



REPORT ON FINANCIAL STABILITY

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Introduction

This is the first time that the National Bank of Hungary is publishing a detailed analysis explicitly addressing the issue of financial stability. The purpose of publishing the *“Report on Financial Stability”* – henceforth to be issued regularly – is to review and evaluate the potential risks that might affect the financial system, assess their significance, highlight the instruments required to maintain and reinforce financial stability and facilitate communication about the issue. The central bank interprets the concept of financial stability in a broad sense, going beyond the assessment of financial infrastructure and institutional stability of financial intermediaries. It also takes into account the risks stemming from the financial position of the different sectors of the economy vis-à-vis non-residents.

Examination of the financial system’s stability is indispensable for an assessment of the sustainability of macroeconomic and financial development. From this viewpoint the new publication complements the analyses on the business cycle and macroeconomic equilibrium published in the *“Quarterly Report on Inflation”* since 1998.

One of the most important lessons drawn from recent crises of the international capital markets is that fragile financial systems can exacerbate the negative effects of external factors on a given economy to a great extent. Moreover, when confidence in the financial system declines substantially, that in itself may result in a crisis. Bearing this in mind, central banks tend to pay increasing attention to monitoring factors affecting financial stability and also focus on promoting such, in addition to price stability. Real and financial shocks appear mostly as exogenous factors for small, open economies; nevertheless, it is both possible and necessary to prepare for such shocks. A strong financial infrastructure, capable of assessing and managing risks, can substantially blunt the destabilising impact of shocks coming from the international environment.

The *Report on Financial Stability* consists of four major parts. First, the chapter on *macro-financial stability* briefly reviews the developments in the international business cycle and the global financial environment, then assesses the domestic macroeconomic factors relevant from the viewpoint of financial stability – growth, inflation, interest rate and exchange rate developments and government debt. In contrast to the detailed business cycle analysis contained in the *Quarterly Report on Inflation*, the emphasis here is on presenting the exposure of the system of financial intermediation to general macroeconomic trends. The Southeast Asian crisis demonstrated that serious problems can build up within the system of financial intermediaries, even with seemingly prudent operation of the banking sector, when certain economic sectors assume excessive risks. For this reason, it is useful to evaluate the risks by analysing individual economic sectors. In addition to providing an assessment of the corporate and household sectors’ financial position, the Report pays particular attention to the exposure of the economy vis-à-vis non-residents.

The chapter on the *stability of the banking sector* comprehensively discusses the exposure of banks to lending and market risks (interest rate and exchange rate risks), analyses to what extent they are hedged against such risks and assesses their liquidity position. It provides a detailed analysis of the underlying factors that determine the ability of banks to assume risk: their capital position and profitability. A separate chapter discusses the position of *non-banking financial institutions* – insurers, securities traders, pension funds, etc. – which play an increasingly important role in redistributing savings.

The individual *studies* aim to provide deeper insight into specific issues of financial stability. The structure of the publication differs to some extent from similar publications of other central banks. Less space is devoted to presenting the securities market risks as both the stock exchange and the corporate bond market are of lesser significance in Hungary at the time being. Also, the specific features of the Hungarian economy call for a detailed examination of domestic macroeconomic variables, including government debt.

I. Macroeconomic and Financial Environment

The General Economic Environment

The Global Business Cycle and International Capital Markets

International economic and financial fluctuations can influence the stability of the domestic financial system in various ways. The global business cycle has an impact on aggregate demand and domestic growth through export demand, which, in turn, affects banks' credit risk and asset prices. In addition to international real economic shocks – and partly in conjunction with such – international financial shocks may also exert considerable influence on the stability of the domestic financial system. This is due, on the one hand, to changes in the prices of the foreign assets of domestic banks and investors and, on the other hand, through the potential capital withdrawal of non-residents with investments in Hungary.

In general, the current position of the global business cycle seems to be promising. Continuous growth has remained unbroken for nine consecutive years in the United States, where the main concern is to what extent and at what pace current growth, unanimously regarded as unsustainable over the long run, can be slowed down through monetary restriction. At present, market analysts regard a drastic reduction in the growth rate (or its reversal) as much less probable than half a year ago (early in 2000). It is possible, however, that further monetary tightening will be necessary to keep inflation under control. The growth prospects of the European Union are also positive: both consumer and business confidence indices – reflecting the expectations of economic agents – are at a historical peak (*Figure I.1*), indicating a recovery in demand. It seems that emerging economies are also recovering from the crises of 1997–1998: according to the forecasts of the European Commission, Central and Eastern Europe, Southeast Asia and South America may all expect accelerating GDP growth (*Table I.1*).

These factors have created an external environment conducive to the growth of the Hungarian economy. As 76% of Hungary's exports go to the member states of the European Union, the 8% growth in EU imports forecasted for this year (*Figure I.2*) creates a promising base for the external demand. The above-mentioned effects are reinforced by the weakening of the euro, which improves the competitiveness of Hungarian exports in markets outside the European Union. There is, however, a negative impact in the permanent increase of the oil price, which is deteriorating the terms of trade.

At the same time, the increase in demand, the rise in asset prices registered recently and the increase in energy prices foreshadow an acceleration of inflation at the global level. As for the

Table I.1 Real GDP growth rates in certain regions

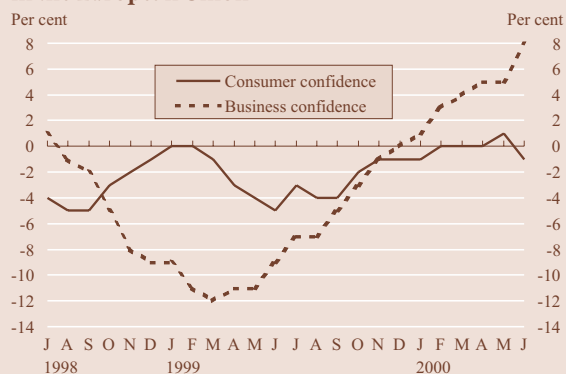
	Per cent					
	1996	1997	1998	1999*	2000**	2001**
United States	3.7	4.5	4.3	4.1	3.6	3.0
European Union	1.6	2.5	2.7	2.3	3.4	3.1
Central & Eastern Europe	3.6	3.2	2.5	2.2	3.7	4.6
Asia and South America	6.5	5.1	2.6	3.9	4.6	4.8

Source: European Commission, April 2000

* Estimate.

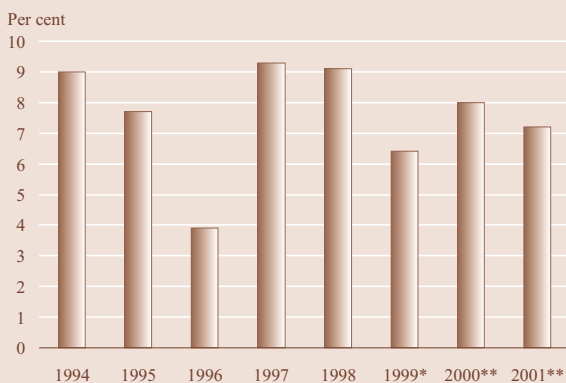
** Forecast.

Figure I.1 Business and consumer confidence indexes in the European Union



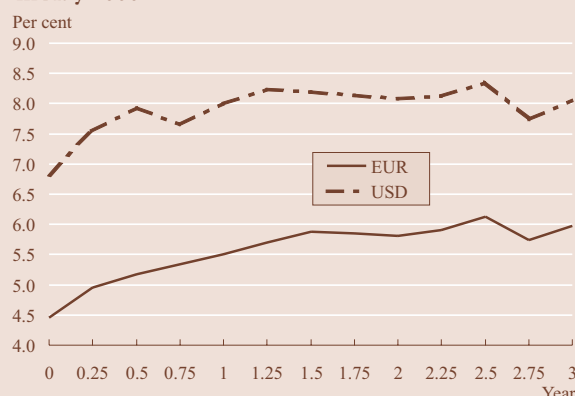
Source: European Central Bank

Figure I.2 Import volume indexes in the European Union (annual growth rate)



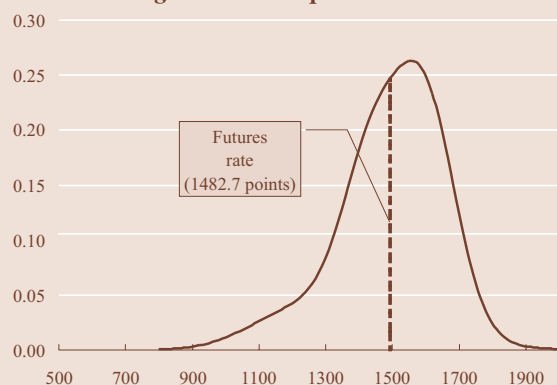
Source: European Commission, April 2000

Figure I.3 3-month implied forward yield curves in May 2000



Source: Reuters

Figure I.4 Risk-neutral expected distribution calculated from the price of options for the S&P 500 Stock Exchange Index for September 2000



Source: NYMEX and NBH

* Under certain assumptions the above probability distribution can be regarded as the expectation of the market at the given point in time with respect to the level at which the S&P 500 index would be when the options mature. The probability distribution was estimated from the June 5, 2000 option prices.

U.S. economy, analysts' views are ambiguous as to whether the growth of supply, facilitated by productivity gains, will be able to follow the expansion in demand. An eventual overheating of the economy and the likelihood of the current account deficit in the United States approaching 4% of GDP will probably prompt the Federal Reserve to tighten monetary conditions further. In the case of the European Union where the signs of inflationary pressure are also present, interest rates can be expected to rise as well. May 2000 forward interest rates, calculated from the market yield curve, forecast a 125–150 basis point increase in interest rates for the next 12 months, both for the dollar and the euro (*Figure I.3*)

The global tightening in the monetary environment foreshadows a deterioration in the position of international capital markets. The decline in the U. S. stock prices in spring 2000 immediately affected the international markets: stock exchange indexes all over the world faltered. Issuers on the international debt market may face tougher conditions in the future: the decline in the premium on the foreign exchange debt of emerging markets relative to American government bonds, which began last summer, seems to have come to an end.

However, there is the chance of a different, unfavourable scenario unfolding: the release of steam from the overheated U.S. economy could take the form of a sudden shock. Even though prices have dropped recently on the U. S. stock markets, said to be overvalued for a long time, analysts believe that the possibility of a major stock exchange recession exists. Market agents also share this view. Information derived from the prices of derivative products in the stock markets indicate that the market assigns much higher probability to a major stock market slump than to a potential boom (*Figure I.4*).

In addition to stopping growth in the U.S. economy, it is likely this unfavourable scenario would cause a global decline in the prices of financial assets. Such a global financial shock would be the most dangerous for the South American economies, which are, in any case, in a relatively unfavourable phase of the trade cycle and strongly in debt, but it would also certainly affect Europe and Southeast Asia as well.

Nevertheless, the probability of the above negative scenario is relatively low and has even declined as a result of the recently implemented Fed rate hikes and the signs of a slowdown in the U.S. economy.

The macroeconomic situation in the East European countries deserve particular attention from the viewpoint of the expected region-specific risks. In Poland, the substantial deficit in the external equilibrium continues to be a cause for concern: the deficit in the current account in the first five months approaches 8% of GDP when projected to an annual level. In addition, the country's domestic political problems have also fuelled investor uncertainty recently. The Czech economy seems to have overcome the economic recession of the past few years (GDP increased by as much as 4.4% in the first quarter). Nevertheless, additional steps are envisaged in the implementation of structural reforms (price liberalisation, consolidation of the banking sector), which pose a challenge in maintaining macroeconomic achievements. The expected run-up of foreign direct investment into the Czech Republic may undermine the ability of the Hungarian economy to attract capital. In the region, Russia benefits most from the high energy prices. As long as oil prices remain at their current high level, the improvement in the terms of trade will greatly assist the

Russian economy in recovering after the 1998 crisis. Nevertheless, long-term sustainable growth is conditional upon consistent implementation of the reforms which have been started.

All in all, at present we do not see any major risk factor in the international money markets in general and in the international sentiment toward emerging economies in particular. Thus, we do not expect any international money market shock, which could have a substantial negative impact on Hungary in the next half year. The regional risks, mentioned above, may result in some unfavourable effects, but we attach low probability to this scenario.

Domestic Macroeconomic Conditions

Growth

The general state of the business cycle can function as an important indicator of the quality of the portfolio of the banking sector and its profitability in the future. Economic recessions weaken the debt service capacity of domestic debtors and lead to increased lending risks for banks. Thus, it may be an important indicator of future financial crises. If bank lending is greatly concentrated on a specific sector of the economy (heavy industry, real estate leasing, agriculture, etc.), a drastic deterioration in the profitability of the given sector may increase the chances of a crisis for the banking sector as a whole, even in the absence of general economic recession.

Faster economic growth has been accompanied by a decline in the qualified assets of the banks (and of the provisions set aside on them) and vice versa in Hungary over the past few years (*Figure I.5*), though changes in regulations and bank-specific problems render an examination rather difficult. An analysis of the placements of the Hungarian banking sector by branches does not indicate excessive concentration (cf. "Changes in Sectoral Concentration" and the table contained therein).

The business cycle of the Hungarian economy is more and more closely linked to the cycles of the euro region in general and the German economy in particular. Some 70% of Hungary's exports find a market in the eleven countries constituting the euro zone and more than 38% end up in Germany alone. Although this is favourable for the exchange rate regime, taking into account its limited flexibility and Hungary's future accession to the currency union, the high degree of concentration in foreign trade enhances the impact of shocks to our most important external partners on the growth of the domestic economy. This results in a higher degree of uncertainty in forecasting economic growth and the debt service capacity of borrowers. At the same time, the impact of the regional concentration of foreign trade is alleviated by the fact that the share of consumer goods in Hungary's exports to developed countries is relatively high, and demand for such goods has been more stable than for investment goods.

Inflation

The absence of price stability generally renders economic calculations and accurate assessment of lending and market risks increasingly difficult. Moreover, higher inflation tends to be associated with higher volatility and frequently with a higher fluctuation in relative prices. This reduces the information content of historical data and introduces additional risk in planning. In an

Figure I.5 Economic growth and the rated assets of the banks

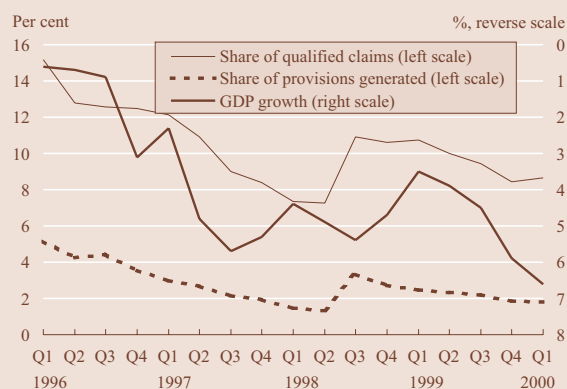
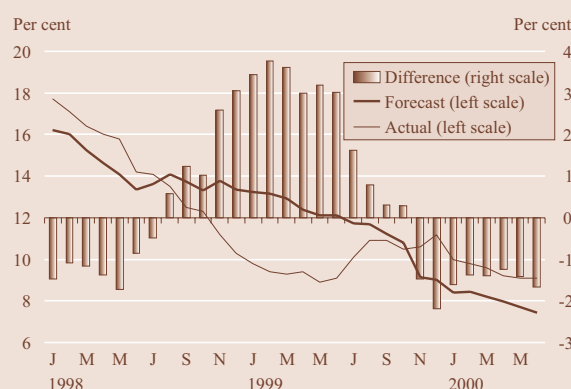


Figure I.6 Comparison of the 12-month forward-looking inflation forecast with actual inflation



Source: NBH and Reuters

inflationary environment, the length of the yield curve decreases, the liquidity premium increases and the management of risks arising from maturity mismatch of bank assets and liabilities becomes more difficult.

Since 1995, inflation in Hungary has declined considerably and, by the first half of 1999, the year-on-year consumer price index had dropped into single-digit range. In the second half of last year, the official consumer price index rose temporarily (as a result of rising energy prices and the change in the system of subsidising pharmaceutical products). Nevertheless, the downward trend in core inflation was sustained and, by the first months of 2000, the official price index began to decrease again. Although high world market oil prices continue to hamper the process of disinflation, we expect an additional considerable decrease in inflation (of around 4% over a year) by the end of 2000.

In principle, the degree of uncertainty in inflation forecasts diminishes in parallel with a decline in inflation. However, if we compare the changes in inflation expectations to the price increases actually taking place (*Figure I.6*), it can be seen that these forecasts have not been accurate in Hungary over the past few years (to measure the market's inflation expectations in one year's time, we transformed end-of-year Reuters inflation poll data into figures on forward-looking 12 months basis). In the second half of 1998 and early in 1999 the decline in inflation was more rapid than expected owing to low food and energy prices. In the second half of 1999 and in 2000, actual inflation exceeded expectations due to higher oil prices and certain regulated price increases (changes in the system of subsidising pharmaceutical products).

A reduction in the number of liquidity-constrained households and companies may be an important consequence of declining inflation. Nominal rates declining with lower inflation – even when real interest rates increase – opens up the possibility of going into debt for potential borrowers (wide range of households and small businesses), for whom the ratio of interest payments to income had constituted an effective constraint. This may mean rapidly growing demand for credit particularly in the case of consumer credits and, presumably, mortgage lending in Hungary in the near future. In view of the fact that the ratio of household credit to GDP still falls far short of the ratios observed in countries with more developed financial markets, this indicates the possibility of a potential increase in household lending. A rapid increase in lending always calls for greater circumspection, because the reliability of the credit assessment process often deteriorates in such cases. This risk is aggravated for Hungarian banks by the fact that they must build up a new market segment and recruit new clientele; thus they lack the historical data required to accurately assess risks.

Exchange Rate Developments

The level of exchange rate risk to which both the household and the corporate sectors are exposed is influenced by the magnitude of open foreign exchange positions and the extent of exchange rate volatility. The banking sector is affected by fluctuations in exchange rates not only directly, through its own open foreign exchange position, but also indirectly, through the impact of its clients' open foreign exchange positions on bank incomes and debt service expenditures. Even though the on-balance sheet open foreign exchange position of the financial corporate sector is low, the net foreign debt of the Hungarian economy denomi-

nated in foreign exchange (totalling 15% of GDP in 1999) indicates that the open foreign exchange positions of a wide range of economic agents are high. This, however, does not constitute a genuine problem, provided that direct foreign credits and foreign exchange credits extended by the domestic banking sector are taken out by exporter companies, whose sales revenues act as a natural hedge against exchange rate volatility.

The prevailing exchange rate regime fundamentally restricts the volatility of the exchange rate. Potential shifts vis-à-vis the euro – apart from the rate of devaluation announced in advance – may take place only within a $\pm 2.25\%$ intervention band. Apart from a few clearly defined periods, in the past the exchange rate has not tended to fully use even this relatively narrow band. In comparison to the Czech crown and the Polish zloty (Figure I.7), the volatility of the Hungarian forint against the euro has been relatively low.

The situation is different in the case of the volatility of the forint/dollar exchange rate. This exchange rate is affected by three factors: the devaluation of the domestic currency against the basket, movements of the exchange rate within the band and changes in euro/dollar cross rates. Since the shift to the 100% euro currency basket, changes in the euro/dollar cross rate fully affect the exchange rate of the forint against the dollar. The resulting volatility has been much higher than the volatility arising from exchange rate movements within the band in the past (Figure I.8).

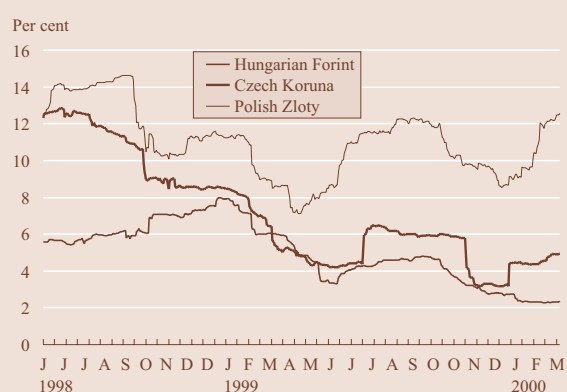
This volatility means additional risk for those trading in dollar terms. The greater geographical distances characterising the dollar segment of foreign trade and the concentration of dollar-based energy import in Hungary indicate that most of these traders are large, well-capitalised companies which have the opportunity to hedge against exchange rate risks using financial instruments.

Interest Rate Developments

One of the functions of the banking sector, maturity transformation, goes with the undertaking of interest rate risk as a business. The difference in the average maturity (duration) of assets and liabilities means that in the case of a parallel shift in the yield curve, the prices of a bank's assets and liabilities change in the opposite direction, which has a strong impact on their market value and profitability. In addition, we also have to consider the fact that the possibility of hedging interest rate risks on the forward markets is still limited in Hungary relative to countries with more developed financial markets. Although in principle the opportunity is there to conclude interest rate transactions on the forward markets of BSE and BCE (using 3-month and 12-month treasury bills and 3-year bond contracts), these markets are not deep enough (the volume of open positions was less than HUF 3 billion at the end of 1999). The interbank forward interest rate market is more significant than this. The interest rate contracts of the banks totalled HUF 180 billion (2.5% of the balance sheet total) at the end of 1999, and their weight has increased within off-balance sheet items.

In assessing the evolution of interest rate risk over time, it should be noted that nominal interest rates have followed a relatively predictable path over the past few years, due to steadily declining inflation and the transparent exchange rate policy. Consequently, instead of the volatility of nominal rates, the risk for banks can be expressed more accurately by the historical volatility of the interest rate premium, which excludes the effect of the

Figure I.7 Annual volatility of the Forint, the Crown and the Zloty exchange rates against the Euro (90-day moving window)*



* From January 1, 1999, euro exchange rate, prior to that the exchange rate of the German mark, recalculated at the conversion rate. 90-day volatility of the logarithmic difference of daily exchange rate data (annualised values).

Figure I.8 Decomposition of the daily changes in the forint/dollar exchange rate (January 5–May 31, 2000)

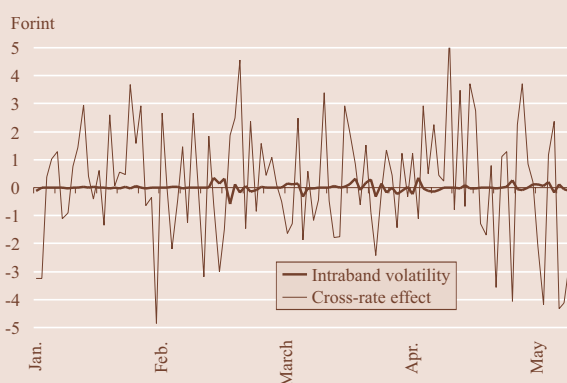


Figure I.9 Standard deviation of the 3-month interest rate premium (quarterly data, Q2 1997– Q1 2000)

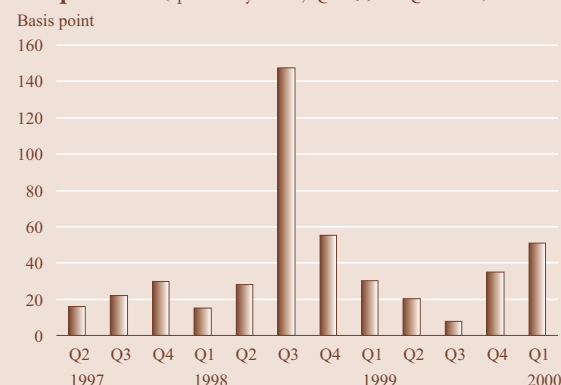
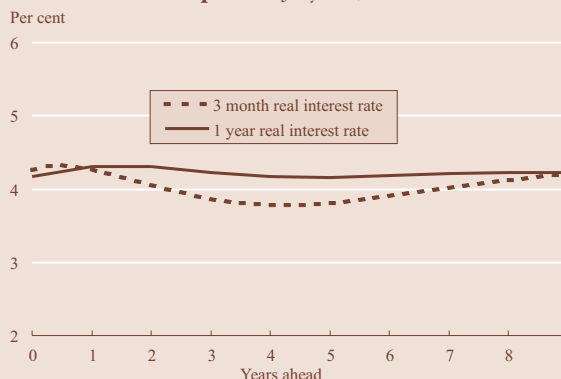


Figure I.10 3-month real interest rate*



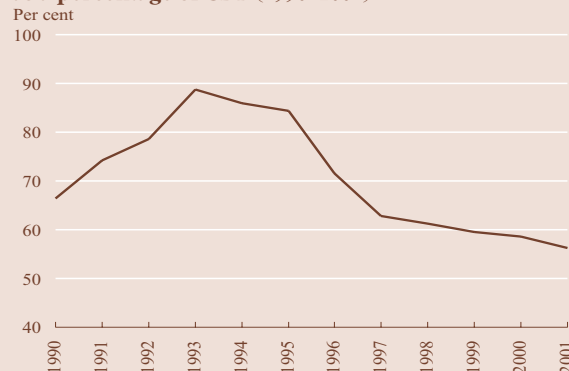
* The 3-month discounted T-bill yield deflated by the trend of the core inflation calculated by the NBH.

Figure I.11 Estimated average real interest rate in the function of period (July 2001)



* Based on the zero-coupon yield curve calculated by the NBH under the assumption that the 12-month inflation would decrease from the level of 6.5% in the middle of 2001 to 3% by the middle of 2010.

Figure I.12 Gross debt of the central budget as a percentage of GDP (1990–2001)



Source: Government Debt Management Agency (GDMA), NBH.

* Until 1998 fact, for 2000–2001 forecast.

interest rate changes consistent with the pre-announced reduction in the rate of devaluation. In the current exchange rate regime, the real source of uncertainty is the fluctuation in the HUF interest rate caused by changes in the interest rate premium.

On average, the volatility in the interest rate premium has remained below 0.5 percent since 1997 (*Figure I.9*). There were two major exceptions: the Russian crisis in the second half of 1998 sent volatility to unprecedented highs, while in the first quarter of 2000 favourable external developments and a bright macroeconomic outlook led to a radical decline in the interest rate premium.

In addition to interest rate volatility, the magnitude of the real interest rate is also important from the viewpoint of the stability of the banking sector. High real interest rates increase the real debt service on loans and reduce the net present value of projects. They may also give rise to counter-selection as higher-risk clients with higher expected value will continue to rely on banks for credit, while less risky clients turn to other sources or alter investment or consumption decisions. Ultimately, this may lead to a rise in qualified claims and to a deterioration in banking sector profitability. These characteristics offer a relatively good description of the consumer credit market in Hungary today.

The main danger involved in low real interest rates may be the erosion of financial savings and the difficulty of collecting funds (deposits) by the banking sector. In addition, low real interest rates may lead to the implementation of investment projects which would not be viable if interest rates were at their long-run level. In such cases, the low profitability of the installed capacity and the resulting financial difficulties (default in severe cases) of the debtor will manifest themselves only when real rates rise to their normal level.

In 1998, as a consequence of an unexpectedly large fall in inflation and an increase in nominal yields due to the Russian crisis, the real interest rate rose to above 8% (deflated by the trend of core inflation). In 1999, despite a moderate decline, it did not fall to the level prevailing prior to the crisis, largely due to market uncertainties about fiscal policy and the current account. At the end of 1999 it became evident that the earlier pessimistic expectations were incorrect. The yield curve shifted downward and the 3-month real interest rate fell slightly below 4%, but not lower than the level preceding the Russian crisis (*Figure I.10*). This level of the real interest rate seems to be sustainable in the near future, provided that there is no significant additional decrease in the risk premium (which has been the most important reason for the decline in nominal rates in the recent past).

For investment decisions, it is not the short-term (e.g. three-month) but the long-term – as long as time horizon of the investment – real interest rate which is of importance. With the current yields, the average annual real interest rate is above 4% over a time span of 10 years at every maturity, which cannot be described as extreme in light of the criteria described above (*Figure I.11*).

The Public Debt

Economic restructuring, the bank, debtor and credit consolidation schemes and the considerable budget deficit speeded up the accumulation of debt by the general government early in the 1990s. The growing problem of indebtedness was aggravated by the dramatic fall in economic activity: by 1993 the gross domestic product (GDP) had fallen to 82% of its 1989 level. As a result of

these two effects, the gross debt of the central budget approached 89% of GDP in 1993 (Figure I.12).

From 1994–1995, with the commencement of growth, economic stabilisation and considerable receipts from privatisation, the debt to GDP ratio began to fall rapidly, reaching 60% of GDP by the end of 1999. Currently, the debt to GDP ratio is lower than the relevant figure for a number of EU member states, although it exceeds the debt to GDP ratios of the Czech Republic¹ and Poland, countries with a similar level of development (Figures I.13, I.14).

The Structure of Public Debt

Although no dramatic changes have taken place in the structure of public debt over the past three years, clear-cut trends can be observed. While the share of foreign exchange debt and credits decreased continuously, the share of treasury bills remained stable, and the weight of government bonds, both wholesale and retail, increased steadily in comparison to both total debt and GDP (Figure I.15).

Credit to the central government consists largely of central bank loans drawn years ago. The central bank is no longer permitted to extend additional financing to the budget – thus as previous loans mature the stock of central bank credit to the government is decreasing in nominal terms.

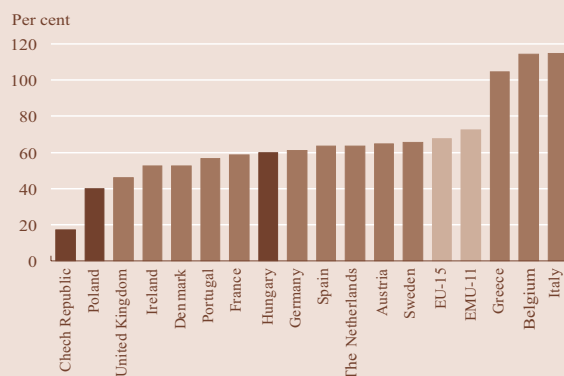
Between 1997 and 1999, the weight of foreign exchange debt within the debt portfolio declined from 41% to 37% and its ratio to GDP from 26% to 22%. The debt swap between the government and the National Bank of Hungary was formulated to ensure that there would be no need for the government to either redeem or to issue foreign exchange bonds in 1997 and 1998. The Government Debt Management Agency (GDMA) issued the first foreign exchange bond in 1999. In that year, the GDMA's strategy was to finance maturing foreign exchange bonds from foreign exchange liabilities (that is to roll over foreign exchange debt) and the budget deficit and the maturing domestic currency debt from domestic currency liabilities. This strategy resulted in the stabilisation of the volume of the foreign exchange denominated debt expressed in terms of foreign exchange and, together with the growth in GDP, its decline in proportion to GDP. In 2000, the substantial inflow of capital and the favourable development in the current account enabled the GDMA to finance part of the foreign exchange payments due by domestic currency denominated government securities, whereby the volume of debt denominated in foreign exchange also declined.

The 37% share of the debt denominated in foreign exchange within the total is still high in a European comparison: among EMU countries this ratio was higher only in Finland (50% in 1997). Of the EU member states that have not joined EMU, the share of foreign exchange denominated debt to total was the highest in Greece (at 33%) and Sweden (at 23%).

The government's foreign exchange debt incorporated in bonds and syndicated loans is currently denominated, in addition to euro and euro member currencies, in US dollar, Japanese yen, Swiss franc and pound sterling. To mitigate the impact of changes in cross exchange rates on the debt stock, the GDMA hedged its position on the euro swap market so that only changes in the forint/euro exchange rate constitute a risk for financing.

¹ This is true even if we take into account the expected impact of future bank consolidation measures on public debt in the Czech Republic.

Figure I.13 Debt to GDP ratios in certain EU member states, the Czech Republic, Hungary and Poland (1999)



Source: NBH, European Commission.

Figure I.14 Public debt to GDP ratios of the 15 EU member states, 11 EMU member states and Hungary

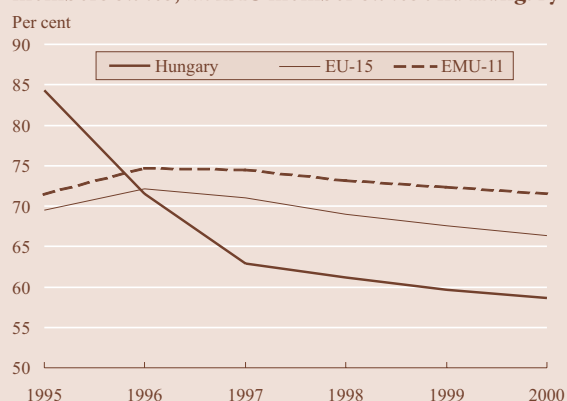
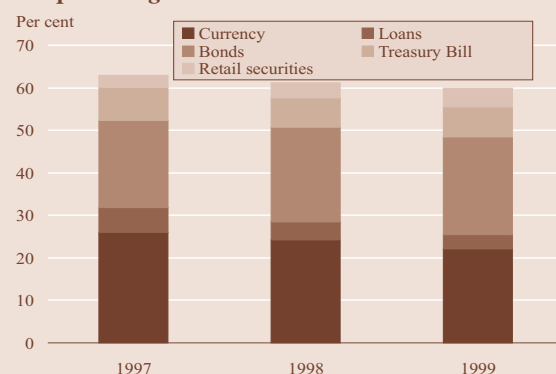


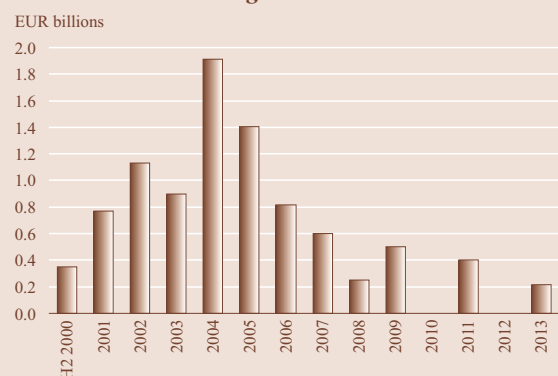
Figure I.15 Components of government debt as a percentage of GDP



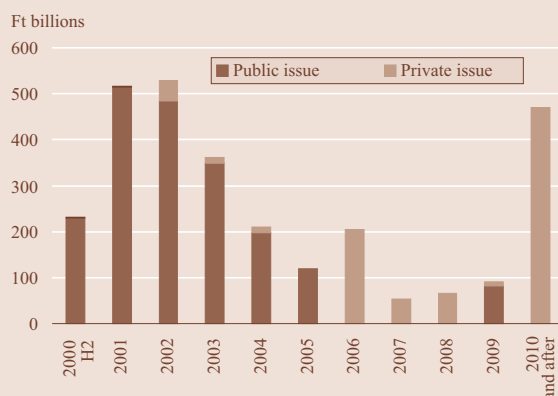
Source: GDMA

Table I.2 Hungary's credit rating

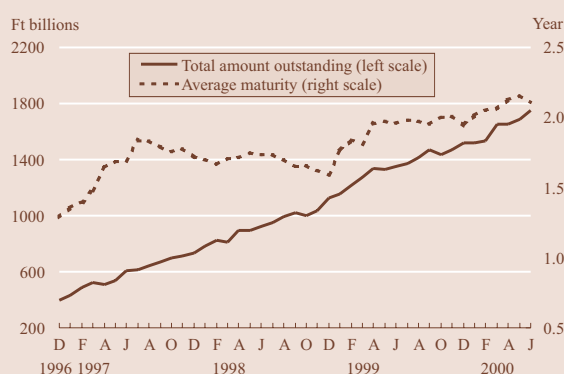
	Japan Credit Rating Agency	Moody's	Standard & Poor's	Fitch-IBCA	Duff & Phelps	Thomson Bank-Watch
1987	A-	-	-	-	-	-
1988	A-	-	-	-	-	-
1989	A-	Baa2	-	-	-	-
1990	A-	Ba1	-	-	-	-
1991	BBB+	Ba1	-	-	-	-
1992	BBB+	Ba1	BB	-	-	-
1993	BBB	Ba1	BB+	-	-	-
1994	BBB	Ba1	BB	-	-	-
1995	BBB	Ba1	BB+	-	-	BB+
1996	BBB+	Baa3	BBB-	BBB-	BBB-	BBB-
1997	BBB+	Baa3	BBB-	BBB	BBB	BBB-
1998	BBB+	Baa2	BBB	BBB	BBB	BBB
1999	A-	Baa1	BBB	BBB+	BBB	BBB
2000	A-	Baa1	BBB+	BBB+	BBB+	BBB+

Chart I.16 Maturity structure of the foreign exchange debt of the central budget

Source: GDMA, NBH

Figure I.17 Maturity structure of outstanding government bonds
(June 30, 2000)

Source: GDMA

Chart I.18 Average maturity of publicly offered fixed interest government securities
(30 June, 2000)

Source: GDMA, NBH

Redemptions and Interest Payments to be made in Foreign Exchange in 2000–2001

Over the next one-and-a-half years, a relatively small portion, roughly 12% of total foreign exchange debt, will mature (*Figure I.16*).² EUR 350 million in foreign exchange redemption and EUR 330 million in foreign exchange interest payments will become due in the second half of 2000. This means that a 1% shift in the forint/euro rate would alter debt service expenditures of the budget by HUF 1 billion. In 2001, EUR 800 million in redemption and EUR 650 million in interest payments will fall due, that is, a 1% depreciation in the exchange rate would increase redemption by HUF 2.1 billion and interest expenditure by HUF 1.7 billion.

The Structure of Domestic Currency Financing

More than 60% of the public debt denominated in domestic currency consists of marketable bonds and discount treasury bills; 20% are privately placed bonds, 12% retail securities and 8% syndicated loans and other credit.

The average maturity of domestic currency denominated debt is 3.6 years, which is below the 4–6 year average of EU countries, but it is in line with, for instance, the values calculated for Spain or Portugal. However, this figure is considerably distorted by the relatively high share of variable interest consolidation bonds issued for very long terms. The average maturity of government securities issued in auctions through the primary market is much shorter (*Figure I.17*). Some 44% of the domestic currency denominated debt will mature in less than a year.

Government securities issued in auctions play the most important role in financing the budget deficit and maturing debt. In this segment, two tendencies can be observed: first, the share of bonds is increasing relative to that of discount treasury bills and, second, the share of longer-term bonds is also increasing gradually within the total government bond stock. For the first time in the region Hungary issued a ten-year fixed interest bond in January 1999. During the three years from 1997 to 1999 the stock of publicly offered fixed rate bonds more than quadrupled and, in addition, the average maturity of the stock rose from 1.5 years to above 2 years (*Figure I.18*).

The Positions of Individual Sectors**The Corporate Sector**

The sensitivity of companies to financial shocks becomes manifest when the external financing conditions of the sector change unexpectedly. Unpredictable changes in interest and exchange rates may increase the debt service burden on companies to a level which jeopardises their safe operation. This may set off a wave of bankruptcies that, in turn, may have a severe impact on the banking sector, as well. A financial shock may lead to a situation where companies' access to external financing becomes dramatically restricted, thus even viable companies, otherwise capable of undertaking a high debt burden, become inca-

² This does not include an approximately EUR 240 million item in the government's credit portfolio, which should be redeemed in the second half of 2000; this is covered by a foreign exchange deposit with the NBH.

pable of operation. The high share of short-term credits in financing may imply a severe rollover risk. A high share of foreign exchange credits in the capital structure of a company is also a risk factor. Abrupt changes in international investors' sentiment toward individual markets may lead to the sudden drying up of funds previously taken for granted. This is the reason why only a joint analysis of the level of indebtedness, the maturity and foreign exchange structure of the debt and the profitability of the corporate sector can lead to relevant conclusions concerning the sector's vulnerability.

One of the key elements of the 1995 stabilisation policy was to increase the share of the corporate sector in the value added produced in the economy. The share of corporate savings in GDP continuously increased until 1998 and has essentially remained stagnant since then (*Figure I.19*). This means that the corporate sector's external financing requirement as a percentage of GDP has tapered off over recent years, in spite of the fact that companies' investment activities have become more intensive.

In spite of the improvement in the external financing requirement expressed in terms of GDP, the ratio of bank credits, both from the Hungarian and the foreign banking sectors, to balance sheet total kept on increasing slowly but continuously in the corporate sector. Other debts, primarily those outstanding against suppliers, increased at a faster rate, but the share of equity is still around 50% of all liabilities (*Figure I.20*) in contrast to, for instance Germany or France, where this ratio is at around one third.

As a result of the debtor consolidation scheme, considerable improvement took place in interest coverage type indicators, which continued after 1993. While in 1992 the operating cash flow of companies provided coverage for hardly one-and-a-half times of interest expenditure, this ratio rose 10-fold by 1998 (*Figure I.21*). In calculating interest coverage, we did not base calculations on net interest income but rather on net financial income as a substantial part of interest expenditure appeared in the form of exchange rate loss, due to the large stock of foreign exchange credit. As the interest premium on domestic currency debt was high, companies frequently opted to take out foreign exchange debt, as the perceived exchange rate risk was greatly reduced by the credibility of the crawling peg regime. Many companies taking out foreign exchange debt are naturally hedged as they sell their products on external markets, and thus their receipts and expenditures are both denominated in foreign currency. However, part of the corporate sector undertook unhedged foreign exchange positions to exploit the cost advantage. It should be noted that the ratio of exports to GDP has increased continuously in recent years, thus the constant share of foreign exchange credit in financing implies that Hungarian companies' exchange rate risk exposure is decreasing.

Some debtors have been forced to raise foreign exchange credit abroad because of the sheer magnitude of their financing requirements. Hungarian banks' credit limits were constrained by their equity level – banks would have been unable to meet the demand of these companies even in a syndicated form. With the improvement in the capital position of the banking sector, this constraint will become less and less severe, which may increase the share of domestic HUF financing within corporate debt.

The share of HUF-denominated credits within the corporate credit portfolio remained relatively stable at around 45% from December 1995 and the end of 1998 (*Figure I.22*). Since the end

Figure I.19 Savings, investment and the net financial position of the corporate sector as a percentage of GDP

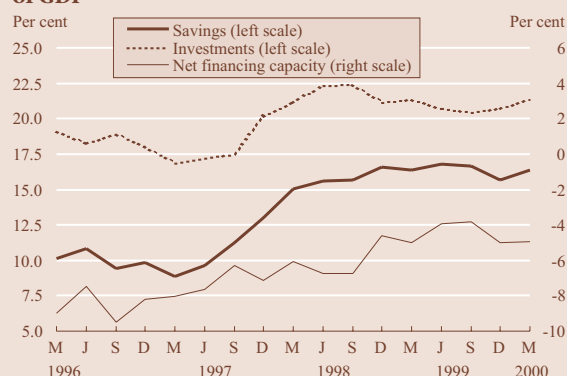
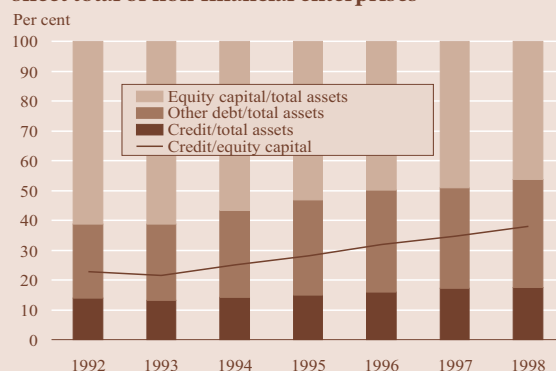
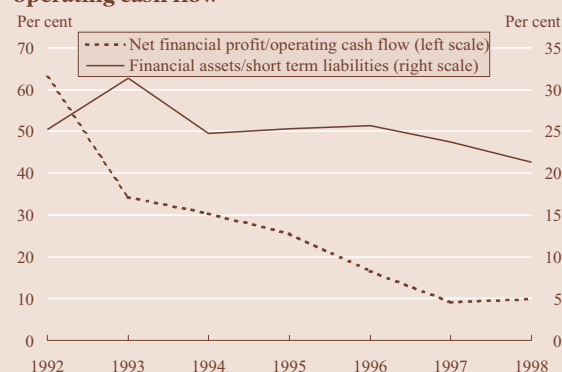


Figure I.20 Share of external liabilities in the balance sheet total of non-financial enterprises



Source: State Financial and Audit Office.

Figure I.21 Net financial profit of companies, the operating cash flow*



Source: State Financial and Audit Office

* Operating cash flow: income before tax and interest payments plus depreciation.

Figure I.22 Foreign exchange structure of corporate loans, net of intercompany loans

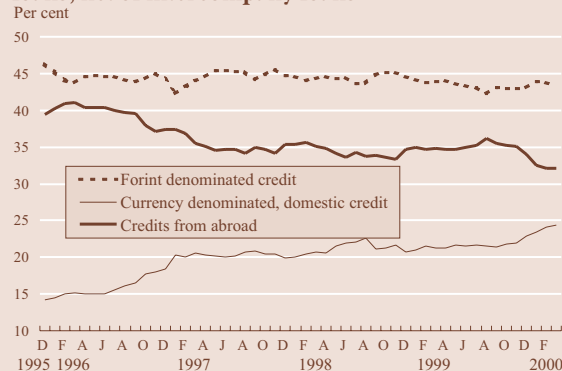


Figure I. 23 Share of short-term loans within the corporate credit portfolio

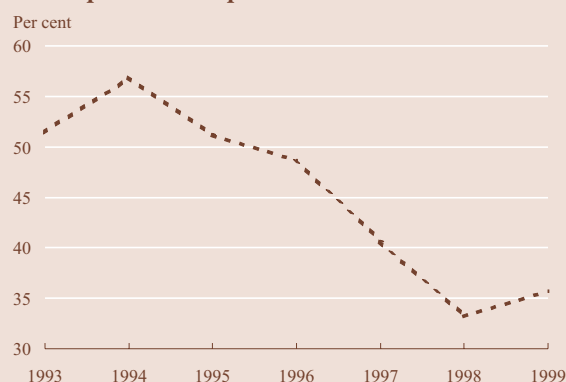
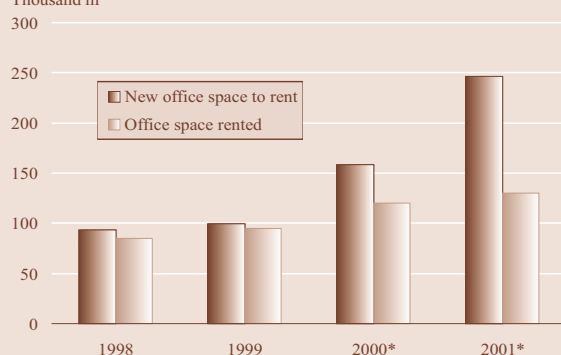
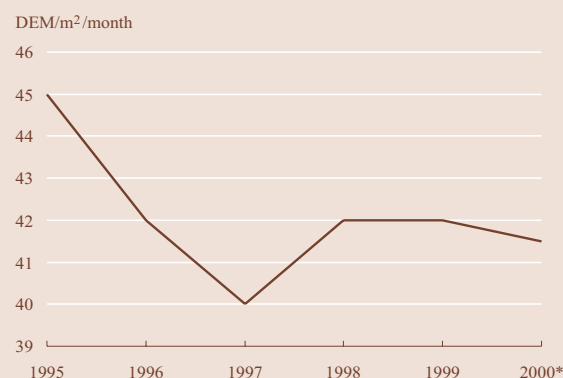


Figure I. 24 New office space available and rented in Budapest
Thousand m²



Source: DTZ Hungary
* Forecast.

Figure I. 25 Rent of first-class offices in Budapest



Source: DTZ Hungary
* Forecast.

of 1998, a small decrease has been observed, which may be attributed to the rise in the interest premium on the forint after the Russian crisis.

In recent months, we have witnessed a rapid increase in the domestic foreign exchange credit portfolio. That was, however, the result of a shift from external to domestic foreign exchange financing, hence it has not altered the exposure of companies to exchange rate risk.

A favourable shift has taken place in the maturity structure of loans over the past few years. While in 1994, more than half of the credits extended were short-term, this ratio had fallen to one-third by 1998–1999 (Figure I.23).

In summary, the exchange rate and interest rate risk exposure of companies is moderate relative to their income position. The current profitability of the sector is good and its growth prospects are satisfactory. Leverage is low, since the operating cash flow provides ample coverage for interest payments. Even if there are companies, which undertook open foreign exchange positions to exploit the rise in the HUF interest premium, this practice has not reached a level that could constitute a threat to financial stability. With the decrease in the interest premium over the past few months, these companies presumably will also reduce their exchange rate risk exposure.

Commercial Real Estate

A sudden nosedive in property prices following a period of intense growth has played a key role in the evolution of many financial crises. The development of commercial real estate prices, in particular, constitutes a major risk for the banking sector, because building property development companies tend to operate with a high gearing ratio. Rental revenues falling short of expectations may easily disrupt their financial management.

The Budapest office market was long characterised by a severe shortage of good-quality buildings. Now, however, the market has balanced out, as rents have stabilised recently and supply is not increasing faster than expected demand. The share of vacant office premises is at 12–15% on average, in some places, however, it is less than 5%. In 2001, a number of major projects will be completed, and the substantial increase in supply may temporarily lead to a decrease in the occupancy rate (Figure I.24). Based on the economic growth prospects, however, demand will keep up with this development; thus, there is no need to fear permanent excess supply.

With the expansion of supply, rental fees for first-class offices have declined from the level of DEM 50/m² in 1993–1994 to the current DEM 34–42/m². According to property market experts, this level is sustainable in the longer term (Figure I.25). Rents at this level ensure a yield of roughly 9–10 percent, and this also points to the consolidation of the market.

The office market, therefore, does not show any sign of disequilibrium. Retail-oriented development projects (shopping centres, hypermarkets) may give cause for more concern. In this market segment supply is increasing, leading to extremely keen competition for retail service providers and developers. Since 1996, 400,000 square meters of retail premises have been built and, for the time being, there are no signs of the market stabilising. Although the income prospects of Hungarian households are improving and their consumption expenditures are increasing at a sound rate, it is still doubtful as to whether the expansion of demand will justify these ambitious development projects.

The Household Sector

Income Position

Over the past three years, the prospects of the household sector's real income growth have improved considerably. Real wages have been rising steadily since 1997. The current 5–6% level of economic growth and declining unemployment mean that the household sector may expect a steady, considerable rise of its real income in the coming years.

Over the past two to three years, consumer confidence strengthened remarkably, which was also manifested in the changes in the structure of household income allocation (*Figure I.26*). Since the beginning of 1998, the sector is spending an ever-increasing portion of its income on consumption, and putting a lower portion of its income aside into savings.

In parallel with growing consumer confidence and the above changes in the structure of income allocation, the credit portfolio of the household sector has increased substantially since the middle of 1997 (*Figure I.27*). Consumer loans have skyrocketed, showing an annual growth rate of 70%, and are the driving force behind the expansion of the credit portfolio. The annual growth rate of total household credits was around 30% in March 2000, following a period of continuous acceleration. The rise in household incomes expected this year and the new housing subsidy program of the government point to further vigorous growth in lending.

Net Assets of Households

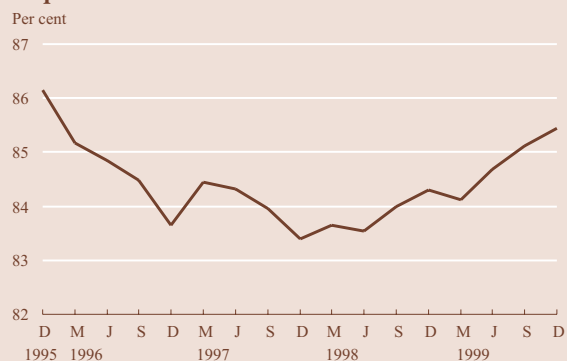
The real growth rate of households' financial assets has been positive since the first quarter of 1996 (*Figure I.28*) and seems to be stabilising at around 8% p.a. This means that the real value of the household sector's financial assets is increasing, even though households are allocating a higher and higher share of their income to consumption.

An ongoing portfolio rearrangement is taking place in the financial assets of households towards non-bank savings instruments³ (*Figure I.29*). Non-bank savings instruments tend to be associated with higher risk than bank deposits – hence, this portfolio rearrangement implies a lower level of risk aversion. This requires particular attention in Hungary because, owing to the decisive role played by non-residents, the volatility of share prices and long-term bond prices is considerably higher than in other countries.

Figure 1.29 highlights the changes in the structure of financial assets (foreign exchange deposits, corporate bonds and shares, government bonds and the share of government bond and equity investments of investment funds) that can be regarded as volatile or high risk (*cf. Table I.3*). It can be seen that the growing financial savings of the household sector have not been coupled with a similar increase in the higher-risk forms of investment since August 1998. A substantial portion of financial savings is flowing into investment funds in Hungary and the share of the higher-risk assets of investment funds has declined within total assets. In 1997, investment funds' government bond and equity holdings were around 65%, while currently they account for some 40% of their total assets. Insurance and savings in pension funds have also gained in significance. The exchange rate effects

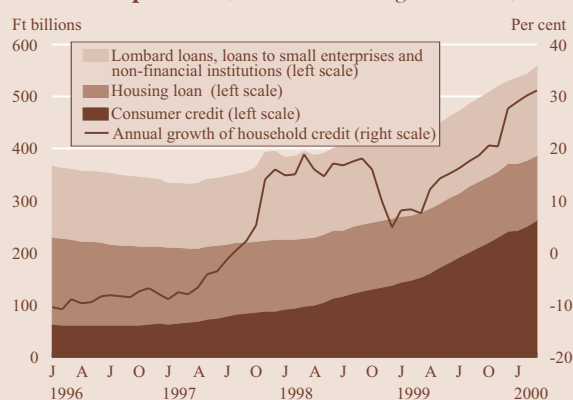
³ The forms of investment outside the banking sector are the following: government securities, corporate bonds, equity investment, investment units, insurance premium reserve and claims against pension funds.

Figure I.26 Household consumption in proportion to disposable income*



* Consumption in the four quarters until the date indicated, projected to the disposable income of the same period.

Figure I.27 Credit to the household sector and its components (stock and annual growth rates)*



* Current account overdrafts and other credits were categorised under consumption lending.

Figure I.28 Real growth rate of financial assets

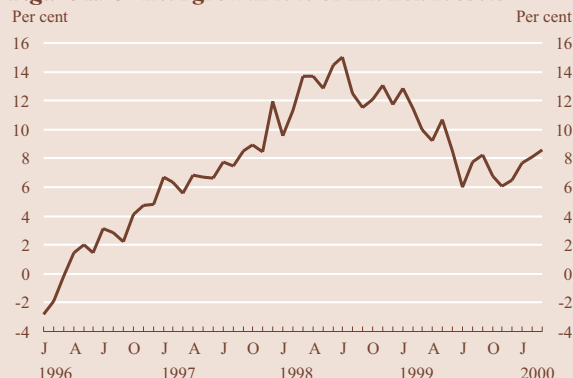


Figure I.29 Share of savings outside the banking sector and of higher-risk assets within financial assets

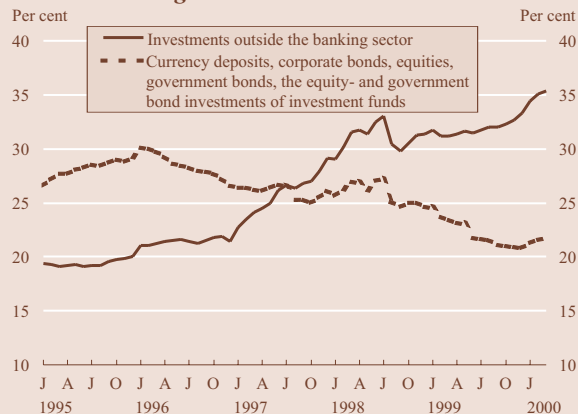
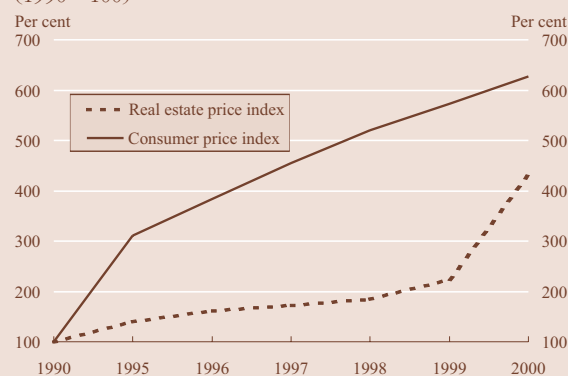


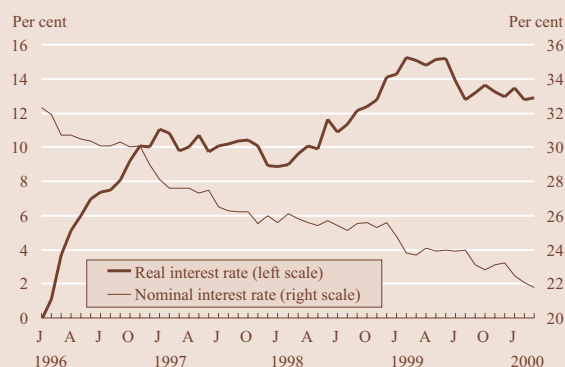
Table 1.3 Volatility in the value of assets exposed to exchange rate changes *

	Per cent	
	Average	Spread
Foreign exchange deposit	0.91	1.00
Investment unit	0.05	1.57
Government bond	0.04	0.57
Treasury bill	0.01	0.12
Equity	1.77	12.61

* Ratio of changes in the total due to exchange rate changes to the total value of the portfolio 1997–2000.

Figure 1.30 Square metre prices of housing estate homes in Budapest and the consumer price level (1990 = 100)

Source: Real Estate and Investment, NBH

Figure 1.31 Lending rates in the household sector*

* The real interest rate was calculated ex post, the average interest rate on household loans was adjusted with the annual inflation of the given month.

on these forms of savings influence neither the debt servicing capacity of the household sector, nor its consumption-savings decisions to any considerable extent.

Hence, the share of higher-risk forms of savings is on the decline within total savings. The potential loss that may materialise in the financial assets of households owing to shifts in the exchange rate is decreasing. A stock exchange slump similar in extent to the one seen during the Russian crisis would reduce the financial assets of the sector by about 1.5% compared to the 3% at the height of the Russian crisis.

Residential Property

As 90% of households own the property in which they live in Hungary, the value of real estate should also be taken into account when assessing their net savings. The spectacular rise in property market prices seen over the past one-and-the-half years (Figure 1.30) has led to a considerable increase in the net real wealth of households. If households consider only the increase in the value of their available assets this (assuming a targeted level of net assets) may lead to a decline in the propensity to save and to an increase in consumption and consumer loans. This poses risks to the extent that the household sector would only be able to realise the property market gain at an aggregate level if they were able to sell property outside the sector; the extent of this, however, is presumably negligible.

The rise in property prices may only have a limited impact on the growth rate of household credit, as it is not yet a widespread practice for banks to extend loans based solely on the properties held by households as collateral.⁴

The Credit Burden

One of the measures of the credit burden undertaken by households can be found in the real interest rate on new loans. In recent years, the credit portfolio has grown at an extremely fast rate, in spite of the fact that, after a period of steady increase, real interest rates on loans seem to be stabilising at a very high level (Figure 1.31). At the same time, it should be noted that this is due to the decline in inflation and the relative inflexibility of nominal rates rather than to an explicit rise in nominal interest rates. As household credit grows at a considerable pace in spite of high real rates, banks are not motivated to reduce their nominal lending rates further. In addition, high real rates reflect the rising risk of the permanently expanding clientele (which hardly has any borrowing record) and the still limited competition in the household market, as well.

All this has opposite effects from the viewpoint of risks taken by banks. One of the possible reasons for the high real interest rate is to lessen the cost effect of non-repayment i.e. higher interest revenues provide coverage for losses arising from default. At the same time, banks themselves may also contribute to the financial difficulties of the household sector with the high real in-

⁴ In Hungary, it is largely the absence of an adequate legal framework, which impedes growth in the portfolio of credit extended against collateral. The risk of such lending is greatly increased by the fact that the sale of the property, which secures the loan, may take several months. With adequate legal regulation, this form of lending would not be exposed to risk, as the debtor incapable of repaying the loan would be forced to sell his property which, through the regrouping of household savings within the sector, would enable him to repay his loan.

terest rate – especially in the case of longer-term loans with a disproportionately high interest expenditure.

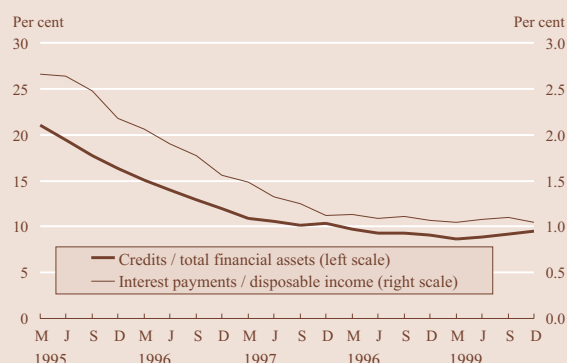
Changes in the relative size of household credits do not, for the time being, substantiate an increase in the credit burden. The ratio of the credit portfolio to total financial assets has evolved in a relatively stable manner over recent years, and its level can still be described as low in an international comparison.⁵ The interest burden on households⁶ is stable at around 1% of disposable income, in spite of the rise in the credit portfolio and real lending rates (*Figure I.32*). This ratio compares to 8% in the United Kingdom and 13% in the United States, meaning that the indebtedness of Hungarian households poses a substantially lower risk.

The Position against Non-Residents

It follows from the Hungarian exchange rate regime that the development of the current account deficit and the structure of financing play a crucial role in the assessment of the sustainability of the exchange rate regime and thus financial stability. The Southeast Asian crisis taught the lesson that the less flexible the exchange rate regime of a country is, the greater the chances for a situation where economic agents, including financial intermediaries, underestimate potential exchange rate risk. When the currency is devalued, this may shake the entire banking sector and thereby multiply the real economic cost of an exchange rate crisis. Assessing the sustainability of an exchange rate regime and monitoring the open foreign exchange positions undertaken by banks and their clients are therefore indispensable for mapping out the stability of the system of financial intermediaries.

In addition to the absolute size of the current account deficit, the composition of deficit financing is also important. Foreign direct investment inflows and equity portfolio investments can be regarded as the most stable items (together with the balance in the current account, this is referred to as *interest insensitive* foreign exchange inflow). When confidence in the exchange rate is shaken, this is the form of foreign investment that can be liquidated with the largest loss. Interest sensitive investments may also differ largely in the extent to which they increase the vulnerability of the exchange rate regime. The most suitable instruments for speculation are government bonds with less-than-a-year maturity, as non-residents can hold these without any limit. Changes in non-residents' holdings of these securities are categorised as *short interest-sensitive items*. Shifts in the open on-balance sheet foreign exchange position of the banking sector also fall into this category. Non-residents' purchases of government securities maturing in more than a year and direct corporate borrowing from abroad are also interest-sensitive capital inflows; by their nature, however, they can not be regarded as "hot" money inflows, as these evolve more steadily over time (*long-term interest-sensitive*).

Figure I.32 Relative size of household credit



⁵ A comparison is made more difficult by the fact that the generally used indicator takes total net assets – increased by the value of property – into account, while there are no data available on the value of property in Hungary. In the United Kingdom, for instance, the indicator which takes the total net assets into account has moved at around 15–17% in recent years, thus the value of 10% in Hungary which disregards property value can be described as low.

⁶ Short of other data, the interest burden means the products of the monthly credit portfolio and the prorated part of the given monthly interest rate.

Figure I.33 Components of foreign exchange market intervention (cumulated from early 1996)

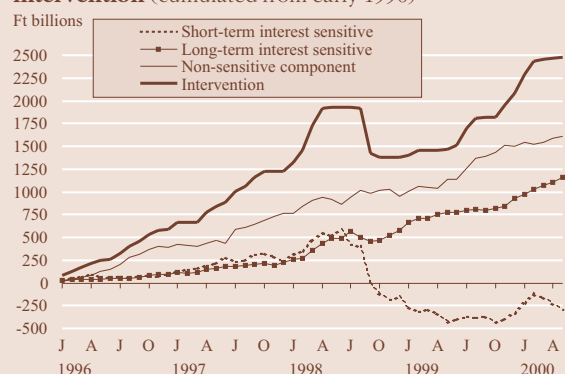


Figure I.34 Foreign debt as a percentage of GDP, net of intercompany loans

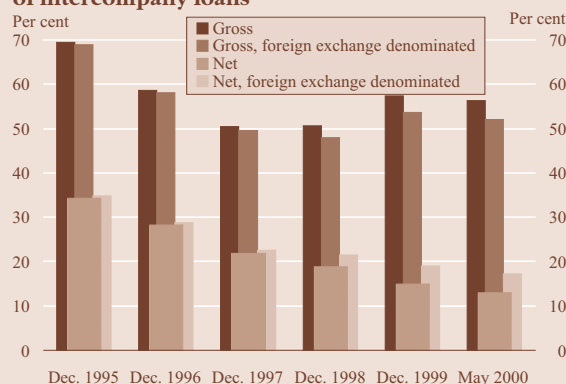
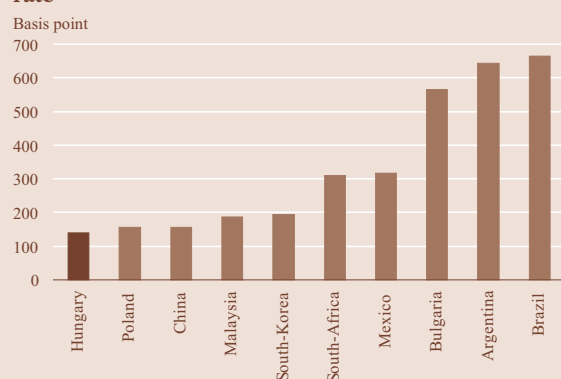


Figure I.35 Gross foreign debt to GDP in an international comparison (net of intercompany loans, 1997)



Figure I.36 Premium USD-denominated debt of some emerging economies in comparison to the risk-free rate



Source: Goldman Sachs and NBH, July 2000

In recent years, the current account deficit has been more than financed by *interest insensitive* capital inflows (foreign direct investment, equity portfolio investment), while short-term interest-sensitive capital decreased after the Russian crisis. Following a surge in short-term interest-sensitive capital inflow between November 1999 and February 2000, its stock started to decrease again from March (*Figure I.33*). Throughout this period, however, the long-term interest sensitive capital inflow was continuous. On one hand, this was the result of the steadily growing, direct foreign borrowing of major exporter companies in parallel with the expansion of their output. On the other hand, this can be attributed to the stable demand of non-residents for HUF-denominated government securities as they speculate for the interest rate convergence between Hungary and the euro zone and thus invest in the long run.

After growing in 1999, Hungary's gross foreign debt expressed in terms of GDP and net of inter-company loans declined slightly over the first five months of 2000 (*Figure I.34*). Due to non-residents' purchases of HUF-denominated government securities, foreign exchange denominated foreign debt declined further within gross debt. This is favourable because foreigners investing in HUF-denominated assets take over the exchange rate risk – thus any potential loss from exchange rate movements should be assumed by them and not by the Hungarian government. Net foreign debt, and particularly the portion of such denominated in foreign exchange, as a percentage of GDP, decreased further in 1999 and over the first half of 2000.

In an international comparison, the level of Hungary's indebtedness vis-à-vis non-residents can be described as moderate. On the one hand, a number of emerging market countries have to pay a higher premium than that currently prevailing on Hungarian debt instruments, although these countries have lower gross and net foreign debt to GDP ratios. On the other hand, there are numerous examples of advanced small open economies where debt ratios are higher than in Hungary (*Figures I.35, I.36*). This also illustrates that although an increase in a country's indebtedness *ceteris paribus* may deteriorate its international rating, in an international comparison causality can run the other way, and a better debtor may be able to finance a higher level of debt at a lower interest premium. For this reason, a low debt ratio may indicate not only that a country has no need to draw in external funding, but also that with the given interest premium, it is not able to do so. Nevertheless, the extent of the openness of an economy substantially influences the extent of indebtedness, which, even with a high debt to GDP ratio, may keep debt service relative to export receipts at a moderate level.

It follows from the above that, in addition to the debt to GDP ratio, the maturity structure of the debt, the premium required by investors and the weight of exports within the economy also greatly influence the debt service burden of a country. Thanks to rapid export growth and declining risk premium, Hungary's debt service indicators calculated in proportion to exports have evolved very favourably in recent years (*Figure I.37*). In 1999 the gross interest expenditure on foreign debt (in terms of GDP) was no more than 40% of its 1995 value. Some risk may arise in the near future as the general rise in dollar and euro interest rates will presumably counterbalance the decline in the risk premium in 2000. Even if export continues to grow rapidly, this may impede any further decrease in the interest expenditures to exports ratio in the short-term.

When the fundamentals of an economy do not give grounds for any speculative attacks on the exchange rate regime, an appropriate level of foreign exchange reserves, in addition to interest rate policy, guarantees the central bank’s capability to protect the exchange rate regime and thus its credibility. Traditional indicators show how many months the reserves in their own right can cover import expenditures or how large part of the debt service can be financed from the reserves. In addition to these indicators, it is worthwhile to take into consideration the ratio of reserves to liquid financial aggregates or to the average stock of short-term sterilisation instruments. These (or rather a part of them) are better indicators for the potential extent of a capital flight as they show the funding that can be mobilised in the short term by market participants to buy foreign exchange.

After a decline over the past couple of years, the import coverage ratio rose in 1999 (Figures I.38.a-b). Both the ratio of foreign exchange reserves to imports and (net) foreign exchange reserves less the short-term debts of the NBH to imports increased. The improvement is even more spectacular when compared to debt service expenditures. The ratio of foreign exchange reserves to debt service on medium- to long-term foreign exchange denominated debt rose from 1.15 to 2.55 between 1997 and 1999. In the meantime, foreign exchange reserves in proportion to the most liquid monetary aggregate, M1, increased further. At the end of 1998, following the Russian crisis, banks’ deposit with the central bank decreased considerably. By December 1999, the subsequent increase re-established the normal 5–7 ratio of net foreign exchange reserves to the stock of short-term sterilisation instruments prevailing before the Russian crisis.

Figure I.37 Debt service and interest payment relative to exports

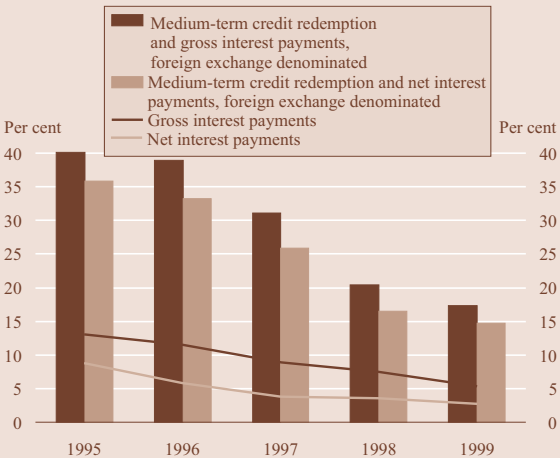
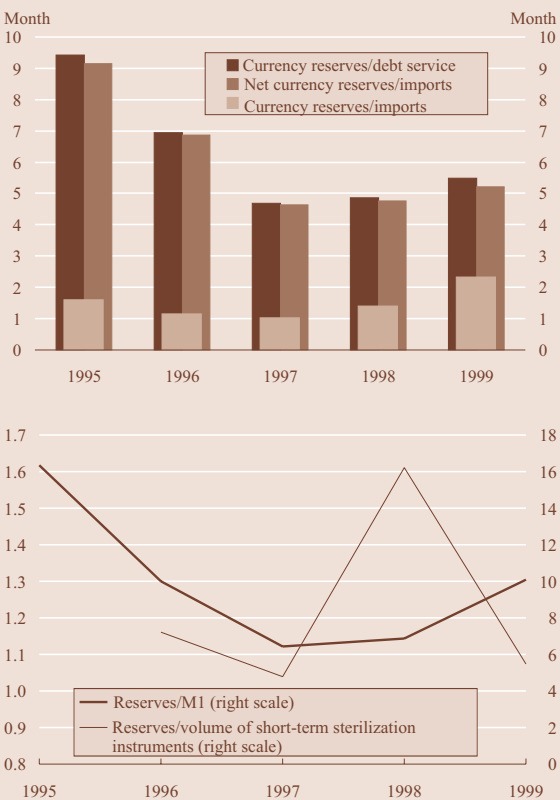


Figure I.38 a–b Foreign exchange reserve indicators*



* Refers to the foreign exchange reserves less the short-term debt of the NBH.
 ** Redemption and net interest expenditure on medium-term foreign exchange debt.

II. The Stability of the Banking Sector

Figure II.1 Ownership structure of the Hungarian banking sector (by authorised capital)

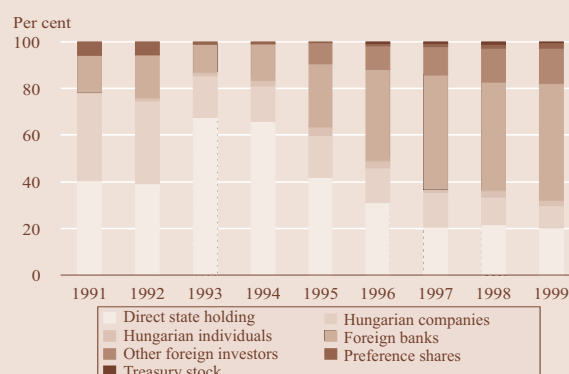


Figure II.2 Annual average balance sheet total of the system of credit institutions as a percentage of GDP

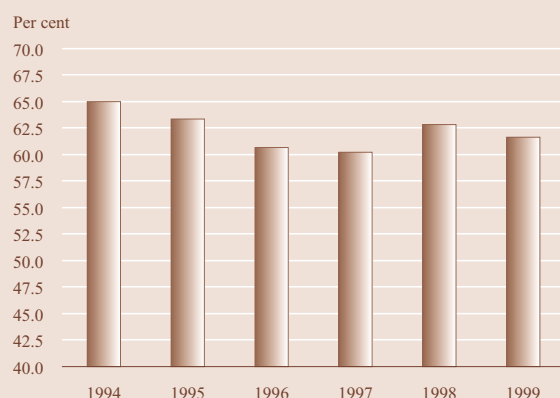
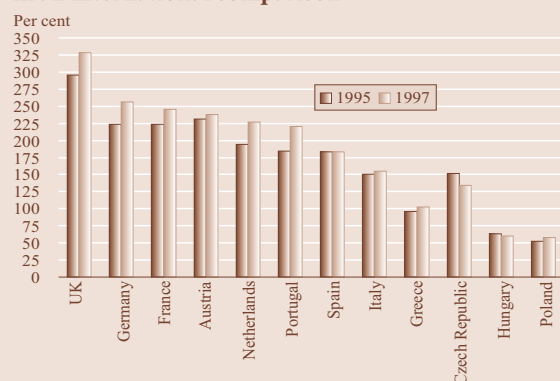


Figure II.3 Balance sheet total to GDP in an international comparison



Source: ECB, OECD

Following a period of consolidation in the first half of the 1990s, the stability of the banking system was soundly established by the middle of the decade. As a result of the consolidation and privatisation schemes, the banking sector is stable and well equipped with capital and has become a system dominated by high-quality, professional foreign investors. The period between 1995 and mid-1998 was characterised by a simultaneous improvement in banks' portfolios and profitability. During this period, domestic and foreign experts analysing the banking sector all expected further rapid development. They expected a deepening in financial intermediation, an expansion in the range of banking products and services together with an increase in their volume and growth in profits, which could be realised in the expanding markets. These expectations prompted foreign strategic investors to enter the market, as well as banks' efforts to expand their markets and increase their market shares. It has become obvious that major investments were needed for efficient market building (particularly in the field of retail services), thus many banks launched major and far-reaching investment programs. As a result of the investments in the banking sector, while state ownership was gradually decreasing, the holdings of non-resident shareholders exceeded 60% by the end of 1997 (Figure II.1). The co-operative sector, representing a share of about 5% in the sector of credit institutions, continues to imply risks owing to the prolongation of the development of appropriate regulations and the inadequate capital requirements. This, however, does not imperil the stability of the entire system.¹

However, a significant increase in the depth of financial intermediation has yet to come: the balance sheet total to GDP ratio has stayed within the 60–65% range for years. In 1999, its value declined somewhat and can still be regarded as very low by international comparison (Figures II.2 and II.3).² Nevertheless, the share of traditional banking activities (i.e. vis-à-vis businesses and individuals) increased substantially within banks' balance sheet total in the course of the year, thus the depth of traditional banking intermediation has demonstrably increased in recent years after the low-point following consolidation. Although this process came to a halt when 1999 is considered alone, assuming

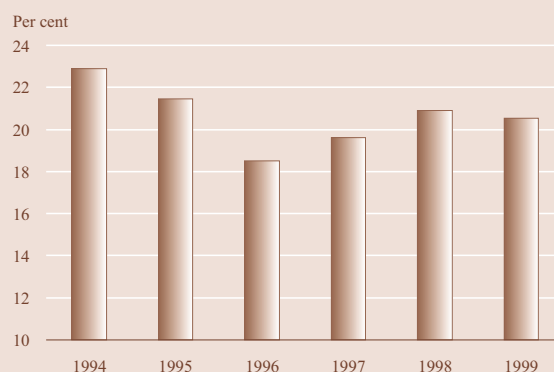
¹ For an analysis of the position and risks in co-operative credit institutions, see the separate study in the subsequent part of the publication.

² According to the figure, the Czech balance sheet total to GDP ratio stands out among the former socialist countries, presumably due to the fact that corporate financing took place through the banking sector to a much greater extent in the Czech Republic than in other socialist countries in the socialist period, where direct state financing was more characteristic. Another possible factor in this high value is that although the rules of portfolio rating are adjusted to international requirements, banks' practice does not reflect this in full as yet.

a continuation in the tendencies of the second half of the year, again a rise in the credit to GDP ratio can be expected for 2000 (*Figure II.4*). The view of the interpenetration of banking intermediation will be further fine-tuned when the effects of the conversion³ activities characterising the period between 1996–1998 are filtered out from the balance sheet total of the banks (see box text).

The decrease in the concentration of the banking sector seen over the past decade is a positive tendency from the viewpoint of market competition. Sector concentration decreased slightly in 1999 (based on the Herfindahl index calculated from the balance sheet total), primarily due to the loss of ground by the largest market agents. Nevertheless, it was predominantly the larger banks following this group that profited from the erosion of the market shares of the largest banks. With the rearrangement in the

Figure II.4 Annual average credit portfolio of the banking sector as a percentage of GDP
(corporate + retail loans)



The impact of foreign exchange-forint conversion aimed at exploiting the interest arbitrage on the magnitude of the balance sheet total

When analysing the scope of the banking sector's activities, the question arises to what extent the conversion activity of the banks aimed at utilising the differences in interest rates increased the balance sheet total of the banking sector. We have attempted to make a rough estimate in this regard.*

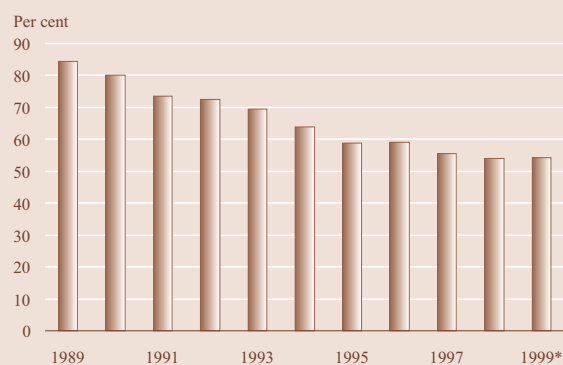
We assumed that with their conversion activity, banks invest their surplus foreign exchange funds into forint instruments ensuring a high yield with low risk in the narrow exchange rate band regime (into government bonds, treasury bills, NBH deposits and bonds). We examined the changes in the average foreign exchange open position according to the balance sheet bank by bank in the period 1996–1999. To make the estimates, we only used the data of banks in a foreign exchange short position assuming that in the case of banks with a surplus on foreign exchange assets, we cannot really speak about conversion activity aimed at utilising the interest rate difference. In the case of banks with a surplus on foreign exchange liabilities, we examined the annual average placements of these banks in government securities and central bank instruments. We used the rough assumption that the volume of conversion activity is shown by the foreign exchange short position or the government securities and central bank stocks for every bank, whichever is lower. Summing these, we obtained our estimate for the conversion activity of the banking sector. The results obtained are the following:

	1996	1997	1998	1999
Annual amount of conversion (HUF billion)	110.4	225.5	357.0	53.3
Its ratio to the average balance sheet total (%)	2.78	4.62	5.94	0.79
Adjusted average balance sheet total (HUF billion)	3,857.7	4,653.0	5,656.6	6,729.2
Original average B/S growth rate, %	–	122.9	123.3	112.8
Adjusted average B/S growth rate, %	–	120.6	121.6	119.0

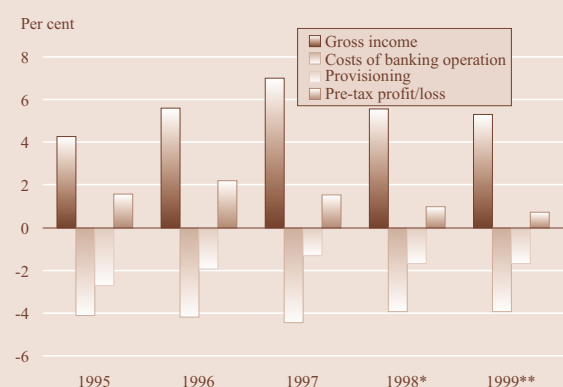
This shows that when the conversion activity aimed utilising the interest rate differences is disregarded, the activity of the banking sector increased at nearly the same pace over the past three years and this pace well exceeded the growth rate of nominal GDP.

* The estimate could be made only with respect to stock figures; the effects of this activity on profits could not be quantified even with a rough approximation.

³ Under this, the banks converted their funds raised in foreign exchange into forints and placed them in forints. The open positions thus generated were hedged by buying foreign exchange forwards. With higher forint rates, considerable profit was made on these transactions. So long as the exchange rate of the forint was firmly stuck to the strong edge of the exchange rate band, the conversion activities seemed to be risk-free. Only the Russian crisis of 1998 called the attention to the risks implied in the transaction when the exchange rate strongly fluctuated within the band.

Figure II.5 Share of the five largest banks in the assets of the banking sector

* Preliminary data.

Figure II.6 Key components in banking sector profit projected to the balance sheet total

* Net of Hungarian Development Bank, Postabank, Reálbank.

** Net of Hungarian Development Bank, Postabank, Reálbank, preliminary data.

Figure II.7 Changes in ROE among large and medium-sized banks

top segment of the market, the combined market share of the first five banks did not change (Figure II.5).

Analysis of the processes between 1995 and mid-1998 already pointed to a continuous decline in the interest margin. Nevertheless, this period was characterised by a continuous improvement in the portfolios and the prospects of economic agents. Thus, the declining margin did not cause a drop in banks' profitability, because the decrease in interest income was offset (or more than offset) by the major reduction in the provisioning requirement. The period was also characterised by a continuous rise in bank costs (primarily because of investments to expand activities), which may have been covered only through a dynamic increase in volumes (Figure II.6).

Since the second half of 1998, banks' provisioning costs have been on the rise again, which they were unable to assert in the interest margin. Thus, from that point on, the decline of the margin clearly resulted in a deterioration of profitability (which had earlier often contained an extra profit arising from inflation and the specific features of a developing market). It was also from the second half of 1998 that the income of the banks originating from the utilisation of the interest rate differences ceased. Simultaneously, the expansion of the banking market short of expectations led to some of the banks, having undertaken costly development programs, not being able to expand their activities so that the growth in revenues covered their costs.

It follows from these income processes that the differentiation between the banks which had already begun in the few years preceding 1999 became considerably stronger in 1999. It is clear that there are well definable groups of banks, with different specific features and behaviours, behind the characteristics established on the basis of the average figures on the banking sector. In spite of the tendencies, which have been unfavourable in comparison to earlier expectations characterising all of the banking sector, there is a group of banks, whose development course has not faltered over the recent period. In 1999 this group of banks was again characterised by an expansion of activities, adequate portfolio quality and profitable operation.

There is another, well-defined group of banks characterised by inadequate portfolio quality and low cost efficiency. In general, formerly state-owned, consolidated banks and a few banks held by foreigners, not too strong on capital and established relatively late, belong to this group. This is the group whose characteristics are largely responsible for the change in trend seen in the aggregated figures for the banking sector. The systemic risk arising from the size and position of this group of banks is considerably reduced and in fact, provided that the current commitment of the shareholders is maintained, is practically eliminated by the fact that the shareholders of these banks are all foreign banks of outstandingly high prestige and good ratings (Figure II. 7).

Changes in Lending Risks in the Banking Sector

Prudence characterised the banks' lending policies for the greater part of the year. Corporate credit portfolio growth was not distributed evenly throughout the year: until August of

last year, it mainly stagnated, and then from September a recovery began. Towards the end of the year, highly dynamic growth unfolded. Retail loans expanded by 23%, while the corporate credit portfolio adjusted by credit sales and the producer price index grew by 15.7% in real terms. The latter figure lagged slightly behind the similarly-adjusted growth rate of 16.1% recorded in 1998. Provided that this increase in credit portfolios occurred in parallel with an improvement in the income positions of economic agents in accordance with economic growth, this does not represent an increase in the risks undertaken by the banking sector (*Figure II.8*).

Changes in Corporate Lending

Over the past few years, the share of loans maturing over a year has increased substantially in the maturity structure of the corporate credit portfolio. This process slowed down considerably in 1999 (*Figure II.9*). In view of the fact that over 70% of the liabilities of the banking sector are short-term, the maturity transformation effected by the banking sector also increased over the past few years. The growth in the demand for investment credit observed over the past few years came to a halt in the first half of this year, in contrast with the short-term and in particular forint credit portfolio, which increased dynamically. From the second half of the year, there was a recovery in the investment activity of companies and the stock of investment credits increased by 21% after a nominal decrease during the first half of the year. Last year, investment credits totalling some HUF 166 billion and other credits maturing over a year amounting to some HUF 169 billion were disbursed, down 18% on the amount of disbursements in 1998. At the same time, the rise in the share of long-term credits may indicate that non-bank capital market instruments (bond markets) are still failing to participate in corporate financing to the extent characteristic of advanced economies.

The increase in maturity transformation implies exclusively liquidity risk owing to the relatively rapid repricing of assets and liabilities (cf. the box text on gap analysis in the chapter on exposure to interest rate risk). Its impact on profitability is negligible.

At the end of 1999, the portfolio of credits extended to small, medium and micro enterprises represented 31% of the total corporate credit portfolio. Half the portfolio of HUF 744 billion was disbursed to medium-sized businesses, 25% each to small and micro enterprises. The portfolio of credits extended to the SME sector increased by no more than 3% in the last quarter, that is, the end-of-the-year growth in lending missed these business circles, as a substantial portion of banks continue to rate small businesses as excessively high-risk.

With keen competition, banking activity in the corporate market has been characterised by low concentration for years (*Figure II.10*).

The exposure of the banking sector to lending risk is low in the segments which are most threatened by the possible development of price bubbles, according to international experience. The volume of credits financing construction and business-purpose real estate development has expanded more dynamically than the total corporate credit portfolio, but their share was still low in 1999 (*Figure II.11*).

Figure II.8 Growth in the credit portfolio
(1995 = 100%)



Figure II.9 Maturity structure of the corporate credit portfolio

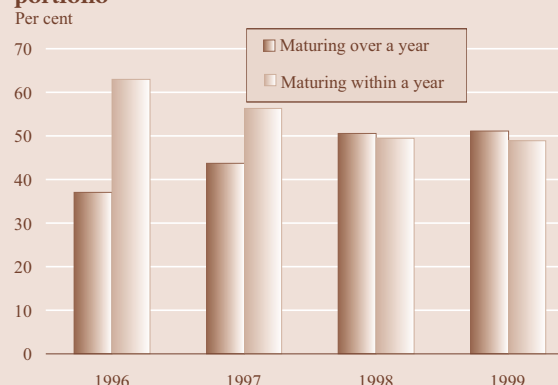


Figure II.10 Market concentration of corporate credits and deposits and the balance sheet total
(Herfindhal Index)

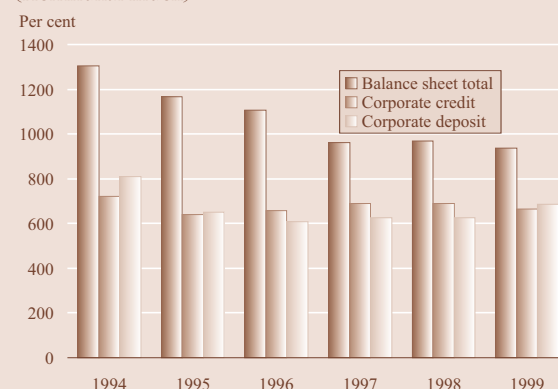
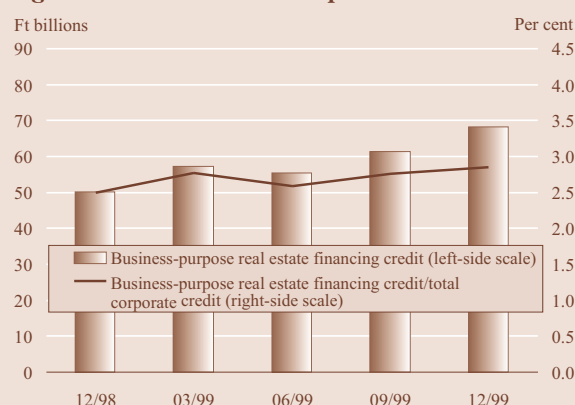


Figure II.11 Real estate development credits*



* Credits extended to construct and develop business-purpose real estate (office building, shopping centre, etc).

Changes in Client Concentration in Corporate Lending

Changes in the number of businesses and in ownership relations has resulted in a significant transformation in banks' clienteles over the past years. In the first half of the 1990s, partly as a result of the wave of corporate bankruptcies and privatisation, the banks, which had split off from the NBH lost their former state enterprise clientele. The lion's share of privatised companies is now held in part or in full by foreigners and they are financed by banks which are also in foreign ownership. The rearrangement of the clienteles of the banks is well indicated by the fact that, while in 1992 the large banks established in 1987 extended 54% of the credits taken out by companies belonging to the Top 200,⁴ by the end of 1999, this ratio had dropped to 17%, with other banks stepping forward as the largest creditors of the largest companies.

Until 1995, the number of businesses taking out credits rose dynamically. Fundamentally, this was attributable to two factors. On the one hand, a number of new financial institutions entered the market and, on the other hand, there was a tremendous increase in the number of small and medium-sized businesses, which was concomitant with growth in their financing requirement. From 1995, however, the direction of lending by the banks changed radically. The banks extended considerably more foreign exchange credit, which did not affect small businesses to any considerable extent, and forint placements shifted towards medium-sized and large businesses, administering substantial account turnover. Lending to small businesses of uncertain viability that could not be financed economically, decreased. A few banks specialised in financing primarily medium-sized and small businesses were liquidated and wound up, the refinancing credit lines available to banks decreased, while the business policies of certain banks stressed withdrawal from lending to SMEs.

Incidentally, there are 77 businesses in the Top 200, which have neither domestic, nor foreign loans and are not present in the stock exchange. The majority of this group has no need of bank loans thanks to the stable backing of their foreign shareholders and/or to their profitable management.

Significant concentration is revealed by an analysis of the banks' reports concerning their *largest debtors*.⁵ At the end of 1999, total credits extended to the 50 largest debtors each of the *10 largest banks*⁶ accounted for 40% of the total corporate credit portfolio; this was outstanding against 310 businesses. Studied bank by bank, the ratio of the credits extended to the two largest debtors of individual banks represents 40% of their total regulatory capital and as much as 84% when the five largest debtors are examined. When the 10 largest debtors of individual banks are studied, the credit portfolio outstanding exceeds their total regulatory capital by 33%. These businesses include a number of companies, which are financed by several banks thus (even though these companies enjoy good ratings) an eventual bank-

⁴ Order determined on the basis of net sales revenue.

⁵ For this we used the database concerning the lists of the 50 largest debtors from the data to be provided to the Hungarian Financial Services Authority (HFSA) with respect to 1992, 1995 and end of 1999.

⁶ 72% of the balance sheet total of the banking sector and 71% of the corporate loan portfolio belonged to the 10 largest banks at the end of 1999.

ruptcy of any one of them constitutes a serious risk factor both for the individual banks and the banking sector.

Although the capital strength of the Hungarian banking sector has improved a great deal over recent years, it is still low in comparison to the market requirements of major companies. Owing to the restrictions on large credits set forth in the Act on Credit Institutions, not even the largest banks are able to finance major projects or companies on their own; because of this, practically the entire banking sector (apart from a few smaller banks) participates in financing individual large companies.

Changes in Sectoral Concentration

In parallel with the expansion in the number and shares of banks participating in corporate lending, the composition of the credit portfolios of individual banks by national economic branches also changed in the 1990s. The strong sectoral nature, prevalent at the time of the setting up of the two-tier banking sector, gradually weakened; some of the foreign banks penetrated a few sectors and now play an important role in financing these. A strong sectoral concentration cannot be seen at the level of the entire banking sector (*Table II.1*).

Banks continued to set the target of financing the powerhouse sectors in their *business policy plans* for 1999. The most frequently named industries were the energy sector, mechanical engineering and pharmaceuticals, which have scored major export successes in recent years, woodworking and the paper industry within the manufacturing sector and communication technology and telecommunications. Of the sectors listed, the most vigorous expansion took place in the sector of transportation, warehousing, post and telecommunications (151%) but the stock of credits extended to trade, road vehicle and miscellaneous repair sectors also increased considerably (by 127%). At the same time, the financing of mining, the construction trade and light industry decreased significantly.

In spite of the fact that the effects of the Russian crisis substantially reduced lending opportunities linked to the export of cereals and the export opportunities of the food industry, banks put a greater emphasis on participation in financing these sectors in their plans. Although numerous credit programs providing state guarantees or interest subsidies are linked to these sectors, the financing of agriculture rose by no more than 13% to be contrasted with 23% in 1998, while that of the food industry increased at an even lower rate, growing by no more than 4.4%.

Changes in Lending to Households

The dynamic development in *lending to the households*, which began in 1998, became a clear trend last year. Commercial banks were able to expand their active retail business dynamically (*Figure II.12*). The low level of household indebtedness and their income position, which seems to be improving in a sustainable manner, prompted an increasing number of banks to assign an emphatic role to the development of products and services satisfying the needs of their household clienteles in their business

Table II.1 Distribution of the credit portfolio by national economic branches

	Per cent		
	1995	1999	99/95
Agriculture, hunting, forestry and fishing	7.2	8.9	308.0
Mining	0.9	0.7	202.6
Manufacturing industry	35.4	29.2	203.7
a. Food processing	14.1	11.1	194.7
b. Petroleum refining, coke manufacturing and chemical industry	6.8	6.1	218.2
c. Metallurgy	1.2	2.0	419.2
d. Machine manufacturing	6.4	5.8	219.7
e. Light industry	6.2	3.3	130.9
f. Non-metal mineral product manufacturing	0.7	1.1	389.5
Electricity, gas, heat and water supply	4.7	4.6	238.4
Construction	2.8	3.7	328.5
Trade	19.9	20.8	257.5
Accommodation service and catering	2.0	1.4	168.1
Transportation, warehousing, post and telecommunications	4.6	10.2	541.6
Financial activities and supplementary services, real estate transactions	13.9	16.5	292.2
Miscellaneous activities	8.7	4.0	113.2
National economic branches total	100.0	100.0	246.4

Figure II.12 Average stock of the total retail and consumer credits as a percentage of GDP and the stock of consumer credits

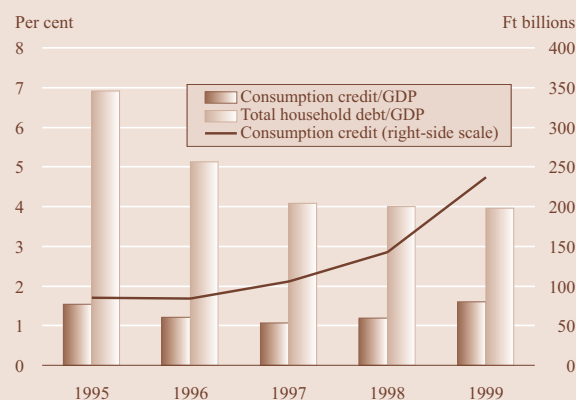


Figure II.13 Market concentration of household credits and deposits and of the balance sheet total (Herfindahl index)

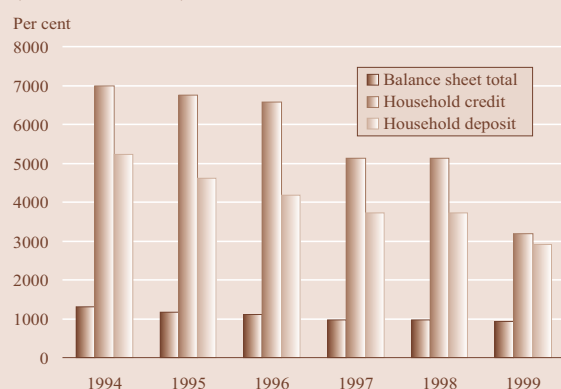


Figure II.14 Lombard credits

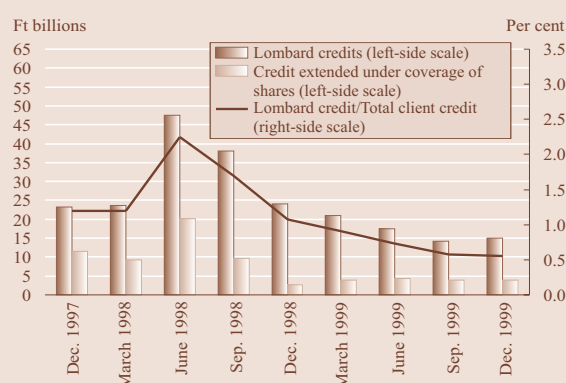
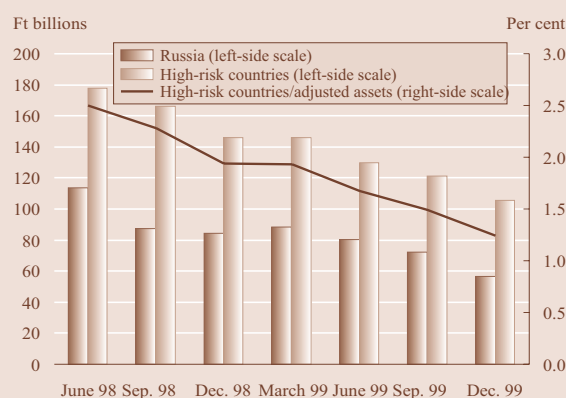


Table II.2 Foreign placements of the banking sector by country risk category*

	Per cent		
	1998	1999	1999/98
Category 1	81.30	89.80	147
Category 2	4.40	3.10	92
Category 3	2.90	0.70	33
Category 4	11.40	6.40	75
– Russia	10.80	5.40	67
Total (HUF billion)	778	1,035	

* Category 1 means the countries regarded as risk-free for purposes of country risk regulation, while Category 4 the countries bearing the highest risk.

Figure II.15 Exposure of the banking sector to country risk



* Balance sheet items were calculated with a weight of 100%, contingent liabilities with 50%, future liabilities with 10% (adjusted assets).

policies for 1999. Banks attempted to expand their choice of cards and to link more and more services to the bankcards issued. In comparison to their earlier practice, the expansion of credit facilities available through bankcards and the issue of direct credit cards were given an increasingly more important role to play. The growth in the number of credit cards is indicated by the fact that while at the end of 1998 only 1% of the issued cards functioned as credit or charge cards, this ratio had reached 4% by the end of 1999.

As a result of more intensive banking activity and the growth in household demand, the retail credit portfolio of the banking sector also increased dynamically last year. In an international comparison, however, the credit portfolio can still be described as rather small. The approximately HUF 79 billion growth in the portfolio was almost completely the result of more intensive consumer lending. The residential-purpose credit portfolio of a mortgage nature declined, in spite of the reduction in the average rate on housing loans. With this, the share of construction credits within the retail credit portfolio decreased from 63% in 1997 to 37% in just two years. Concentration is still relatively high in the market of household deposits and credits: 73% of the total credit portfolio is concentrated at four banks (Figure II.13).

The development of a lending bubble does not threaten in the household market either: since the middle of 1998 the volume of lending under the coverage of securities (including shares) has been low, after declining considerably as a result of the Russian crisis, which led to the slump in the capital market (Figure II.14).

Distribution of Assets by Country Risk

In the course of last year, the ratio of foreign assets⁷ to the balance sheet total increased further, reaching 14.1% at the end of 1999. Nevertheless, the growth rate of assets declined further, similarly to the preceding years (1997: 93%, 1998: 55%, 1999: 33%). Last year's growth shifted the exposure of the banking sector to country risk in a markedly positive direction: dynamic growth took place in the category, which can be regarded as risk-free, and banking transactions to high-risk countries decreased considerably, thus the exposure of the banking sector declined substantially, vis-à-vis Russia as well. By far the greater part of assets within the balance sheet continues to be interbank deals. Future and contingent liabilities are also significant; 96% of these, however, are outstanding vis-à-vis countries from the risk-free group (Table II.2 and Figure II.15).

Essentially, country concentration did not change last year and continues to be fairly significant. Some 90% of the foreign assets of the banking sector go to 14 countries, more than half of them to only four countries. This, however, only represents a significant risk in principle, as the target countries of these placements all belong to the first category regarded as risk-free, aside from Russia and Croatia.

⁷ Balance sheet items were weighted at 100%, contingent liabilities at 50% and future liabilities at 10%.

Changes in Exposure to Off-Balance Sheet Credit Risk

When analysing off-balance sheet activities, we have attempted to establish the lending risks undertaken in relation to contingent and future liabilities (i.e. to establish the actual extent of activities), that is, to find the credit equivalent of the volume of off-balance sheet activities (to establish their value weighted with transaction risk). This was necessary because the actual value of off-balance sheet liabilities cannot be evaluated on the basis of values according to contract (*Figures II.16 and II.17*).

Although the off-balance sheet activities of the banking sector at contract value show only a low-volume growth, (indeed, the stock of future liabilities declined relative to the stock outstanding at the end of the preceding year), *the stock adjusted by risks (transaction and counterparty risk)* grew at a rate in excess of 40%. The expansion in the stock of future liabilities in particular reached nearly 60%. This indicates that banks are undertaking increasingly high-risk liabilities off-balance sheet (concerning the uncertainties related to the evaluation of the actual extent of the off-balance sheet risks, see the box text on the comparison of the rules for establishing the credit equivalent).

Changes in the end-of-the-month stock of *contingent liabilities* developed similarly to those in the corporate credit portfolio over the course of the year, with the growth rate higher in the second half. In most cases, the undertaking of contingent liabilities is linked to lending activity (credit line contracts), thus a part of them will presumably result in an expansion of the credit portfolio.

Figure II.16 Off-balance sheet liabilities of the system of credit institutions at contract value

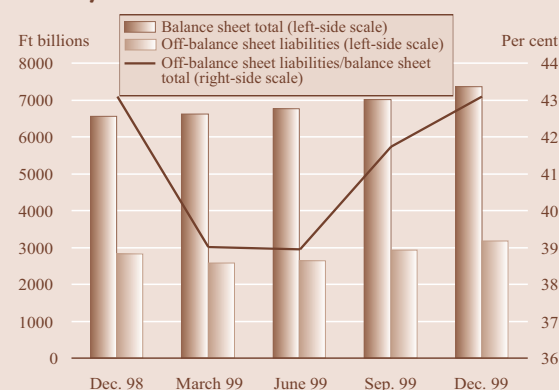
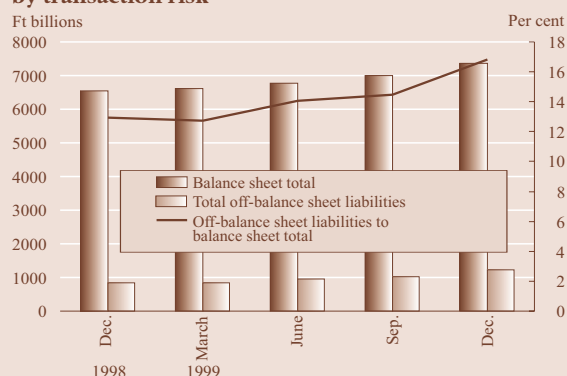


Figure II.17 Off-balance sheet liabilities of the system of credit institutions weighted by transaction risk



Methodology of determining the credit equivalent of forward transactions according to the rules of the European Union and Hungary:

According to EU regulations, banks have two options for determining the credit equivalent of interest rate and foreign exchange contracts.

- The first option is the “mark to market” approach. With this approach, the bank looks at the daily replacement value of individual contracts and regards positive replacement values (this positive value is the lending risk of the given day) as one of the components of the credit equivalent. The other component is the lending risk arising from price changes taking place in the period to the maturity of the contract. This must be added to the first (hence, these are referred to as “add-ons” in literature on the subject) To quantify this, the regulation determines credit equalising multipliers in a breakdown by contracts maturing within a year, between one and five years and beyond five years.
- The second option is based on the notional value of the contract. This determines credit equalising multipliers according to the original maturity of contracts.

Only a method based on market valuation can be used to determine the credit equivalent of stock and commodity exchange transactions. Short of this, such transactions must be taken into account with a weight of 100%.

Hungarian regulations recognise only the methodology that takes the notional value of the contract as its point of departure for determining the credit equivalent, but the weights used for credit equalisation are much higher in the case of foreign exchange and interest rate contracts than those used in the European Union. The transaction category according to the Hungarian regulation is the index transaction, while the EU generally handles index transactions in accordance with the product, which serves as the base of the index.

In case of interest rate and foreign exchange contracts, the weights applied in Hungary well in excess of those used in the EU are warranted, provided that the liquidity of the Hungarian market is that much lower and its volatility is that much higher than the markets in the EU that the lending risks of the derivative products differ from one another to the extent specified in the regulation. The objective of the regulatory authority was precisely to recognise market differences through the tighter requirements. Provided that the weights were properly formulated, the volume of derivative activities (or rather, the risks assumed through these activities) becomes internationally comparable by virtue of the greater weights. Naturally, if the lending risks expressed by the weights are strongly distorting, then the extent of derivative activities cannot be evaluated and the weighted values are not suitable for international comparison. It is even more difficult to evaluate the correctness of the weights in the case of share and index forward transactions, because in this respect Hungarian regulations differ from international rules not only in the values applied, but also in the logic of the regulations.

The magnitude of domestic and EU weights used to determine the credit equivalents of forward transactions

Original maturity	Interest rate EU	Interest rate Hungary	Foreign exchange EU	Foreign exchange Hungary	Share (Hungary only)	Per cent
						Index (Hungary only)
0–3 months	0.5	1.5	2.0	4.0	7.0	5.0
3–12 months	0.5	4.0	2.0	7.0	15.0	10.0
1 or 2 years	1.0	9.0	5.0	18.0	25.0	20.0
Every additional year	1.0	5.0	3.0	12.0	15.0	12.0

Figure II.18 Growth rates of risk-weighted assets and the balance sheet total (preceding year = 100)

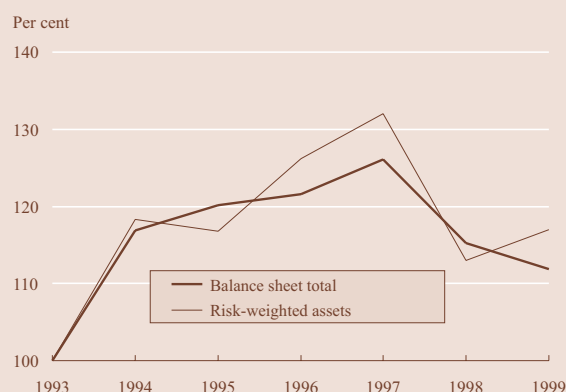
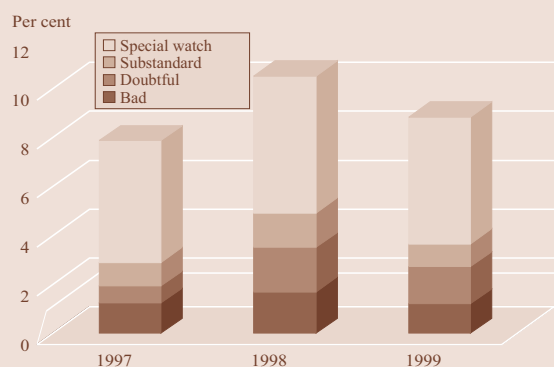


Figure II.19 Portfolio quality



lio. In addition, full-risk guarantees and payment on demand guarantees also increased substantially.

The contract value of *future liabilities* was down nearly HUF 80 billion on the previous year. In the first half of the year until the end of July, the stock of future liabilities decreased, although it still showed vigorous fluctuations. In the second half of the year, in line with the changes in the evaluation of the position of the macro economy, the capital market experienced a boom and together with this, banks' activity also increased. The value of future liabilities estimated with transaction risk weighting shows growth of 34.5% relative to the preceding year. This is attributable to the changes in the maturity structure of future liabilities.

The most marked feature of the change in composition by transaction types was that there was a shift in proportions in favour of interest rate contracts. The stock of interest rate contracts practically remained at the same level, in contrast to foreign exchange transactions, whose stock decreased substantially. This change points towards a slow convergence with international activity structures, as the order of magnitude of interest rate contracts generally greatly exceeds those of foreign exchange contracts in advanced economies.

There were significant changes in the *maturity structure* of future liabilities. While in the case of interest rate contracts, an increase in shorter-term contracts was the decisive feature, in the case of foreign exchange contracts, which represent a multiple of the volume of the former, a shift towards longer maturities was characteristic, which considerably increased exposure to off-balance sheet risks in its own right.

Changes in Portfolio Quality

The banking sector's stock of total assets to be rated and off-balance sheet liabilities rose at a rate in excess of the growth of the balance sheet total by nearly HUF 1,000 billion, i.e. by 14% in 1999. Virtually all of this increase was realised in the second half of the year. The growth rate was practically the same in the case of both balance sheet items and off-balance sheet items taken into consideration at nominal value (*Figure II.18*).

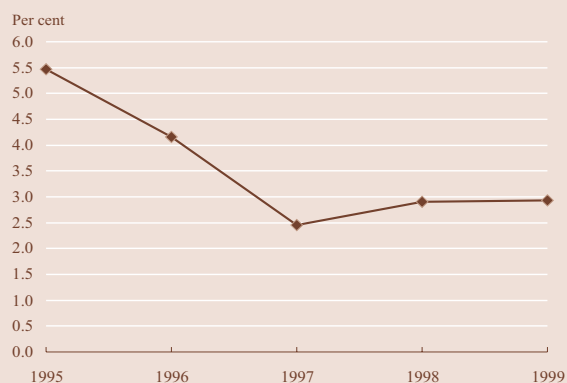
With respect to the entire banking sector, considerable improvement has taken place in the *quality composition of the portfolio* over the past year. While the stock of problem-free items increased by nearly 16% over a year, the amount of rated claims decreased even in nominal terms. Consequently, the share of the rated stock in the portfolio again sank below 10% after the substantial deterioration seen during the preceding year (*Figure II.19*).

Significant structural shifts were also observed within the individual rated categories during the period under study. The category “special watch” showed slight growth last year, while at the same time, a uniform decline was observed in the categories with a worse rating, i.e. composition became more favourable even within the rated stock.

With a more favourable portfolio composition, the stock of risk provisions also decreased, particularly in the “bad” category. Average coverage by provisions decreased by 1 percentage point in the category “bad” and thus stood at 87% at the end of 1999, while it hardly changed in the categories “substandard” and “doubtful”, relative to the values at the end of last year, at 19% and 43%, respectively. A decline was seen also in the category “special watch” as the average coverage by provisions decreased to 2.5% after 3.6% in the preceding year. With all this, however, the average level of provisioning in the individual rating categories differs only slightly from the median of the band limits prescribed by legislation. All in all, the average coverage of rated placements by provisions was 22.7% in December 1999 after the 24.6% at the end of 1998.

However, the fact that improvement in the portfolio was due primarily not to re-rating items into a more favourable category, but much more to writing off or selling rated assets in 1999, should call for circumspection in the evaluation. This also means that a substantial portion of the provisions earlier set aside on these claims were used, which although it reduced the stock of provisions, did not improve the profits of the banking sector.

Figure II.20 Combined share of the substandard, doubtful and bad assets in total assets



Source: Net of Postabank, Hungarian Development Bank and Reálbank.

Exposure of the Banking Sector to Market Risks

With the current structure of the activities and balance sheet of the Hungarian banking sector, for the time being it is only moderately exposed to potential losses arising from market risks, even though with the expected growth securities and foreign exchange market trading over the medium and longer term, we shall have to reckon with an increase in the weight of market-type risks. An analysis evaluating the stability of the Hungarian financial sector conducted by the IMF and the World Bank under the Financial Sector Assessment Program established that the banking sector's exposure to market risk was relatively moderate, not even major exchange rate or interest rate shocks would give rise to significant loss of capital. In our next report, we shall examine the capability of the banking sector to resist an possible, sudden, major and unfavourable shift in interest rates or exchange rates (stress test) partly relying on the methodology of the IMF and the World Bank.

Exposure to Interest Rate Risk

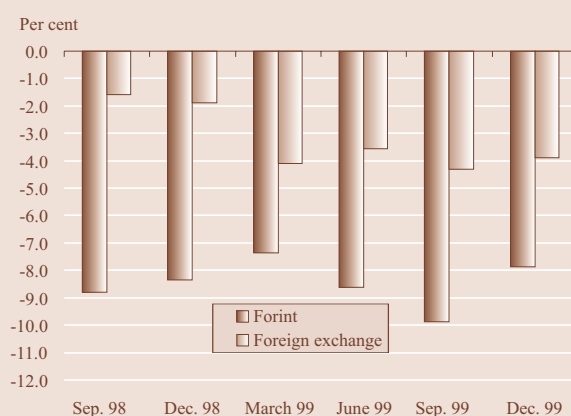
In line with the process of disinflation, the decline in central bank rates, market yields and the rates on the facilities of commercial banks continued in 1999.

Two factors determined the development of the interest income in the banking sector: the 70 basis point decline of the interest margin considerably decreased banks' net interest reve-

Table II.3 Main indicators of the exposure of the banking sector to interest rate risk*

	1998	1999
90-day cumulated forint gap (HUF billion)	-547.2	-577.0
90-day cumulated forex gap (HUF billion)	-123.4	-284.9
90-day cumulated forint gap to balance sheet total	-8.3	-7.9
90-day cumulated forex gap to balance sheet total	-1.9	-3.9
Average interest-bearing asset/average interest-bearing liabilities, %	107.4	107.4
Interest income/average balance sheet total, %	4.8	4.1
Interest revenue/interest-bearing assets - interest expenditure/interest-bearing liabilities, %	4.4	3.8

* The re-pricing gap was calculated for all of the banks, the other indicators without the data of Postabank, Hungarian Development Bank and Realbank.

Figure II.21 The 90-day cumulated forint and foreign exchange re-pricing gaps of the banking sector in proportion to the balance sheet total

nue, which was only partially offset by the maintenance of a relatively wide *negative forint re-pricing gap* in the course of the year. Although to an order of magnitude much lower than that caused by the decline of the difference between forint lending and deposit rates, the rise in euro and dollar rates in the second half of the year also presumably caused some interest revenue loss, because banks maintained a moderately negative foreign exchange re-pricing gap. The *forint and foreign exchange re-pricing gaps* changed in the same direction, but to different extents in the course of 1999 (*Table II.3*).

The cumulated *90-day forint re-pricing gap* was up by about HUF 30 billion; nevertheless, prorated to the balance sheet total, this meant a minor decrease in exposure to risk as the gap ratio shrank from -8.3% at the end of 1998 to -7.9%. The average re-pricing period (duration) of forint assets and liabilities also decreased in 1999: assuming a constant quarterly gap in the course of the year and calculating with a market yield decrease of 3.8% last year (quarterly even), the expected maximum interest gain would be HUF 21.6 billion, of which every 10-basis-point decrease in the interest margin would eat up HUF 3.5 billion (this latter potential spread would be HUF 17.5 billion calculating with a 50 basis point decrease in the spread).⁸

The cumulated *90-day foreign exchange re-pricing gap* expanded to a much greater extent than the forint side: the gap opened by HUF 162 billion and its ratio to the balance sheet total moved from -1.9% at the end of 1998 to -3.9%. The increase in the negative gap is hard to explain precisely when, in the greater part of last year, expectations of interest rate increase dominated the scene in the case of the dollar and, in the second half of the year, also in the case of the euro. The potential impact of the foreign exchange re-pricing gap on profits is much more limited owing to the magnitude of the gap and the lower scale of interest rate changes (*Figure II.21*).

Measurement of interest rate risk by analysing the re-pricing gaps

As an important measures of banks' exposure to interest rate risk, the re-pricing gap shows how much the difference is between re-pricing assets and liabilities in the given period (e.g. quarter). Banks group fixed interest items according to the period to maturity and variable interest items (e.g. those linked to the movement of a reference rate) according to the period remaining to the next re-pricing date in the re-pricing balance sheet. The re-pricing bands used in the report to the supervisory authority are the following: 0-30 days, 31-90 days, 91 days-1 year, 1-2 years, above 2 years. Gap analysis basically focuses on the short-term income effect of interest rate changes best captured by the quarterly (or even shorter) cumulated gaps. When certain conditions are met (parallel shift in the yield curve, constant balance sheet structure), multiplying the difference between re-pricing assets and liabilities in the given period with the extent of the interest rate changes in the given period, the income effect of the gap can be easily calculated.

The negative re-pricing gap characterising the Hungarian banking sector arises from the fact that banks, expecting the trend of declining interest rates to continue, re-price their deposits more quickly than their credits (94% of deposits, but only 78% of credits are re-priced at least every three months). On the asset side, the weight of government securities with a longer re-pricing period (fixed interest securities maturing over a year and variable interest consolidation bonds, which are re-priced every half-year) is significant. A factor that reduces the exposure of the banking sector to interest rate risk is that by far the greater part of its assets (74%) are re-priced every three months or earlier, and 79% of all its credits bear variable interests (characteristically linked to the BUBOR). Adjusting to the previously highly volatile inflation (and nominal interest rates), banks attempted to minimise their re-pricing risk by providing for the possibility of frequent interest rate changes in their credit contracts.

⁸ Owing to the well-known weaknesses of the static gap analysis (the assumption of a constant balance sheet structure, constant interest margin and parallel yield curve shift), it can be used to estimate future interest income only to a very limited extent. Thus the above numeric example aims only at presenting the order of magnitude of a potential impact on profits and not to forecast interest income.

One of the greatest problems of applying gap analysis in the Hungarian environment is that, with substantial changes in the interest margin, the method cannot be directly used to measure the impact on interest income. This is true because it would require the satisfaction of identical changes in interest rates on the asset and the liability sides (stable interest margin over time), in addition to the assumptions of a parallel yield curve shift and a constant balance sheet structure. Although more rapid re-pricing of liabilities would in itself imply a positive interest income effect when interest rates decrease, based on gap analysis, the substantial decline of the interest margin extinguishes this effect.

Exposure to Exchange Rate Risk

After the strong fluctuations in 1998, the *composition* of the balance sheet structure of the Hungarian banking sector by denomination showed a rather high degree of stability last year. While in the first half of 1998 a substantial surplus of foreign exchange funds was reported in banks' balance sheets, this ebbed away by early 1999, a development in which both the increase in foreign exchange assets and the decrease in foreign exchange liabilities played a role. The process continued and, by the middle of last year, a slight surplus in foreign exchange assets evolved in the Hungarian banking sector. This surplus in foreign exchange assets again melted away by the end of the year and, in this way, the foreign exchange open position according to the balance sheet practically decreased to zero by December 1999. The share of both foreign exchange assets and foreign exchange liabilities stabilised at around 35% of the balance sheet total. As a result of the closed balance sheet positions, forward foreign exchange transactions also declined, as these instruments are used by banks primarily to hedge against open positions according to the balance sheet (*Figure II.22*).

At the same time, significant structural shifts took place in the portfolio of foreign exchange assets over the past two years. The fluctuation in the share of foreign exchange was the most spectacular in the case of operations vis-à-vis the central bank. Due to the crisis in Russia, the share of foreign exchange increased considerably in the central bank's deposit portfolio during the second half of 1998 because, as a result of the collapse of the futures exchange, banks were forced to cover the open positions within the balance sheet. The most evident instrument in this regard was to convert their forint deposits with the central bank into foreign exchange. An examination of the stock of central bank deposits and bonds together reveals that the share of claims outstanding in foreign exchange stabilised at a relatively high level of around 60% until the third quarter of 1999. The rather pessimistic climate prevailing among economic agents in the first half of the last year, due primarily to the macro figures, which were still shaping up rather unfavourably at the time, contributed to this stable condition. Consequently, the foreign exchange-forint conversion characteristic of the years preceding the crisis did not take off, and banks also refrained from undertaking open positions. In the last quarter of last year, however, a radical change took place: the share of foreign exchange fell to about 40% of total claims on the central bank. This fall was caused partly by the reappearance of conversion demand for forint and partly by the growing demand for forint in preparation for the year 2000. The decline in the share of foreign exchange was not concomitant with a renewed increase in open positions; instead, a change took place in the structure of foreign exchange assets affecting primarily operations vis-à-vis non-residents and corporate credits in the last months of last year (*Figure II.23*).

Figure II.22 Share of foreign exchange assets and liabilities in the balance sheet total (1998–1999)

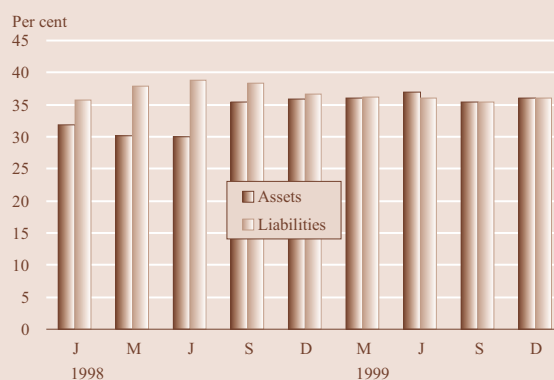


Figure II.23 Share of foreign exchange in the claims on central bank

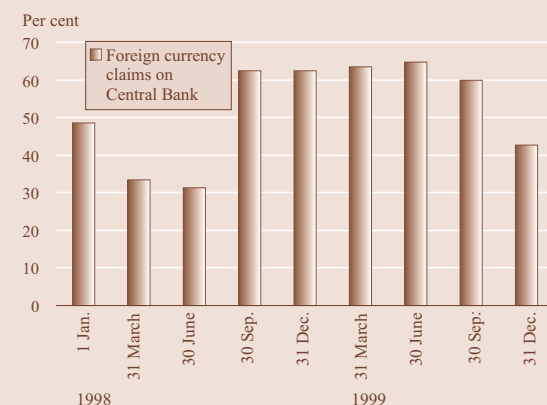
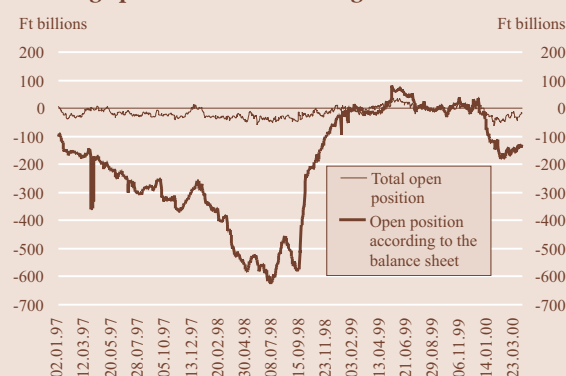
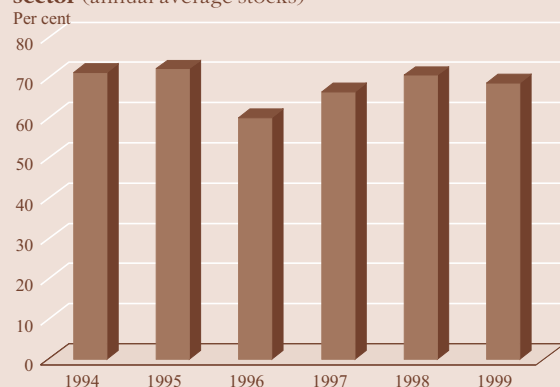
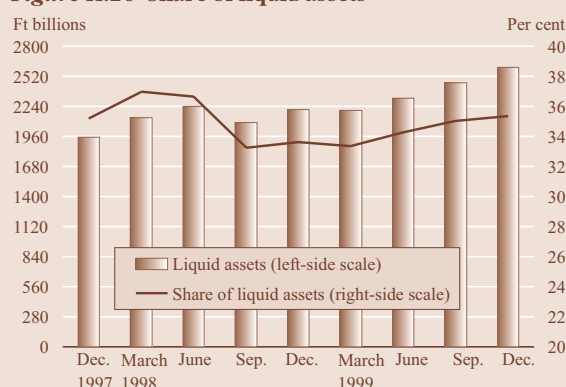
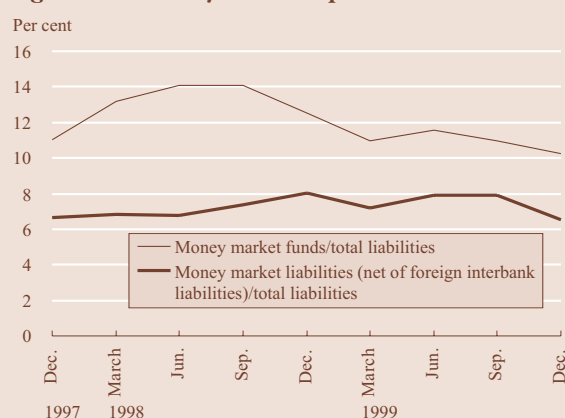


Figure II.24 Total and the balance sheet open foreign exchange position of the banking sector*

* Negative values mean a position in favour of the forint.

Figure II.25 Credit/deposit ratio in the banking sector (annual average stocks)**Figure II.26 Share of liquid assets***

* Liquid assets: interbank short forint and foreign exchange placements + central bank short forint deposits + government papers (net of consolidation bonds) + settlement accounts and cash.

Figure II.27 Money market exposure*

* Money market funds: interbank funds + central bank repo.

Foreign exchange credits continuously gained ground in the credit portfolio in 1999. The composition of the corporate credit portfolio according to denomination did not, however, develop identically for short-term and long-term credits. While the share of foreign exchange hardly changed at all for credits maturing within a year in the course of 1999, a shift towards foreign exchange was a marked tendency for credits maturing over a year. This process became particularly vigorous in the last quarter of the year and, by December 1999, nearly half of this credit portfolio was denominated in foreign exchange.

1999 was characterised by *low exposure to exchange rate risk*. Typically, the total open position of the banking sector fluctuated around zero in the band of $\pm$ HUF 20 billion; the open position according to the balance sheet in the range of $\pm$ HUF 40 billion. A major shift was observed in the middle of May, when a fairly significant foreign exchange long position evolved at system level for a short period: the total open position reached its maximum at HUF 37 billion (USD 160 million) and the open position within the balance sheet at HUF 82 billion (USD 350 million).

The promising macroeconomic data published in the first half of July reinforced confidence in forint investments. Consequently, the banking sector liquidated its foreign exchange long position in full by the end of July, and the open position again fluctuated within a narrower range with, the sign changing on several occasions (Figure II.24). According to the regulations currently in force, a bank's total open position may not exceed 30% of its regulatory capital. Thus, within the framework of the current exchange rate regime, the maximum loss of the banking sector arising from a change in the exchange rate of the forint within the band (assuming that the exchange rate of the forint plummeted from the strongest point in the band to the weakest point) could amount to at most 1.35% of the regulatory capital of the individual banks and the banking sector, which, in light of the capital position of the banks, does not imply any serious systemic risk. Potential losses could exceed this limit only if banks – making use of the deficiencies in consolidated regulation and supervision – concluded forward transactions covering their open positions within the balance sheet not with genuine market agents but rather within their own bank groups. Suspicion of such behaviour did arise in respect of some banks.

The Liquidity of the Banking Sector

The banking sector's liquidity position has been balanced and free of liquidity tensions for years. The stock of credits extended to clients has been fluctuating at around 60–70% of client deposits, which is far short of values which could be described as critical (Figure II.25). The share of banks' liquid assets in the balance sheet total is high, while at the same time, the share of raising funds in the money market among the external liabilities of the banks is low; that is, the banking sector presents a reassuring picture from the viewpoint of both asset side and liability side liquidity. The parallel growth in liquid assets and money market funds in the first half of 1998 was not so much a manifestation of changes in the liquidity positions of the banks, rather indicating that interest rate arbitrage activity was concomitant with a rise in sterilisation instruments on the asset side and with that of interbank foreign exchange funds on the liability side (Figures II.26 and II.27).

The most significant change in banks' liabilities was the decline in the share of domestic interbank deposits in 1999. This can in part be interpreted as the beneficial effect of introducing VIBER⁹ at the end of September, which improved liquidity management conditions, but also forced banks to effect this improvement. As the existing coverage of the banks could turn around several times a day in the real-time gross settlement system, and it is also possible to alter liquidity during the day, in theory, the explicit liquidity requirement is lower than in an end-of-the-day gross settlement system, such as the giro. The decline in interbank activity in the spirit of preparation for 2000 could also have played a role in this.

The Capital Position of the Banks, Changes in Capital Adequacy

The capital position of the banking sector can be described as firm. The capital adequacy ratio calculated for the entire sector is reassuringly high, in spite of the fact that the banking sector's capital adequacy ratio continued to decline in 1999 as well. The ratio calculated for the entire banking sector dropped from 16.5% to 15.0% over one year. The capital adequacy ratio has been decreasing for years; this decrease in the incidentally very high capital adequacy ratio is a natural phenomenon in a period when banks enter the market or are privatised because increased activity follows capital investment only with a time lag. Thus, the continuous decline in this ratio can be seen as a necessary phenomenon at the given stage of development (*Figure II.28*).

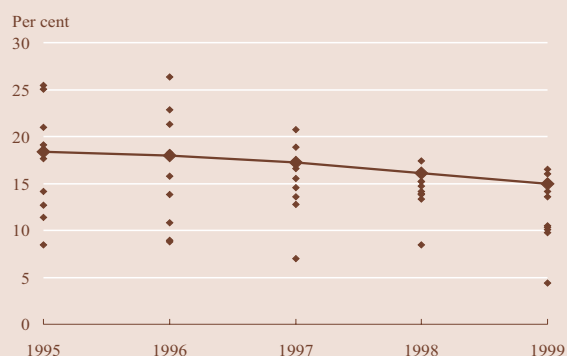
Naturally, an examination of the capital positions of individual banks reveals considerable differences. At the end of 1999, banks having a capital adequacy ratio of less than 10% had a combined market share of 21.3%. In view of the commitment of the shareholders of these banks to ensure adequate capitalisation, this does not imply systemic risk (*Figure II.29*).

The analysis of banks' capital from the viewpoint of the extent of coverage that the banking sector's equity provides in the case of an unfavourable external shock affecting the asset side uncovered no causes for concern. The coverage ratio of the Hungarian banking sector did indeed decline after its high in 1997, particularly as a result of the Russian crisis, but it can still be regarded as highly safe and some improvement was registered again in 1999 (*Figure II.30*).

In 1999, the regulatory capital of the banking sector increased at a rate lower than that of the balance sheet total, while the total value of risk-weighted assets exceeded the growth rates of both the regulatory capital and the balance sheet total. This is the reason behind the decline in the capital adequacy ratio. The change in the value of the weighted balance sheet items would, in its own right, not have led to a fall in capital adequacy to any considerable extent. The spectacular leap in the weighted amount of contingent and other future liabilities and of forward claims (of much lesser significance as far as their magnitude is concerned) greatly contributed to the decline in capital adequacy with their growth of 40.4% and 70.3%, respectively (*Tables II.4 and II.5*).

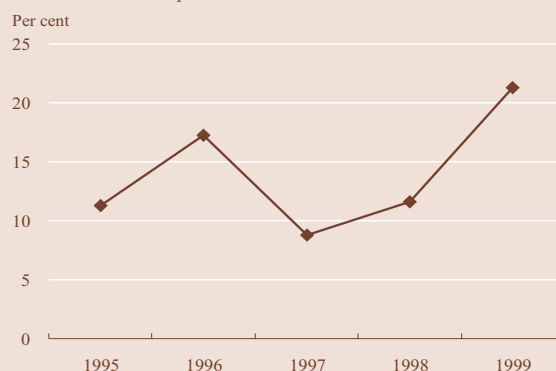
⁹ Real-time gross settlement system.

Figure II.28 Changes in the banking sector's capital adequacy ratios and of the nine* largest banks



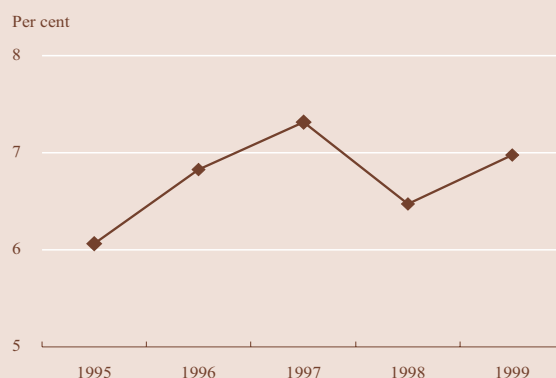
* The capital adequacy ratio of the 10th largest bank is substantially higher than that of the other banks, which would distort established tendencies.

Figure II.29 Market share of banks with a capital adequacy ratio of less than 10% (at the end of the period)*



* Market share calculated on the basis of the balance sheet total.

Figure II.30 Coverage ratio*



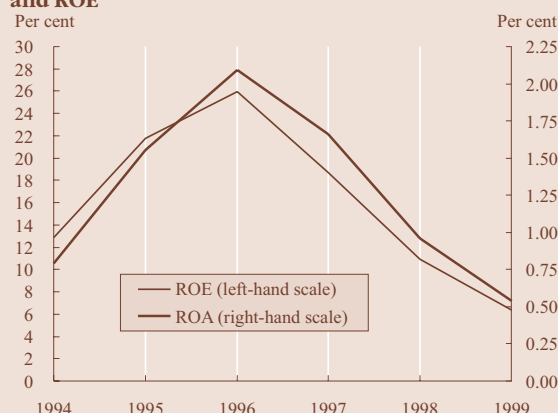
* $[\text{Equity} + (\text{provisions on substandard, doubtful and bad assets}) - (\text{substandard} + \text{doubtful} + \text{bad assets})] / [\text{total assets} - (\text{substandard} + \text{doubtful} + \text{bad assets}) + \text{provisions on substandard, doubtful and bad assets}]$.

Table II.4 Composition of the regulatory capital

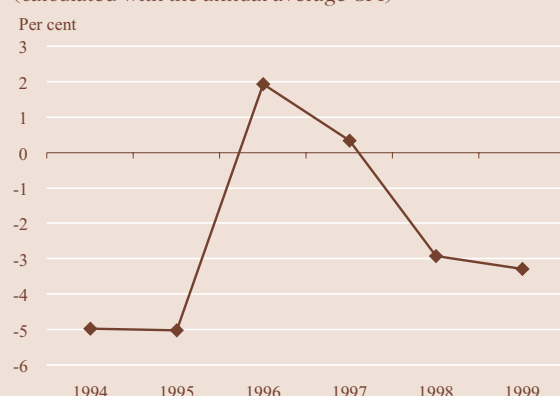
	Per cent		
	99/98	1998	1999
Primary capital (Tier 1 capital)	110.0	83.6	86.1
Supplementary capital (Tier 2 capital)	110.0	20.7	21.2
Deductions because of exceeding the limit	185.2	4.3	7.3
Regulatory capital	106.8	100.0	100.0

Table II.5 Changes in the adjusted balance sheet total

	Per cent		
	99/98	1998	1999
20% weighting	110.6	5.9	5.9
50% weighting	110.6	0.8	0.8
100% weighting	112.2	75.1	71.3
Amount of weighted balance sheet items	111.7	81.8	78.0
Weighted value of contingent and other future liabilities	140.4	18.4	22.0
Weighted value of forward claims	170.3	1.2	1.8
Risk provision (-)	147.7	-1.4	-1.8
Adjusted balance sheet total	117.2	100.0	100.0

Figure II.31 Changes in the banking sector's ROA and ROE*

* Net of Postabank, Hungarian Development Bank and Reálbank, calculated with pre-tax profits.

Figure II.32 Real ROE*
(calculated with the annual average CPI)

* Net of Postabank, Hungarian Development Bank and Reálbank.

Table II.6 Profit/loss of the banking sector*

	Ft billions		
	1997	1998	1999
Interest income	213.8	261.5	254.9
Change in provisions	-4.5	29.4	49.7
Other profits	28.3	43.5	71.7
– Net commission revenue	43.8	53.9	60.5
Gross profit from financial and investment services	246.7	275.6	277.0
Costs of banking activity	172.0	2172.0	249.2
Profit from financial and investment services	74.7	58.4	27.8
Other profits not from financial and investment services	-0.1	0.7	1.8
Ordinary trading profit	74.6	59.2	29.6
Extraordinary profit	-1.3	-0.7	3.9
Pre-tax profit	73.3	52.4	33.5
Tax liability	14.5	12.6	12.1
After-tax profit	58.8	39.8	21.4

* Net of Postabank, Hungarian Development Bank and Reálbank.

1999 Profits of the Banking Sector

In 1999, the profitability of the banking sector – with a wide range of variation – was, all in all, very weak. Return on equity was well below inflation, i.e. the banking sector continues to lose capital in real terms. In 1999, the number of loss-making banks increased further (6 in 1997, 14 in 1998, and in 1999, 15 commercial banks and in all three years three housing savings associations closed the year with a loss (*Figures II.31 and II.32*)).

The banking sector's *after-tax profits* amounted to HUF 24.0 billion in 1999, in contrast with a loss of HUF 133.6 billion in 1998. In 1998, the performance of the banking sector was substantially distorted by the fact that Postabank, the Hungarian Development Bank and Reálbank together booked losses of about HUF 183 billion (accumulated over earlier years). Adjusting the profit figures accordingly, the 1998 profit amounted to HUF 39.8 billion, which declined to HUF 21.4 billion by the end of 1999.

Disregarding the three banks referred to above, the profits of the banking sector developed very differently in the first and in the second half of 1998: the first half of the year with adequate profitability was followed by the second half of the year which generated only a minimum amount of income. This is clearly attributable to the Russian crisis. Thus, at mid-1999, we could rightly hope that profits in 1999 would shape up much more favourably than in the preceding year as the profits of the first six months approached those of the first half of 1998. Nevertheless, in spite of the fact that the last two quarters of 1999 were not burdened by a crisis, the performance of the banking sector as presented in the second half of the year again turned out to be very meagre. This is essentially attributable to the large amount of provisions set aside in the second half of the year related, to a minor extent, to the increase in lending and, to a greater extent, to the postponing provisioning practice of the banks.

In addition to the burden of provisioning, the decrease in profits can clearly be explained by further increases in costs. Just as in earlier years, it was not possible to offset the rise in costs with the profits generated by financial activities (*Table II.6*).

Interest income continues to be the decisive factor in the gross trading profit of Hungarian banks (70%); the increase in the share of non-interest type income was in part virtual in 1999 because, in 1998, the revenues of conversion activity of major significance in income generation, were carried in full under interest income, while its expenditures were presented in part under non-interest type expenditure. The 30% share of non-interest type income is considerably below the 41% average of the EU member states. The rise in the share of commission-type incomes (to 17%), which counts as a stable source of revenue, was a positive development; the share of this income component lags behind the EU average of 22% (*Figures II.33 and II.34*).

Although the tendency of declining interest rates has an unfavourable impact on the cumulated *interest revenue* of the banks, the fact that the liability side is more rapidly re-priced has a visibly beneficial impact on income. In spite of this, the interest margin decreased by 0.6 percentage points over the course of the year. Fairly significant structural changes were observed in the composition of interest revenues. As a result of the enhanced

lending activity, the share of interest revenue on loans increased by 8 percentage points. The low level of foreign exchange-forint conversion in the course of the year picked up by the end of the year. Consequently, the figures for the half-year forecast a major decline in the central bank deposit portfolio; finally, however, the share of interest revenue originating from the NBH decreased by no more than 2 percentage points at an annual level. There was a considerable decrease of about 7.5 percentage points in the share of interest revenue from securities primarily due to the fall in yields and also to the shrinking supply of various facilities such as the discount T-bill (*Table II.7*).

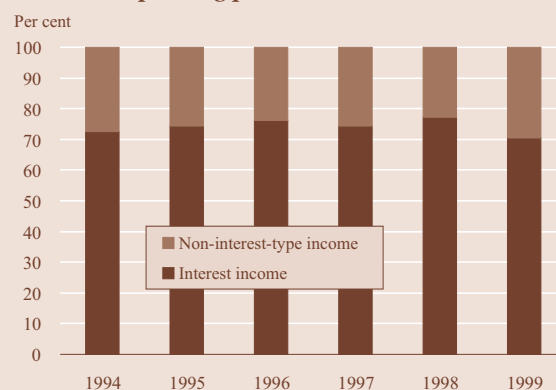
The negative result of *generating and releasing provisions* was 47% higher than in the preceding year due to the fact that, while more provisions were generated, the extent of releasing them decreased considerably. By far the greater part of provisions were set aside in the second half of the year. In addition to the traditionally tighter assessment of the portfolio in the second half of the year, this was attributable to meeting the provisioning requirement on country risks and general risk due for 1999 at the end of the year (*Table II.8*).

The increase in costs of operation again exceeded the rate of inflation. The 15% growth rate in costs substantially exceeded the growth rate in the gross profits made on financial and investment services and consequently, the cost efficiency of the banking sector deteriorated further. Personnel costs, representing the largest share, did not exceed the average rise in costs. The ratio of the operating costs of the Hungarian banking sector to the average assets stagnated at around 4% between 1997 and 1999. This is fairly high in comparison to the advanced European countries, but is nearly the same level as the indicator for the Polish banking sector, which is at a level of development similar to the Hungarian.

There was an outstanding increase in depreciation write-off within costs attributable to the investment programs of the past few years (building up the retail market and IT development projects). Rental costs increased by 25%, presumably due not so much to a rise in rents but to the practice that banks tend to prefer to lease their real estate rather than own it (*Figures II.35 and II.36 on the Page 38*).

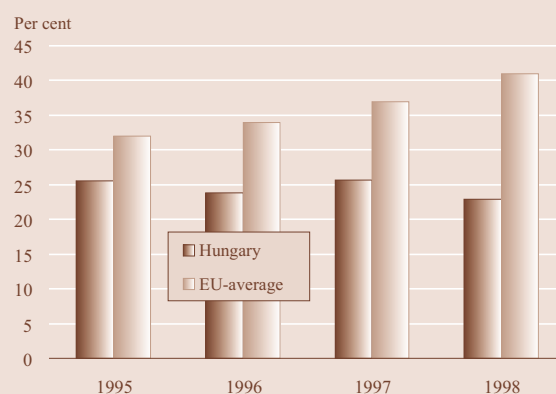
The deterioration in cost efficiency took place while headcount efficiency improved. The number of bank employees has continuously decreased over the past few years. Thus, the growth rates of both the per capita balance sheet total and the per capita trading profit exceeded the growth rates of the full balance sheet total and of the full trading profit (*Figures II.37 and II.38*).

Figure II.33 Share of interest and non-interest type income in operating profits*



* Net of Postabank, Hungarian Development Bank, Reálbank.

Figure II.34 Share of non-interest type income in trading profits in Hungary and the EU member states



Source: (EU Member States): ECB

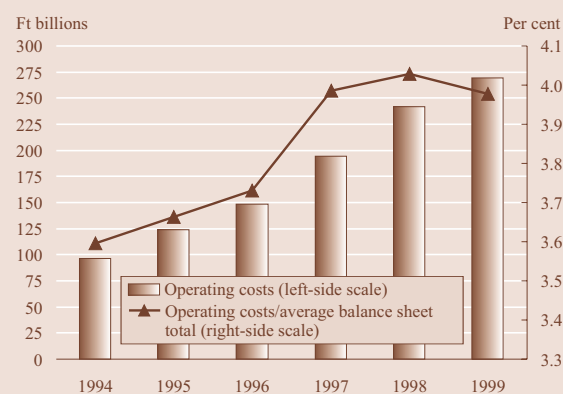
Table II.7 Components of the margin

	Ft billions		
	1998	1999 H1	1999
Average stock of interest-bearing assets	4,946	5,576	5,713
Average stock of interest-bearing liabilities	4,605	5,158	5,321
Interest revenue	844	377	764
Interest expenditure	582	257	509
Interest revenue/ interest-bearing assets, %	17.1	13.5	13.4
Interest expenditure/ interest-bearing liabilities, %	12.6	10.0	9.6
Interest margin, %	4.4	3.6	3.8

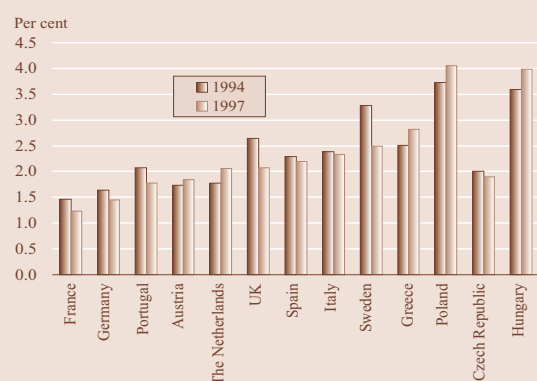
Table II.8 Impact of changes in provisions on profits*

	1998	1999	1999/1998
	Ft billions		
Provisioning	106,650	114,857	108
Release of provisions	58,312	42,509	73
<i>Total</i>	<i>48,338</i>	<i>72,348</i>	<i>150</i>
Result of portfolio clean-up	-12,727	-15,507	122

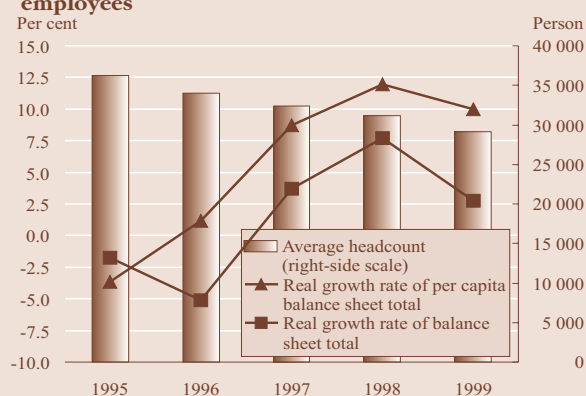
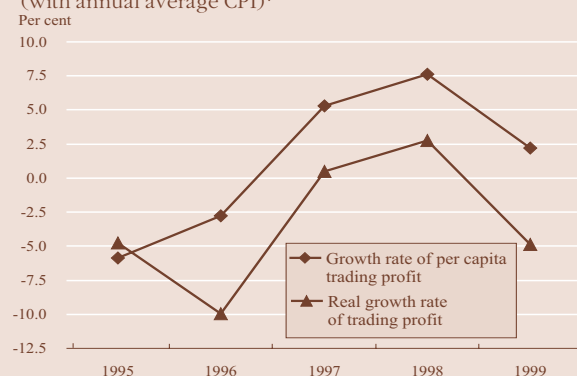
* Net of Postabank, Hungarian Development Bank and Reálbank.

Figure II.35 Operating costs to balance sheet total*

* In the denominator is the annual average balance sheet total.

Figure II.36 Ratio of operating costs to the average balance sheet total in an international comparison

Source: ECB, OECD

Figure II.37 Real growth rates of the full and per capita balance sheet total and the average number of employees**Figure II.38 Growth rates of the full and the per capita trading profits of the banking sector (with annual average CPI)***

* Net of Postabank and Hungarian Development Bank.

III. The Position of Non-Bank Financial Intermediation in Hungary

The deregulation of financial intermediation in the 1980s significantly intensified competition among the various types of financial intermediary institutions. With the new capital requirements, this led to a situation in which a significant decline in the profitability of banks was observed in the advanced countries in the 1990s. The future of the banks became a focal issue. Typically, banks expanded towards life insurance and the investment fund business, which generated fee and commission revenue for them. The demand side also exerted a kind of pressure, evoking the spreading of non-traditional banking services. The ageing population and the increasing wealth and sophistication in demands had a strong impact on the development and spread of various pension and life insurance facilities.

Changes in the structure of household savings well illustrate the significance of non-bank financial intermediation. The structure of the population's savings in advanced countries differs rather widely from country to country. Based on end-1995 data, cash and bank deposits together represent 35–55% of the full savings portfolio, long-term securities make up 20–40% and savings in life insurance and pension funds together account for 10–25%. Naturally, the structure of savings is also highly dependent on the legal and institutional environment, thus the differences prevailing in the pension schemes of individual countries can give rise to considerable differences. In Spain, cash and bank deposits together make up 54%, while savings in life insurance and pension funds account for no more than 10%. In contrast, about half of savings in the Netherlands and France and a quarter in Germany flow into insurance and pension fund arrangements. However, it is a general tendency that the share of savings kept with institutional investors and the share of securities is increasing in the public's portfolio.

In recent years, vigorous growth has also characterised non-banking financial intermediaries in Hungary (*Figure III.1*). At the same time, the collection of data concerning the types of institutions falling under this category (investment firms, insurance companies, financial enterprises, pension funds and investment fund managers) and the assessment of their activities were effected separately, based on different criteria. The available reports, which are not comprehensive and are not always of an adequate quality, do not render it possible to analyse the activities of non-bank financial intermediaries focusing on risks similarly to the banks. The establishment of the Hungarian Financial Supervisory Authority may bring progress in this respect as well, as the supervision and assessment of the activities of these institutions and the collection of information on them will be conducted by a single organisation in the future. Under the current

Figure III.1 Bank deposits and savings (household + corporate) with non-bank financial intermediaries compared to GDP*

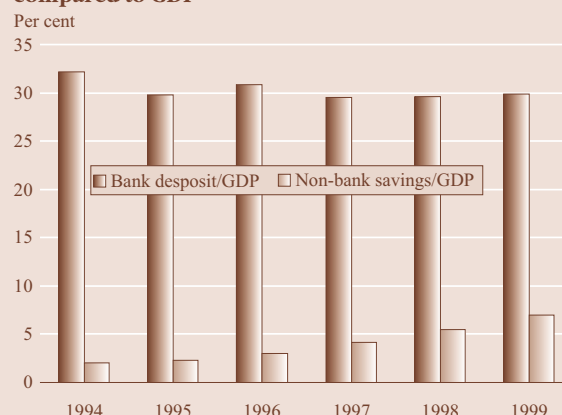


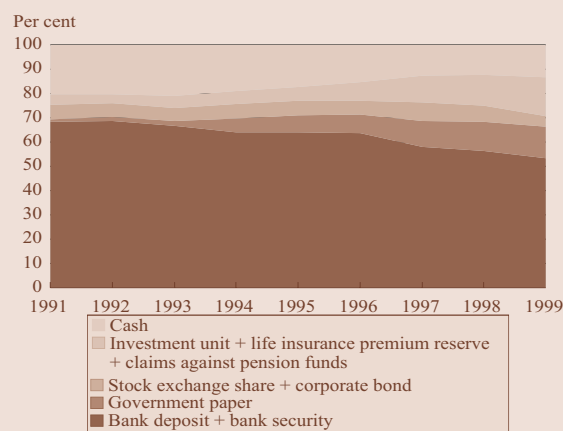
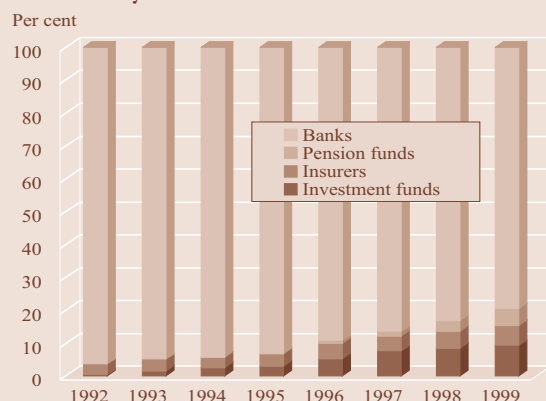
Table III. 1 System of financial Intermediation by individual institution types

	Ft billion				
	Balance sheet total		Growth	Distribution	
	1998	1999	1999	1998	1999
Credit institutions	6,922	7,807	112.8	84.6	81.7
Investment firms	166	167	100.6	2.0	1.8
Net assets of investment funds	338	448	132.5	4.1	4.7
Insurers	445	565	127.0	5.4	5.9
Pension funds	130	249	191.1	1.6	2.6
Financial enterprises	179	317	176.9	2.2	3.3
Total:	8,181	9,553	116.8	100.0	100.0
Net of credit institutions	1,259	1,746	138.7	15.4	18.3

* The balance sheets of investment funds and pension funds are not available.

Table III. 2 Concentration of non-bank financial intermediaries
December 31, 1999

	Insurers	Investment funds	Investment firms	Financial enterprises	Pension funds	
					Private	Voluntary
Number of institutions	22	94	65	160	32	240
Share of the first three	69.2	56.6	25.1	n.a.	58.7	22.7
Share of the first six	89.6	66.0	43.5	n.a.	77.4	37.3

Figure III.2 Distribution of the financial assets of households (31 December 1999)**Figure III.3** Distribution of savings (household + corporate) with financial intermediaries by intermediary institutions

conditions, we aimed only at presenting the extent of financial intermediation outside the banks and the individual institution types, the sizes of their markets and their most important characteristics.

The activity of non-bank financial intermediaries rose at a rate considerably in excess of that of credit institutions, by about 39% in 1999. Thus, their share in the financial intermediary system rose from 15.4% to 18.3%. In 1999, the entire financial intermediary system expanded by 16.8%, representing real growth of 5.4%, calculated with a 10.8% GDP deflator (*Figure III.1*).

While the number of agents in the market of the non-bank financial intermediary system is relatively high (exceeding 500), in respect of insurers, investment funds and private pension funds the degree of concentration is very high (*Table III.2*).

In 1999, the development of the depth of non-bank financial intermediation again showed the dynamic characteristics of the past few years. Owing to the low base, however, the combined share of investment units, life insurance premium reserves and claims against pension funds in the financial assets of households was no more than 16%, even at the end of 1999. At the end of 1996, this share was 9%. Banking forms of savings have essentially been losing some of their weight continuously over the past few years. Their loss of ground is even more spectacular with regard to the growth in savings. A striking change seen over the past two years was the declining significance of bonds and shares (*Figure III.2*).

Not even the Russian crisis was able to cause a lasting interruption in the confidence vested in domestic non-bank financial intermediaries. Of the non-bank financial intermediaries, the inflow to the open-ended investment funds and the number of orders given to investment companies depend most heavily on capital market processes or rather the expectations of the public with respect to such. With professional portfolio management techniques and hedging transactions, investment funds weathered the crisis relatively well – changes in the per unit net asset value were better than those of the relevant combination of the stock exchange index or the government securities index.

The stock exchange crisis significantly reduced the number of client orders to investment companies and thus their activity began to expand again only in the third quarter of 1999, but even so failed to reach the level recorded for the end of 1997. Savings in pension funds and life insurance are motivated by long-term contracts, which depend on yield expectations only to a very limited extent. Pension funds are partially mandatory in nature, while life insurance includes an insurance element, in addition to portfolio management. Both types are characterised by the fact that investors are informed of the changes in yields only quarterly or even annually thus, lacking information, non-realised real yields have no impact on net assets, thus they do not induce portfolio decisions. Moreover, they enjoy substantially more favourable tax conditions than some other forms of savings (*Figure III.3*). The drop in the ratio of forint investments with credit institutions took place largely in December. Households withdrew nearly HUF 40 billion from the banks (transaction effect). Simultaneously, cash held by households grew by nearly HUF 75 billion.

This is attributable to caution related to the Y2K problem. When this effect is disregarded, the following statements can be

made, based on changes in the composition of the financial assets of the households.

- Rather than the direct ownership of shares, households increasingly tend to entrust their savings to institutional investors or buy government securities (*Figure III.4*).
- The forms of savings kept with banks are slowly but relatively evenly losing their share.
- Within savings with banks, components which also have a transaction function (current account, sight deposit) represent an increasing weight, while the share of time deposits is declining strongly.
- Households primarily keep foreign exchange deposits as security against devaluation. Their share shows a declining tendency, but their level is more stable than the fluctuations of market expectations concerning the exchange rate regime and the interest premium.

The data clearly show that the non-bank financial intermediary institutions are dynamically gaining ground. If, however, we look at the asset side of the balance sheets of these institutions, we find that they invest their liabilities largely into government securities well above the required level. Moreover, the share of risk-free investments has increased considerably over the past two years, attributable mainly to the capital market processes arising as a result of the Russian crisis (*Table III.3*).

In the following, we shall review the 1999 activities of non-bank financial intermediaries by type of institution.

Investment Funds

Investment funds can boast of dynamic development over the past few years. The first funds were largely established as closed-end funds. With the changes in tax legislation, when the possibility to make use of the tax credit was extended also to the open-end funds, the market shifted towards them, exploiting the advantages they offered (primarily liquidity). At present, investors may choose among equity, bond, mixed, hedging, money market, foreign equity, foreign bond funds and real estate funds. The 1999 data reveal an absolute predominance of bond funds. Over the last one-and-a-half years, a substantial rearrangement has taken place in favour of money market funds primarily to the debit of mixed funds (*Figure III.5*).

The majority of the investment fund managers are held by banks; credit institutions are not represented among the shareholders of only a very few fund managers. The market is dominated by fund managers with direct or indirect bank ownership backing; their market share is 91% with respect to assets managed. The share of the 18 funds managed by the three largest fund managers is 57%.

The growth of assets managed in the funds has been dynamic; total assets rose from HUF 338 billion in 1998 to HUF 448 billion, i.e. by 32% (at net asset value). The number of funds has also increased dynamically: at the end of 1999, 86 open and 8 closed-ended funds were in operation.

The distribution of investment unit holders by major sectors of owners does not show any particular change: households buy approximately 80% of the units. This represented 5.6% of the financial assets of the households at the end of 1998 and 6.5% at the end of 1999 (*Table III.4*). The predominance of households is

Figure III.4 Share of government securities and corporate shares and bonds in the portfolio of non-bank financial intermediaries at the end of 1997 and 1999

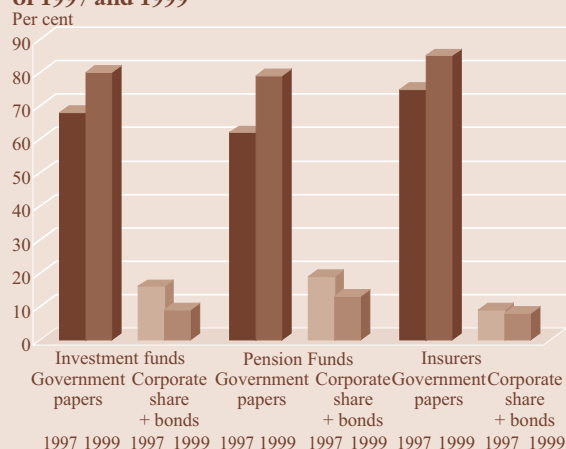


Table III.3 Distribution of the changes in the financial assets of households

	Per cent		
	1997	1998	1999
Cash	6.3	10.4	18.4
Bank deposits and securities	38.7	48.3	37.7
Government paper	14.6	18.1	18.4
Share + bond	20.3	1.5	-8.2
Investment unit + life insurance premium reserve + claims against pension funds	20.1	21.7	33.7
CHANGE IN THE FINANCIAL ASSETS OF HOUSEHOLDS	100.0	100.0	100.0

Figure III.5 Market shares of the types of investment funds

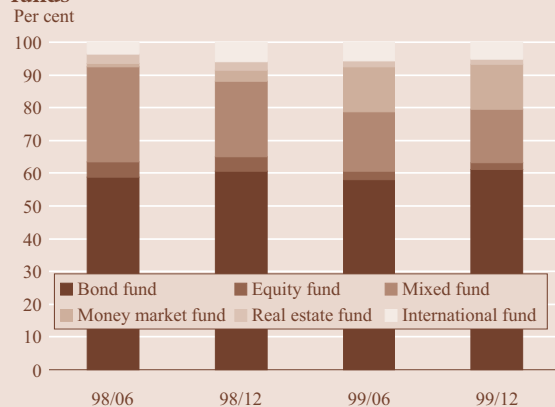


Table III.4 Distribution of net asset value by sectors

	Per cent				
	Dec. 1997	Dec. 1998	March 1999	June 1999	Dec. 1999
Credit institutions	1.7	2.1	2	1.6	1.8
Other legal entities	14.2	16.3	17.8	16.4	14.8
Households	81.3	79.4	78.3	80.1	81.6
Non-residents	2.8	2.1	2	1.9	1.8
Total	100.0	100.0	100.0	100.0	100.0

Table III. 5 Distribution of the assets of investment funds

	Per cent		
	1997	1998	1999
Cash, current accounts	0.9	0.8	1.1
Government papers, NBH papers	67.9	76.3	80.2
Bank deposits, bank papers	9.7	2	3.1
Equity	13.0	8.4	4.6
Bonds	2.5	4.7	4.6
Real estate	2.4	1.9	1.2
Investments abroad	2.5	4	4.1
Other	1.1	1.8	0.9
Total	100.0	100.0	100.0

largely attributable to the fact that insurers and pension funds may invest in investment units only at a low rate.

Domestic investments continue to dominate the investments of the funds, with the share of foreign investments in the full portfolio amounting to no more than 4%. In terms of domestic investments, lower-risk assets, government bonds and discount treasury bills are in the majority: their combined share fluctuated at around 80% of investments. The share of equity investments declined considerably within the domestic portfolio: while they represented a share of 18% in June 1998, currently this share does not exceed 4.6% (Table III. 5).

All in all, it can be seen that the stock exchange and foreign exchange market shocks did have an impact on the assets of investment funds: first and foremost, the share of equity investment decreased within their portfolio. Recently, with the spectacular resurgence of the domestic and international stock exchanges and the decline in yields in the domestic government securities market, the yields of the funds have increased considerably. Domestic and foreign equity funds lead the yield race equally with respect to the three-month, the six-month and the annual time frame, while largely the foreign bond, money market and some domestic bond funds can be found in the last quintile. The difference in yields also indicates the difference in the risks of the funds, thus bond funds tend to be located somewhere in the middle of the field.

Figure III.6 Insurance premium revenue to GDP in Hungary

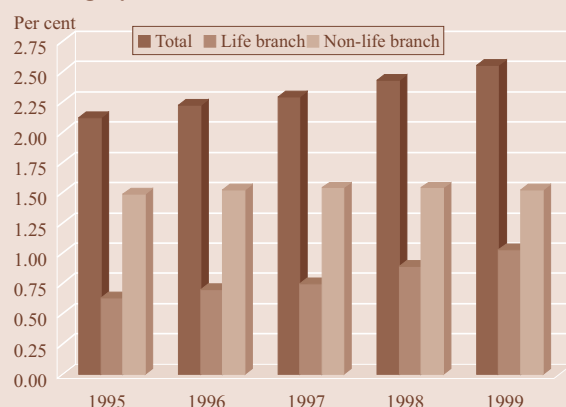


Figure III.7 Insurance premium revenue to GDP in an international comparison*



Source: State Insurance Supervision
* Based on 1997 data.

Insurers

The indicator expressing the national economic weight of the insurance sector, *the quotient of the annual gross premium revenue and annual GDP, has been continuously rising since 1995* (1995: 2.12%, 1999: 2.55%). The premium revenue of the life insurance branch recorded above average growth in the period under study, owing to which the share difference between the two branches of insurance decreased by 10 percentage points over the past five years (Figure III.6).

The economic weight of the insurance sector substantially exceeds the Hungarian level in the member states of both the OECD and the European Union (the ratio was 8.4% for the former and 7.5% for the latter in 1997). With respect to the distribution of insurance premium revenue between the branches of insurance, life insurance represents a greater weight in the member states of the OECD and the European Union: in 1997, they accounted for more than half of gross premium revenue (Figure III. 7).

Insurance plays an increasingly important role in household savings. By the end of 1999, premium reserves linked to life insurance policies amounted to HUF 291 billion, that is, 5.2% of the households' financial assets. The changes taking place in tax, social security and other regulations in the insurance sector played a highly important role in shaping the share of life insurance in household savings.

The abolition of the tax preference on insurance premiums in 1991 had reduced the share of savings in life insurance until the mid-1990s then, with the re-establishment of the tax preference from January 1, 1995, the share started to grow again. Currently, unit-linked forms of insurance constitute the driving force (owing to the regulatory advantages enjoyed vis-à-vis bank deposits).

The Hungarian insurance market is dominated by insurers functioning in the form of companies limited by shares, thus we shall discuss only these companies in the following.¹ At the end of 1999, 22 insurance companies had a license to pursue insurance activities in Hungary. As a result of new foundations and mergers, the number of companies functioning in the market has grown by one since the end of 1998. The insurance companies – apart from the two companies fully in Hungarian hands – are held almost completely by non-residents when indirect holdings are also taken into account. Non-resident shareholders are largely multinational companies in insurance or other financial businesses. There are three insurance companies in Hungary today whose majority shareholders are commercial banks. They sell the products of the insurer as well through their branch network, and the insurer's agents also offer the banks' products and services.

Insurance companies had nearly *12 million contracts* at the end of 1999, down 0.8% since the end of the preceding year. The number of policies in the *life insurance business* has continued to decline considerably, although at an increasingly moderate rate thanks to the 9% increase in the unit-linked life insurance branch in 1999. The unit-linked life insurance branch, however, has shown outstanding growth (70% in 1999). The number of non-life insurance policies increased by 3.2%, accounting for 70% of all contracts.

The premium revenue of the *life insurance branch* amounted to HUF 120 billion in 1999, 40.4% of the total premium revenue. The 33.8% increase in the premium revenue is clearly attributable to the higher premium on new insurance contracts. The premium revenue of the *non-life insurance branch* was HUF 177.3 billion in 1999, 14.5% higher than in the preceding year.

At the end of 1999, insurance companies held a total of HUF *440.6 billion* in reserves and *investments* to cover their safety capital. This value exceeded the previous year's figure by 32%. The investment policy of insurers is characterised by aiming at a high level of security. While legislation concerning investments specifies the share of assets to be mandatorily placed in securities issued by the state or acceptable to the central bank at a minimum of level of 30%, at an aggregate level, companies invested about 85% of their safety reserves and safety capital into securities of this type. They continued to prefer securities maturing over a year: these made up 56% of government securities investments at the end of last year (1998: 50%) (*Table III.6*). The average period to payment is generally long for insurers, thus, from the viewpoint of risk, investments in longer-term securities can be regarded as more advantageous. Earlier, insurers opted for short-term securities at a ratio higher than at present because of their substantial yield advantage.

When drafting this report, 1999 profit data were not yet available. In 1998, insurance companies closed their business year with a *profit*, for the fourth year running. All in all, they posted after-tax profits of HUF 13.6 billion. Of the 21 companies, 16 made a profit and 5 closed 1998 with a loss.

¹ After the substantial increase in 1998, the number of insurance associations did not rise in 1999, remaining at 35.

Table III. 6 Distribution of the investment of insurance companies

	Per cent			
	1995	1996	1997	1998
Cash, current accounts	1.4	1.1	0.5	0.3
Government papers, NBH papers	77.5	75.4	79.8	84.7
Bank deposit, bank papers	7.5	6.3	3.9	1.8
Equity	4.5	4.4	4.7	4.5
Bonds	3.7	4.2	5.7	3.8
Other	5.4	8.6	5.4	4.9
Total	100.0	100.0	100.0	100.0

Pension Funds

The package of legislation, which is regarded as the foundation of the *new three-pillar pension system*, was adopted in the summer of 1997. The legal framework for the operation of the system was put in place, the relevant institutions were established, *the first private pension funds* were established and the transfer of citizens to the new system began. The actual start-up of the system, that is, the beginning of the financial processes of the flows of membership fees, took place from February 1998. The opportunity to establish voluntary pension funds was created earlier than for private pension funds, in 1994.

By the end of 1999, the *assets* managed by the entire sector reached *HUF 249 billion*, increasing by 91% over a single year. Through this, the role of funds in household savings grew and, at the end of the year, savings in pension funds represented 4.4% in the financial assets of households. This outstanding growth is a natural phenomenon, as pension funds are at the initial stage of accumulation in their operation. This dynamic growth took place in spite of the fact that, in deviation from the original legislation, the private pension fund contribution rate was frozen at 6% of gross income until 2003. Originally, the contribution rate should have risen to 8% by 2000, which the employer or the member could have supplemented to 10%.

The dynamic development of pension funds was largely attributable to the *tax preference on contribution payments*, although the extent of that preference varied, depending on the type of fund. While 25% of the (mandatory) payments to private funds reduces the calculated tax, making excess payment also to the private funds or payments to the voluntary funds reduce the tax base by 50% of the amount paid.

The number of *voluntary mutual pension funds* has remained essentially unchanged over the past few years. Thus, at the end of the period under study, *300 funds* had a license for operation: 240 pension funds, 35 health funds and 25 mutual funds. Pension funds account for 93% of fund membership and over 9% of fund assets. The number of members in voluntary pension funds was one million at the end of 1999, over a quarter of the economically active population. Assets amounted to HUF 159 billion (*Table III. 7*). Of the 240 voluntary pension funds with an operation license at the end of 1999, only 160 were in actual fact in operation. The other two types of voluntary funds (health funds and mutual funds) had no more than 93,000 members and assets of HUF 3 billion.

There have only been minor changes in the composition of the assets of voluntary funds over the course of the years: assets in government securities providing the highest degree of security represent the greatest share (78% at the end of 1999), reflecting the risk-avoiding behaviour of the funds (*Table III. 8*).

The first two years of the system of *obligatory private pension funds* were characterised by spectacular growth in the number of members and a continuous increase in fee revenue (*Table III. 9*). Nearly 48% of the economically active population opted for membership in a private pension fund. By the end of 1999, the private pension fund sector consisting of 34 funds had more than 2 million members. As membership in a private pension fund is mandatory for persons entering the workforce from July 1, 1998, the membership of 1,064,000 in the first half of 1998 consisted ex-

Table III. 7 Summary data on voluntary funds

	1996	1997	1998	1999
Number of funds established	294	306	294	300
Number of members	468,695	687,803	984,335	1,134,274
Revenues (Ft '000)	25,321,586	3,665,076	75,868,039	86,876,998
Yield* (Ft '000)	2,768,862	7,970,910	9,595,265	14,489,521
Costs of operation** (Ft '000)	1,304,847	2,145,945	2,610,456	3,270,775
Fund service expenditures	569,614	649,062	1,772,917	4,866,371
Investments*** (Ft '000)	23,377,706	57,400,218	102,36,169	158,643,125
Efficiency indicators				
Per capita assets (Ft'000/head)	49.9	83.5	104	139.9
Per capita payments (Ft/head)	32.8	40.9	43.4	46.6
Yield/assets, %	11.8	13.9	9.4	9.1
Operating costs/assets, %	5.6	3.7	2.6	2.1

* Revenue from financial operations – expenditure on financial operations.

** Calculated back from the costs charged to per capita monthly average operating fund.

*** At book value.

Table III. 8 Composition of the investments of the voluntary funds

	Per cent			
	1996	1997	1998	1999
Cash, current accounts	8.7	3.2	3.8	2.8
Government papers, NBH papers	68.3	61.5	73.4	77.8
Bank deposit, bank papers	5.1	1.6	3.6	1.6
Equity	3.5	16.8	10.9	10.8
Bonds	3.6	2.1	4.7	3.4
Other	10.8	14.8	3.6	3.6
Total	100.0	100.0	100.0	100.0

Table III. 9 Summary data on private funds

	1998	1999
Membership	1,346,732	2,068,932
Revenue (Ft '000)	36,465,861	66,421,111
Expenditure total	6,949,464	11,846,643
Of this: costs of operation	2,949,409	4,046,361
Yield*	1,126,137	2,972,227
Closing stock of investments**	28,818,794	89,858,988
Efficiency indicators		
Per capital assets ('000 Ft/head)	21.4	43.4
Per capita revenue ('000 Ft/head)	27.1	32.1
Yield to assets, %	3.9	3.3
Costs of operation to assets, %	10.2	4.5

* Revenue from financial operations – expenditure on financial operations.

** At book value.

clusively of person voluntarily opting for the mixed pension scheme.

Private funds divide the membership fees collected by them among coverage, operational and liquidity reserves in accordance with the ratio specified in their financial plan or statutes. Based on the experience to date, it can be established for the entire sector that their operational reserve revenues did not provide coverage for the expenditure incurred in the course of their first full year of operation in 1998. The institutions backing the funds (banks, insurers, etc.) and employers extended ad hoc or regular support to the majority of the funds to finance the costs and expenditures of the first year.

The yield achieved by private funds – the difference between the revenues from and expenditures on financial operations – amounted to approximately HUF 3 billion in 1999, a yield on assets of no more than 3.3%.

At the end of 1999, private pension funds had *assets* worth *HUF 89.9 billion* (at book value) indicating an over three-fold growth relative to the end of the preceding year (*Table III.9*). An examination of the composition of investments reveals that private funds have a portfolio even more secure than voluntary funds. At the time of their foundation, they started out with a relatively high share of equity investments but, as a result of the Russian crisis, they rearranged their portfolio in favour of government securities (*Table III.10*).

With respect to the operation of pension funds, the following factors constitute elements of risk and may impede additional dynamic development in the sector:

- An absence of stability in legal regulations; problems of regulating asset management.
- The unclear nature of certain of the tasks of the Guarantee Fund.
- Deficiencies found in the operation of the institutions.
- The relatively low level of achievable profit, owing to the high level of costs.

Investment Firms²

The Securities Act sets forth the regulations governing the activities and risk management of investment firms. According to this law, an investment firm can be a commission brokerage company (minimum capital requirement: HUF 20 million), a securities trading company (HUF 100 million) or a securities investment house (HUF 1 billion), which may pursue the activities of a commission agent, agent, trading activities, portfolio management, underwriting and guarantee assumption activities using various investment instruments (transferable securities, financial forward transaction, forward interest rate contract, interest rate, foreign exchange and equity swap transactions, options).

Table III. 10 Composition of the investments of private pension funds

	Per cent			
	1998. H1	1998	1999. H1	1999
Cash, current accounts	20.9	10.9	4.8	3.2
Government papers, NBH papers	63.3	76.7	85.7	84.0
Bank deposit, bank papers	0.7	3.5	0.8	0.5
Equity	14.0	6.6	6.3	9.8
Bonds	0.8	1.7	1.6	1.6
Other	0.4	0.6	0.9	0.9
Total	100.0	100.0	100.0	100.0

² As already indicated, the quantity and quality of data available to us leave much to be desired. Most deficiencies were found in the reports provided by investment firms and financial enterprises. The supervisory authority requested investment firms to provide data on their activities first in June 1998 and the balance sheets and income statements sent in by them were presented only as extraordinary reports in the course of 1999 as well. Proper reports on financial enterprises are available first with respect to March 31, 2000.

Although the Securities Act specifies rules concerning open positions, the minimum equity of investment firms, the calculation of a total value of risks, capital adequacy, undertaking large risks and investment limits, these firms still have still suffered substantial losses over the past few years. Part of the reason for this can be found in the deficiencies in the regulation, as the reports provided for by the law do not ensure timely recognition of losses accumulating in the course of operations.

One of the gravest problems with the operation of investment firms is that there are no regulations in force in Hungary at the time being that specify the capital requirement linked to actually undertaken market risks. Recent failures of investment firms has focused attention on the need for regulations to emphasise full separation of transactions on commission and transactions on the firms' own account, in terms of record-keeping, client rating and audits built into the process. The regulation of asset and portfolio management can also no longer be postponed, as this may affect not only the clients of the brokerage firms directly but, indirectly through the pension funds, also wide masses of the population.

The main sources of losses have been inadequate risk management by brokerage firms and their shareholders and the deficiencies in control.

Available data indicate a drop in the number of investment firms (*Table III.11*). In 1997, there were 89 investment firms in the market – their number declined to 87 by the end of 1998 and, by the end of the last year, there were no more than 69 investment firms with valid licenses from the supervisory authority to perform the activities that may be pursued on the domestic money and capital markets. This decrease is primarily attributable to the brokerage failures taking place after the Russian crisis, i.e. the cleanup of the market concomitant with the stock exchange slump.

The activities of investment firms have been on a decline for the last one-and-a-half years, and this downward trend was only broken in the third quarter of 1999. This restraint partly reflected the expectations of shareholders in the wake of the losses caused by the stock exchange crisis, as they expressed their preference for safer operation and partly the considerable decline in the number of client orders received by investment firms, again due to the stock exchange events of 1998. The combined balance sheet total of investment firms decreased gradually for one-and-a-half years since the end of 1997, with this trend only turning around in the third quarter of the last year. By the end of the year, the combined balance sheet total rose to HUF 167.4 billion (growth data for individual companies show a fairly wide spread).

Investment firms intensified their *off-balance sheet activities* in 1999. Asset management activity, which is continuously gaining in importance for investment firms, and yield guarantee transactions played a decisive role in the expansion of the off-balance sheet stock, indicating a rise in the risks implied in the operation of brokerage firms.

Of the measures reflecting changes in *the capital position* of investment companies, the value of the equity indicator rose from 28.6% at the end of 1998 to 37.9% at the end of 1999. This improvement was caused by the HUF 7.5 billion increase in the authorised capital of brokerage firms and the increase in the bal-

Table II. 11 Ownership backing of investment firms in 1999

	Commission broker	Securities trader	Investment house	Total	Ft billion Balance sheet total
Backed by financial institutions	10	0	17	27	123
Of this: member of bank group	6	0	10	16	114
Without backing by financial institution	25	12	5	42	44
Total	35	12	22	69	167

ance sheet profit figure due to improving profitability in the second half of the year.

Although claims and liabilities of investment firms, as well as the difference between these items, declined, liabilities still exceeded the stock of claims by HUF 36 billion at the end of 1999. This difference is high even if the HUF 8.7 billion recorded in client accounts is disregarded. This means that credits continue to play a considerable role in their stock of liabilities that investment firms use to finance their transactions for their own accounts; this signals the continuous presence and potential growth in risks.

The combined *pre-tax profit of investment firms* amounted to HUF 6.4 billion in 1999, after the HUF 3.5 billion made in 1998. Of the profit elements, *the profit on investment service activity totalled* HUF 26 billion at the end of 1999, as compared with HUF 24.3 billion at the end of 1998.

With the decline in orders, investment firms have been forced to conduct transactions for their own accounts, which is also indicated by changes in the profits arising from turnover for their own accounts. Following HUF 7.8 billion in 1998, the 1999 figure was HUF 9.5 billion. The share of profit from trading rose from 32.2% in 1998 to 36.5% in 1999. Profits from organising securities issues declined somewhat, while the share of profits from custody and portfolio management services increased slightly over the half-year. Costs of operation essentially remained at the level of the previous year. As there was no substantial change in the balance sheet total, neither improvement nor deterioration can be reported with respect to cost efficiency.

Financial Enterprises

According to the Act on Credit Institutions, a financial enterprise is a financial institution, which provides one or more financial services with the exception of the following:

- deposit collection and collection of other repayable funds from the public to an extent exceeding equity,
- provision of payment services,
- issue of cashless payment instruments and provision of related services.

As a result of the amendment in the regulation in force since January 1999 (licensing obligation and higher authorised capital requirement), the number of firms functioning in the financial sector has decreased radically: prior to 1999, there were 700–800 enterprises in the category of legal entities performing other banking activities, by January 1999, this number had plummeted to 81. Since then, the figure has been rising continuously and, at the end of last year, 160 financial enterprises had a license.

As at June 30, 1999,³ 136 firms had a license from the supervisory authority. We have information on the activities of 129 of these companies. Among the shareholders of financial enterprises, the role of banks and companies established to implement various economic policy objectives (Hitelgarancia Rt., Giro, Reorg Rt.) is decisive. Together, they hold about two thirds of the capital in the sector.

According to our estimates, financial enterprises together have assets in excess of HUF 300 billion. This represents nearly

³ Balance sheet data are available only with respect to June 30, 1999.

5% of the balance sheet total of the banking sector, corresponding to the size of a major bank. The total equity of financial enterprises is approximately HUF 47-48 billion, nearly 8% of the combined equity of the banking sector. The six-fold gearing ratio calculable for financial enterprises can be described as high. Although financial enterprises are not permitted to collect deposits, in principle they have a wide scope for drawing in external liabilities in other forms and, obviously, they make use of these opportunities.

Off-balance sheet items of financial enterprises amount to nearly HUF 70 billion, originating almost exclusively from contingent liabilities, in particular, guarantee assumptions. According to the reports of 106 firms, the financial enterprises made a balance sheet profit figure totalling HUF 2.5 billion at half-year, which is higher than what one could expect based on their balance sheet total or capital strength. One factor that may have contributed to more favourable profitability figures is that financial enterprises may set aside provisions only in accordance with the general rules applicable to business organisations, hence their provisioning requirement with respect to the same quality portfolio is lower than that of the banks, consequently, implying less reduction in profits.

Net interest income accounts for a substantial portion of the profits of financial enterprises; the weight of commission-based activities is low, just as in the case of banks. Nevertheless, netting out the effects arising from the difference in the structures of income statements (similarly to banks, the amount of provisioning and other profits are not included in profits on other financial and service activities), the ratio of profits on other financial activities and services to net interest income is 88% in the case of financial enterprises, in contrast to 30% for banks. The substantial difference arises from the fact that, while the costs of liabilities (bank loans, interest expenditure on securities issued) appear in the interest difference, a part of revenue is presented in the line revenue from other financial services.

Within the assets of financial enterprises, leasing represents 44%, lending 33% and factoring 23%. It is expected that the role of lending will gain significance because, with the amendment of the Act on Value Added Tax, financial leasing has lost some of its advantages compared to credit, thus there is practically no difference between the two arrangements. This category includes the traditional loan against pledge, and commodity and consumer lending, becoming increasingly important also in the activities of financial enterprises. Similarly to banks, financial enterprises participate in financing car sales whether in the form of leasing or lending and also play a role in commodity lending, which is a rapidly developing business line.

The lending risk in the portfolios of financial enterprises can be described as high. As a result of the low level of provisioning enabled by the rules in force, the stock set aside will presumably not provide sufficient coverage for problem claims.

In the regulations applicable to financial enterprises, the following deficiencies may constitute risk factors in addition to those already referred to:

- Although the Act on Credit Institutions links the foundation of financial enterprises to a license of the supervisory authority, it contains no prudential requirements concerning their operation.

- Currently, the collection of funds from households by financial enterprises is limited by the provision that only credit institutions may collect funds in excess of their equity; this, however, will not apply to the issue of bonds in the future.
- Similarly to investment firms, financial enterprises are also permitted to perform asset management, which, in view of the fact that this activity is currently not regulated, the authorised capital requirement of financial enterprises is low (HUF 20 million) and no prudential rules apply to their operation, this implies a substantial risk, particularly if they perform these activities for pension funds.

* * *

The fact that credit institutions wish to provide full-scale services to their clients in more and more fields, in addition to their traditional banking activities contributed a great deal to the dynamic growth of the non-bank financial intermediary system in 1999, as presented above. Institutions related to credit institutions had a substantial share in the profits of the non-bank financial intermediaries, amounting to over 50% at the end of 1999. Financial intermediaries held by banks are dominant participants in the market in all fields, with the exception of the insurance sector. Bank concentration is particularly strong in the case of investment funds, which, in practice, means that the influence of credit institutions on household savings is much more extensive than their deposit collection. These facts should not be disregarded when assessing the decline in the banks' role in financial intermediation. The bank backing of non-bank financial intermediaries is also important from the perspective of potential risks: while the risk of non-bank intermediaries is mitigated by the strong backing of bank owners, the risk of the banks is increased, when they have an extensive bank group consisting of non-bank financial intermediary members, as demonstrated by the events of 1998 (*Table III.12*).

Table III. 12 Balance sheet total of non-bank financial intermediaries according to ownership backing

	Related to banks	Not related to banks	Total	Share of banks
	Ft millions			Per cent
Insurers	157,501	407,251	564,752	27.9
Investment funds	406,114	42,222	448,336	90.6
Investment firms	117,080	50,305	167,385	69.9
Pension funds	83,118	165,382	248,500	33.4
Financial enterprises	131,113	185,587	316,700	41.4
Total	894,926	850,747	1,745,673	51.3

The New Basle Capital Adequacy Principles – the Hungarian Perspective

In the following the recommendations of the Basle Committee on Banking Supervision on renewing regulations concerning capital adequacy, as published in June 1999, will be reviewed and assessed with particular emphasis on feasibility in Hungary and their impact on the Hungarian system of financial intermediation.

Critique of the Current Capital Adequacy Requirement Aimed to Cover Lending Risks

Ever since their introduction, the principles and methodology of calculating the capital adequacy ratio have been subject to criticism. One of the central elements of such criticism is that *the ratio – in spite of the risk-weighting applied – is not sufficiently differentiated for managing the capital requirements of individual assets implying lending risk*; thus it fails to establish an adequately direct and close relationship between the lending risk assumed by a bank and the capital requirement. Consequently, the amount of capital required through the application of the ratio (regulatory capital) does not coincide with the amount of capital required to cover losses at a given level of probability (economically required capital).

Most frequently, the capital requirement for corporate loans is cited as an example of the difference between regulatory capital and economically required capital, which may be of several orders of magnitude, depending on how high risk the debtor is. The capital adequacy ratio regards corporate loans as of 100% risk weighting by definition, irrespective of the fact whether it is an AA category blue-chip or a small business short on capital. Uniformity in the capital coverage of corporate loans is definitely unwarranted when the issue is examined from the aspect of the capital economically required to cover possible losses.

The same argument could be made with respect to lending to governments or banks. According to the regulations, the risk weighting of placements to governments and credit institutions in the A zone (with some simplification, EU and OECD member states) is uniformly 0% and 20%, respectively, i.e. the capital requirement of these placements is a uniform zero in the case of governments and a uniform 1.6% in the case of banks. The A zone includes countries with rather different sovereign risk: it is evident, for instance, that the country risk rating and thus the

probability of the repayment of loans extended to the governments of Switzerland, Germany, South Korea or Mexico is rather different. The rating of credit institutions of the A zone also moves along a rather wide scale and here, too, the average and spread of the non-repayment of interbank credits is rather different. It is therefore evident that the amount of economically required capital to protect against the risks of claims on the governments and credit institutions of the A zone may exhibit substantial differences.

The undifferentiated capital requirement also enables unprudently operating banks to undertake lending risks too high in comparison to their capital, while continuously keeping their capital adequacy ratios at such a high level as to reassure the supervisory authorities about the capital position of the given bank.

Another central element of the criticism of the capital adequacy ratio is that when it is generated, *capital must be allocated to the individual risks* rather than to the entire portfolio exposed to lending risk as in the case of market risks. In their current form, the regulations do not acknowledge the risk-reducing role of diversification at the portfolio level (e.g. by sector, geographical region or corporate size, etc.). As far as the capital adequacy ratio is concerned, there is no difference in the capital requirement for a properly diversified portfolio and an undiversified portfolio.

The *third group of criticism targets the uniform 8% requirement*. This relates less to the Basle rules themselves and much more to the fact that the 8% capital requirement has become a generally accepted international standard. As the 8% level was empirically determined for countries with the most advanced financial markets as a minimum requirement, it is by no means certain that the uniformly specified capital requirement provides adequate protection for every country and for every bank within the individual countries. Turning the 8% into a standard does not necessarily provide adequate capital coverage for the banks in less advanced and less stable countries, which have much more volatile money and capital markets. Again, a capital requirement in excess of 8% could be warranted in the case of banks, whose risk management systems are not sufficiently advanced and whose risk management has not been adequately integrated into everyday activities.

Recommendations of the Basle Committee to Improve the Regulations on Capital Requirements

Having reviewed the effects, advantages and deficiencies of the current capital regulation, the Committee put forward a recommendation for a model of capital regulation based on three pillars. The three pillars are: (1) providing for a minimum capital requirement, (2) supervisory review and (3) effective use of the disciplinary power of the market.

Specification of Minimum Capital Requirements

Basically, the Committee puts forward a recommendation to develop the current regulatory method further in specifying the minimum capital requirement for lending risk. The new regulation would be the standard method, on the basis of which the capital requirement of the majority of banks would be deter-

mined. The Commission recommends that instead of the current risk weighting system, a weighting system should be developed, which would rely fundamentally on the rating categories of external rating companies with respect to sovereign risk as well as banks, investment companies and manufacturing companies.

As far as sovereign risk is concerned, the current zero risk weight could be retained only for countries enjoying the best rating. In case of lower ratings, the risk weight would gradually increase to 20–50 then to 100%; moreover, the weight would reach 150% in the case of countries having the worst rating (i.e. here the capital requirement would be 12% rather than 8%). A reduced capital requirement could be applied to the claims of banks against their own government or central bank bearing the sovereign risk of their own country provided that they are denominated in the national currency of the given country and that the national supervisory authority finds it justifiable. Once the national supervisory authority enables the application of the preferential capital requirement, then the supervisory agencies of other countries could also apply the same preference with respect to banks subject to their supervision. For instance, therefore, if the HFSA (Hungarian Financial Services Authority) enables a more favourable rating for the forint-denominated government securities and placements of domestic banks kept with the NBH, then this more favourable rating could apply also to the similar forint operations of foreign banks.

With respect to weighting interbank loans, two possibilities arise. According to one of them, the risk weighting of banks and investment companies would be strictly linked to the country risk category, so that the banks' risk weight category would always be one category below the countries' category. When this option is applied, domestic banks would not be able to use the more favourable risk weight permitted for lending to the government of their own country in the national currency, as the basis of categorisation. According to the other possibility, the basis of risk weighting would be the rating of the bank itself established by external rating institutions. In this case, the more favourable risk category for short-term assets (e.g. those maturing in less than a half-year), the risk weight of short-term interbank assets would be one category more favourable than in the case of the general banking risk. Basically, the weight for the lending risk of companies would continue to be 100%, but a weight of 20% would be applied to companies with the very best rating, while 150% would be applied for the weakest companies. (Table IV.1.)

As the recommendation relies on external rating companies, it specifies the requirements for rating institutions in detail so that the rating given by them could be used for capital adequacy risk weighting.

The recommendation also wishes to enable banks, which are the most reliable from the viewpoint of risk management, not to rely on external rating institutions, but rather to determine risk weights based on their own internal rating systems. The Committee has not yet drafted its concrete proposal concerning the conditions of applying internal ratings, but it intends to do so before the new rules enter into force. The Committee intends to study the use of a portfolio-level modelling of lending risks for specifying the capital requirement in depth in the future; the current recommendations do not yet undertake changes in this direction.

Table IV-1 Recommended risk weights in the function of rating (using the S&P rating categories)

Claim	Per cent					
	From AAA to AA	From A+ to A-	From BBB to BB	From B+ to B-	Below B-	Not rated
Countries	0	20	50	100	150	100
Banks-Version 1*	20	50	100	100	150	100
Banks-Version 2**	20	50	50	100	150	50
Companies	20	100	100	100	150	100
Securitised assets	20	50	100	150	To be deducted from capital	

* A weight one category higher than the country rating.

** Weight based on the individual rating of the bank.

Another novelty of the recommendations determining the minimum capital requirement is that, in contrast to current regulations, which specify a capital requirement only to cover lending risks and market risks, this recommendation also plans to specify a capital requirement with respect to the banking book interest rate risk in the case of banks, where the interest rate risk in the banking book considerably exceeds the average interest rate risk level (“outliers”). In addition, the recommendation also raises the issue of capital allocation to back other risks disregarded to date, primarily operating risk.

Supervisory Review of Capital Adequacy

Supervisory review of capital adequacy constitutes the second pillar of regulation. The purpose of supervisory review is for the supervisory authority to be able to reassure itself that the amount of the bank’s capital is appropriate for the risks undertaken and the bank’s strategy and to enable early intervention when the capital does not provide adequate protection against the risks undertaken. Supervisory review must be based on the following four principles:

- The supervisory authority should have the right to prescribe a capital requirement in excess of the minimum capital requirement specified in the recommendation for the banks, provided that, having considered all circumstances, they believe that the risks undertaken by the bank demand such measures. Naturally, the incremental capital requirement may be of a different magnitude for each bank. The active role undertaken by the supervisory authority renders it possible (and indeed leads to the expectation) that, after analysing the position and risks undertaken by the banks, the supervisory authorities of individual countries specify a minimum capital requirement of more than 8% *ab ovo* in certain periods—even though the recommendation does not speak of this in concrete terms.
- Banks must have procedures for determining the level of capital in accordance with the risks they undertake and must develop a strategy for maintaining that level of capital.
- In addition to reviewing compliance with the capital adequacy rules, supervisors must continuously monitor the banks’ internal capital determination processes as well as the implementation of their capital strategy.
- The purpose of the continuous supervisory review of capital is to point out a weakening in the banks’ capital position as early as possible and to enable intervention to re-establish the adequate capital position when needed.

The Disciplinary Power of the Market

The third pillar of regulation is utilising the disciplinary power of the market. The Committee advocates high-level disclosure requirements for the banks with respect to both the structure and level of capital and the risks undertaken or capital adequacy. With respect to capital, the disclosure requirement should be met at least once a year but, if necessary, several times annually, assisting market agents in obtaining a clear view of the capital position of the banks, whereby the market would also motivate banks to maintain an adequate capital level.

Evaluation of the Recommendations for the Renewal of Capital Adequacy – Expected Effects in Hungary

The Basle Committee recognised the inevitability of replacing the rules for determining the capital requirement of lending risks with a new type and generation of rules. The point of departure of their recommendations coincided with the necessity expressed by the profession for years: the new regulations must ensure an approximation of the size of regulatory capital and economically required capital.

The recommended regulation based on three pillars constitutes major progress in comparison to the current one for several reasons. The minimum capital requirement specified under the first pillar is much more differentiated than the rules currently in force. The principle that the capital requirement of lower-risk assets within the individual asset categories should decrease, while that of the highest-risk assets should increase and should reach even the 12%, which exceeds the current 8% by a factor of 1.5, would definitely bring the level of regulatory capital and economically required capital closer to one another.

At the same time, weights linked to rating frequently do not reflect actual risks. The gap between risks and the recommended weighting is particularly obvious in the case of weights applied to sovereign risk. From the viewpoint of actual risks (as demonstrated also by the statistics concerning the occurrence of sovereign events published by individual rating institutions) the sharp boundary along which weights should be markedly separated runs between the investment and speculative risk categories. For this reason, we would regard retaining the 0 risk weight for countries in the investment category as warranted and would apply higher weights only to countries in lower categories.

The question is particularly important for Hungary, because Hungary at present is in the 0 weight category as an OECD member, but the recommended new regulation would put it in the 50% category, which cannot at all be justified by the risks outstanding. This is clearly substantiated by the amount of foreign capital flowing into the country at a low risk premium. The recommended new regulation would be excessively detrimental as, above and beyond its signal value, it would substantially increase the price of state debt denominated in foreign exchange: the expected yield on the 4% capital to be allocated to cover placements implying sovereign risk would appear, in accordance with the risk weighting, in an increase in the price of credits (or, when other factors would call for a decrease in price, then in its non-materialisation or mitigation). Naturally, the negative effects could be reduced if, according to our expectations, Hungary's country risk rating improves by the time the new capital requirement is introduced and thus not the 50% but the 20% risk weighting would apply to placements implying sovereign risk going to Hungary. This expectation, however, does not weaken the criticism concerning the recommended weighting system, it would only blunt the expected effects. Under the recommendation, the situation could be more favourable only with respect to state debt denominated in forint terms, provided that HFSA finds it safe and enables domestic banks to use the more favourable rating and provided that the supervisory authorities of foreign banks also agree with its judgement.

In the interbank market, banks are able to lend to one another with a capital requirement of 20% today. Of the Basle recommendations concerning interbank placements, obviously the solution based on the individual rating of banks would be the more favourable for Hungary because – provided that the recommended country risk rating is applied – the risk weight of interbank placements – with the current risk rating of the country – would be a uniform 100%. In case of categorisation based on individual rating, claims on the best banks (rated by international rating institutions and judged to have practically the same risk as the country risk) would be in the 20% weight category. In this case, the current 20% weight of short-term assets would not change. The same would apply to non-rated banks. It is a fact, however, if either of the recommended solutions is the basis of the actual regulation, the capital requirement of interbank loans would be higher than at present and, naturally, here, too, it is expected that the expected yield of the capital to be additionally allocated would be included in the interest on the assets.

It also seems problematic that the recommended capital requirement for non-rated assets is substantially lower than for the assets in the worst rating category; moreover, in the case of individually rated banks, the capital requirement for claims against non-rated banks is more favourable than even the second worst category. This may prompt economic agents, when they have concerns of deterioration in their rating, not to have themselves rated, so that their creditors are able to put them in a more favourable category. Of course, there are serious arguments for the more favourable evaluation of non-rated assets, because ratings are not nearly as widespread in Europe as they are in the United States and, at present, there is a large number of companies, which are not active in the capital market, that do not have themselves rated. The number of rating companies presumably able to meet the conditions set by the regulators is low and rating represents considerable extra costs for the companies. The problem could be solved if banks are allowed to rely on their own internal rating systems to a greater extent, when developing risk weights. In order that this does not create the possibility for a new type of capital arbitrage (as banks could reduce their capital costs by putting their assets in better rating categories) supervisory authorities should specify stringent expectations with respect to the internal rating systems and monitor them consistently.

The acceptability of internal ratings is a highly important question in Hungary, where international rating institutions rate only a few major banks and companies. There is no Hungarian rating institution which would have a chance of meeting the Basle requirements in the short term, because, *inter alia*, there is no rating company in respect of whose activities there are statistics going back to the past. It is expected that when this type of requirement on the part of money markets increases, more large Hungarian banks and companies will have themselves rated by major, internationally accepted rating agencies. It is not to be expected, however, that rating become a general feature among small banks or in the corporate sector, because rating would constitute a substantial financial burden on the SME sector. Hence, if the recommendation becomes the basis of actual regulation in its present form, then the weights assigned to the non-rated risk category will basically apply to banking activity in the domestic market.

The second and third pillars of the recommended regulation are equally progressive in the sense that adequate review by the supervisory authority and the need for reliance on the disciplining power of the market become indispensable components of the regulation. The authorisation of the supervisory agencies to prescribe higher than the minimum capital requirement, after having considered the risk profile of a bank, also shows a shift towards prescribing the economically required capital. Nevertheless, there still are a large number of open elements requiring further study with respect to both pillars.

The recommended new capital standards greatly enhance the role of the supervisory authority and its responsibility, and also expand its instruments. Evidently, HFSA would have to analyse the risk undertaking behaviour, the quality and efficiency of the risk management systems of individual credit institutions much more thoroughly than at present. It can be foreseen that a capital requirement in excess of 8% should be prescribed for a number of institutions; moreover, it could also be envisaged that, based on certain normative criteria, a minimum requirement of above 8% would be warranted for a substantial part or all of the sector.

The problem with the extension of the discretionary powers of the supervisory authority is that, by virtue of its very nature, it is hard to harmonise with Hungarian legal practice. In Hungary, a legal order based on Roman law and strictly codified regulations is in operation; accordingly, measures taken by the supervisory authority may be attacked in the courts. In this way, it will be rather difficult to have market agents and the various authorities accept elements of supervisory review which are not codified item by item and are based also on subjective evaluation. The implementation of an efficient, effective supervisory review of capital adequacy, therefore, requires not only an amendment in the itemised rules applicable to the financial sector, but also a change in institutional and legal culture. The situation is well illustrated by the interdepartmental reconciliation, which took place in relation to the amendment of the Act on Credit Institutions. The amending motions included that HFSA should be given discretionary powers to specify the capital adequacy requirement for individual credit institutions at 8% or at a higher level. Several of the legislators disputed this recommendation as a rule irreconcilable with the Hungarian legal order, while the participants of the reconciliation fully agreed that, from a technical point of view, the recommendation is correct and should be supported. In spite of the difficulties, there is no doubt that the continuously changing nature of financial services requires adaptive rules and supervision and, with increasingly complicated markets it will be less and less possible to deal with this, relying exclusively on codified rules.

Risks in the Sector of Co-Operative Credit Institutions

Similarly to Western European countries, the first classical credit co-operatives were established in the middle of the last century in Hungary. Local credit co-operatives established their first central institutions at the turn of the nineteenth century. After World War II, with the onset of the command economy, the centrally directed combination, merger and finally liquidation of credit institutions began, with the process completed by 1952. After this, the operation of credit institutions in the form of co-operatives was again licensed in 1956, but this form of ownership, which is, no doubt, private in a legal sense, did not in actual fact mean autonomy. The primary objective of licensing savings co-operatives was to extend the more sophisticated collection of funds required to finance the command economy to the rural population as well. Accordingly, until 1972, they were permitted to operate only in villages, which did not have a National Savings Bank (OTP) branch; their business policies were externally directed on the basis of standardised central rules of operation, and the election and remuneration of their managers was under the control of the central economic authority. Thus, in the first two years of their existence, savings co-operatives practically functioned as non-profit institutions; neither the professional skills and experience of the management, nor the infrastructure of operation could develop adequately, there was no capital accumulation and “a sense of ownership” failed to evolve in the members. With the establishment of the two-tier banking system, savings co-operatives were given commercial banking licenses without, however, tightening on the minimum capital requirement accordingly. This meant *that a spontaneous organic development could not take place in the Hungarian savings co-operative sector for historical reasons, as a result of which it is now imbued with contradictions and bears a systemic risk which is not negligible. (This is significant only with respect to this sector, due to the low share of the co-operative credit institutions in the market – at not quite 6% – the systemic risk does not obtain with respect to all of the system of credit institutions.)*

The eight “credit co-operatives”, representing a meagre share in the Hungarian co-operative credit institution sector, are not classical credit co-operatives: they came into being out of the former KTAs (Mutual Support Funds) in the 1990s, providing the legal framework for the management of funds collected by agricultural co-operatives. Due to their negligible weight and role, they will be disregarded in the remaining part of the analysis.

Regulatory Problems, Undercapitalisation, the Disadvantages of the Co-Operative Form of Ownership

By international standards, the Hungarian savings co-operative sector is at a much earlier phase of development in the course covered by their Western European counterparts, with respect to the size of the individual savings co-operatives (balance sheet total, equity, etc.), the structure of the sector and the efficiency of

Table IV.1 Minimal capital requirement for co-operative banks in certain European countries

<i>The Netherlands</i>	<i>Belgium</i>	<i>Luxembourg</i>
Minimum equity EUR 5 million	Minimum equity EUR 6.2 million	Minimum equity EUR 8.7 million
Exception: Only group-level compliance is mandatory	Exception: Group-level compliance is permitted	Exception: In case of group-level compliance, individual compliance is not required
<i>Germany</i>	<i>Austria</i>	<i>Switzerland</i>
Minimum equity EUR 5 million	Minimum equity EUR 5 million	Minimum equity EUR 1 million
Exception: none	Exception: none	Exception: With the permission of the supervision, a member co-operative of an integration may operate also with lower equity
<i>Finland</i>	<i>Sweden</i>	<i>Denmark</i>
Minimum equity EUR 4.2 million	Minimum equity EUR 5 million	Minimum equity EUR 5 million
Exception: none	Exception: Group-level compliance is sufficient	Exception: When a co-operative operates in one village only, EUR 1 million is sufficient
<i>Italy</i>	<i>Spain</i>	<i>Portugal</i>
Minimum equity: Banche popolari: EUR 6.5 million Agrobanks: EUR 1 million	Minimum equity EUR 3 million	Minimum equity EUR 2.5 million
Exception: none	Exception In small towns: EUR 1 million, in Madrid, Barcelona: EUR 5 million	Exception: none

Source: Savings Co-Operative Vision of the Future Project, 4th Meeting of the Steering Committee, October 1999. Joint material of the Boston Consulting Group and the International Bankers' Training Centre, pp. 33–34.

integration.¹ At the same time, current Hungarian regulations are not adequate for this stage of development.

In the case of the co-operative credit institutions of Western European countries, in the past very strong limits on activities contributed to the low capital requirement and small size (classical credit co-operatives): geographical limitations were enforced, business activities could only be pursued only among their members (shareholders), etc. None of these limitations are enforced in the case of Hungarian savings co-operatives. In this case, however, the low capital requirement cannot be justified with the argument that savings co-operatives only risk their owners' funds, or with the argument that, owing to the in-depth level of knowledge of local affairs, lending risk is lower. This latter argument, previously emphasised, is increasingly questioned as the business activity of savings co-operatives gradually shifts towards the towns.

At present, the same capital requirements apply for co-operative banks as for other universal credit institutions functioning in other forms of ownership in Germany, Austria or France: *the level of the required minimum equity is at least EUR 5 million in the majority of the European countries* under study, but no less than EUR 1 million even in exceptional cases. Accordingly, apart from a few special exceptions, co-operative banks are authorised *to perform a wide range of activities*, naturally, the classical nature of credit co-operatives is not enforced: there are no legal limitations concerning clients and geographical scope of the activity. Individual co-operative bank groups, however, in their own, well-perceived interest, tend to limit the geographical scope of the activities of local co-operative banks in their internal regulations. Better knowledge of local affairs and better and more personal contact with clients may reduce the operating risk of local banks and the exclusion of competition between local banks belonging to the same integration is also rational. (Table IV.1)

A comparison with domestic credit institutions points out the unacceptability of softer rules applying to savings co-operatives when they are permitted to perform certain high-risk banking activities just as the more tightly regulated banks.

For instance, *the minimum capital requirement applicable to savings co-operatives is far too low in comparison with the permitted range of activities*. While a commercial bank functioning as a company limited by shares must have an equity of at least HUF 2 billion in order to be able to collect deposits and extend loans, savings co-operatives may do so with an equity that is lower by orders of magnitude (HUF 60 million, to be increased to HUF 100 million in two years' time). At the end of 1999, *the average equity/savings co-operative in the case of OTIVA*² members

¹ As far as their sizes are concerned, Western European co-operative credit institutions are much more similar to Hungarian banks than to the much smaller savings co-operatives.

² OTIVA (Országos Takarékszövetkezeti Intézményvédelmi Alap—National Savings Co-operative Institution Protection Fund) is the central agency of the integration of savings co-operatives established as part of the consolidation of the savings co-operative sector with state assistance in 1993. The most important task of OTIVA is to prevent the evolution of crisis situations and the management of crises once they take place. The consolidation of savings co-operatives out of public funds was conditional upon joining the integration of savings co-operatives, thus only a few co-operatives that were in a stable position and not in need of consolidation opted for retaining full independence and remained outside the integration.

was HUF 135 million. When the equity units in savings co-operatives held by OTIVA are disregarded – the vast majority of which were funded by the loans received from the state with maturity in 2013 and 2014 under the bank consolidation scheme – the average equity/savings co-operative was no more than HUF 85 million. The situation is somewhat better in the case of savings co-operatives outside OTIVA where equity/savings co-operative amounted to HUF 289 million at the end of 1999, which just reaches the EUR 1 million capital requirement according to Article 4 (2) of the Second Bank Directive of the European Union No. 89/646 (EEC), which may be applied under certain conditions as a preferential scheme.³ At present, compliance with the capital requirement on a cumulative basis is not possible, because the Hungarian integration fails to comply with the conditions stipulated under Article 2 (4) of the First Banking Directive 77/780(EEC). (Table IV.2)

At the end of 1999, the equity of 9 OTIVA member savings co-operatives failed to reach the HUF 40 million limit provided for in Hungarian legislation currently in force, but the merger processes are in a well progressed state. The equity of an additional 23 OTIVA member savings co-operatives and one recently established savings co-operative that is not an OTIVA member was lower than the HUF 60 million limit to be reached by end of 2001, and the equity of another 58 savings co-operatives fails to reach the HUF 100 million level, which they are to reach by the end of 2003.

The inadequate capital strength of the savings co-operative sector is also indicated by the fact that about a third of the OTIVA member savings co-operatives are able to meet the 8% capital adequacy ratio only with considerable OTIVA support. This is to be contrasted with several examples in international practice, where certain co-operative bank groups aim at achieving a level higher than the minimally required 8% CAR prescribed by law (e.g. the internal target of the Dutch Rabobank group is 12%, the achievement of which is assisted by the top bank when needed).

A large volume of additional capital would have to be drawn in for a considerable restructuring and modernisation of the Hungarian savings co-operative sector, but the co-operative form of ownership, by virtue of its very nature, is not really suitable for this. Owing to the principle of one member - one vote asserted in the co-operatives to this very day, members have little interest in increasing their business quotas. In Hungary, the minimum deposit of members is exceedingly low, on average HUF 3,000–4,000. This problem arising from the co-operative form of ownership naturally occurs not only in Hungary. In several Western European countries, the drawing in of capital is facilitated by state tax preferences linked to members' deposits or to the reinvestment of the profits generated. A specific feature of the Dutch Rabobank group, which is of very close integration running a system of cross guarantees, is the group level regulation by tax law, enabling major savings on tax and thereby internal capital accumulation. By updating legislation applicable to co-operatives, it also became possible to apply new forms of capital, which expand the range of investors providing ownership rights to the companies' net assets for certain investor categories (even

Table IV.2 Number of Hungarian savings co-operatives by equity

Forint million equity	1998			1999		
	OTIVA integration	Other	Total	OTIVA integration	Other	Total
–40	47	0	47	9	0	9
40–60	36	0	36	23	1	24
60–100	57	1	58	57	1	58
100–200	52	6	58	61	4	65
200–300	18	4	22	23	6	29
300–	9	5	14	13	5	18
Total	219	16	235	186	17	203

³ Even though it is true that in the case of already operating credit institutions whose capital does not reach this amount, Member States may permit the continuation of operation under stringent conditions.

including members) exercising an influence thereby on the operation, autonomy and position of the co-operative company vis-à-vis members. These forms of capital, however, tend to pry open the traditional co-operative framework.

Apart from the lower capital requirement, less stringent personal and objective conditions apply to Hungarian savings co-operatives than to credit institutions in the form of shareholders' companies, which also implies additional risk.

The fragmented ownership arising from the co-operative form (an exceedingly large number of small shareholders) gives rise to additional risks as it is very difficult to control management in a sector in which the principal-agent problem appears in a highly intensive manner in any case.

The need to fundamentally amend the regulations concerning co-operative credit institutions, and in particular savings co-operatives, has been a matter of discussion for several years. *The prolongation of amending the regulation is also detrimental (in addition to the risks arising from inadequately tight prudential requirements) because it results in a persistently uncertain operating environment.*

Inadequately Efficient Integration – the Problem of Economies of Scale Is Still Not Resolved

There is a fundamental contradiction between the nature of today's modern banking operations and the characteristic features of co-operatives. By nature, a co-operative is traditionally a local, small business. At the same time, profitable, safe conduct of the operations of a credit institution requires a relatively large size (economies of scale). This contradiction can be blunted as a result of two processes enforced side by side according to international experience: through the mergers of savings co-operatives and through the development of integration models.

The size of the business can be directly increased by mergers. *In the period between 1993 and 1998, the number of co-operatives decreased to one-third in the EU*, which by itself meant that the average business size tripled. It should be noted that, in contrast to tendencies observed in the case of banks, these mergers were not concomitant with any substantial reduction in the number of branches (this is not really surprising, as there is no overlap between the branch networks of the merging co-operative banks owing to the regional principle asserted at the local level). This meant that the availability of financial services in rural areas has not deteriorated. Moreover, the number of employees even increased, which enables the satisfaction of demand for more sophisticated services, which is increasing in rural areas as well.

To date, a wave of mergers of a volume similar to that of the West European co-operative banking sector has not been observed among Hungarian savings co-operatives. In earlier years, the reason for the mergers was the take-over prescribed by OTIVA as a condition to consolidate certain savings co-operatives (in the case of 6 savings co-operatives in 1995 and 2 in 1996). Since the entry into force of the Act on Credit Institutions and Financial Enterprises, the main motivating factor for mergers has been the preparation to meet the gradually increasing but still inadequate capital requirements (5 savings

co-operatives were taken over by an other in 1997, and 7 in 1998). With the mergers of 33 savings co-operatives, the merger process speeded up somewhat in the course of 1999, because of the pressure to settle capital positions. The number of savings co-operatives had declined to 203 by the end of 1999, down from 254 at the end of 1994.

Through the centralisation of certain functions, *integration* is able to improve the efficiency of member co-operatives, as local co-operatives on their own could not perform these tasks, or if so, then only at an exorbitant cost. Thus, member co-operatives participating in an efficient integration are able to provide a wider range of services and make higher profits than those operating in isolation. Depending on how close integration is, co-ordinated operation of the entire group becomes possible in more and more areas, whereby economies of scale can be improved. There are many different kinds of relatively *successful integration models*, depending on the sizes of the individual savings co-operatives, the historical development of individual sectors, etc. Nevertheless, these models *have a few common features, which are absent in Hungary*.

One such feature is that *the top bank (together with its subsidiaries), held in the majority or in full by member co-operatives*, pursues its operation fundamentally in the interests of members with a very important role to play within the integration. In Hungary, the top bank (Takarékbank) was in the exclusive ownership of savings co-operatives only from its foundation until the bank consolidation scheme, when the majority holding was taken over by the state and subsequently, in the course of its privatisation, a professional foreign investor (DG Bank – the top bank of the German co-operative banks) became the majority shareholder. Presently, the savings co-operatives have a holding of no more than 23%; thus, in principle, the protection of business interests of the savings co-operatives is not guaranteed in the relationship with the top bank. Partly owing to this, the relationship of Hungarian savings co-operatives with the top bank is not particularly significant, the central agency of integration is the institution protection fund (OTIVA), even though many advantage could arise if a top bank in the majority holding of the savings co-operatives became the decisive and controlling agent in the integration, owing to the exceedingly small size of individual Hungarian savings co-operatives. A credit institution as central agency could, for instance, raise funds from the market more easily and more cheaply than a non-credit institution (e.g. borrowing, subordinated loan capital, bond issue, etc.) when needed for the group. When the central agency is not the top bank, then, by necessity, there will be overlaps between the two organisations (e.g. the guarantee systems, internal audit department of the central agency – client assessment of the top bank).

Another common feature is that in *the top agencies of integration, voting rights are proportionate to holdings defined on the basis of size*. Thus, while they maintain the principle of one member- one vote at the local level, a more up-to-date, more efficient form of control appears at the level of integration, which has yet another advantage, namely, that it prompts mergers within the sector. In contrast to this, in the present OTIVA the principle of one member - one vote is enforced, which is naturally disadvantageous for larger savings co-operatives, because the payment liability to the institution protection fund is proportionate to size,

Table IV. 3 Market share of savings co-operatives in the full sector of credit institutions

	Per cent					
	1994	1995	1996	1997	1998	1999
Balance sheet total	4.82	4.69	5.00	5.07	5.36	5.72
Equity	4.42	4.33	4.59	4.20	4.38	4.39
Household deposit	11.48	9.81	10.27	11.83	12.14	12.53
Household credit	15.66	14.92	15.11	16.62	18.03	18.37
Corporate deposit	1.37	1.26	1.68	1.98	2.53	2.88
Corporate credit	2.14	1.80	1.65	1.73	2.36	3.17

not so the right of interference. That was one of the reasons why some of the well-functioning larger savings co-operatives did not join OTIVA.

Efficient models of integration have evolved in Western Europe by organic development over decades. In Hungary this was not possible for historical reasons – nevertheless, with appropriate regulation and targeted state support, the process could be speeded up. Owing to the small size of individual savings co-operatives, close integration would be needed (much closer than at present), the conditions for this, however, are not yet satisfied. The current guarantee system does not provide a basis for group handling, as the liabilities of individual savings co-operatives are not joint and several liabilities (the system of cross guarantees is not enforced), in the risk community of an institution protection nature currently in operation, the liability of savings co-operatives for one another is guaranteed only up to the amount paid into the fund. The fund may require additional payments provided that the members vote for such, but the amount thus collected is of an *ad hoc* nature precisely because of the low degree of interdependence.

Development Tendencies of Savings Co-Operatives

Market share, growth

The growth in the balance sheet total of the sector of savings co-operatives has exceeded that of the banking sector every year since 1996, and consequently, the sector's market share has increased continuously over the past four years (from 4.69% to 5.72%). The growth rate of the sector's equity, however, has fallen short of the growth rate of the balance sheet total, and its share has remained constant within the system of credit institutions. This means that the expansion in activities has not gone together with an adequate capitalisation of savings co-operatives, which have been struggling with capital shortage anyway. (Table IV.3)

Between 1996 and 1999, the savings co-operatives' market share increased both in household lending, corporate lending and deposit collection even though the role of the sector continues to be negligible in the corporate business.

Despite the growth in the savings co-operatives' market share for years, one cannot assert that the sector is operating adequately with an efficient structure and is on a sustainable growth path. *This growth* is attributable much more to *external factors of a transitory nature*. On the one hand, the modernisation of the entire economy is taking place naturally at a slower pace than that of the banking sector, thus the increase in the demand of clients, particularly households and small businesses, which have been traditional clients of savings co-operatives, for sophisticated financial products is also slow. Hence, the basic services offered by the savings co-operatives are still sufficient for this clientele. This segment is also characterised by some, although declining, degree of aversion against new foreign banks. Another transitory external factor is the gradual transfer of a part of the stocks of the branches of Takarékbank to certain savings co-operatives, which has contributed 1.5 to 2 percentage points to the growth of the sector over the past two years. Moreover, the considerable increase in the balance sheet total sustained for

Table IV. 4 Growth rates of savings co-operatives by size*

	Per cent					
In percentage of the full balance sheet total	1997		1998		1999	
OTIVA-members	Number	Growth rate	Number	Growth rate	Number	Growth rate
–0.25	79	19.4	79	12.4	47	13.7
0.25–0.5	81	24.5	74	18.3	68	15.1
0.5–0.75	35	24.5	35	19.9	35	16.6
0.75–	31	27.8	31	26.0	36	22.9
Total	226	25.0	219	20.6	186	18.7

* Net of the effects of mergers and the transfer of Takarékbank branches.

Not OTIVA-members*	Number	Growth rate	Number	Growth rate	Number	Growth rate
	16	40.3	16	35.4	16	17.5

* Net of newly founded savings co-operatives.

years, is also a *source of additional risks* partly because the equity growth rate was slower, thus capital strength has gradually deteriorated (the gearing ratio has increased continuously over the past three years from 13.1 at the end of 1996 to 14.8 by the end of 1999, substantially higher than the same figures for the banking sector). Also, this respectable growth is basically attributable to the large savings co-operatives, which typically operate in towns. (Table IV.4)

In three counties (Baranya, Tolna and Szolnok) studied in 1999, 60–80% of the growth was produced by town branches making up one fifth of the branch network,⁴ pointing towards an clear shift in the activities of savings co-operatives towards urban areas. The tendency of urbanisation enhances risks for several reasons: firstly, short of knowing clients personally, there would be a need for advanced techniques of loan assessment and IT systems, which the savings co-operatives naturally do not have because of their small size. Also, they have to expect more and more competition from the commercial banks, which are much larger, much better equipped with capital, have the better expertise and better IT systems.

Asset-Liability Structure, Portfolio

No significant shifts have been registered in the asset-liability structure of savings co-operatives over the past few years. *Two thirds of their liabilities originate from the households*, while the share of corporate liabilities has increased continuously (from 5.5% at the end of 1996 to 8.5% by the end of 1999). *Government securities account for 40% of assets and interbank operations for nearly one fifth*. The combined share of household and corporate assets has increased continuously over the past three years, but did not reach one third of total assets at the end of 1999. Every year, the highest growth rate was seen in financing businesses: at the end of 1999, their share was 17.5%, while the share of claims on households represented 14.6%. The growth rates of the household and corporate placements of savings co-operatives outside OTIVA were short of the growth rates achieved by OTIVA members in 1999, in contrast to what was observed in the preceding two years; their share in total assets was continuously lower than that of OTIVA members. (Table IV.5)

The outstanding growth (55%) in *corporate loans* achieved in 1999 by the OTIVA member savings co-operatives under study cannot be evaluated as an clearly favourable tendency, because nearly *60% of the increment was produced by one sixth of the integrated savings co-operatives at a high gearing ratio*. Another problem is that this volume increase was achieved by the group of savings co-operatives (the largest ones), whose activity has characteristically shifted towards urban areas.

The portfolio of the savings co-operative sector has improved continuously over the past few years, but it is still of a much lower quality than that of the banking sector. The improvement appeared not in a decline in the share of the rated stock within the portfolio but in a change in its composition. The share of bad debts decreased to a quarter over three years; there was also a slight decrease in the share of doubtful and substandard stocks

⁴ Kálmán Gy. Kiss: Takarékszövetkezetek hogyan? / Helyzet és jövőkép I (Savings co-operatives – How? / Situation and Vision of the Future I), Bank és Tőzsde, May 19, 2000.

Table IV. 5 Contribution of individual groups of savings co-operatives to corporate loan growth in 1999*

OTIVA-members, Balance sheet total Ft million	Number	Increment	Increment per savings co-operative	Gearing ratio
–1000	48	1,100	23	11.5
1000–2000	71	4,925	69	13.2
2000–3000	28	3,329	119	13.8
3000–	31	12,939	417	17.2
Total	178	22,292	125	14.6
* Net of savings co-operatives affected by Takarékbank branch transfers.				
Not OTIVA members*	16	2,678	167	14.8

* Net of newly founded savings co-operatives.

Table IV. 6 Changes in the composition of the portfolio

	Per cent				
	1995	1996	1997	1998	1999
Problem-free	69.9	72.6	72.8	74.9	70.4
Special watch	8.5	10.7	16.0	17.5	23.8
Substandard	3.4	3.0	2.1	1.9	1.9
Doubtful	3.5	2.2	1.4	1.0	1.1
Bad	14.6	11.5	7.7	4.6	2.8
Total rated	30.1	27.4	27.2	25.1	29.6
Provisions/rated stock	55.6	50.7	32.8	22.9	14.4

Table IV. 7 Profitability of savings co-operatives net of income transfer

	Per cent			
	1996	1997	1998	1999
Interest margin	8.39	7.56	7.09	6.61
Cost of financial activities/average B/S total	6.46	6.25	6.17	5.85
ROA	1.48	1.30	1.11	0.99

Note: Calculated with a chronological average balance sheet total. Net of the estimated effect of the income transfer.

Table IV. 8 Profitability of individual groups of savings co-operatives

Co-operatives market share in the balance sheet total of the sector OTIVA members	1998				1999			
	Number	ROA* %	ROE* %	Gearing ratio	Number	ROA* %	ROE* %	Gearing ratio
–0.25	79	0.79	6.3	12.5	47	0.98	9.0	11.3
0.25–0.5	71	0.97	8.3	13.3	60	1.05	11.7	13.8
0.5–0.75	33	1.62	16.3	12.8	27	1.21	11.8	12.9
0.75–	24	1.73	20.8	14.7	28	1.11	14.5	17.2
Total	207	1.33	13.4	13.4	162	1.10	12.4	14.5

Note: Net of savings co-operatives affected in mergers and the Takarékbank branch transfers.
* Calculated with the average of two year-end figures.

Not OTIVA-members	16	1.18	13.1	15.1	16	0.78	9.4	14.8
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Note: Net of newly founded savings co-operatives.

coupled with a considerable increase in the share of the stock to be specially monitored, which is much larger than in the case of the banking sector. With the favourable change in the composition of the portfolio, the coverage of the rated stock with provisions decreased. (Table IV.6)

The small group of savings co-operatives, which did not join the OTIVA integration *inter alia* because it was not in need of consolidation, naturally had a much better quality portfolio in 1996 than OTIVA members. By the end of 1999, the quality of the OTIVA members' portfolio approached that of savings co-operatives outside OTIVA. In their case, however, there is a warning sign, namely that the coverage of their rated stock with provisions was considerably lower and lower in every category than in the case of OTIVA members at the end of the last two years.

Profits/losses

Between 1996–1999, the return on assets of savings co-operatives declined continuously (from 2.16% to 0.99%), as did the interest margin (from 9.08% to 6.61%) partly attributable to the decrease and subsequent abolition of the income transfer related to the mandatory reserve. The reason for this was that in 1996 savings co-operatives could keep their mandatory reserves with the central bank in government securities as well, and in 1997 they benefited from a 4% interest supplement on the mandatory reserve kept with the central bank, which sank to 2% in 1998.

Over the last four years, the level of costs has declined at a rate lower than that of the interest margin; the pre-tax profits of the sector decreased even in nominal terms in 1998–1999, while its profitability deteriorated further and its return on assets fell below 1%. (Table IV.7)

Both the interest margin and the cost level were continuously lower in the case of savings co-operatives outside OTIVA than in the case of OTIVA members. Return on assets of the savings co-operatives outside OTIVA has been lower than the ROA of the OTIVA members over the last two years, even though earlier they have been characterised by more profitable operation. (Table IV.8.) Although the larger member savings co-operatives have operated more profitably than the smaller ones, their profitability has deteriorated because of their growing gearing ratio. The profitability of the groups of smaller member savings co-operatives has improved, due to the merger of a large number of small, poorly-functioning savings co-operatives.

In summary, it can be stated that, due to the meagre degree of internal capital accumulation and the exceedingly modest ability to draw in capital arising from the form of co-operative ownership, the sector has modest prospects in its present structure (loose integration). At the same time, it bears serious potential risks. Signs calling for particular circumspection in relation to savings co-operatives outside OTIVA are the following: their return on assets (0.72% in 1999); the coverage of their high-risk stock with provisions was lower than those of OTIVA members in the past two years; an increase in market activity has been less characteristic of them. This review of the position and risks inherent in the sector substantiates the position taken by the National Bank of Hungary, namely, that regulation of the co-operative sector in a substantially tighter form than is presently employed is one of the urgent tasks of the near future.

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Hungarian Exchange Rate Policy and the Stability of the Financial System

Introduction

The financial crises of the 1990s, particularly the Mexican crisis in 1994 and the ERM crisis have led to an increase in theoretical literature explaining the development of crises. The stability of a national financial system is closely related to or directly implies the problem of the correct choice and operation of an exchange rate policy. Speculative attacks, as the vulnerable point of currencies, may appear as independent phenomena: the 1992 attack on the fixed exchange rates of European countries with advanced sectors financial intermediation was a good example of this.

The study of *Barry Eichengreen and Ricardo Hausmann* "Exchange Rates and Financial Fragility"¹ contains an excellent presentation of the theoretical interrelations of exchange rate policy and financial stability. This study served as the point of departure for the present analysis. According to the study, theoretical approaches can be distinguished by whether they attempt to explain the vulnerability of the system from the aspect of commitment to an exchange rate policy (in this case, the emphasis is on a currency crisis) or from the aspect of the inadequate operation of the financial sector. The reasons for, as well as the symptoms of, the latter can be manifold, thus it is not surprising that to this day a uniform explanation has not been delivered. Case studies presenting the antecedents and logic of the process of a concrete crisis contain a great deal of *ad hoc* arguments in addition to the many common elements. It seems that a universal scheme, on the basis of which financial crises could be forecast and from which clear guidelines could be deducted for developing a monetary system including the issue of the choice of the exchange rate regime, is difficult to develop.

Nevertheless, syndromes indicating certain typical problems can be demonstrated. The financial crises affecting the developing countries were largely preceded by lending practices, which were not adequate for the level of development of the money and capital market in the relevant national economy. Had that not been the case, the change in the real economic fundamentals would not have necessarily led to the panic processes characteristic of crises. The deficiency of the institutional and legal framework and the inadequacy of the overall conditions for financial activities can be mentioned partly as the reasons and partly as an independent source of danger.

In the following we shall briefly present three mechanisms, which provide explanations for the vulnerability of financial systems. Some of the trains of thought applied have consequences only in respect of the problems of choosing an exchange rate regime. Although they do not provide a panacea, they do give guidelines for selecting the exchange rate policy that is best suited to the given conditions. In the second chapter, we shall attempt to outline the conditions in Hungary, with particular emphasis on the criteria presented and the experiences with the crawling peg exchange rate regime to date.

¹ The study was prepared for the 1999 Jackson Hole conference.

Possible Causes of Financial Crises

The Moral Hazard

The phenomenon referred to in financial literature as *moral hazard* gives rise to the assumption of higher risks on the part of the beneficiary. In general, the intention of the guarantor is to protect the beneficiary of the guarantee from the eventually detrimental consequences arising from the uncertain environment of its operation: it is a kind of positive discrimination. In practice, an unintended and expressly distorting side effect of this is a higher than usual propensity to accept risk. The end result is therefore contrary to the original intention: rather than reducing uncertainty, an increase may be observed.

As a result of the explicit and implicit guarantees, the beneficiary does not have to face the actual cost of risks, and thus it will reach an economically sub-optimal decision. The surplus costs of operation arising from the distorted environment will ultimately be borne by the guarantor.

The exceptional role of the financial sector is due to the fact that a collapse of this system would imperil the operation of the entire economy. Because of this the state frequently undertakes a guarantee to intervene in an extraordinary crisis situation and to rescue banks in trouble. The situation is similar when an international institution or community cannot afford that a country topple into a crisis. This means that the *moral hazard* in the financial sector can be envisaged at both national and international level.

With implicit or explicit guarantees, banks tend to show a higher propensity to finance higher-risk businesses. Where regulations do not link the amount of the credit that may be extended to a limit specified in proportion to equity, and when there is ample supply in the international capital market, banks tend to increase their domestic assets out of foreign liabilities. The composition and quality of these assets tend to deteriorate gradually because of inadequate risk assessment. When that occurs, even a low volume capital withdrawal can imperil the banking sector, and banks whose high-risk assets have lost their value tend to resort to the financial safety net extended by the state. A disturbance in the financial system may spread to the more fortunate financial institutions as well, and capital withdrawal may take on the dimension of a panic. At this stage, the recapitalisation of the entire financial sector would be so costly that it may not be acceptable to taxpayers. In the event of a grave crisis, the next step could be to make use of the assistance of an international lender of last resort (e.g. IMF).

Financial fragility arising from the moral hazard can be prevented essentially in two ways: partly by regulating the lending practices and risk management of banks, forcing them to operate prudentially and partly by dismantling the explicit and implicit guarantees of the state or the central bank. The latter, however, is not without its problems in view of the key position of the financial system referred to above. Above and beyond all this, however, the dynamism of the attitudes of undertaking or not undertaking guarantees belongs to the phenomena described by time inconsistency,² i.e. from the viewpoint of the banks it is rational

² Literature uses the term 'time inconsistency' to the dilemma when a commitment is ex ante optimal, not, however, ex post.

to assume the continued existence of a latent safety net even after the demonstrative abolition of explicit guarantees.

Original Sin

The description *original sin* is applied to underdeveloped financial markets when economic agents are either unable to raise credits abroad in their own currency or do not have access to long-term credit at home. In this case, either the openness of the foreign exchange positions or the difference in the maturities of the liability and the asset sides lead to vulnerability in the system. The former means that projects financed by credits taken out in a foreign currency generate revenue in the local currency; the latter emphasises the risks implied in investments financed with short-term loans recovered only over the long term.

Both forms of appearance of the *original sin* may have severe consequences whenever there is a sudden change in monetary conditions. A maturity mismatch may create a dangerous situation when interest rates change rapidly. Primarily, a rise in interest rates may cause problems because the continuous replacement of liabilities necessary because short maturities may become excessively costly, thus the activities of the real sphere become increasingly high-risk and, at the same time, there is a financing constraint to face.

The openness of foreign exchange positions could reinforce the detrimental effects of unexpected exchange rate changes. Even if revenues and expenditures flow evenly over time, when foreign exchange becomes more expensive, it may turn the investments of the corporate sector into loss-making projects, whereby the asset portfolios of the banks lose their value. Losses arising from exchange rate fluctuations can generally be eliminated using various financial instruments. In the case of the *original sin*, however, it is precisely these instruments, which are not available to local market agents: hedging against exchange rate risk is not effected not because there is no intention to do so, as in the case of the *moral hazard*, but because there is no opportunity to do so.

The Commitment Problem

The third concept is the *commitment problem*. In contrast to bilateral purchase and sale transactions settled immediately, the need to perform is asymmetric in transactions, which result in a lending relationship. The debtor, once he has received the loan, is less interested in repayment than before. The creditor therefore either needs a guarantee or compensation for expected failures to pay.

A number of institutions can render lending a safe operation. The appropriate legal environment, efficient guarantees for enforcing ownership rights and sanctioning their violation may ensure that repayment be enforced. In the absence of the relevant legal conditions, creditors tend to lend only under security.

Irrespective of external guarantees, the borrower may establish his goodwill and good reputation by providing evidence of his reliability. Whoever has once refused repayment cannot, when information flows quickly and at no charge, expect anyone to grant him another loan. In reality, however, obtaining perfect information is a problem. International institutions and agencies, which rate debtors and lending risk serve the purpose of alleviating this information asymmetry.

The various theories evaluate the lender of last resort role of central banks differently. On the basis of the *moral hazard* hypothesis it counts as a guarantee and with the appearance of excessive risks, it enhances the fragility of the financial system; in contrast, from the viewpoint of the commitment problem, it is desirable, because it reduces the risk of non-payment.

The Interrelation between the Exchange Rate Regime and the Financial System

The financial crises of the 1990s were frequently linked to currency crises. The liberalisation of capital markets, which may well be described as an international tendency, contributed to the development of the financial sectors of developing countries but, at the same time, it also enhanced their vulnerability. The relationship is bi-directional: capital outflow evolving as a result of the collapse of the banking sector exercises pressure to devalue the exchange rate. In the other case, when there is an attack directed against a fixed exchange rate, the efforts aimed at maintaining that exchange rate, which generally involves a major increase in interest rates, imperil the operation of the banking sector.

A pegged exchange rate, no matter which form of such is examined, constitutes a guarantee on the part of the government that the price of the foreign currency will not change more than a certain amount. In a crawling band this limit is defined by the devaluation or appreciation announced in advance plus the extent of the maximum shift within the band. For parties handling their finances in several currencies, the risk arising from exchange rate fluctuations ceases³ and this may have an invigorating impact on trans-border commercial, financial and other economic ties.

On the other hand, as emphasised by the *moral hazard theory*, economic agents become unused to the hedging activities applied in a volatile environment: debtors fail to cover their credits raised abroad. This theory regards the pegging of the exchange rate as a form of implicit guarantee assumption, thus also as a potential source of financial crises. So long as there is nothing to threaten the maintenance of the exchange rate target, the individual failure to eliminate exchange rate risk has no direct impact on stability. However, unhedged positions may operate as catalysts even in case of the smallest disturbance and, in the case of a speculative attack, may contribute to the pressure to devalue. According to the theory – because the commitment of economic policy to an objective is always more credible in the short term – the pegging of the exchange rate induces the inflow of short-term capital. With regard to the composition of capital inflow, credits to the banking sector and those disbursed to the government may be encouraged by the principle of moral hazard, because the state stands behind the banking sector. In the cases of a few countries (Brazil, Mexico, Russia, etc) it happened that the market evaluated the assistance provided by international organisations as the promise of an implicit guarantee. The non-bank and non-government sectors are not normally targets of moral hazard.

In relation to the phenomenon of the moral hazard, it is worthwhile to underline the difference between the full fixing of an ex-

³ To be quite exact, the risk does not disappear in full, because a credible system, in which the probability of giving up the exchange rate policy is 0, exists only in theory.

change rate and a crawling peg with band. The leeway of the exchange rate within the band is able to mediate the not too excessive fluctuations without influencing the exchange rate course in the long term and this leeway lessens the safety for short-term speculation provided by exchange rate policy. On the other hand, the possibility of altering the rate of devaluation provides economic policy with a degree of flexibility, which, on the side of investors, again reduces the possibility to plan short-term yields.

In contrast to the *hypothesis of the moral hazard*, there is no clear relationship between the phenomenon of the *original sin* and the choice of the exchange rate regime. When it is pegged, an interest rate increase applied to protect the exchange rate may lead to banking operations becoming more expensive and thus to a decline in such. When a maturity mismatch characterises the practice of financing, a rapid recalling of bank credits is not possible, thus the banking sector is less able to resist an eventual run on the banks.

When the mismatch between the asset and the liability sides applies not in terms of maturity but in the currency of the items, a freely floated exchange rate may be regarded as the greater source of danger. A major devaluation would imply a rise in the relative value of liabilities denominated in foreign currencies. Guided by fears of additional devaluation, domestic economic agents attempt to prevent the loss of value of their free funds by converting them into foreign currencies, whereby they contribute to the additional devaluation. This means that major exchange rate movements become reinforced, when the currency mismatch predominates.

In East Asian and South American countries, flotation can frequently be observed in the form of “managed flotation”, i.e. the central bank evens out short-term exchange rate movements but allows the long-term trend to assert itself. This is generally achieved by appropriately changing the policy rate. *Eichengreen and Hausmann* emphasise that this will result in excessive volatility in interest rates. This may create particular problems if banks maintain large maturity gaps or open foreign exchange exposures, because major interest rate fluctuations prevent the development of financial markets and thus only preserve old, inefficient structures.

According to the authors, the most efficient solution to cope with the phenomenon of *original sin* is dollarisation, that is, giving up the country’s own currency. In this way, open foreign exchange positions automatically disappear and long-term credits also become accessible. The domestic financial system can also be more closely integrated into the international money markets. Nevertheless, the use of unilateral dollarisation⁴ has only theoretical significance. It constitutes giving up a part of state sovereignty and although there may be certain situations, which force a government to do so, there are few examples of it in practice. With the exception of Panama and Puerto Rico, where the use of the American dollar can be traced back to historical reasons, the population of none of the currently dollarised states exceeds 200,000.

⁴ The introduction of a common currency, such as the euro, may be regarded as a type of dollarisation, where giving up independent monetary policy does not mean taking over the legal tender of a different state, but the establishment of a transnational new monetary authority. In this way, the members of the currency zone mutually give up their right of monetary self-rule.

The *commitment problem* is not closely related to the exchange rate regime. Nevertheless, a few comments should still be made. Guarantee assumption by the state may, to some extent, counterbalance the risk of non-repayment and the underdeveloped nature of financial infrastructure. At the same time, the state may have need of a flexible exchange rate policy, through which it could reduce the real value of debts in the event of bank failures. This generally means inflation. Naturally, creditors, knowing this, demand a higher interest rate premium, as a result, it is more difficult to dismantle the stock of debt and the financial system remains more fragile.

With a fixed exchange rate, the commitment of economic policy influences the amount of foreign credit available to residents as well as the related conditions. A credible monetary policy may assist the inflow of capital and may reduce the interest premium. Pegging can be described as credible, when the yield expected by foreign investors does not include expectations of devaluation substantially different from the exchange rate course designated by the monetary authority. The coincidence of the declared and the expected rate of devaluation also bears witness to the fact that the foreign creditors of the state do not fear *the sovereign risk*, i.e. the inability to enforce performance of liabilities undertaken by the state as sovereign debtor.

The theories, which underline the risk implied in a fixed exchange rate and recommend flotation to developing countries, frequently neglect the destabilising effects of flotation, which are manifested in the higher volatility and higher level of domestic interest rates. In the frequently quoted study by *McKinnon*⁵ the author recommends the fixing of the exchange rate to small open economies in order to eliminate fluctuations in the consumer price level because of the predominance of the *tradable* sector. The absence of fixing also undermines the buffer role of securities denominated in the local currency. In case of a negative shock to the terms of trade, not only income declines but also the value of the securities denominated in local currency, due to the inevitable depreciation. Thus, market participants, who aim at evening out income cycles, prefer to choose other, for instance dollar, instruments as their forms of savings.⁶ They will be willing to save in the local currency only at a higher interest rate, as a volatile inflationary environment also increases the expected interest premium.

The detrimental effects of a freely floated exchange rate can also be demonstrated empirically. Measuring the depth of the financial system with the M2/GDP ratio, a clear shift was observed in the 1990s in favour of the countries maintaining a fixed exchange rate.⁷ In South America, the real rates are significantly higher in the floating countries and are also significantly more sensitive to the dominant foreign interest rate changes (e.g. USD).⁸ When examining the giving up of fixing the exchange rate as a possibility, it is therefore necessary to expect an eventual interruption in the development of a not-yet-fully-established financial sector.

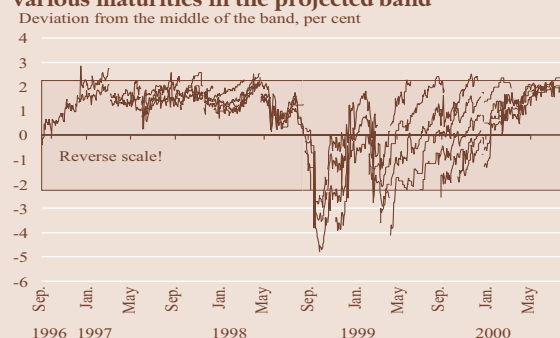
⁵ McKinnon: Optimum Currency Areas, *The American Economic Review*, 53 (1963).

⁶ Hausmann–Gavin–Pages-Serra–Stein: Financial Turmoil and the Choice of Exchange Rate Regime; *Inter-American Development Bank, Working Paper No. 400* (1999)

⁷ Hausmann *et al.* (1999), Figure 6.

⁸ *Ibid.*

Figure IV.1 Position of forward exchange rates for various maturities in the projected band



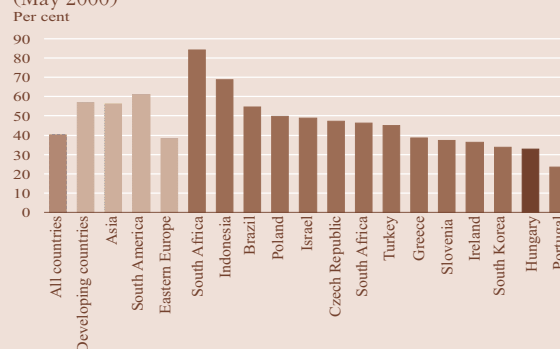
Note: The curves show the positions of forward exchange rates for various maturities relative to the exchange rate expected upon maturity calculated on the basis of the future rates of devaluation available at the given point in time.

Figure IV.2 Share of credits maturing in less than a year to banks reporting to BIS (May 2000)



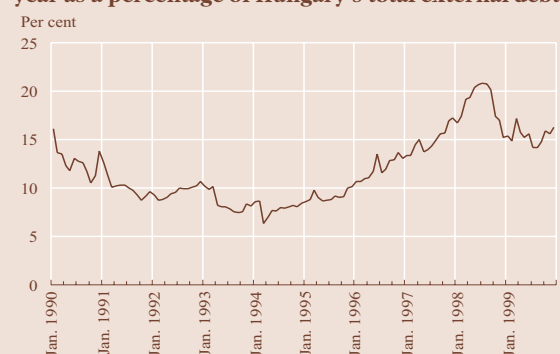
Source: Consolidated crossborder claims in all currencies and local claims in non-local currencies (BIS, May 2000).

Figure IV.3 Share of corporate credits in the total placements of banks reporting to BIS (May 2000)



Source: Consolidated crossborder claims in all currencies and local claims in non-local currencies (BIS, May 2000).

Figure IV.4 Foreign liabilities maturing in less than a year as a percentage of Hungary's total external debt



Note: In graphs produced on the basis of the debt data of the current account, short-term debt includes money market instruments and financial derivatives of the portfolio investments and liabilities maturing in less than a year according to original maturity of other foreign debt. The long-term component means bonds and other debts, which mature over a year.

The Hungarian Exchange Rate Policy and the Stability of the Financial Sector

Hungary's economic policy has attempted to implement the process of disinflation at the least possible cost with the help of the crawling peg exchange rate regime since March 1995. The band of 4.5% around the medium rate permits the assertion of short-term fluctuations. The monthly rate of devaluation announced in advance serves first as a guide helping to calculate the future evolution of the exchange rate and, second, to stabilise inflation expectations.

The credibility of the exchange rate policy can be measured by comparing the rates of devaluation announced in advance and those expected by the market. Although the latter cannot be directly observed, the relationship of the forward rates to the exchange rate band projected on the basis of official announcements provides an approximate view of the expectations.⁹ (Figure IV.1)

The credibility of Hungarian exchange rate policy – according to the conclusions of the theories presented – could, on the one hand contribute to the deepening and widening of money markets, but, on the other hand, could provide a basis for *moral hazard-type* capital flows. To this extent it may also be regarded as a source of threat, although not nearly to the extent as an irrevocable fixing of the exchange rate without band, which would not provide scope for short-term fluctuations.

Act CXII of 1996 on Credit Institutions and Financial Enterprises regulates the prudential operation of the Hungarian banking sector. Indirectly, it limits the extent of credit expansion and credit concentration and provides for the maintenance of the National Deposit Insurance Fund. Currently, the Hungarian Financial Supervisory Authority has the authority to continuously supervise these institutions.

In Hungary, the propensity to make use of the presumed implicit state guarantees is limited also by virtue of the ownership structure of the commercial banks. The privatisation of the banks was practically completed by the end of 1997. Some 60% of the shares in the banking sector were taken over by non-residents and the holdings of foreign credit institutions is dominant within this, as they have about half of the total equity. This means that Hungarian commercial banks are generally backed by one or more foreign institution(s) of great capital strength; they are able to assist their Hungarian subsidiaries should they get into trouble without any particular difficulty and have no interest in assuming excessive risks. It also means that the knock-on effect of bank failures would appear abroad and not in the Hungarian economy. Capital movements induced by guarantees are characterised by the short term and a preference for the banking sector, eventually the government sector. According to *Eichengreen and Hausmann*, the volume and direction of the observed international capital movements indicate that the moral hazard as a criterion of investment is not a significant factor at the interna-

⁹ The difference between the forward exchange rate and the declared future exchange rate depends, in addition to expectations of extraordinary devaluation, also on the prompt rate and the currency risk, which means a surplus risk implied in assets denominated in the local currency. It is possible to draw conclusions to changes in expectations from the relative shifts in the forward exchange rates only when the latter two components are constant.

tional level or effects of the opposite direction neutralise it. They arrived at a similar conclusion in relation to the estimated effects of the fixed exchange rate. Argentina and Hong Kong are the two classic counter-examples where forward markets can be described as highly advanced, in spite of the fact that the volatility of the exchange rates was low.

An international comparison does not substantiate the assumed sectoral pattern of seeking moral hazard. Based on the foreign placements of banks reporting to BIS,¹⁰ no interrelation can be observed between distribution by maturity and sector and the level of economic and financial development or even exchange rate policy (*Figures IV.2 and IV.3*). For instance, in the case of the Czech Republic and Poland, both with a floating exchange rate regime, the weight of short maturities is significantly higher than in Hungary.

In Hungary, the share of short maturities increased within the total external debt after the introduction of the crawling peg devaluation regime. However, the tendency turned around in 1998, presumably as a result of the Russian and Brazilian crises (*Figure IV.4*) and remained at a low level relative to both the international and the Central Eastern European averages. As far as sectoral distribution is concerned, non-bank companies gained the upper hand in foreign borrowing (*Figures IV.5 and IV.6*), indicating that capital inflow was not induced by the possibly presumed government guarantees.

The picture may appear less favourable when changes in the portfolio of liabilities maturing in less than a year are regarded only because, in the course of 1996–1997, the share of the short-term foreign debt of the banking sector increased substantially in the national economy (*Figure IV.6*). Nevertheless, a breakdown of the foreign debt of the Hungarian banking sector by maturity shows that the balance of short and long maturities was not upset in this period, and growth could be attributed to the increase in the total credits of the banking sector raised abroad (*Figure IV.7*).

Before and during the 1997 Asian and 1998 Russian financial crises, a more intensive inflow of credits maturing in less than a year to the Hungarian banking sector could actually be observed. But in comparison to the 50% characterising the period between 1993 and 1996, the increase to 60–70% can be described as moderate. The share of the short-term debt returned to the 50% level after the crises.

As the guarantee provided by the fixed exchange rate regime is conducive to the moral hazard manifested in undertaking excessive exchange rate risk, the constancy of the maturity structure by itself does not refute its existence. It can be envisaged that the increase in short-term foreign exchange debt is offset in total value by the decrease in short-term liabilities denominated in the local currency. In this case, we could not observe a shift towards shorter maturities even though total exchange rate risk increases. This means that the maturity structure of the debt should be supplemented with its currency structure. The composition of the assets and liabilities of Hungarian financial institutions did not change to any significant extent over the past two years. A signifi-

Figure IV.5 Liabilities of the Hungarian non-banking corporate sector vis-à-vis non-residents as a percentage of the total external debt of the country

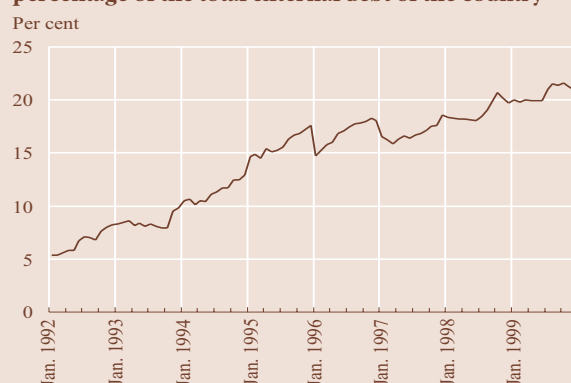
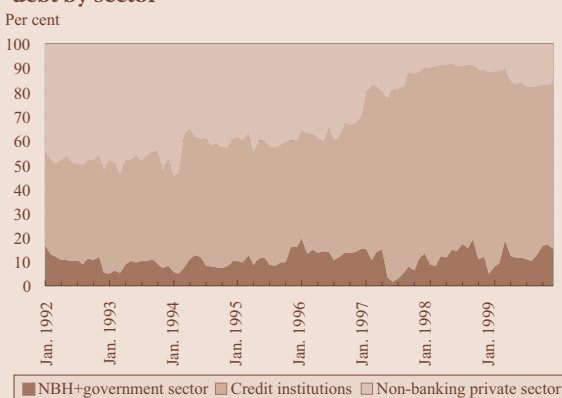
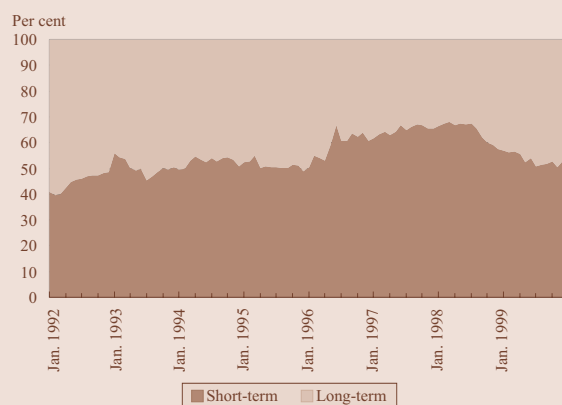


Figure IV.6 Distribution of the short-term external debt by sector



Note: In graphs produced on the basis of the debt data of the current account, short-term debt includes money market instruments and financial derivatives of the portfolio investments and liabilities maturing in less than a year according to original maturity of other foreign debt. The long-term component means bonds and other debts, which mature over a year.

Figure IV.7 Structure of the foreign debt of Hungarian credit institutions by maturity



Note: In graphs produced on the basis of the debt data of the current account, short-term debt includes money market instruments and financial derivatives of the portfolio investments and liabilities maturing in less than a year according to original maturity of other foreign debt. The long-term component means bonds and other debts, which mature over a year.

¹⁰ Although the reliability of the data does not enable an accurate analysis, it is, however, suitable to illustrate the major differences observed in an international comparison.

Figure IV.8 Share of foreign exchange placements and foreign exchange liabilities of financial institutions of total assets and liabilities

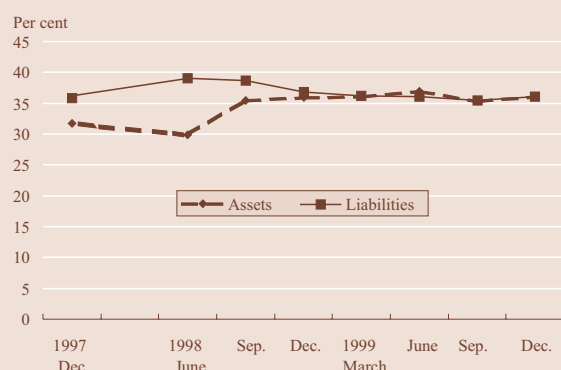


Figure IV.9 Changes in Hungarian corporate credits

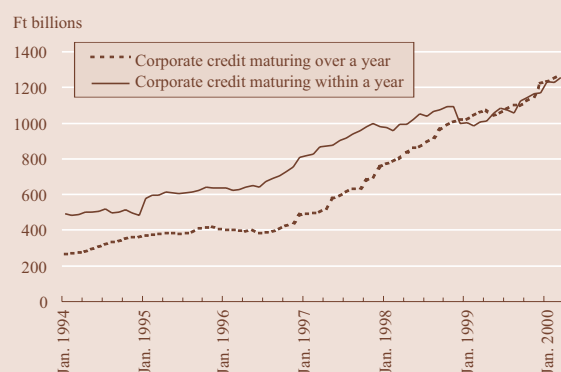
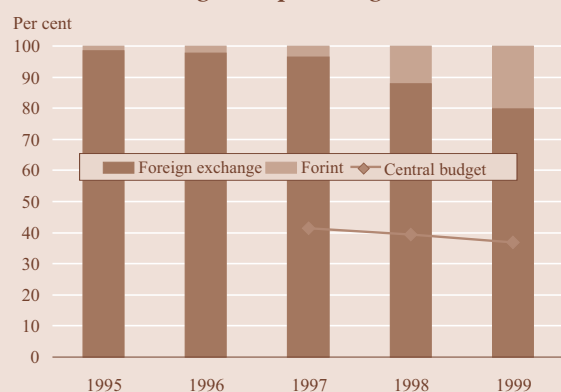


Figure IV.10 Foreign exchange structure of net foreign debt and the gross foreign exchange debt of the central budget as a percentage of total debt



cant shift was registered only after the Russian crisis, when banks increased the share of their foreign exchange assets, in parallel with the relative decline in foreign exchange liabilities (Figure IV.8).

The *original sin* theory describes a disequilibrium in the asset and liability sides of balance sheets by maturity and currency and assumes the underdeveloped nature of the system of financial intermediation. International experience shows that, with the expansion of the domestic credit market, the restriction on foreign capital movements can be lifted without the evolution of maturity or currency disequilibria. In Hungary, Act XCV of 1995 on Foreign Exchange regulates the inflow of foreign capital. In order to prevent the potential threats referred to, it only allows non-residents to purchase debt securities issued by residents with an original maturity of less than a year with the permission of the foreign exchange authority. In this way, the maturity gap between foreign assets and liabilities is limited by force of law *ab ovo*. However, due to the underdeveloped nature and low liquidity of the Hungarian derivative markets, the same open position represents a higher risk for Hungarian banks than, for instance, Western European banks. Also, changes in non-banking corporate credits over time indicate that short maturities did not predominate; moreover, the volume of long-term credits caught up with that of the short-term ones in 1998 (Figure IV.9). This means that this was not a case when the financing of investments slow to be recovered could be implemented only out of short-term funds: changes in the maturity structure of non-banking corporate credits point much more to a gradual deepening of the domestic capital markets.

Similarly, a divergence in foreign exchange positions was not observed – this would have accompanied a situation when foreign borrowing would have been possible largely only in foreign currencies. Developing countries frequently cannot obtain foreign credits in their own currencies at all. This is not the case in Hungary. The share of the component denominated in foreign exchange in the net foreign debt of the national economy has decreased over the past five years (Figure IV.10). This decrease has been continuous and was particularly spectacular in 1998 and 1999. The fact that Hungary is able to raise credits from non-residents in forint terms as well can be interpreted as a sign of confidence in the national economy and the entire economic policy. This is not only a confirmation of the quantifiable achievements of the economy, but also points to the international appreciation of the stability of the legal and institutional backing of economic activities. To that extent, the presence of the *commitment problem*, which restrains foreign borrowing by developing countries, can also be refuted.

The foreign exchange positions of the Hungarian banking sector do not and have not indicated the presence of *original sin*. Financial institutions have sufficient foreign exchange assets so that exchange rate risk does not represent an insurmountable threat. The full foreign exchange position of the commercial banks has never exceeded 15% of the warranted capital over the past four years, even though legal regulation limits the maximum of the open position at 30% (Figure IV.11).

The moderate nature of the aggregated open foreign exchange positions of the banks does not in itself exclude the possibility of an excessive weight of the foreign exchange component

in corporate financing, but the export orientation of the manufacturing sectors constitutes a natural coverage for exchange rate risk. Thus, it can be declared even with respect to the entire national economy that the *original sin* as a phenomenon has not been experienced in Hungary in the past few years.

A fuller picture can be gained by the international comparison of external positions. The ratio of claims and liabilities of the banking sector outstanding vis-à-vis non-residents is a suitable and frequently used indicator for this purpose. It is known from the history of financial crises that they are generally preceded by a run-up in liabilities outstanding vis-à-vis non-residents.

In advanced European countries, the foreign liabilities of the banking sector tend to correspond to the stock of foreign assets. In the period 1996-1999, the ratio of the two was on average 1.01 in Hungary, which fully corresponds to the Western European level (Figure IV.12). When the past changes of the indicator are examined, we do not see the high volatility characteristic of developing economies regarded as vulnerable, or the sensitivity to crises (even when the given country was not a party to that crisis), or the occasional rapid accumulation of foreign liabilities (Figure IV.13).

Conclusions

Although on the basis of theories on financial crises and case studies no indicator can be presented that would be able to unambiguously forewarn of crises,¹¹ the phenomena accompanying the hypotheses presented appeared in Hungary only to a small extent or in a blunted way in the past decade. Symptoms of fragility in the financial system cannot be observed.

Hungarian experience does not confirm the eventual detrimental side effects of the fixed exchange regime as implied by the theories. It seems that the introduction of the crawling peg regime in 1995 and the continuous and credible management of the regime since then has not reinforced speculative and risk-seeking behaviour but, by stabilising the monetary conditions and rendering them more calculable, contributed to the sound development of money markets. Theories usually compare only the extreme cases of pure exchange rate float and fixing, while the Hungarian exchange rate regime constitutes a framework somewhere in the middle. It is definitely more flexible than the latter and thus there is less scope for undertaking almost risk-free speculative positions to exploit the guarantees inherent in the system.

Prior to the Russian and Brazilian crises, tendencies indicating a reinforcement of speculative, destabilising movements also appeared in Hungary (in virtually every series of data presented) although they were much less spectacular than in the developing countries affected by the crises of the past few years. With the end to the crises, however, the indicators returned virtually without exception to the long-term equilibrium, which could be interpreted that the loss of confidence in the emerging economies then had a favourable impact on the sustainable development of the Hungarian financial system in the long term.

¹¹ Árvai-Vincze: Valuták sebezhetősége: Pénzügyi válságok a 90-es években (Vulnerability of Currencies: Financial Crises in the 1990s), NBH Working Papers, 1998/1, p.50.

Figure IV.11 Full open positions of commercial banks as a percentage of regulatory capital

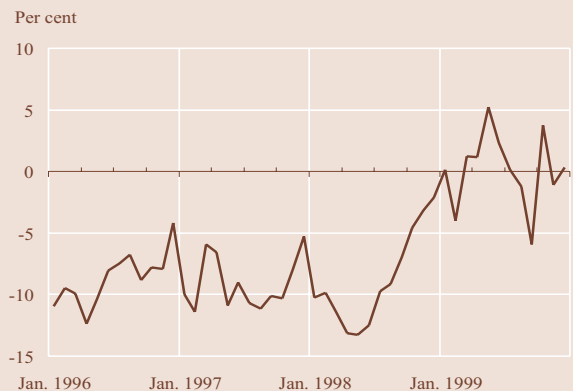
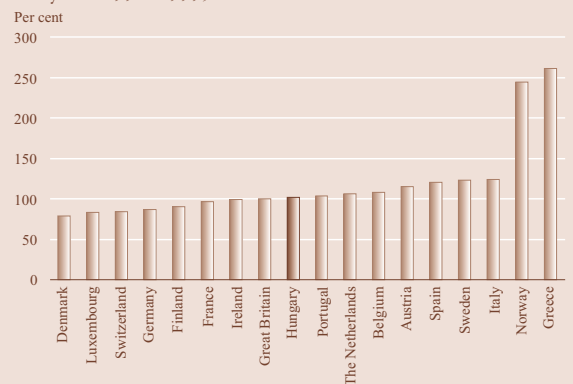
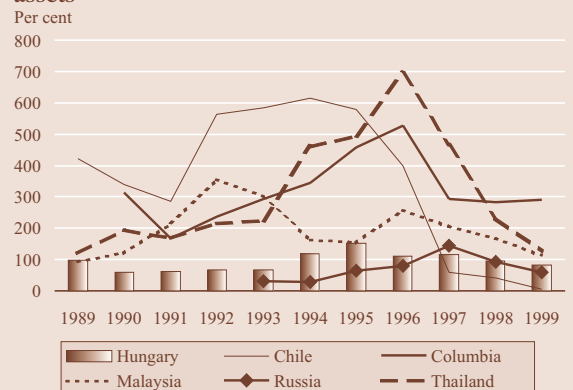


Figure IV.12 Stock of foreign liabilities of the commercial banking sector as a percentage of foreign assets (mathematical average of the values calculated for the years 1996–1999)



Source: IMF International Financial Statistics, "Deposit Money Banks–Foreign Liabilities" and "Deposit Money Banks–Foreign assets" lines

Figure IV.13 Stock of foreign liabilities in the commercial banking sector in proportion to foreign assets



Source: IMF International Financial Statistics, "Deposit Money Banks–Foreign Liabilities" and "Deposit Money Banks–Foreign assets" lines.

