods.

The analysis of the product groups of exports by SITC breakdown leads to conclusions corresponding to the ones above. Compared to the previous quarter, there was an extremely high increase in the growth rate of the group of machinery and equipment (including durable consumer goods, investment goods and some intermediary products). Although at a smaller pace, the product group of food, beverages and tobacco continued to decrease.

This decrease took place despite the fact that the situation consolidated in both the CEFTA and the CIS countries, which might indicate the unfavourable consequences of the protective

I. Inflation

A fter a temporary rise in the middle of the year CPI inflation has been declining since August. CPI inflation was 10.5% in October, while the average rate for the previous three months was 10.7%. The slowdown in inflation is also indicated by the *core inflation rate:* the NBH's core inflation rate which filters out the effect of changes in the pharmaceuticals subsidy system has been declining since June, while the Central Statistical Office's core inflation measure, which includes this effect, has been decreasing since August. As a result of the reduction in the inflation rate, the difference between domestic inflation and the inflation rate in the EMU has decreased somewhat.

The latest developments confirm the explanation given in our previous report about the reasons for the turnaround in headline CPI inflation this year – the slowdown in the disinflation process was caused mainly by factors independent of changes in aggregate supply and demand.

Our analysis shows that the significant reduction in the inflation rate last year was halted this year by rises in *factors not influenced by monetary policy* (the modification in the pharmaceuticals subsidy system involved a substantial price increase), the increase of certain *regulated prices* and, as far as market-determined factors are concerned, the rise in agricultural and energy prices dominated by *supply shocks*.

When formulating exchange rate policy and making inflation forecasts for this year the government and the NBH last year took into consideration that the significant reduction in inflation was partly due to favourable supply-side shocks with temporary effects, which are not expected to reduce the inflation rate in 1999. These favourable supply shocks mostly turned around this year. To be consistent with last year's evaluation, we have to separate the administrative and supply shocks that cannot be influenced by monetary policy from developments in aggregate supply and demand when assessing current inflationary developments. Therefore, the NBH considers its *core inflation rate* (filtering out most of the effects resulting from temporary and supply-side shocks) as the relevant and reliable inflation indicator for conducting monetary policy.

Thus, it is crucial for monetary policy to separate temporary and permanent as well as supply and demand-side shocks when evaluating inflationary developments. Temporary and supply-side shocks in themselves can never induce a change in the inflation rate in economic terms, as these shocks that lead to *one-off* changes in the general price level or relative prices do not imply a *continuous and general* change in the price level, that is price inflation. For example, a positive (i.e. inducing prices to rise) temporary or supply-side shock can lead to a rise in inflation

Year-on-year CPI and core inflation rates
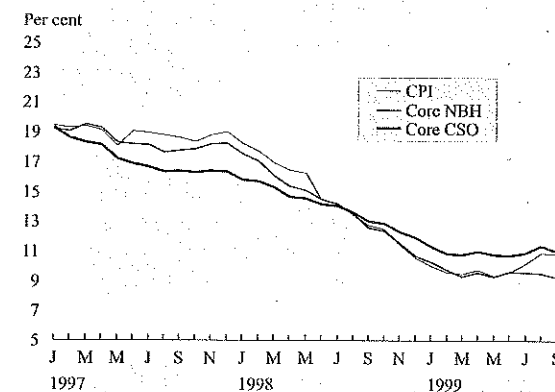
Difference in the inflation rate compared with the euro region*
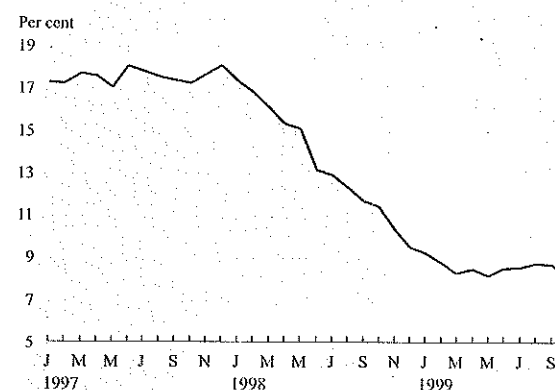
* The inflation rate of the euro region is measured by the harmonised consumer price index (HICP) of this region published by Eurostat. To be comparable, domestic inflation is measured with a (as far as the consumer basket is concerned) consistent indicator, which was created by excluding those groups of products and services from the Hungarian CPI that are not included in the HICP (drugs, medicaments, owner-occupied housing, health services, educational services).

only if it is accommodated by monetary policy or if economic agents raise their expectations regarding future inflation. That is why the National Bank of Hungary, when evaluating the inflationary process, pays particular attention, in addition to the headline inflation rate, to the distinction between different types of shocks influencing the price level and to the analysis of inflationary expectations of economic agents as well as of possible economic policy reactions.

In this report, we will discuss the development of inflation in the period between August and October 1999. Special attention will be paid to questions left open in our previous report mainly concerning the quantitative effects that the modification of the pharmaceuticals subsidy system in the summer as well as food prices and the world price of oil had on *headline inflation*. The analysis stresses that inflation does not have a *single* indicator, hence price developments should be analysed by using several, complementary inflation indices at the same time – the consumer price index, core inflation indicators and different averages. In this report, there is a box included showing the differences between the new core inflation measure introduced by the Central Statistical Office in the summer of 1999 and the core inflation indicator used by the National Bank of Hungary.

1 Imported inflation

The development of imported inflation is influenced both by changes in the exchange rate of the forint and the prices of imported goods.

The government and the National Bank of Hungary adjusted the devaluation rate of the forint three times in 1999. The last change in the crawl reduced the preannounced ex post annual devaluation of the forint to 7.3% as of 1 October.

In the third quarter of 1999, the decline of commodity prices excluding energy slowed down further as the world economy was picking up.

Among commodities, the price of metal increased by 9% in the third quarter over the previous quarter following an approximate 4% rise in the second quarter. Oil prices have been rising fast since March.

The nearly 120% increase in oil prices in the last eight months can partly be attributed to supply restricting OPEC agreements and partly to rising demand on the world market. Though the short term development of oil prices is difficult to forecast, it must be seen that the probability of a turnaround in the trend increases along with the drastic rise in the world price: on the one hand, higher oil prices increase the instability of cartels like OPEC restricting production in order to raise the price, and on the other, they make alternative oil production profitable. Therefore, the rise in oil prices can be thought of more like a process with natural limits, rather than an explosive process.

In the third quarter of 1999, the *deflation* of food prices has continued in the world market – food products cost 6% less in general than a year ago. This, however, had no direct effect on domestic prices, as the 12-month inflation rate for domestic food prices has accelerated recently (mostly due to non-import, non-processed food).

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fore, the growth rate in the first nine months was lower than that in the same period of 1998. An adjustment of pensions took place in August 1998 and this year there has been no such adjustment, the real value of pensions is expected to slow down in the fourth quarter.

This also indicates that the strong growth of household transfers in the first six months can be attributed to transitory reasons which were offset by the positive tendencies in the third quarter.

The decrease of the burden of the social security contribution connected to wages also results in savings in the case of public expenditure compared to previous years.

The number of public employees dropped by 2.1% at the and of the third quarter relative to the level a year ago, which means that decrease of public employment in the first half of the year continued in the third quarter, indicating the implementation of the envisaged annual staff reduction plans, which may result in savings over the rest of the year.

The investment expenditures of the general government have showed a significant drop, this trend characterised all three quarters. In the third quarter the investment expenses of the local governments decreased significantly, the nominal value of these investments dropped to two-thirds of the third quarter of the base year. In respect of local governments, the substantial drop in privatisation revenues and revenues from asset sales were only partly offset by the increase in current revenues but the extremely dynamic growth in investment over the three quarters of the last year proved impossible to repeat.

The institutions financed from the central budget were able to overfulfill their investments by about 10% in real term, which only partly offset the strong reduction of priority investment projects.

4 External demand

The positive economic tendencies highlighted in our previous report continued to improve in the third quarter of 1999. The growth rate of the Euro region, Hungary's most important export market, accelerated compared to the previous quarter. In the CEFTA countries the signs pointing to an end of the recession intensified. In the CIS countries, primarily due to the favourable price of raw materials, production and demand began to grow again.

The recovery of external demand was also felt in the acceleration of the Hungarian export growth rate. Value data suggest a substantial rise in the growth rate of imports as well; the growth rate here, however, was slightly lower than that of exports. As a consequence, the trend of the foreign trade balance, considered stable early this year, did not essentially change[5]. All this took place with the export volume growing at a higher rate than that of imports, and both strongly accelerating compared to the previous quarter.

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[5] The data for the third quarter are preliminary; final data might change the results.

Main macroeconomic indices of the euro region, I
(Percentage change over a year earlier; seasonally adjusted data)

Per cent

	1998		1999		
	Q3	Q4	Q1	Q2	Q3
Real GDP	2.6	1.9	1.6	1.6	
Domestic absorption	3.5	3.0	2.6	2.5	
Private consumption	3.4	3.1	2.7	2.2	
Government consumption	1.1	1.0	1.0	1.2	
Gross fixed capital formation	4.7	3.5	3.9	5.4	
Changes in inventories*	0.3	0.3	0.0	−0.1	
Exports	4.7	1.6	0.3	0.6	
Imports	7.7	5.0	3.2	3.4	
Net exports*	−0.8	−1.0	−0.9	−0.8	
New passenger car registrations**	6.7	6.1	7.1	8.3	6.3
Retail sales**	3.5	2.8	2.4	2.1	

Source: ECB Monthly Bulletin, Nov. 1999.
* As a contribution to real GDP in percentage points.
** Seasonally unadjusted data.

Main macroeconomic indices of the euro region, II
(Quarterly rates; annualised seasonally adjusted data)

Per cent

|	1998			1999	
	Q2	Q3	Q4	Q1	Q2
Real GDP	2.0	2.0	0.4	1.6	2.0
Domestic absorbtion	2.0	3.2	2.8	2.4	1.6
Private consumption	3.2	3.2	2.4	2.0	0.8
Government consumption	0.0	0.0	−0.8	4.9	0.8
Gross fixed capital formation	−2.8	10.0	0.4	9.1	2.4
Changes in inventories*	0.8	−0.8	1.6	−1.6	0.4
Exports	4.9	1.2	−5.5	0.8	6.1
Imports	4.5	4.1	1.2	3.2	5.3
Net exports*	0.4	−0.8	−2.4	−0.8	0.4

Source: ECB Monthly Bulletin, Nov. 1999.
* As a contribution to real GDP in percentage points.

Annualised quarterly growth rates of export and import volumes
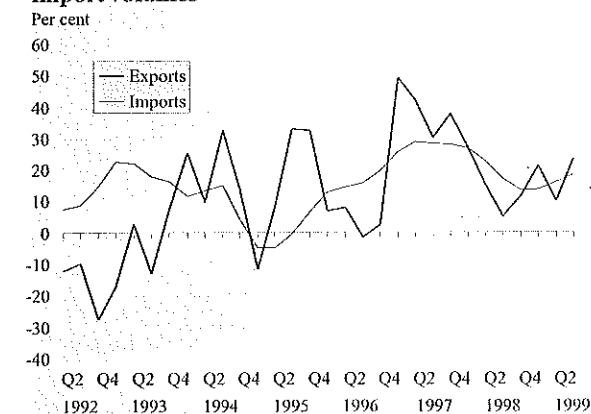
Changes of the foreign trade balance according to customs statistics in euro
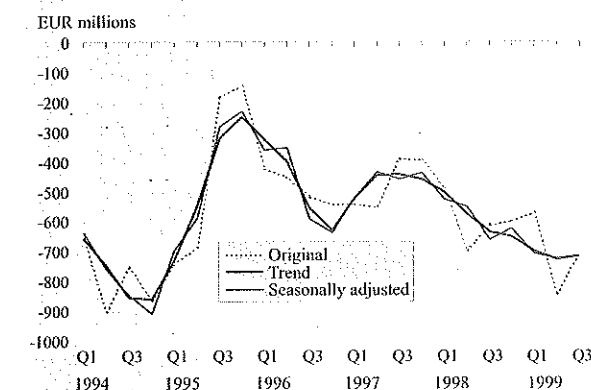
Changes in the real value of VAT
(Over the comparable period last year)

Per cent

	Q1	Q2	Q3	Q1-Q3
Domestic VAT payments	1.1	6.6	8.0	5.2
VAT payments on imports*	3.2	-3.3	-5.9	-2.6
VAT refund**	4.8	3.2	-5.5	0.6
Net VAT revenue	-1.4	0.0	7.2	2.2

* Adjusted by customs surety.
** Based on the estimated accrual-based settlement.

Changes in selected public expenditures* in real terms (Over the comparable period last year)

Per cent

	1998			1999		
	Q1	H1	Q1-Q3	Q1	H1	Q1-Q3
Wage and contribution expenses	1.5	-0.5	3.8	-2.4	-0.9	-2.3
Material expenses	-2.2	-8.4	-2.7	0.1	-2.0	-2.4
Consumer price equalisation	-3.9	1.3	4.0	-6.9	-6.9	-8.7
Communal and imputed consumption total	0.5	-3.2	1.4	-3.5	-3.5	-4.3
Pensions (incl. disability pensions)	4.7	5.4	8.4	6.9	6.9	4.3
Sick benefit	-4.9	-4.4	-2.0	1.5	1.7	1.4
Social expenses (central budget)	-2.3	-2.7	-3.0	2.3	4.8	5.4
Social expenses (local authorities)	26.0	28.9	30.2	16.1	-0.8	-2.4
Household transfers total	3.9	4.7	6.9	6.4	5.8	3.9
Investment (central budget)	-4.5	12.6	0.7	-10.4	-12.4	-3.8
Investment (local authorities)	25.0	27.5	26.8	2.3	-0.2	-18.8
Total gross expenses of investment***	8.6	20.0	14.0	-3.9	-6.0	-12.3

* Source: Public sector statistics, therefore, it differs from the CSO figures.
** Using the price indices concerning public consumption and investments.
*** To allow comparison, excluding the expenses of the Russian redemption.

In the second and third quarters the demand effect became restrictive, therefore the demand effect of the general government was neutral in the first nine months of 1999. In the third quarter, in line with previous assumptions, the economic development continued to exert a positive influence on the primary balance.

The real value of the fiscal revenues and expenses of the general government was reduced by the inflation of the third quarter, which was higher than in the previous two quarters.

With lower fiscal revenues than the estimates, the balance of the general government was deteriorated by inflation being lower than considered in the plans and by economic growth that did not meet the expectations. The effect of the positive turn in VAT revenue seen in the second quarter became considerable in the third quarter; in the first nine months the real value of net VAT revenue grew by over 2%. The quarterly changes of the real value of the three components of net VAT revenue are illustrated in the table below.

The specially dynamic VAT refunding in the first quarter of the year had considerably decreased by the third quarter, while the trend of VAT payments related to domestic products and services ran an opposite course. The positive effect of these two factors was reduced by the decrease in the real value of the import VAT revenue in the second and third quarters.

The appreciation[4] of the currency influencing the settlement bases of the import VAT revenue, compared to the base period, accounts for 3.5% of the strong real value decrease seen in the third quarter.

The growth rate of revenues deriving from personal income tax and social security contributions fell compared to the second quarter (the nominal value of social security contributions also decreased), but in the first nine months the real value of the revenues deriving from personal income tax still grew by 8% due, to a greater extent, to changes in real wages and, to a smaller extent, to the increase of the tax burden. The revenue-decreasing effect of the pension reform and the reduction of the rate of the social security contribution would be a reason for a significant decrease of the real value of all contribution revenues. However, due to the growth rate of real wages, the total real value of social security contributions decreased by only 2.8%. In the third quarter the decrease of the real value was over 5% compared to the same quarter of 1998.

The real value of expenditures would have increased by more than desired as a result of lower-than-projected inflation. This, however, was offset by blocking a rather broad range of expenditures.

The real value of public consumption and transfers to households in kind significantly decreased, and this tendency continued in the third quarter. It is a positive change, however, that the tendency seen last year did not occur again; and in the second half of the year we can expect the continuation of the trends (e.g. changes in the number of employees) of the first half-year.

The real value of household transfers increased, but this growth slowed down considerably in the third quarter. There-

[4] The effect of the Russian crisis in the third quarter of last year.

The acceleration of imported inflation is indicated by the 5.1% growth in the import unit value index in the third quarter compared to the same period of the previous year (the seasonally adjusted value is the same).

According to the 12-month indices, the growth rate of import prices was still lower than the devaluation of the forint relative to the currency basket, but the quarterly changes indicate rising import prices.

As the nominal effective exchange rate depreciated to a much lesser extent than the exchange rate vis-à-vis the currency basket (due to the more depreciated market exchange rate in the third quarter of 1998), the imported inflation indicator calculated with effective foreign prices declined.

The moderate increase in imported inflation was mainly experienced in the category of goods imported from central and eastern Europe.

The price of products from developed countries increased by 6.6% in the third quarter, which shows no significant change compared to the last quarter. However, the price of imported goods from central and eastern Europe increased by 10.8% compared to the same period of 1998, which can mainly be attributed to the rise in oil prices.

In the EMU, which is regarded as Hungary's most important trading partner, the 0.8% CPI inflation rate measured at the end of 1998 had risen to 1.2% in September 1999 and to 1.4% in October. The inflationary effect of the considerable increase in energy prices was partly offset by increased competition in certain industries, e.g. telecommunications.

At the end of the third quarter five countries experienced higher consumer price inflation than the European Central Bank's upper limit of 2%, while the lowest inflation rate was reported from Germany and France.

In the United States, the high economic growth rate experienced for several years continued to rise, the annualised growth rate of GDP reaching 5.5% in the third quarter of 1999. At the same time, producer and consumer price inflation also increased from 1.6% and 2% in June to 3.2% and 2.6%, respectively. The moderate rise in the rate of inflation is more of a long-term risk than an immediate problem due to high productivity gains and to labour costs corresponding to expectations.

In Poland, the 6.5% inflation rate at the end of the second quarter had risen to 8% by September. The higher-than-expected rate of inflation is ascribed to rising oil prices, high tariffs imposed on the import of food products and to unsolved structural problems.

In the Czech Republic, which has been only slowly coming out of recession, the 2.2% CPI inflation rate measured at the end of the second quarter declined further – year-on-year inflation was 1.2% in September.

In recent years, domestic consumer prices increased much faster than in the European Union even calculated in euro. In the telecommunications, health, transportation and shipping industries the elimination of subsidies, the investment necessary for providing these services and the introduction of cost-related prices significantly reduced Hungary's relative lag behind world prices. This process is mostly over and only minor corrections are expected in relative prices in the future.

Changes in world prices in 1998-99*
(Compared to the average of 1995)

Per cent

|	1998		1999			
	Q3	Q4	Q1	Q2	Q3	Sept.
Commodities excluding energy sources	78.3	78.1	75.7	74.4	73.9	74.9
Foodstuffs	82.4	84.8	78.8	73.6	71.9	74.2
Beverages	85.4	82.9	78.9	73.4	65.3	64.3
Agricultural raw materials	73.7	73.8	75.6	75.6	73.8	72.6
Metals	74.7	72.1	68.2	72.1	78.5	81.3
Oil	75.6	68.9	68.5	95.1	120.1	131.9

Source: IMF IFS.
* World prices in dollars.

International inflation data, 1998-99
(Compared to the same month of the previous year)

Per cent

	December 1998		June 1999		September 1999	
	Producer	Consumer	Producer	Consumer	Producer	Consumer
	price changes					
United States	-3.2	1.6	1.6	2.0	3.2	2.6
Japan	-2.0	0.6	-1.7	-0.4		-0.1
Germany	-1.2	0.5	-1.3	0.4	-0.2	0.7
Czech Republic	2.2	6.8	0.4	2.2	1.5	1.2
Poland	5.8	8.6	5.3	6.5		8.0
Hungary	7.9	10.3	4.4	9.1	4.6	10.5
OECD total	0.7	2.0	1.5	3.1		
EU-11	-2.5	0.8		0.9		1.2
EU-15	-1.7	1.4	-1.0	1.1		
G-7	-0.9	1.3	0.1	1.3		

Source: OECD Main Economic Indicators. 1999 October.

Import prices and exchange rate indices
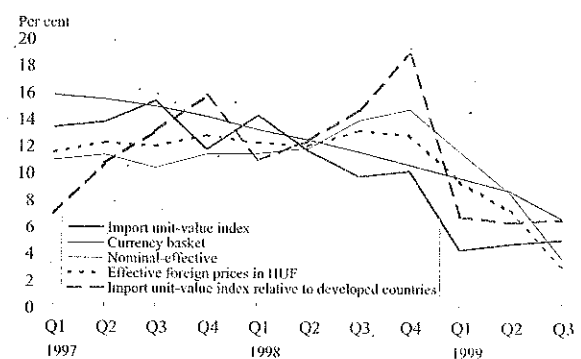
Inflation rate of different components *
(Compared to the same month of the previous year)

Per cent

	Weight in the CPI	Dec. 1998	July 1999	Aug. 1999	Sep. 1999	Oct. 1999
Consumer Price Index (CPI)	100.0	10.5	10.2	10.9	10.8	10.5
Industrial products	28.8	10.5	9.2	8.9	8.6	7.7
Fuel	5.0	5.1	20.2	23.4	24.8	24.9
Non-regulated energy	1.7	6.4	11.0	11.3	13.8	15.1
Foodstuffs	21.3	5.3	0.6	1.5	2.4	3.5
Regulated prices	18.5	13.8	17.3	19.7	19.3	18.1
Market services	15.9	14.6	12.8	12.9	11.9	11.4
Alcoholic beverages, tobacco**	8.9	13.6	11.7	11.9	11.5	10.3
Market-determined inflation	72.7	9.4	8.2	8.6	8.6	8.6
Core inflation (NBH)	89.4	10.7	9.6	9.5	9.2	8.7
Nominal effective exchange rate		13.9	6.8	6.0	3.0	2.1
Preannounced nominal devaluation of the forint		10.4	8.3	7.9	7.6	7.3

* In this report, the classification of the 160 products and services in the consumer basket has been changed somewhat. The most important modifications are as follows:
– owner-occupied housing (the weight of this component is 5.3%), formerly included among market services, are now part of industrial products, see Box for more details;
– gambling (with a weight of 0.8%), formerly a market service, was reclassified as a regulated service due to theoretical (as it is a monopoly regulated by the state) and empirical (price changes in this category were not market determined) reasons.
** The price of alcoholic beverages and tobacco is neither market-determined nor regulated, as it is influenced by administrative decisions due to its high tax component, otherwise it is affected by market factors.

Total consumer price inflation and the inflation rate of regulated as well as market determined goods and services* (year-on-year indices)
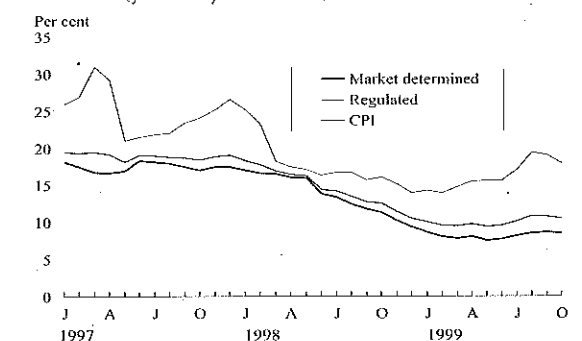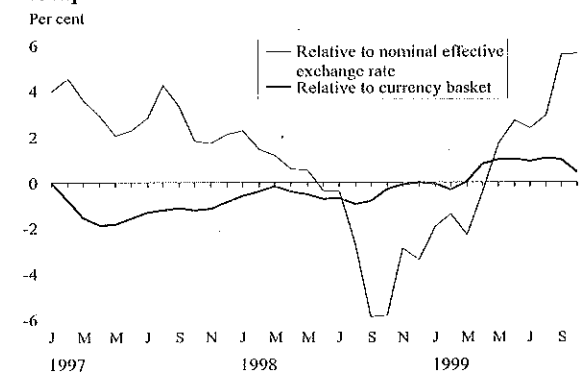

* The consumer basket includes alcoholic beverages and tobacco which are not indicated here.

Market-determined inflation and its components
(year-on-year indices)
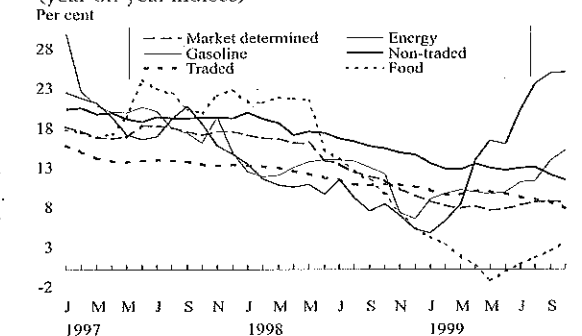
Year-on-year relative inflation of industrial products compared to the 12-month devaluation of the forint

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2 Components of changes in consumer prices

The halt in the decline of year-on-year headline CPI inflation in the middle of 1999 was mainly caused by developments in *regulated prices, market-determined prices* playing only a minor part. As far as market-determined prices are concerned, the high growth rate of fuel and food prices contributed to the rise of inflation to a large extent. Among regulated prices, the accounting of the change in the pharmaceuticals subsidy system (already discussed in our previous report) deserves special attention, besides the high inflation of certain regulated services. *All in all, we can conclude that the high headline inflation in the recent period was mainly due to factors beyond the scope of monetary policy, the rise in certain regulated prices, as well as to increases in market prices hit by certain supply shocks.*

In the consumer basket, *industrial products*[1] have the highest weight with *market-determined*[2] prices. In our previous report we noted that as far as tradable industrial products are concerned there has been a rise in their inflation rate relative to the devaluation rate of the forint. However, we also demonstrated that this does not imply that the role of the exchange rate as a nominal anchor has weakened.

The growth of this difference has stopped as a result of developments in recent months. Moreover, the discrepancy is expected to decline according to latest data. We also showed that price changes of industrial products can be related to the inflation rate of services due their high share as inputs in some cases. The inflation of market services has been declining in recent months, which is consistent with the above.

The second most imported category of products with market-determined prices is *foodstuffs*. The chart shows that the long-lasting decline in the year-on-year inflation of foodstuffs turned around in the second quarter of 1999, and since then it has been continuously increasing. According to our hypothesis, the general rise of food prices in the last quarter is not a temporary phenomenon, but it is part of a "natural" correction mechanism following a drastic deflationary period. This is confirmed by the observation that the pick-up of inflation in the food category is mainly due to the substantial rise in the inflation rate of non-processed food (raw meat, vegetables and fruit, eggs, potato). (This contradicts our previous hypothesis about the rising inflation of *pork* due to government intervention). As mostly domestic raw materials are used for processed food, we can observe that the decline in the rate of inflation of processed food coincided with the turnaround in the deflation of non-processed food.

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[1] We included *owner-occupied housing* in the category of industrial products (CSO code: no. 611.) ; see box on this issue.
[2] The category with *market-determined* prices in the Central Statistical Office's classification of 160 products and services includes the following: foodstuffs, so-called industrial products (clothing articles, consumer durables and non-durables excluding pharmaceuticals, fuel for vehicles, books, textbooks and newspapers), non-regulated services (including the last three of the above excluded articles), fuel for vehicles and non-regulated household fuel. This covers approximately 72% of the consumer basket.

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reflects the weak performance of 1998. We can, nevertheless, draw the conclusion from the increasing number of issued building permits that a stronger rate can be expected in the field of home building. Within household investment an increasingly higher emphasis is laid on producer investments, and land and property purchases. We can assume that some of the previous financial savings, due to the crises of the capital and financial markets in the previous years and to the reduced level of interest, currently emerge in these fields.

In the third quarter, the change in the composition of the investments was characterised by the continuity of previous tendencies; in this quarter investments in machinery grew by about 10% compared to the same quarter of 1998, while construction investments practically stagnated.

2.2 Inventory investments

The inventory statistics, production and sales data published by the CSO allow us to monitor the changes in the proportion of manufacturing inventories to sales. Our results show that, considering the average of manufacturing industry, in the second and third quarters of 1999 the proportion of output and input inventories in relation to sales continued to *decrease*, which is due to the fact that the growth rate of sales in the sector continuously exceeded that of inventory investment. On the sectoral level, two changes deserve our attention.

First of all, given its importance, enginiering, which dominates manufacturing, saw its previously decreasing proportion of inventory to sales rise sharply. Our data suggest that this implies the continuity of expansion, as the increase of the inventory rate took place simultaneously with an accelerated sales. However, in the case of input inventories, our latest data make us reconsider the picture – in the light of the somewhat more volatile sequence of datas it now seems that the mid-1998 sharp increase in the rate of input inventory was followed by a recovery period, and by the second quarter of 1999 the inventory rate returned to the level before the (probably unintended) inventory rise. Second, the *chemical industry* seems to have recovered from its recession period of early 1999. The latest data show that, as a result of strongly accelerated sales and continued inventory investment, the previously seen growth of the inventory rate reversed and started to decrease.

3 The fiscal stance

In the first three quarters, the demand effect of the general government was the result of the opposite effects of the quarters of the year. In the first quarter, due to transitory factors[3], the general government increased the aggregated demand by 0.2% of GDP.
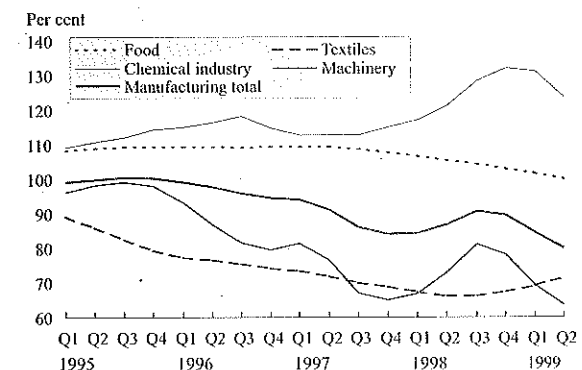
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[3] The revenues and expenses realised in the first three months caused the interim fiscal deficit to significantly change compared to the trend in 1998. Therefore, for example, in the first quarter of 1999 a large guarantee was called, and the revenues realised from the state claims (e.g. from the redemption of the Russian debt) government debt was higher in the first quarter of 1998 than in the same quarter of 1999.

Output inventories to sales ratios *
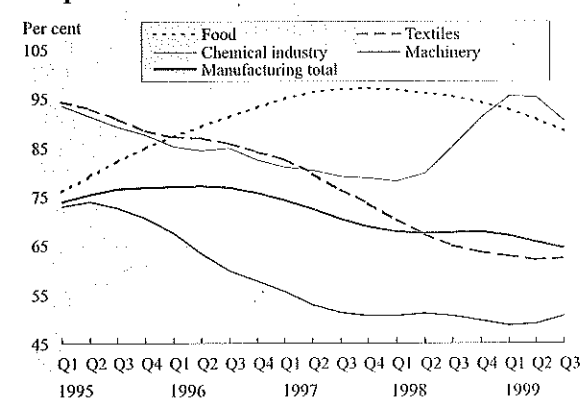
* The third quarter of 1999 includes the inventory data corresponding to the estimates in the Report of June 1999.

Input inventory to sales ratios

5.6% volume growth was experienced in the third quarter compared to the same period of 1998, which is relatively lower than previously, but the base effect was even stronger in this industry (in the third quarter of 1998 the volume index compared to the same period of the previous year was 42.9%). The cumulative volume index of 9% for investments in manufacturing in the first three quarters is still higher than the international average, and this rate could even improve before the end of the year, given the favourable outlook for the Western European economies.

The growth of demand is also accompanied by a strengthening of investment activity relating to market services. Growth in accommodation and catering, and post and telecommunications sectors was particularly fast in the third quarter (26.3% and 13.8% compared to the same quarter of 1998).

In the third quarter of 1999, of the sectors dominated by private investments, only a few showed a decrease compared to the same period of last year. In the construction industry, after a remarkably high growth rate in the first half-year, no volume growth was seen in the third quarter compared to the same period of last year. On the one hand, this has demand reasons, as the volume of home-building activity was significantly lower than in the previous year[2]; on the other hand, however, a strong base effect was also exerted in the construction industry in the third quarter. In the construction industry, the total volume growth of cumulative investment performance in the first three quarters was around 10%.

The third quarter saw a significant 13% fall in agriculture, and the total volume growth of cummulative investments in this sector did not reach the level measured in the same period of 1998. This sector is characterised by profitability and structural problems which hinder the development of investment activity. Compared to the strong growth rate of 1998, the financial services sector has shown stagnation almost throughout the whole year.

The unfavourable changes in the revenue and expenses of the general government forced the government to restrain its investments, and this restriction is likely to characterise the rest of the year. Hence, in the sectors dominated by pubic investment a decline was felt in the third quarter compared to the same period of 1998, and even the annualized indices derived from the seasonally adjusted data do not show any improvement. Within the sector, investments grew moderately (1.4%) in public administration and somewhat strongly (7.2%) in education, while in public health and in other communal, social and individual services a significant drop (16% and 7%) was felt compared to the same period of 1998. It is a significant aspect that some investments financed by the general government (e.g. by loans with state guarantee) appear among the investments of the private sector; consequently state investments delayed in this way (e.g. road construction) also deteriorate the performance of the private sector.

Home-building investments, which form the keystone of household investment, show an increase compared to the low level of last year; the number of completed homes, however, still

[2] Situation and Short-term Outlooks of Construction Enterprises, Autumn 1999. Quarterly Economic Survey by Kopint-Datorg, October 1999.

Fixed investments by sectors

Per cent

	Distribution at current prices 1998	1998 H1	1998 Q3	1998 Total	1999 H1	1999 Q3
Agriculture, hunting and forestry, fishing	3.67	98.8	114.6	111.6	106.8	86.6
Mining	0.31	97.2	120.5	107.6	120.5	127.8
Manufacturing	26.0	118.0	142.9	123.2	111.7	105.6
Electricity, gas, steam and water supply	7.16	132.4	132.4	117.3	104.7	107.1
Construction	1.86	113.5	157.5	120.2	168.0	92.7
Total production of material goods	38.98	117.8	138.4	120.6	113.1	103.7
Wholesale and retail trade; repair services	7.11	108.8	139.2	123.0	118.6	107.6
Hotels and restaurants	0.99	126.6	83.5	113.7	103.9	126.3
Transport, storage and communications	18.85	114.1	100.9	109.7	99.6	113.8
Financial intermediation	3.37	126.6	169.5	147.7	90.1	92.8
Real estate, renting, business services and housing investment	18.01	91.9	82.0	88.0	98.2	101.8
Total production of market services	48.33	103.9	100.1	103.7	101.2	107.1
Total production of goods and market services	87.32	109.8	115.0	110.6	106.8	105.5
Public administration and defence; compulsory social security	3.58	144.9	124.9	101.9	123.2	101.4
Education	1.85	94.1	142.3	95.0	134.0	107.2
Health and social work	2.51	112.4	140.3	108.1	88.8	84.0
Other community, social and personal service activities	4.75	105.3	169.8	117.1	94.5	92.8
Total production of public services	12.68	114.2	142.8	107.2	106.1	95.9
Total	**100.00**	**110.6**	**118.2**	**111.6**	**106.6**	**104.2**

Market services make up nearly 20% of the category with market-determined prices. Similar to past developments, the inflation rate of market services continues to exceed that of industrial products and the devaluation rate of the forint. In recent months this difference somewhat exceeded the value experienced in the in the first half of 1999 by 3%. This, however, can simply be explained by the fact that in the first half of the year industrial product prices increased faster, which reduced the difference between the growth rate of prices. In the long run we expect this "equilibrium" deviation of inflation rates (mostly due to productivity differences) to prevail. In our previous report we noted that *real income growth* experienced in the previous period might preserve the high inflation rate of market services due to increased demand for them. According to the latest data, though this hypothesis can be accepted for certain market services (mainly health and certain cultural services), all in all this rising demand does not hinder the slow but continuous decline in the average inflation rate of market services.

The part of the consumer basket with market-determined prices also includes *non-regulated household fuel* (coal, briquette, coke, firewood, fuel oil and butane gas) as well as *fuel for vehicles* (petrol). Inflation accelerated fast in both categories in recent months. The especially high growth of fuel prices can be explained by several factors. Besides the 26% rise in the world price of oil in the third quarter, there have been changes in the regulatory environment and in market structure. The price of crude oil represents only one-third of the domestic consumer price of petrol. In addition to the mark-up, indirect taxes have a high share in the remaining two-thirds of the price. Thus, the fall in oil prices last year was offset by the tax increase in such a way that domestic petrol prices did not follow the drop in world prices, while in 1999 both the significant rise in oil prices and the change in taxation had the same effect. Therefore, this year domestic petrol prices were raised by more and in much more steps than the usual one-two price increases per year.

Government regulated or influenced prices generally have a significant effect on inflation in Hungary. This year they played a crucial role in the halt of the disinflation of *headline* CPI – at the beginning of the year the jump in the inflation rate of regulated services, while in the middle of the year the statistical accounting of the change in the drug subsidy system as an extraordinarily high rise in the price of pharmaceuticals played a considerable part in the pick-up of headline CPI inflation. As we mentioned in our previous report, the stagnation as well as the rise of year-on-year headline CPI inflation can be attributed to both apparent and temporary supply-side shocks. Therefore, in the present situation we do no consider it as the sign of a turnaround in the disinflation process.

We noted in our last report that an extraordinarily high inflation rate was observed in the category of *pharmaceuticals* in July and August, according to the price statistics of the Central Statistical Office. The modification of the pharmaceuticals subsidy system came into effect in the middle of July, and its (for the above-mentioned reasons only apparent) inflationary effect was observed mostly in August, increasing the headline rate by approximately one percentage point.

In the category of *regulated non-energy prices* exclusive of pharmaceuticals (e.g. municipal rents, utilities, telephone and

**Foodstuffs: year-on-year inflation of processed and non-processed food**
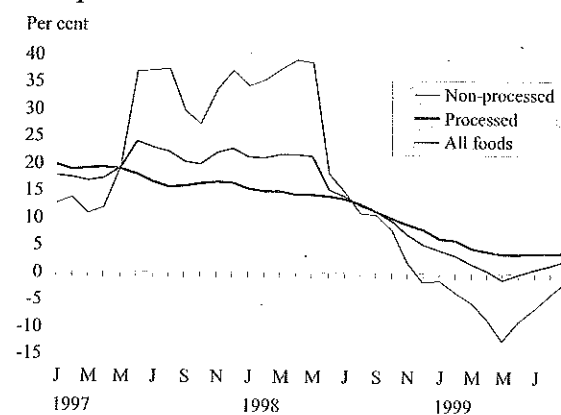
Per cent

Difference in the 12-month price index of industrial products and market services (percentage points)*

Per cent
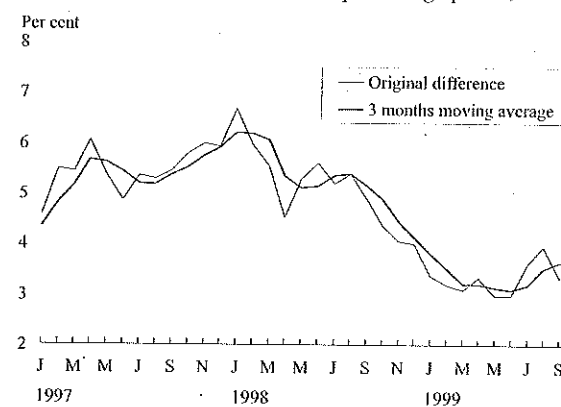
* The price index of industrial products is subtracted from that of market services.
Three-month average: simple backward-looking (non-central) moving average.

Average price level of petrol and non-regulated energy (1998 = 100)

Average of 1998 = 1
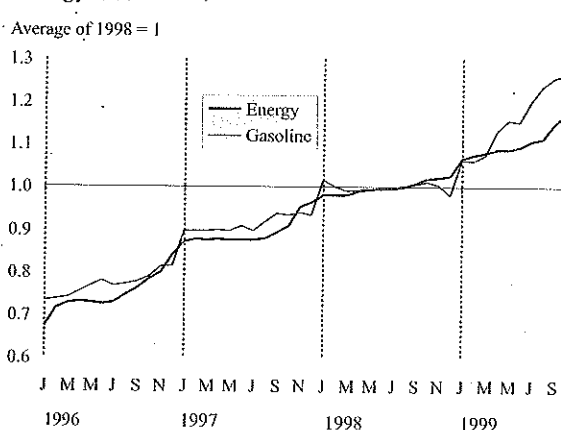
12-month growth rate of government regulated or influenced prices

Per cent

	Weight	Dec. 1998	July 1999	Aug. 1999	Sep. 1999	Oct. 1999
Total	18.5	13.8	17.3	19.7	19.3	18.1
Regulated energy prices	7.2	10.3	10.3	10.3	9.4	6.7
Regulated non-energy prices	11.3	15.9	21.9	26.0	26.0	25.9
of which:						
non-pharmaceuticals	9.5	16.3	19.0	18.5	18.5	18.5
pharmaceuticals	1.8	13.6	32.8	63.6	63.7	63.5
Preannounced nominal devaluation of the forint		10.4	8.3	7.9	7.6	7.3

Average price level of energy and services with regulated prices as well as of pharmaceuticals
(1998 = 100)
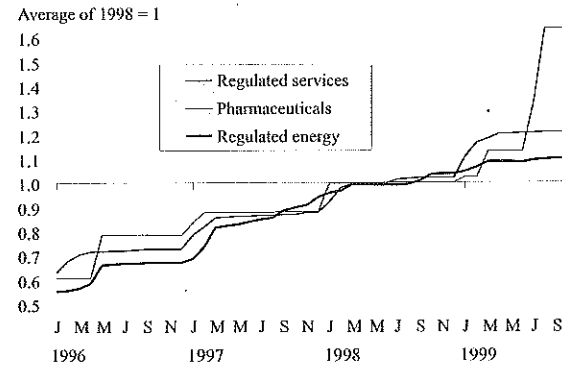
postal services, television fee, gambling) inflation reached 18.5% in October as a result of price increases anticipated for the beginning of the year, while it was on average below 17% in 1998. Between August and October rents increased substantially. Rents in municipal housing were raised by 15% (more than last year) in order to increase local revenues.

Energy prices (central and district heating, electricity, gas supplied through pipes) represent the third group of regulated prices, which follow world prices through a price formula. The increase in world prices has not yet been reflected in consumer prices following the July and October price revisions due to a delaying effect built into the formula and to cheaper supplies. Only the change in the tariff system induced minor price corrections. Thus, the year-on-year inflation rate of regulated energy prices amounted to 6.7% in October.

In the past, the growth rate of regulated prices usually exceeded the inflation of *market-determined* prices by 5–6%. The reason for this was that costs were gradually built into prices, subsidies were eliminated and productivity growth was slow. The large, shocking relative price change in the summer was due to the change in the pharmaceuticals subsidy system, therefore its effect can be considered temporary. Furthermore, the price of regulated services increased less than the price of services in the CPI relevant for households. In certain sectors (telecommunications, the energy sector, transportation) households did not pay for the real costs of the services. In these cases prices continued to approach expenses and cross-financing was further reduced.

Core inflation: comparison of indicators computed by the National Bank of Hungary and the Central Statistical Office

Since September 1999 not only the NBH, but the Central Statistical Office, too, computes a core inflation indicator. Besides comparing the two indices, it is worth discussing the economic and methodological concepts behind them.

What is the purpose of computing and analysing core inflation indicators along with the usual CPI inflation? One goal is to *clean* the CPI of volatile and hard-to-forecast components. These components are typically non-processed food, raw materials and energy sources. Another goal is to be better able to *forecast* the future development of CPI with the help of the core inflation indicator. This statistically defined indicator is useful for monetary policy since as a "smoother" price index it is more efficient in coordinating inflationary expectations. With these "non-theoretical" indicators, we must take into account that they are not related to the concept of *cost of living*, which serves as a base for consumer price index calculations, since from a cost of living indicator it would be inappropriate to exclude any product that a representative consumer effectively consumes (see box on the problems of these indicators in our previous Report). Thus it would not be a proper way of ranking core inflation indicators by their coverage of the total consumer basket.

Another theoretical motivation for computing core inflation indicators apart from statistical reasons is to separate a so-called "monetary inflation", which can be defined as the

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securities not issued by financial institutes, in the third quarter households decided to place only 25% of their savings into bank deposits and to place 27% of their savings into non-bank securities.

The majority of these latter investments were placed in government securities, which can be explained by the continued reduction of the share portfolio on the one hand, and the decreased demand for investment into mutual funds on the other. This phenomenon can be attributed to the regulation in operation since this year which has significantly reduced the tax allowance on mutual fund investments compared to earlier. All this can be associated with the more conservative household investment strategy due to the recent capital market crises, which resulted, for reasons of confidence, in a slight decrease of demand for the services provided by capital market intermediaries.

In the third quarter we witnessed the strong growth of household expenditure, which was associated with the continued increase of consumer loans. In the future the household loan portfolio is likely to become the dominating factor of the changes in the net household savings position, the increasing effect of which on the transmission of monetary policy and on welfare might be felt in the medium term. In the third quarter household borrowing was one per cent of household income, which completely explains the similar rate of decline of the savings rate. From the external equilibrium point of view, the deterioration of the household position took place at the same time as the spectacular improvement in the savings position of the corporate sector. Consequently, the private sector did not jeopardise the current account objectives so far.

2 Investments

2.1 Fixed investments

After the deterioration of the external conditions in the second half of 1998, investments grew at a significantly slower rate than previously. In the second half-year of 1999 the increased possibilities of external market sales and continuously strengthening consumption induced the acceleration of economic growth, which, we hope, must exert a tangible effect on the growth of investments as well. In the third quarter the growth rate of fixed investments was around 4.2% compared to the same period of last year, which is nearly 2.5 percentage point lower than that of the previous two quarters. As in the third quarter, a strong base effect was felt in the year-on-year indices due to the outstanding performance in the third quarter of 1998. The seasonally adjusted annualized indices can provide a clearer picture about changes in fixed investment trends. The results of these calculations support the expectations of investment activity being stronger than previously.

In the sectors dominated by private investments, the annualized indices suggest a strong growth of the investments, which form favourable base for more intense economic growth. This tendency is, however, not reflected in the annual indices, due to the high base of the previous year. In manufacturing industry a

Changes in fixed capital formation*
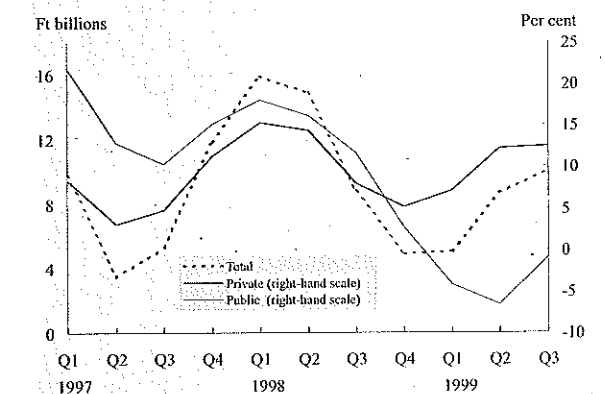
* Annualised quarterly growth rates.

tion of exports, while import growth remained relatively low, partially due to changes in the domestic absorption structure, which reduced the import requirements of the economy.

1 Household consumption

The growth rate of the real income of households (2.2%) slowed down compared to the first half-year, although net labour incomes continued to increase dynamically, by nearly 4 %. The difference is due to one-off effects as well as to capital income being reduced simultaneously with falling inflation. Lower inflation decreases that part of interest receipts which is compensating for inflation this leads to lower interest income for households. In order to prevent this distorting effect, we have already been using operational categories for the analysis of household savings. Operational income can be calculated from total income reduced by that part of interest receipts of household savings, which compensates for inflation. In the economic sense, this factor cannot be considered as part of interest income; it only compensates for the inflation-related value depreciation of the asset. Therefore the deduction is justified from both the savings and the income. The fast fall of inflation last year caused the growth rate of operational income to be continuously higher than unadjusted income.

The real value of social transfers did not reach the level of the same period of last year, which was primarily due to the high base of the one-off retroactive pension rise of August 1998. In addition, transfers related to unemployment benefits showed a slower growth than last year. This year we have also seen a significant decrease of the foreign currency-related income of households.

The change in unrequited transfers for the household sector cannot be explained by domestic income processes, as the main forces of these income flows are not clear, and it is difficult to decide whether we are facing long-lasting or temporary changes.

The tendency for the growth rate of household expenses to exceed the rate of income growth continued in the third quarter. This explains the fall of the third-quarter financial savings rate[1] from 3.1% to 2.6%. This decrease of financial savings could not be compensated for by the continued dynamic growth of household investments, which caused the total savings rate to decrease by an additional 1 percentage point compared to the previous quarter, and thus it fell behind the level of the third quarter of 1998 by 2.7 percentage points.

The third quarter saw a significant change in the composition of financial assets compared to the first half-year, as households preferred other forms of savings than those offered by banking institutions, the purchase of government securities being the most favoured form. In the first six months, while 52% of total savings transactions appeared in bank deposits and nearly 8% in

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[1] The savings rates mentioned in this chapter are all operational categories and are seasonally adjusted.

Annual growth of household income and consumption
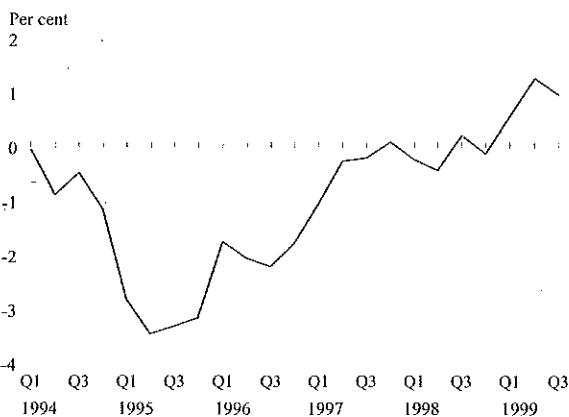(Change compared to the same period of the previous year)

	1998	1999		
		Q1	Q2	Q3
Income	2.8	4.3	2.4	2.2
Operational income	3.7	6.6	4.0	2.9
Consumption	4.0	4.2	4.5	5.3

Per cent

Changes in the household savings rate and its components*
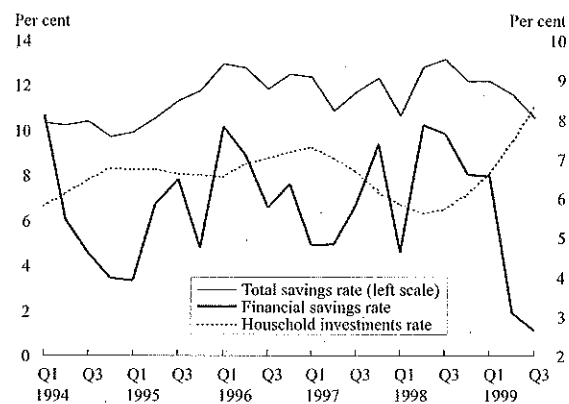
* Seasonally adjusted data as a percentage of disposable operational income.

Net borrowing of households*

* Seasonally adjusted data as a percentage of disposable operational income.

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general change of the price level in time which implies some cost for society. This cost is usually due to the disturbance in the coordination of economic agents, increased uncertainty, as well as the deviation of money balances from the optimal money balances required by transactions. Because of the costs of this kind of inflation, monetary authorities aim at providing price stability in some form. Inflationary processes not implying real costs are not included in the core inflation indicators computed this way. An alternative view about the theoretical background of core inflation holds that "monetary inflation" is simply what is considered when making monetary policy decisions. If, for example, monetary policy does not want to react to shocks considered as temporary, core inflation is defined as the price index cleaned of these shocks.

Practically we can assume that price changes due to *indirect taxes* (e.g. VAT or excise taxes), *administrative* decisions influencing regulated prices or *temporary* shocks in market-determined sectors (e.g. changes in energy or commodity prices, the price change of individual products) are not relevant for monetary policy. Therefore, it is useful to filter these effects out of price changes. Since these shocks and changes are by definition *individual*, that is they affect only one product at a time, core inflation indices can be computed by more refined *statistical* methods rather than simply excluding the usual product groups (e.g. regulated prices, energy, etc.). In this case, the goal is to separate the common component of individual price changes from the individual changes. Knowing the individual price changes, this *common component* identified as the core inflation indicator can be estimated by the method of trimmed mean, factor analysis, time series smoothing procedures or trend calculations. *Model-based procedures* go even further, employing an economic definition of monetary inflation to obtain core inflation.

Which *criteria* can we use to compare these different procedures in light of the diversity of possible interpretations and calculations of the core inflation indicator? We would like to draw attention only to two aspects. First, it is of primary importance that the core inflation indicator should be able to be computed with the *shortest lag possible*, and it should reflect *current developments* as opposed to past ones. Although most core inflation indicators meet the first requirement, it is important to note that the usual year-on-year indices show the average changes of the previous 12 months – in this respect they have only limited information content about the present. The *transparency* of the chosen indicator is also relevant, especially if the monetary authority bases its decisions on core inflation. There is a compromise between transparency and the stage of methodological development. The simple exclusion method of computing the core inflation indicator is the only really transparent solution, while other statistical or model-based procedures can be considered more developed methodologically or theoretically.

Let us turn now to the analysis of core inflation indicators computed by the NBH and the CSO. In light of the above discussion, both indicators belong to core inflation indices defined on the simple exclusion method; and both have a dual concept for excluding goods from the indicators: products with volatile inflation rates and those dominated by tempo-

rary supply-side shocks were both excluded from the core inflation indicators. The following table compares the group of products omitted from the consumer price index to obtain the core inflation indicator of the two institutions.

Comparison of the items excluded from the consumer basket for the calculation of the National Bank of Hungary's and the Central Statistical Office's core inflation indicators *

CSO	NHB
Pork	
Beef and veal	
Other meat	
Offal	
Poultry	
Fish	
Potato	Potato
Eggs	Eggs
Fresh vegetables	Fresh vegetables
Fresh domestic and tropical fruit	Fresh domestic and tropical fruit
Coal	Coal
Briquettes	Briquettes
Coke	Coke
Firewood	Firewood
Fuel oil	Fuel oil
District-heating	
Electricity	
Gas supplied through pipes	
Butane gas	
Fuel for vehicles	Fuel for vehicles

Coverage of the CPI:	
80%	91%

* Due to methodological problems concerning the accounting of the changes in the pharmaceuticals subsidy system in July 1999, since January 1998 the NBH also excludes the category of pharmaceuticals whose weight in the consumer basket is 1.6%.

As far as the criteria for core inflation indicators are concerned, both Hungarian indicators give priority to *transparency* as opposed to methodological or theoretical considerations. Both indicators can be computed *simultaneously* with the consumer price index. The CSO indicator however meets the criterion of up-to-dateness only with reservations, as it publishes only year-on-year and cumulated (from December of the previous year) indices instead of (seasonally adjusted) month-on-month changes; while the NBH's publishes this latter indicator in its *Monthly Report.* Comparing the two core inflation indicators, we can see in an earlier chart that in recent months the CSO's indicator has been *above,* while the NBH's indicator has been *below* the consumer price index. This phenomenon can be explained by the different group of products excluded from core inflation: the NBH's indicator includes the low-inflation raw meat category and excludes pharmaceuticals whose price experienced a high jump. These differences reduce the NBH's core inflation indicator.

Owner occupied housing: service or industrial product?

Although the Central Statistical Office classifies living in owner-occupied housing (price statistical code: 611) as a non-tradable service, in our report we define it as a tradable good based on its past behaviour. The reason why this category deserves special attention is that it has by far the highest, nearly 6%, weight in the consumer basket. This category is hard to interpret and measure, which is indicated by the fact that *Eurostat omits* this item from its so-called harmonised

III. Demand factors

The third quarter of 1999 saw a significant acceleration of growth in the Hungarian economy. Our estimates suggest a 4.5% expansion compared to the same period of 1998. This acceleration took place with a continued decrease of the contribution of domestic absorption, while net exports have after a long time positively contributed to GDP growth.

Within domestic absorption consumption growth slightly intensified compared to the previous two quarters. The growth rate of household disposable income, similarly to the previous quarter, did not reach the rate of consumption growth (5.3% in the third quarter); the gap between the two figures has become even wider. Households are likely to regard the acceleration of inflation and the fall of income growth rate as a temporary phenomena, and they follow an optimal consumption plan according to their long-term income expectations.

In the third quarter gross capital formation, which is the other large item of domestic absorption, reduced the growth of the economy for the first time after three years. Within gross capital formation, the positive contribution of fixed investments to GDP slightly decreased compared to the previous quarter. The external environment, which became uncertain in late 1998, started to consolidate in the second quarter of 1999, and this was accompanied by a slight acceleration of private investment. The improving tendency of the external conditions continued in the third quarter and according to the annualized indices, private sector investments continued to accelerate. However, this is not indicated in the annual indices due to the high base of the previous year. Due to this base effect and moderate government investments, the fixed capital formation increased at a rate slightly behind that of the previous quarter, it was 4.2% in the third quarter compared to the same period of 1998.

Inventories, and other unspecified factors that make up the rest of gross capital formation tended to decrease GDP growth in the third quarter. The high base effect also played a role here, as in the third quarter of 1998, difficulties in foreign sales due to the Russian crisis were accompanied by a significant increase of stocks. In the third quarter of 1999, however, the available information indicates a revival of the economy; sales of manufacturing industry, for example, increased to a higher extent than the production thereof.

The international economic environment continued to improve in the third quarter. The economies in the Euro region saw their growth rate to accelerate, the signs indicating the end of the recession became stronger in the CEFTA countries, and production and demand started to grow in the CIS countries as well. The improvement of export demand also appeared in the accelera-

Contribution of net exports to GDP growth*
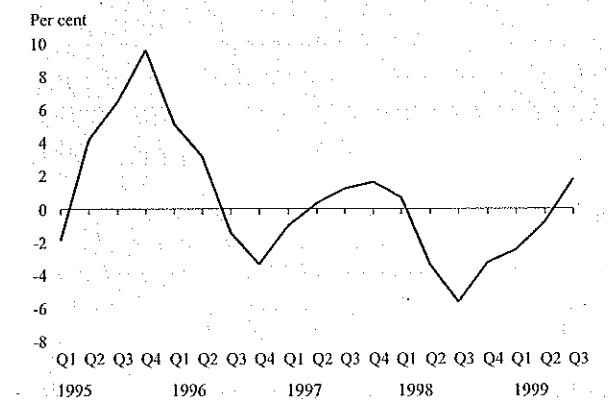
Per cent

* As percentage of GDP.

Annual growth rate of GDP and its components*
(Same period of previous year = 100%)

Per cent

	1998					1999		
	Total	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Final consumption	4.0	2.8	3.8	4.1	5.7	4.3	4.2	4.6
Household consumption	4.3	2.8	4.1	4.4	6.1	4.2	4.5	5.3
Public consumption	2.6	3.2	1.9	2.2	3.0	4.3	1.9	0.7
Gross capital formation**	18.7	6.7	26.1	30.5	13.0	9.2	5.3	−1.9
Fixed capital formation	11.4	7.0	12.7	18.1	8.2	6.4	6.8	4.2
Total domestic absorption	8.1	3.6	9.0	11.1	8.3	5.7	4.5	2.6
Exports	16.0	29.0	17.6	12.5	9.5	8.8	8.8	13.1
Imports	22.2	25.1	25.5	24.5	16.1	12.9	9.8	9.0
GDP	5.1	4.5	5.1	5.6	5.2	3.3	3.8	4.5

* The annual and quarterly GDP calculations used in the report are partly NBH estimates, which may differ from the officially published data of the CSO. Quarterly GDP calculations have not been conducted for a long time in Hungary and the methodology applied is continuously changing and improving. The CSO data are available relatively late, therefore the NBH currently also uses its own estimates which are consistent with its own analyses of the income position of certain income holders.
** Including the statistical difference, which represents the deviation of GDP determined by the production of economic sectors from the estimate of GDP by categories of use.

Seasonally adjusted change in the net position of the corporate sector at constant prices
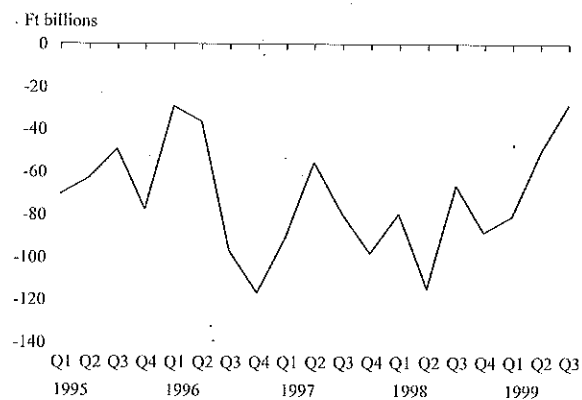
Within the increasing demand for credit, forint-denominated (mainly short-term) borrowing also increased in the second and third quarters of 1999, while foreign exchange denominated borrowing continued to be substantial. However, the relative cost of foreign exchange financing is still low for those enterprises that do not face credit rationing in international capital markets and are in a natural hedge position against foreign exchange risk due to their foreign exchange revenues.

Seasonally adjusted operational lending to the corporate sector at constant prices
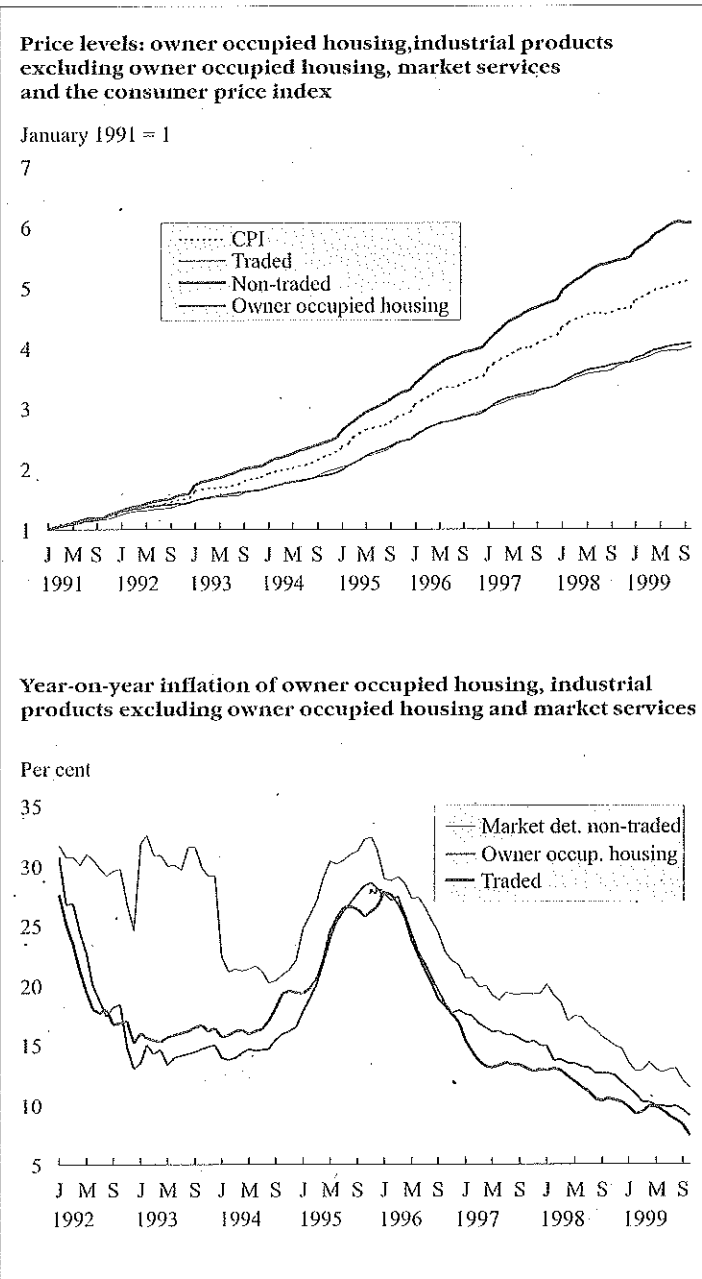(three-quarter moving average)
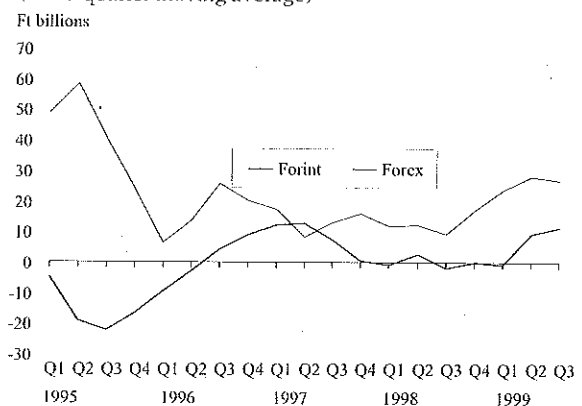
consumer price index (HICP).[3] As this item has a particularly large weight in the consumer price index, its complete exclusion would significantly divert the NBH's and CSO's consumer price indices from each other. At the same time, however, there are enough reasons to move this item from services to industrial products. This is confirmed by the observed behaviour of the given price index. If a possible future methodological revision changes this original classification, we will reconsider this decision.

The reason for this reclassification is that in the past eight years the co-movement of this price index with industrial product prices was much stronger than that with the price of services. The chart shows that the price level of industrial products, defined without owner occupied housing, increased fourfold, whereas the price level of services, defined in the same way, is six times higher than it was in 1991. Thus, it is obvious that the price level of owner occupied housing moved more strongly together with the price of industrial products than with the price of services. We can draw the same conclusions from the analysis of *year-on-year indices.* Since this item "behaved" as an industrial product in the past, it is more appropriate to put it into the category of industrial products. The computation of the price index for owner occupied housing helps us understand why this behaviour is not an accident (which is also suggested by the length of the sample). As this category cannot be observed directly, the CSO proxies it with the help of other items. These items are made up of goods, that is industrial products which are necessary for living and for refurbishing, and of wages related to them. Since this latter (assuming, for example, constant profit margins) also depends on industrial product prices, it is not surprising that the growth of this price index is correlated with the inflation rate of industrial products.

Year-on-year inflation rate of owner occupied housing and of the consumer price index excluding this item

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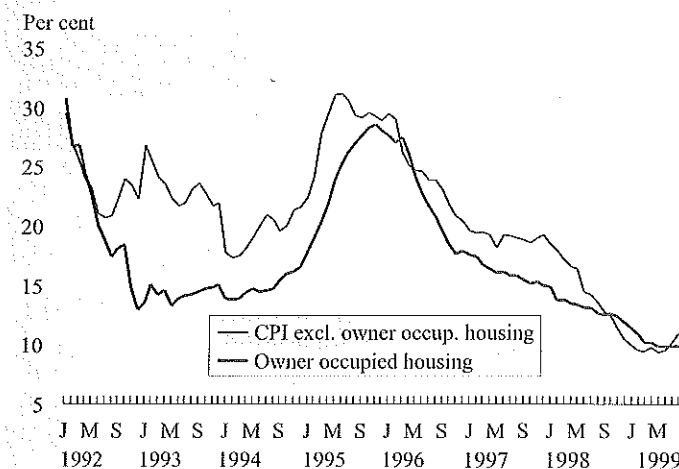
[3] The reason for this is that as an imputed expense item it does not coincide with the definition of HICP, which is intended to measure the final expenditure price index of households at actual prices and effected through monetary transactions. There is a debate on this issue which is expected to be resolved by 2001. We also have to note that imputed consumption of living is not consistent with the definition Hungarian CPI either, since, according to the 1992 definition of the CSO, it is the price index of the *purchased* consumption of households.

Price levels: owner occupied housing, industrial products excluding owner occupied housing, market services and the consumer price index

January 1991 = 1

Legend: CPI; Traded; Non-traded; Owner occupied housing

Year-on-year inflation of owner occupied housing, industrial products excluding owner occupied housing and market services

Per cent

Legend: Market det. non-traded; Owner occup. housing; Traded

The slowdown in the real growth of monetary aggregates continued in the third quarter. The share of government securities increased substantially in the portfolio of both the household and the corporate sectors, the real growth of government securities holdings of residents outside the banking system increasing by 30% compared to the same period of 1998. The growth rate of government securities in the portfolio of commercial banks was more moderate, and the earlier trend of a shift towards more liquid assets continued.

The household and corporate components of M3 were characterised by different trends in the third quarter. While enterprises increased both their liquid and non-liquid assets along with the rise in their income, in the case of households there was a substantial shift from time deposits and foreign exchange deposits to non-bank investments.

The share of non-bank assets can be explained by the fact that households are regaining confidence in non-bank investments lost following the Russian crisis of 1998. After the crisis, households turned away from riskier investment funds towards safer investment forms. This trend turned around in the second half of the year, and investors prefer riskier assets in their portfolio again.
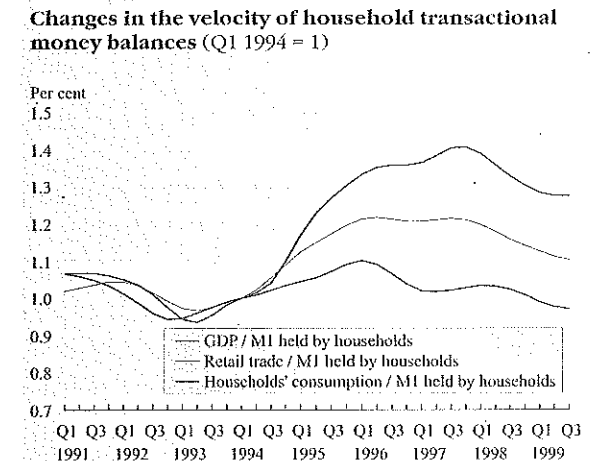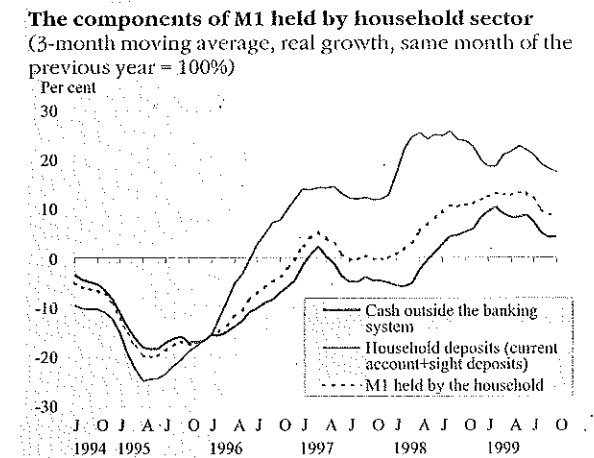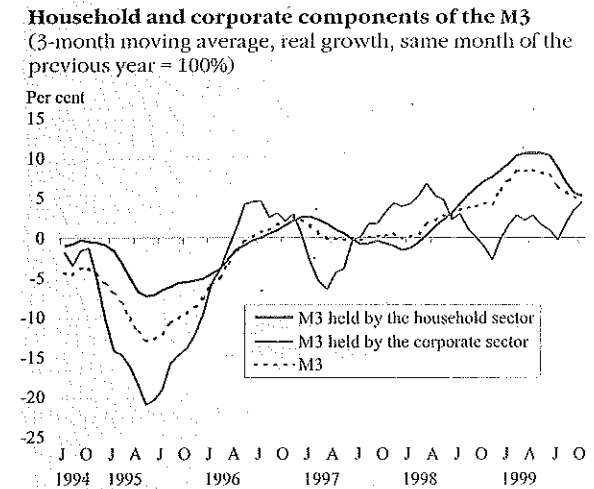
The cash and demand deposit components (which can be considered the most transactional type components) of household financial assets continued to grow quickly in real terms, although their growth rate became somewhat lower in the third quarter. Still, the growth rate of cash holdings and household M1 exceeded the growth rate of consumption and household income, which led to a further decline in the velocity of money. This reduction in the velocity of money can be explained by the decreasing opportunity cost of liquid money holding.
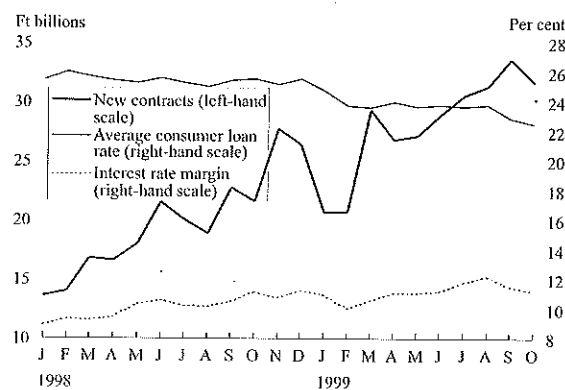
6 The demand for credit

The net financing requirement of the corporate sector was continuously declining in the first three quarters of the year, indicating a significant improvement in corporate profitability with increasing investment activity and decreasing inventories. The accumulation of financial assets in the corporate sector suggests a further rise in investment even compared to the high growth of the second and third quarters.

The net saving position improved along with a simultaneous rise in financial assets and in corporate lending, which indicates a segmented corporate sector. The accumulation of forint-denominated assets (both bank deposits and government securities) is likely to be due to large enterprises with high profitability. It must be noted that government bonds held for investment purposes had a larger share in the growth of forint-denominated assets than treasury bills and bank deposits partly having transactional and liquidity management purposes.

This means that enterprises (temporarily, in lieu of attractive investment projects, as well as to exploit the high interest rate premium of forint assets) invest their profit in financial assets, which is allowed by tax regulation. At the same time, some enterprises continue to borrow to finance their investments and operations.

Household and corporate components of the M3
(3-month moving average, real growth, same month of the previous year = 100%)

Per cent

Legend: M3 held by the household sector; M3 held by the corporate sector; M3

The components of M1 held by household sector
(3-month moving average, real growth, same month of the previous year = 100%)

Per cent

Legend: Cash outside the banking system; Household deposits (current account+sight deposits); M1 held by the household

Changes in the velocity of household transactional money balances (Q1 1994 = 1)

Per cent

Legend: GDP / M1 held by households; Retail trade / M1 held by households; Households' consumption / M1 held by households

The consumer lending rate, the spread between consumer lending rates and long term household deposit rates, and the volume of new consumer loan contracts

Share of non-bank savings in net financial savings of households (3-month moving average)

Real growth of monetary aggregates (3-month moving average, same month of the previous year = 100%)

rates and household deposit rates, which shows a significant rise in the long-term spread. As far as short-term rates are concerned, the rise of the spread observable in the first half of the year stopped in June in the case of both the 3-month and 12-month maturities. The 3-month spread was around 1.5 percentage points, while the 12-month spread fluctuated around 2 percentage points during the year, which can be considered rather low, indicating strengthening competition for household deposits.

The stability of the spread between corporate lending rates and market rates for nearly three years (around 1.5 percentage points) reflects the strong competition between commercial banks in corporate lending, and no significant profitability increase is expected in this field. Due to the increasing interest rate sensitivity of household deposits and to the rising number of banks entering the retail market, household deposits became relatively more expensive than before. In order to improve their profitability, commercial banks increasingly engage in consumer lending, which has a large potential to expand. The chart shows that the monthly volume of new consumer loan contracts more than doubled since the beginning of 1998, and the growth rate of the stock of loans accelerated in the second half of the year. As far as the supply side is concerned, there are more and more different types of loans available to consumers, but the interest rate charged on consumer loans is still very high. Moreover, the spread between consumer loans and long-term household deposit rates still has a rising trend, and was around 11–12 percentage points in 1999. This spread would be even higher if we only considered loans for durables, as in this case banks charge other fees in addition to the interest rate, which is expressed by the total loan charge indicator (this indicator is currently between 28% and 53%). The consumer lending rate in the chart also includes interest rates on overdrafts, which have lower interest rates. The high interest rate can be explained by several factors. As far as the demand side is concerned, the most important factor is that the interest sensitivity of household consumer loan demand is not too high.

On the supply side one of the reasons for the high spread is that these types of loans are relatively costly and still rather risky. Thus, not too many banks are engaged in lending for durables, most of them lend only to their long-term clients in the form of overdrafts. Another reason for the high lending rates is that the market is segmented, and shops usually offer the services of one credit institution only, hence credit conditions are hard to compare. Despite the high interest rates, the growth in the supply of this credit type is beneficial, since it helps households approach their desired consumption level appropriate for their life cycle position, and it allows consumption smoothing.
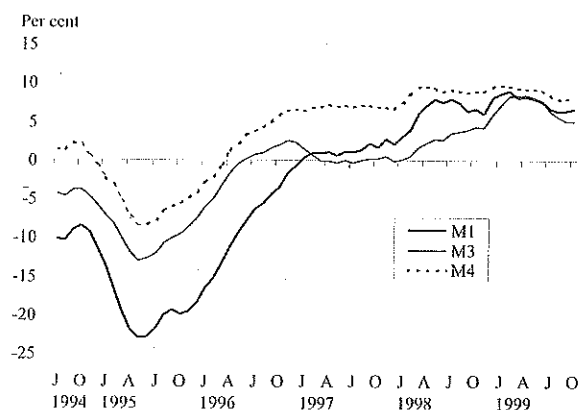
5 Monetary aggregates

Money demand is determined by the transactional money demand of economic agents on the one hand, and by the preferences concerning the weight of different monetary assets in their portfolio, on the other hand. The fluctuation in the growth rate of monetary aggregates observed recently can be explained mainly by portfolio reallocation.
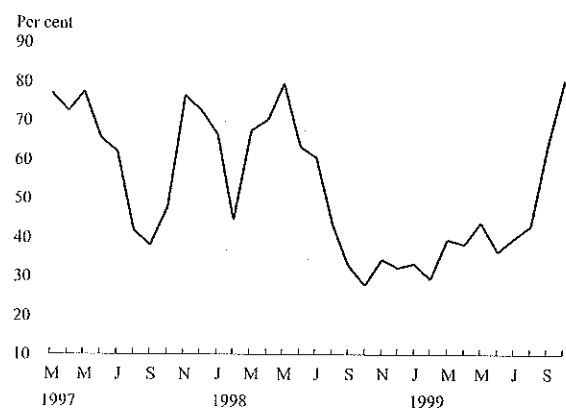
II. Monetary policy

1 Monetary conditions

Economic growth picked up in the third quarter of 1999. Household consumption continued to grow at a high rate and was coupled with improving external demand. The growth of domestic absorption lagged behind the expansion of GDP, and the current account deficit continued to improve. Inflation, however, started to rise in July, mainly due to changes in the system of medicine subsidies, but the rise in the world price of commodities and oil also played a part. Those components of the consumer basket which can be influenced by monetary policy declined further, in line with the preannounced exchange rate path.

Despite the declining trend of inflation the temporary rise in the headline inflation rate might lead to a higher inflationary path if it is built into expectations. Therefore, a high priority was given to the orientation of inflationary expectations in formulating economic policy.

In 2000, the government will strictly limit the rise of regulated prices, which contributed most to inflation this year. Also, pensions and public sector wages are set to orient the economy towards a lower inflation rate.
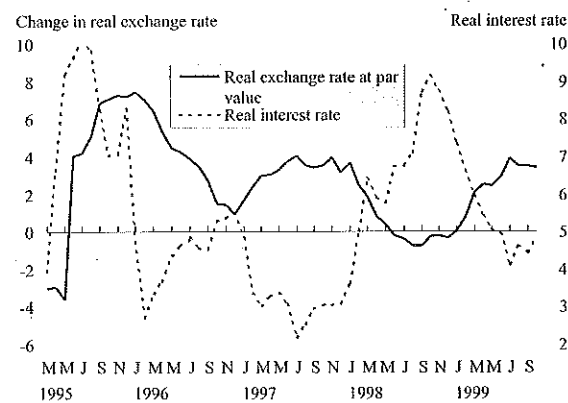
The central bank contributes to the disinflation process by maintaining the exchange rate path determined jointly with the government. The preannounced reduction of the crawl took effect on 1 October 1999, decreasing the monthly devaluation rate to 0.4%, which is equivalent to an annual devaluation rate of less than 5%.

Macroeconomic developments continue to require strict monetary policy. When setting the exchange rate path, it must be taken into account that the euro/dollar exchange rate on 1 January 2000 (when the new currency basket comes into effect) may have a significant influence on the real exchange rate of the forint.

The euro/dollar exchange rate has been very volatile, between 1.01–1.18 – in 1999, which might change the real effective exchange rate of the forint by 3–4%. The acceleration of economic growth will bring about a rise in the growth rate of domestic absorption.

The development of financial institutions entails increasing consumer lending. This makes consumption from future income possible, that is it leads to a deterioration in household savings. The high profitability of the corporate sector and favourable external and domestic demand stand in contrast to maintaining the present low level of investment.

Monetary conditions*

Change in real exchange rate — Real interest rate

— Real exchange rate at par value
- - - Real interest rate

MM J S N J MM J S N J MM J S N J MM J S N J MM J S
1995   1996   1997   1998   1999

* The chart depicts real interest rates calculated on the basis of three-month Treasury bills with forward-looking inflation. The real exchange rate index indicating monetary conditions is not identical with indices to be shown later, measuring competitiveness. It shows the ratio of exchange rate changes expected to take place over the next three months and forward-looking inflation.

Interest rate premium on the 90-day T-bill

Per cent

8 Jan. one month repo 16%
30 Apr: Reduction in the devaluation rate announced
24 March NATO action starts
13 July two-week repo 14.75
14 June two-week repo 15
9 April two-week repo 15.5%
28 April 15.25%
Brazil devalues

Intraband position of the forint

Per cent

Reverse scale

Thus, along with the continuing substantial expansion of consumption, corporate investment demand is expected to rise further. The decline in the unemployment rate is a sign that bottlenecks may emerge in the labour market, and capacity utilisation is also rising. As the fast growth of corporate profitability shows, the disinflation process is not jeopardised by potential losses of competitiveness.

In the recent period, the official interest rate was reduced by 25 basis points on 4 November (the preceding interest rate cut was on 13 July). Short and long term yields have declined 20–50 basis points since the end of August.

Changes in the short-term real exchange rate and real interest rate determining the monetary conditions index were determined by the correction of the significant decline in inflation resulting from the Russian crisis and from the partly exogenous shocks in the second half of 1998. 1999's real appreciation can be considered as a return to the medium-term real exchange rate path following 1998's CPI-based real depreciation. Moreover, the temporary inflation shock (cleaned of the effect of the rise in medicine prices) in the summer also led to real appreciation and a decline in the interest rate. As there is no sign of a turnaround in the trend of the inflation process, this effect is expected to disappear from the indices not including the July–August inflation rate (that is from December).

2 Interest rates and the exchange rate
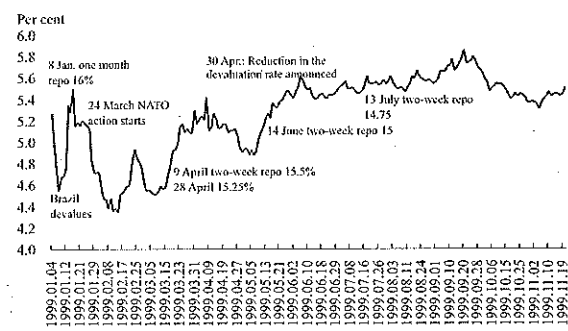
The recent months were characterised by high interest rate premium on forint-denominated assets, significant non-interest sensitive capital inflows and a strong position of the forint within the band. September was an exception, as the forint deviated by 50-75 basis points from the strong edge of the band and returned to it only in October.

The temporary weakening of the forint was not due to market developments; it was caused by disputes about the operations of the central bank in earlier years.

The reduction in the devaluation rate of the forint would have justified a decline in interest rates. However, the interest rate rises by basket currency central banks, as well as their anticipation led to rising interest rates.

The EMBI+ indicator reflecting the general perception of international capital markets about emerging market risks decreased by nearly 150 basis points, and due to favourable Hungarian macroeconomic figures the judgement of country-specific risk factors is also likely to have improved, although this is extenuated by the increase in uncertainty about future inflation. The interest rate premium on 3 and 6-month instruments, however, has still not declined; it has fluctuated around 540–550 basis points since the beginning of the summer, despite the fact that long-term rates fell by more than 200 basis points.

Meanwhile, the forint was continuously near the strong edge of the band, and central bank intervention in the interbank foreign exchange market was substantial, though the capital inflow exceeding the current account deficit was mainly the result of foreign direct investments, as well as portfolio investment related

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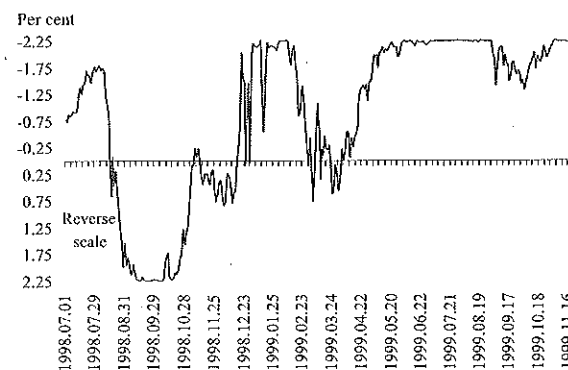
10.5% year-on-year figure published by the Central Statistical Office was lower than the average of market expectations (10.62%), but not to such a large extent which could justify such a significant drop in yields. As, however, in these two days no other domestic news or data were published that would have potentially influenced the yield curve, and foreign investors were not particularly active, it is hard to explain this fall in yields by factors other than a substantial decline in long-term inflationary expectations. Though the 17 November survey conducted by Reuters among macroeconomic analysts about the year-on-year CPI inflation rate expected for the end of 2000 showed only a minor change (the average expected rate declined by 13 basis points to 7.51%), we should not forget that the really significant falls were indicated by the implied forward rates mainly for 2001 and the following years. Thus, these developments might suggest a decline in long-term (post-2000) inflationary expectations.

The spread of J.P. Morgan's EMBI bond portfolio index (expressing emerging market country risk) over US government bonds followed a declining trend since July, and also decreased by approximately 150 basis points in the third quarter. However, the exact timing of the falls in forint yields suggests that the falls were mainly caused by the fact that market participants realised the favourable country-specific macroeconomic developments. The improving confidence in emerging markets created a positive background, but it was only a factor of secondary importance in the bond market rallies.

In retrospect, changes of the yield curve in the 12 months prior to November 1999 suggest the following story. The fast fall in the rate of inflation in the last two months of 1998 induced extraordinary optimism concerning longer-term interest rate expectations – by the middle of February 1999, implied forward rates for 2000 and 2001 had reached their lowest levels for two years. Less favourable macroeconomic figures published after February, however, had a negative impact on market expectations about 1999. Market analysts became more sceptical, first of all about the feasibility of the projected budget deficit, and, as a consequence, about the current account deficit anticipated by the government. This shift in expectations, which was accompanied by higher-than-expected inflation rates starting in the middle of the year, as well as by a rise in long-term dollar and euro rates, also led to continuously increasing interest rate expectations. In October and November it became clear for the market that neither the budget nor the current account deficits would be as adverse as previously anticipated, which led to a fast correction in expectations, and implied forward rates fell close to their February levels.
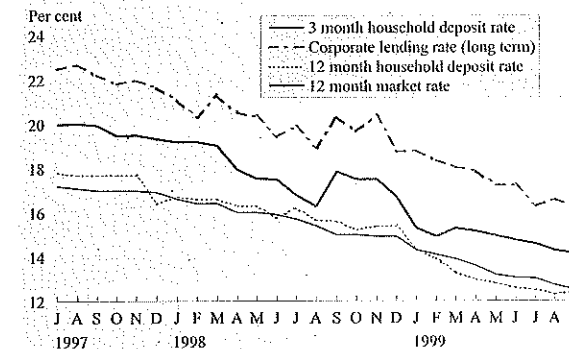
4 Interest rate policy of commercial banks

Along with the decline in market rates, commercial bank rates continued to decrease in the second half of 1999. The path of short-term and long-term household deposit rates were somewhat different in the third quarter than in the first six months of the year. The fall of deposit rates with maturities over a year was more substantial than the fall in short-term deposit rates. This is illustrated by the chart of spreads between government securities

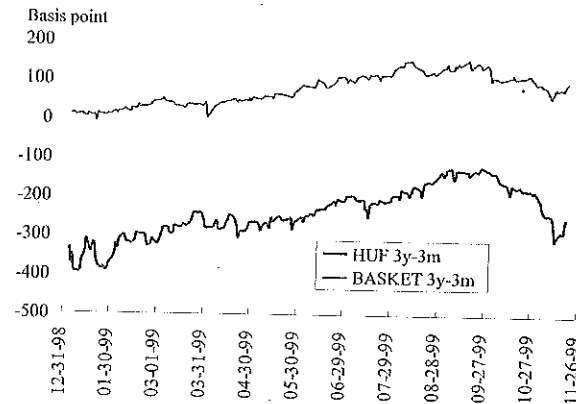**Spread between yields on government securities and household deposit**

Per cent

— SPREAD3M
⋯ SPREAD12M
— Over a year

J M M J S N J M M J S N J M M J S
1997   1998   1999
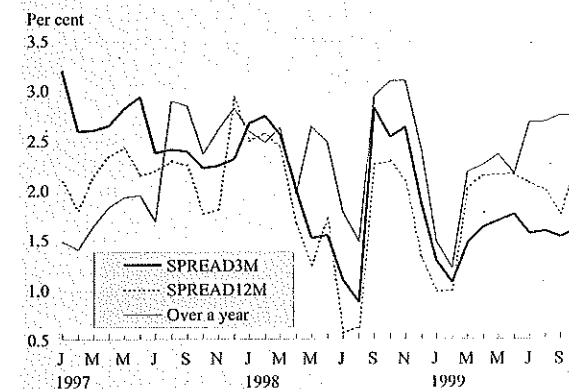
Corporate credit rates, household deposit rates and T-bill rates

Per cent

— 3 month household deposit rate
- - Corporate lending rate (long term)
⋯ 12 month household deposit rate
⋯ 12 month market rate

J A S O N D J F M A M J J A S O N D J F M A M J J A S
1997   1998   1999

Yield curve slopes in forint and currency basket composition (70% EUR and 30% USD) between the 3-month and 3-year maturities

Basis point

Legend: HUF 3y-3m; BASKET 3y-3m

Registered treasury bond holdings of non-residents (left scale) and the 3-year zero coupon rate

Ft billions — Per cent

Legend: Non-resident T-bond holdings; 3-year zero rate

Analysts' average forecast for end-1999 and end-2000 year-on-year CPI inflation

Per cent

Legend: End-1999 forecast; End-2000 forecast

The first significant drop in long-term yields occurred at the beginning of October. Then the one-year rate expected for periods beginning after 1, 2 and 3 years decreased by 20–60 basis points. This fall of yields can be explained by favourable macroeconomic figures released in this period. The Q2 real GDP growth (3.8% year-on-year) figure, released on 30 September, and especially the preliminary current account figure for August (a surplus of USD 140 million, as opposed to market expectations of a zero balance) published on 4 October were both more favourable than market forecasts, which induced optimism in the government securities market leading to declining long-term interest rate expectations. The FOMC of the Federal Reserve and the ECB held meetings the same week. Both central banks left their official rates unchanged, which resulted in a moderate rise in long-term dollar and euro yields. The fact that long-term forint yields fell despite these international developments indicates that the influence of favourable country-specific news on Hungarian yields was stronger.

The fall in long-term yields observed at the beginning of October was repeated in the first week of November. This time, however, the fall was much more substantial. Within just five days (1–5 November) one-year implied forward rates on the 1, 2 and 3-year horizons fell by 50, 120 and 130 basis points, respectively. As at the beginning of October, the main cause of the drop in long-term yields was the release of macroeconomic data, which turned out to be much more favourable than expected. On 29 October the international credit rating agency Fitch IBCA upgraded Hungary's foreign debt by one category. This announcement had a positive effect in the forint-denominated government securities market as well, and long-term yields started to fall. On 3 November three macroeconomic figures were published: the preliminary figure for the September current account deficit was USD 93 million (the average market consensus was USD 220 million), and both the September industrial production growth rate and the October budget deficit were much more favourable than market forecasts, which resulted in a further drop in long-term yields. Following the publication of these positive macroeconomic figures, on 4 November the NBH reduced its 2-week deposit rate by 25 basis points to 14.5%, which reinforced the positive sentimenz on the government bond market. Later that day, the ECB also changed its leading short-term rate, raising it by 50 basis points. Long-term euro yields, however, slightly declined as the ECB's decision was regarded by the market as a credible step to prevent a potential rise in inflation.

The behaviour of foreign investors showed an interesting pattern during the period of falling yields at the beginning of November. Their forint-denominated bond holdings jumped up by approximately Ft 10 billion in the first days of the fall. This increased demand, however, turned out to be only temporary, as foreign investors started a small-scale profit-taking in the middle of the rally and their bond holdings fell back to their initial level.

On 10–11 November there was a third fall in yields, which was even more significant and concentrated than in the first two episodes. Over these two days the one-year implied forward rates on the 1, 2 and 3-year horizons fell by 60, 140 and 100 basis points, respectively. The fall was particularly substantial on 11 November, when the October CPI figure was published. The
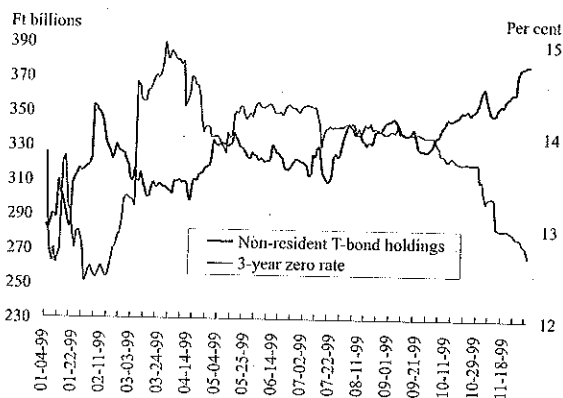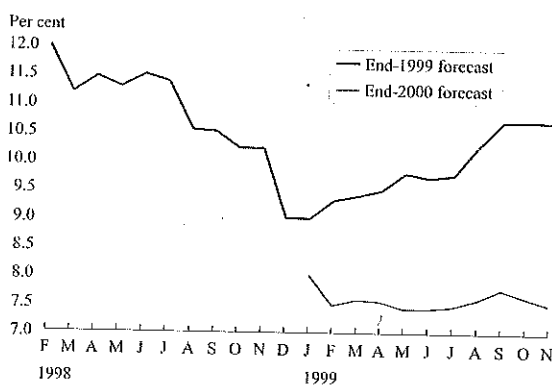
to the privatisation of companies listed on the Budapest Stock Exchange. As far as the short end of the yield curve is concerned, there was no anticipation of interest rate cuts, which shows that the demand for short-term government securities was low, most likely because of the increased liquidity needs due to the Y2K problem.

2.1 Monetary base

The growth rate of the monetary base had decreased to 15.3% by the end of the third quarter of 1999, as the growth rate of both cash outside the banking system (15.1%) and liabilities in the banking system under reserve requirements (16.9%) declined.

The expansion of the monetary base in the third quarter can be explained mostly by heavy central bank intervention, as the NBH purchased foreign exchange to a value of Ft 304 billion in the third quarter.

Due to this intervention, the arising excess liquidity exceeded the demand for the monetary base, which ended up increasing the stock of sterilisation instruments of the central bank by Ft 131 billion.

Besides these sterilisation instruments, a Ft 80 billion rise in the balance of the government's account with the central bank in the third quarter also prevented excess money supply in the economy.

2.2 Components of conversion forint demand

Intervention (Ft 304 billion) was higher in the third quarter than in the first half of the year.

In the third quarter foreign direct investment was five times higher than the current account deficit, and this item alone contributed to conversion by almost Ft 90 billion. Net portfolio investment of non-residents increased conversion forint demand by approximately Ft 60 billion, though the demand for government securities is still not significant in contrast to the previous year's demand.
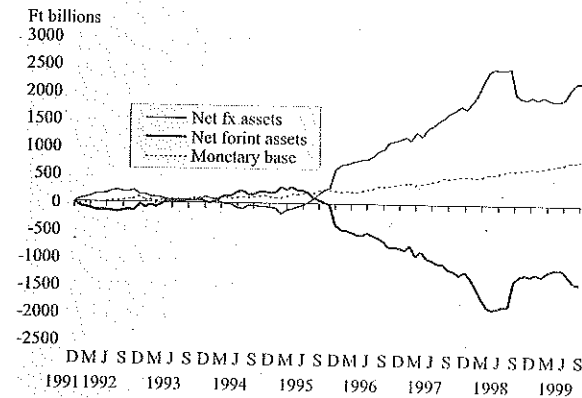
Intervention of Ft 77 billion was due to the foreign borrowing of the corporate sector in the third quarter, which almost reached total corporate foreign borrowing in the first six months of the year.

Commercial banks continued to maintain the neutrality of their full open position (see also our previous report). They tried to quickly reduce their long foreign exchange position arising from substantial capital inflows, as the continuing low liquidity of futures markets prevented them from making opposite deals.

Thus, in the third quarter commercial banks contributed to the excess foreign exchange supply by approximately Ft 42 billion. Due to the low liquidity of futures markets, earlier short foreign exchange futures positions were reduced radically by the end of September, which accounts for Ft 37 billion of total intervention in the third quarter.

Changes in the monetary base (End-of-period stocks) — Ft billions

	Opening	March	June	July	Aug.	Sept.	Oct.
I Monetare base (II + III)	1,160.9	1,180.6	1,239.2	1,271.2	1,277.6	1,285.7	1,317.5
Cash	736.0	730.6	780.5	800.0	808.6	807.2	817.7
Reserves	424.9	450.0	458.7	471.2	469.0	478.5	499.8
II Net forint assets (b + c + d − a)	339.1	404.4	448.2	313.4	211.5	210.3	206.7
a) Sterilization instruments	525.4	442.4	316.0	450.0	531.1	447.0	405.0
b) Credit to financial institutions	167.1	143.5	133.7	130.6	130.1	128.6	127.1
c) Net claims against the government	718.4	745.5	582.1	553.2	583.1	482.0	454.3
Of this KESz2	−33.1	30.1	115.3	110.7	146.3	195.3	214.0
government securities (+)	376.9	421.0	420.5	408.6	408.6	405.6	405.6
other (+)	374.6	354.6	276.9	285.3	291.0	268.7	262.7
d) Other	−21.0	48.4	49.7		59.2	46.7	30.3
III Net foreign exchange assets	821.8	776.2	791.0	957.8	1,066.1	1,075.4	1,110.8
Net foreign	−501.9	−422.7	−115.3	14.9	74.8	144.8	163.4
Claims	2,260.0	2,429.5	2,631.7	2,692.0	2,768.5	2,879.3	2,923.9
Liabilities	2,761.9	2,552.2	2,747.0	2,677.1	2,693.7	2,734.5	2,760.5
Net domestic	1,323.7	1,198.9	906.3	942.9	991.3	930.6	947.5
Claims	2,146.3	2,054.1	1,736.1	1,745.2	1,754.6	1,680.4	1,669.5
Liabilities	822.6	855.2	829.7	802.4	763.3	749.8	722.1

Components of the monetary base

Ft billions

Legend: Net fx assets; Net forint assets; Monetary base

* The graph includes cumulative values, December 1991 = 0.

Components of the demand for forints

(table, rotated, Ft billions)

	1998. total	H1	July	Aug.	Sept.	Q3
A. Conversion	191.6	202.7	182.3	111.3	10.7	304.2
a) Intervention in the interbank foreign exchange market	154.2	137.8	182.3	111.3	10.7	304.2
b) Purchases of the NBH from the budget	37.4	64.9	0.0	0.0	0.0	0.0
Sources of conversion (I + ...+ VIII)	191.6	202.7	182.3	111.3	10.7	304.2
I Current account balance corrected with the net foreign interest payments of the NBH(1+2)	–383.5	–232.2	–27.0	37.1	–9.3	0.8
1. Current account balance	–495.5	–283.6	–32.8	36.7	–21.3	–17.4
2. Net foreign interest payments of the NBH	112.0	51.4	5.9	0.4	12.0	18.2
II. Foreign direct investment	311.8	127.6	53.8	8.9	26.5	89.1
III Intervention due to commercial banks*	–72.9	–21.6	11.1	6.8	24.6	42.5
IV Effect of derivatives**	–206.4	–119.1	36.2	6.2	–5.6	36.7
V Intervention due to of domestic foreign exchange deposits	6.1	13.6	–3.7	–16.9	–6.3	–26.9
VI Net portfolio investments (1+2)	427.1	379.9	74.4	17.2	–30.8	60.8
1. Government securities	176.3	34.6	18.1	5.6	–11.1	12.6
2. Equity***	250.9	345.3	56.3	11.6	–19.7	48.2
VII Corporate foreign exchange borrowing (1+2)	68.7	87.8	29.4	47.3	0.4	77.0
1. Domestic	49.0	56.2	5.4	3.5	1.7	10.6
2. Foreign	19.7	31.7	24.0	43.8	–1.3	66.4

* Conversion effect due to the change in commercial banks' full open position, i.e. that part of open positions not covered by derivative transactions.
** Conversion effect of the changes in forward contracts. With these two items, the negative sign indicates the closing of long forint positions built up earlier.
*** Balance of payment statistics concerning stock purchases by foreigners are rather uncertain, therefore, this line of the table was calculated following the residual principle.

## Activity of commercial banks in the foreign exchange futures market

There was no significant change in commercial banks' activity in the foreign exchange futures market in the third period of 1999. Despite the high interest rate premium, the volume of open positions was determined by the fact that commercial bank customers converted their foreign exchange to forints. Changes in the interest rate premium had no influence on the opening and closing of positions. Prior to last year's crises, exchange rate risk was accepted at a much lower interest rate premium level: at 2% last year as opposed to the recent 5%. The following chart illustrates this.

Interest rate premium and foreign borrowing by credit institutions*

Ft billions — Per cent
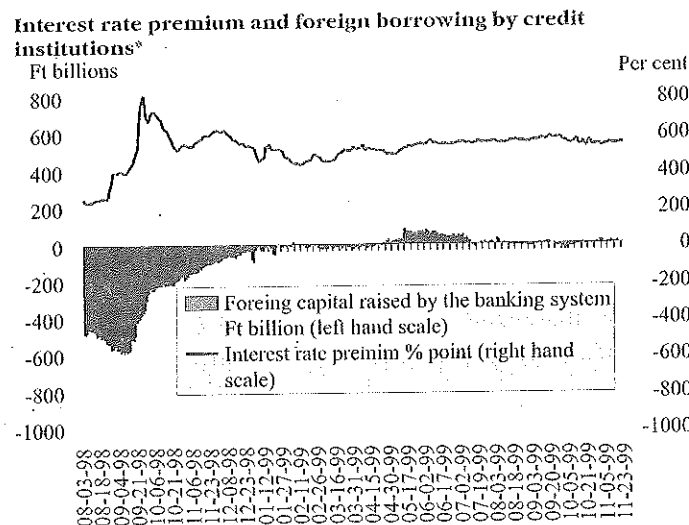
* The right hand scale shows the evaluation of the yield premium of the HUF. The right hand scale depicts the net FX position of the banking system with the usual convention of signs: a negative sign is a short and a positive is a long net FX position.

Commercial banks did not want to hold the foreign exchange sold to them by their customers due to capital inflows, therefore they were continuously forced to reduce their long positions or to close them. Thus, the banking system was continuously selling foreign exchange in the interbank foreign exchange market. In theory, they could have closed their positions in the foreign exchange futures markets, but the demand in these markets was too low, that is there were few speculators who would profit from a weakening of the forint within the band.

The banking sector's total on balance sheet and off balance sheet foreign exchange open position between 4 January and 15 November 1999 (Ft billion)

Open positions (Ft billions)
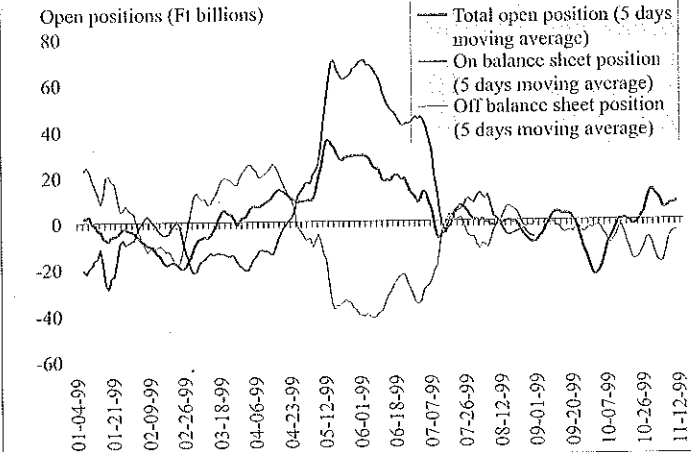
As a result of the announced change in the official currency basket, the composition of futures contracts has changed. As of 1 January 2000, the currency basket will be composed of 100% euro as opposed to the recent 70% euro and 30% dollar composition. Consequently, there are no contracts for the German mark after December this year. Although the German mark was no longer in the currency basket this year, it lost its former role only gradually with D-mark contracts not being renewed after expiry. Mirroring these developments, the euro was introduced into futures markets only gradually, and at the end of September already 34,000 contracts were registered on the two exchanges. By 24 November the number of euro contracts had reached 75,000. The number of US dollar contracts increased from 48,000 to 77,000. Though nearly half of this had a December expiry, the volume of contracts for January, March and September 1999 is significant (more than 10,000 contracts each).

3 Yield curve, interest rate and inflation expectations

The previous report analysed developments in the government securities markets up to the end of August. In the period since then, the shape of the yield curve changed significantly as a result of three episodes of fast falls in yields. The slope of the implied forward yield curve reflecting future interest rate expectations[1] increased substantially (in absolute terms) from the beginning of September to the middle of November. Along with the 50 basis point decline in the one-year spot rate, the one-year rates expected for periods beginning after 1, 2 and 3 years fell by 160, 270 and 250 basis points respectively. These changes were brought about mainly by drops of long-term yields. Short-term (3–6 months) yields in this period decreased more or less smoothly; their decline only slightly exceeded the 25 basis point cut of the NBH's 2-week official rate.

The slope of the implied forward yield curve was still decreasing in September following, albeit at a slower pace, the trend observed in July and August. While the one-year spot rate remained basically unchanged (in line with the unchanged 2-week official rate), the one-year rates expected for periods beginning after 1, 2 and 3 years increased by 0, 20 and 60 basis points respectively. This can be explained on the one hand by a small rise in inflationary expectations (the CPI inflation rate in August was slightly higher than expected by the market), and on the other by the slight declines in the slopes of the dollar and euro yield curves. Public disputes about past operations of the central bank might also have had an effect on the rise in forint interest rates.

[1] The implied forward rates derived from the zero-coupon yield curve do not necessarily coincide with the market's expected future interest rates (only if the so-called Expectations Hypothesis holds). However, less restrictive assumptions are enough to establish a relationship between *changes* in implied forward rates and *changes* in expected future interest rates. For more details on the derivation and interpretation of implied forward rates and the NBH's practice of estimating the zero-coupon yield curve see: *"Zero-coupon yield curve estimation from a central bank perspective"*, NBH Working Papers 1998/2.

One-year implied forward curves

Per cent
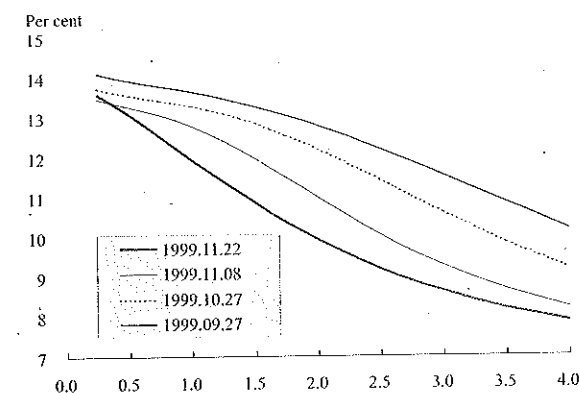
1-year spot rate and 1-year implied forwards in 1, 2 and 3 years time

Per cent